

Digital accessibility education in context: expert perspectives on building capacity in academia and the workplace

Andy Coverdale*

Southampton Education School, University of Southampton, UK. a.coverdale@soton.ac.uk

Sarah Lewthwaite

Southampton Education School, University of Southampton, UK. s.e.lewthwaite@soton.ac.uk

Sarah Horton

Southampton Education School, University of Southampton, UK. s.e.horton@soton.ac.uk

The social model of disability, accessibility legislation, and the digital transformation spurred by COVID-19 expose a lack of accessibility capacity in the workforce, indicating persistent gaps in academic and professional education. We adopt a socio-cultural lens to examine how the context of education and training influences teaching and learning in university and workplace sectors, and how expert educators manage and negotiate these contextual factors to build accessibility capacity. This paper reports qualitative research with 55 experienced educators using expert panel method and focus groups. Analysis highlights the important disconnects and contextual challenges that educators must navigate and negotiate to affect and embed cultural change. We find that faculty and workplace cultures frequently perpetuate precarity in accessibility education, individualising the responsibility to ‘heroes’ or ‘champions’, while disciplinary and role-based silos limit the scope for raising awareness and developing widescale competency. Conversely, centres of excellence and communities of practice can cultivate and sustain links between education and research, engage expert users, and promote interdisciplinary and cross-role learning environments, where accessibility is increasingly recognised as a shared endeavour. We conclude that greater collaboration between academia and industry can enhance pedagogical understanding, to transform accessibility educational practices and build and sustain capacity for the future.

CCS CONCEPTS • Social and professional topics • Professional topics • Computing and Education • Human-centred computing • Accessibility • Accessibility theory, concepts and paradigms

Additional Keywords and Phrases: Web Accessibility, higher education, pedagogy, teaching, workplace training.

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*Authors' address: Southampton Education School, Highfield Campus, University of Southampton, Southampton SO17 1BJ, UK

1 INTRODUCTION

More disabled people are using digital tools and services than ever before [ONS, 2021]. However, there are significant disparities in Internet use and access. Despite advances in international digital disability rights legislation (e.g. [EU, 2016, UNCRPD, 2017]) and broader understanding of the socio-cultural barriers that constitute disabled experience [UPIAS, 1976], older and disabled people remain amongst the most digitally disenfranchised groups. COVID-19 has intensified the need for accessible digital services and tools, with society now reliant on digital platforms for communication and societal participation [Goggin and Ellis, 2020].

Initiatives to address access to employment and skills development amongst marginalised populations are gaining momentum (see The Skills Toolkit¹). But there is still no guarantee that digital tools and services will work for people who use assistive technologies, adaptations, or other accessibility strategies [Lewthwaite and James, 2020]. The technology sector's accessibility skills gap is recognised as a critical issue [Partnership on Employment and Accessible Technology, 2018; Teach Access, 2023], highlighting the need to build accessibility capacity in the digital workforce. Accessibility education, in both academic and professional sectors, is pivotal to building this capacity. Yet awareness and knowledge of accessibility varies across the computer science and engineering disciplines [Sanderson et al., 2022] and accessibility skills are rarely recognised in industry roles [Martin et al., 2022].

Higher education and workplace sectors constitute a range of distinctive learning contexts and environments that make specific pedagogical demands on educators. Yet, academic and workplace educators share key challenges and opportunities [Tynjälä et al., 2020], and within accessibility teaching, there is growing recognition of the importance of collaboration between these sectors [Lewthwaite et al., 2023], evident in the sharing of up-to-date knowledge, practice, and pedagogy (for example, Teach Access²). Greater dialogue, understanding and collaboration between academia and the workplace is essential to promote effective capacity building.

This research paper builds on the Web4All 2022 communications short paper '*Teaching accessibility as a shared endeavour: building accessibility across academic and workplace contexts*' [Coverdale et al., 2022]. In this paper, we present new research alongside a greater engagement with the literature and theory, to reflect on the socio-cultural issues at stake. We draw on significant new focus group research with accessibility educators to further develop our findings, discussion and conclusions. This paper represents the first research study to investigate the socio-cultural factors that shape accessibility education. This paper is also the first study to interrelate workplace and academic accessibility teaching practice in data, analysis and reporting.

1.1 The challenges of teaching accessibility

Accessibility is challenging to teach. It incorporates multiple disciplines, and requires a unique combination of theoretical knowledge, procedural understanding, and technical skill [Lewthwaite and Sloan, 2016]. Whilst increasingly recognised as a core competency for technology professionals [Wilson, et al., 2015.], there is no formally agreed curriculum. In many territories, accessibility is not required for degree accreditation or professional certification. As an academic topic, accessibility still lacks visibility within technology-oriented disciplines, and is typically categorised under the umbrella of legal and ethical issues, as a sub-group of HCI and sometimes of web development [Lewthwaite and Sloan, 2016]. At the same time, accessibility is commonly presented in the context of evaluation and repair of existing resources, rather than as the application of a comprehensive inclusive design strategy that keeps pace with innovation [Lewthwaite and Sloan, 2016]. Learner attitudes can also be challenging, with some computer science students considering HCI itself 'easy' and somehow 'commonsense' [Edwards et al., 2006], and as accessibility is often taught in separate, optional components [Keates, 2015], some students may not choose to study

¹ The Skills Toolkit: <https://theskillstoolkit.campaign.gov.uk/>

² Teach Access: <http://teachaccess.org>

it at all. In the workplace, learners may participate in accessibility training as a condition of employment rather than out of interest in the topic.

1.2 Pedagogic insights and influences

Reviews of research in accessibility teaching [Lewthwaite and Sloan, 2016; Putnam et al, 2016] show an under-researched field largely characterised by small, opportunistic studies and individual reflections on teaching, mainly in Higher Education. These studies draw considerably on models and approaches that are culturally embedded in computing disciplines, where much of the teaching is taking place. Examples include Universal Design and Inclusive Design [House of Commons Work and Pensions Committee, 2018], User-centred Design [Henka and Zimmerman, 2017; Shinohara et al., 2018b], Design for All [Abascal et al., 2015] and engineering life-cycles [Carter and Fournay, 2007]. With a strong emphasis on curricula and course design, the literature highlights modular approaches to teaching accessibility [Keates, 2015; Ludi et al., 2018], though there are examples of strategies to integrate it more broadly across the curriculum, with some also advocating accessibility knowledge sharing beyond computer science faculty to inform campus-wide academic practices [Waller et al., 2009].

This paper draws from key workpackages in ‘Teaching Accessibility in the Digital Skill Set’ (2019-2024), a research study investigating the teaching and learning of digital accessibility. In this paper, we focus particularly on accounts of the socio-cultural and socio-structural aspects of learning: how context and environment influence, facilitate and constrain teaching and training practices and capacity building. We do this because ‘what works’ and ‘best-practice’ discourses can only work at a technical level. They rely upon causal assumptions about education as a mechanical process [Biesta, 2015]. Education is complex and requires a more sensitised understanding of the multiple issues in play across different contexts. In this research, workplace and academic contexts are interrelated to consider how accessibility as a shared endeavour and shared responsibility is taught in different disciplines and across professional roles—to elaborate accessibility pedagogy and find ways forward. We do this by addressing the following research questions:

RQ1: How do socio-cultural contexts influence digital accessibility education in academia and the workplace?

RQ2: How do educators manage and negotiate these socio-cultural contexts in their teaching and professional practice to build digital accessibility capacity?

2 RESEARCH DESIGN

The research design uses a participatory methodological approach that fosters active dialogue between educators, learners and researchers in ways that educate and transform one another [Nind and Lewthwaite, 2018]. Here, we report findings from expert panel research and focus groups with educators.

2.1 The expert panel method

In the first phase of the research study, we adopted ‘expert panel method’ [Galliers and Huang, 2012; Lewthwaite and Nind, 2016]. This qualitative approach centres on dialogic principles, to develop shared understanding at both individual and collective levels. It comprises cyclical phases of data collection, analysis and synthesis to generate cumulative understanding based on shared dialogue. To elicit and understand different perspectives on teaching and bring them into this shared dialogue, we recognise that pedagogy often develops in implicit and unreflected ways. This is particularly relevant in topics such as digital accessibility, where pedagogical culture is underdeveloped [Lewthwaite and Sloan, 2016] and pedagogical development happens through trial-and-error, calling on immediate resources rather being informed by theory or research. In these circumstances, it can be difficult for teachers to identify and share, and this is compounded in emergent fields (such as accessibility) where pedagogy is ‘hard to know’ [Nind et al., 2016]. It is therefore important to apply a research design conducive to sharing experiences and thoughts in a

collaborative and discursive environment [Galliers and Huang, 2012]. Expert panel method seeks to stimulate reflection and discussion within a shared-interest community, for mutual benefit. In this way, expert panel method surfaces pedagogic knowledge, and the value placed upon it, making it open to reflection, to enable shared discourse and collaborative problem-solving [Nind and Lewthwaite, 2018]. The method respects participants’ agency as producers of knowledge, rather than research subjects, in accord with inclusive and democratising research principles [Seale et al., 2014].

2.2 Data collection

We conducted two panels with international experts from Higher Education (Panel 1, n=14) and workplace settings (Panel 2, n=16). Each panel consisted of individual semi-structured interviews that explored the individual participants’ roles, their approaches to teaching and building capacity in digital accessibility, and the challenges they face. Each one-hour interview was conducted online by a single researcher through Zoom, video or audio recorded and transcribed verbatim. Transcripts were shared with panellists for approval and validation. In our initial analysis of the data, we collaborated to generate a range of thematised discussion topics, through which we selected key quotations from the transcripts. In accordance with our adoption of the expert panel method described above, we invited the same panellists to contribute as a group to an online forum (one for each panel) to respond to the discussion topics, quotations and themes through threaded comments. These extended reflections were then extracted and added to the dataset. This second wave of data collection effectively worked to validate and where necessary challenge emergent themes and deepen qualitative analytic insight. Next, we conducted three focus groups with academic educators (n=11) and four focus groups with workplace educators (n=14). Sessions were structured by interest area and time zone and were conducted online through Zoom. We shared the forum analysis (including additions) prior to each session to stimulate and support discussions on approaches and challenges to teaching. Focus groups were video recorded and transcripts were shared with participants for validation.

2.3 Participants

Our expert panels comprised experienced educators from higher education and the workplace who ‘set the cultural tone’ in the field through pedagogic expertise and leadership [Lucas and Claxton, 2013]. We recruited senior academics and specialists with significant experience in developing and leading accessibility education, training and consultancy programmes in the UK and across the world. Workplace expert panellists represented both in-house specialists from a range of governmental, corporate and third sector organisations, and independent consultants. We identified the panellists on the basis of sustained and significant experience of teaching over time, published reflections on pedagogy, influential textbooks and papers, leadership in educational communities of practice and a systematic review of accessibility teaching literatures, and network recommendations, recognising that – in higher education particularly – expertise is notable for its social aspect, developed with and judged by peers [Wray and Wallace, 2011]. Due to the status and specialisms of many of the expert panellists, retaining their anonymity before an accessibility specialist readership was not feasible. Therefore, with their explicit written agreement and in accordance with ethical approval, experts are referred to in this paper by name. Where previously requested, we have continued to check with panellists on how we attribute them in publications, with one requesting that they and their organisation are anonymised. For reference, quoted expert panellists are indicated by their initials suffixed with academic (-A) or workplace (-W) settings, as shown in tables 1 and 2.

Table 1: Expert Panel 1 — Academic Educators

Ref.	Name	Title	Institution	Country
AK-A	Amy Ko	Professor	University of Washington, Seattle	US

AF-A	Andre Friere	Assistant Professor	Federal University of Lavras	Brazil
AW-A	Annalu Waller	Professor	University of Dundee	UK
CP-A	Cynthia Putnam	Associate Professor	DePaul University	US
GW ¹ -A	Gerhard Weber	Professor	TU Dresden	Germany
GW ² -A	Gill Whitney	Associate Professor	Middlesex University	UK
GZ-A	Gottfried Zimmermann	Professor	Stuttgart Media University	Germany
HP-A	Helen Petrie	Emeritus Professor	University of York	UK
JB-A	Justin Brown	Associate Professor	Edith Cowan University	Australia
KM-A	Klaus Miesenberger	Professor	Johannes Kepler University Linz	Austria
KS-A	Kristen Shinohara	Assistant Professor	Rochester Institute of Technology	US
RE-A	Richard Eskins	Senior Lecturer	Manchester Metropolitan University	UK
SL-A	Stephanie Ludi	Professor	University of North Texas	US
TC-A	Tim Coughlan	Senior Lecturer	Open University	UK

Table 2: Expert Panel 2 — Workplace Educators

Ref.	Name	Title	Organisation	Country
Anon-W	Anonymised	Senior Digital Accessibility Consultant	Large enterprise organisation	UK
AA-W	Armony Altinier	Founder and President	Koena	France
BG-W	Billy Gregory	Accessibility Project Manager	Ubisoft	Canada
DM-W	Daniel Montalvo	Accessibility Education and Training Specialist	World Wide Web Consortium (W3C)	Spain
DC-W	David Caldwell	Head of Accessibility and Digital Inclusion	Home Office	UK
GFW-W	Gareth Ford Williams	Director	Ablly	UK
HS-W	Holly Schnell	Accessibility Education Program Manager	Google	US
JS-W	Jared Smith	Associate Director	WebAIM	US
JC-W	Joe Chidzik	Principal Accessibility and Usability Consultant	AbilityNet	UK
JH-W	Jonathan Hassell	CEO and Founder	Hassell Inclusion	UK
MU-W	Makoto Ueki	Web Accessibility Consultant	Infoaxia	Japan
PB-W	Paul Bohman	Director of Training	Deque	US
SH-W	Scott Hollier	Chief Executive Officer	Centre for Accessibility Australia	Australia
SR-W	Sharron Rush	Executive Director	Knowbility	US
SK-W	Shilpi Kapoor	Founder	BarrierBreak	India
SL-W	Susanna Laurin	Chief Research and Innovation Officer	Funka	Sweden

Focus group participants also comprised UK and internationally based accessibility educators. This time, we recruited from a broader range of educators in terms of roles and experiences, seeking a wider perspective of voices from accessibility teaching and training communities (for example, within robotics, artificial intelligence, game design and software engineering). We again identified potential participants through systematic literature review, and peer recommendations, and accessibility networks, alongside faculty searches on university websites and online

professional networks and communities. Focus group participants are anonymised and collectively indicated by their academic (AFG) or workplace (WFG) settings.

We recognise that a sample of this kind cannot constitute a representative sample of expertise and teaching practice across the wider field. Further, working in English and, for example, recruiting on the basis of reviews of English-language research literatures necessarily introduces regional bias in our sampling methods. We purposively sought a breadth of expertise, disciplinary and geo-political insight, engaging non-anglophone and international perspectives where possible to extend our sampling frame.

2.4 Data analysis

Qualitative analyses of the data were conducted by three researchers using principles of grounded theory to work inductively and iteratively through the cyclical phases described above and as part of a study-wide coding strategy informed by Woolf and Silver (2018). All data analysis was conducted using NVivo.

Following a round of pilot coding with select data to trial and evaluate processes, thematic coding was conducted independently by each of the researchers to identify a wide range of initial codes. This open-ended approach incorporated descriptive and In Vivo coding (i.e., using the experts' own terminology), forming the basis for in-depth analysis within and across topics [Saldaña, 2016]. The team then worked collaboratively, ranking and, where necessary, merging and redefining these codes, to establish key discussion topics (academic, n=15; workplace, n=17) and themes (academic, n=6; workplace, n=5) with which we could structure the forums. These numbers corresponded roughly with Lichtman's (2010) recommendations for coding category and concept quantities. An example theme is '*Teaching with, through, and about disability*', with corresponding discussion topics related to contextualising disability, using human-centred approaches, engaging with disabled people, and simulation. Sharing and inviting discussion on these topics and themes helped establish the credibility of the analytical process through participant validation [Bloor 1983; Lincoln and Guba, 2018].

Subsequent analysis from the focus groups data used existing coding structures to ensure they were appropriately integrated into the existing dataset. In the second wave of analysis, the same researchers worked inductively and iteratively to explore in greater depth the development of broad-level themes and establish top-level practice-based categories that are critical to the overall study.

Throughout the analytical process, the research team met regularly to develop and maintain a codebook to log coding protocols. For each coding instance (i.e., codes, subcodes and code groupings), we created and refined descriptors, exemplars and inclusion/exclusion criteria to ensure intercoder agreement and reliability (MacQueen et al., 1998).

3 FINDINGS: EDUCATORS' PERSPECTIVES ON BUILDING CAPACITY IN CONTEXT

To address RQ1, *How do socio-cultural contexts influence digital accessibility education in academic and the workplace?*, we examine the socio-cultural dynamics of accessibility teaching, identifying a series of contextual challenges (section 3.1). To address RQ2, *How do educators manage and negotiate these socio-cultural contexts in their teaching and professional practice to build digital accessibility capacity?*, we explore perspectives and strategies that educators have developed to manage and negotiate those challenges in their teaching and professional practice and how they contribute to building digital accessibility capacity (section 3.2).

3.1 Contextual challenges

Expert panellists and focus group participants reflected on how context fundamentally shapes what is possible in implementing, managing, and sustaining accessibility teaching and training practices. By focussing on these socio-

structural dynamics—the patterns of institutional work cultures and relationships—we can identify key contextual challenges of building capacity in accessibility.

3.1.1 *Accessibility capacity relies on individual 'heroes'.*

Educators indicated that the levels, distribution and influence of accessibility expertise can vary considerably across roles, faculties, and institutions. As one academic suggested:

so much of accessibility at university level relies on the hero model. There has to be somebody that brings it there. There has to be somebody that valorises it. Not always, but commonly. (CP-A)

Here, individuals are *'the lone wolf'* (AFG1), championing accessibility single-handedly in their teams and departments.

if there's just one person that teaches it, people will be reluctant to incorporate that as a learning goal or throughout the programme or in the course and so on. (AFG3)

Further, these individual roles may not be formally recognised or rewarded:

you can have somebody who becomes really good at accessibility and it's on the side of their role. It doesn't get acknowledged as part of the role and built upon so they don't have a way of sharing that knowledge and experience. (Anon-W)

One expert commented on how this lack of recognition or status extends in the huge personal efforts (*'fight'*) to achieve accessibility gains at an organisational level:

You need to teach the students, the organisation, the academics to build content that is usable. And then the university to purchase and build digital systems that are accessible by default. So, there's three or four...very long, difficult battles. (JB-A)

Similarly, in the workplace, if there are no company mandates to embed accessibility on a consistent basis, responsibility is frequently delegated to an individual, *'the one go-to person...that has to put out fires'* (SH-W), and as one participant noted, *'we do have a lot of dedicated accessibility professionals, but most, I would say the majority of people, are volunteers... that turns over and people's priorities change.'* (WFG3).

These observations highlight the precarity of the hero model, leaving routes to building accessibility capacity vulnerable and potentially unsustainable: *'if there's no passion for it, as soon as you turn your back on it for a second, it'll be shut down and folded.'* (JB-A). Academics particularly raised concerns over the retention of faculty expertise when those engaged in delivering teaching and training move on: *'It's hard to sustain because the moment a different instructor takes over a course, there's a risk that that [accessibility] gets lost'*. (AK-A). For those training in a competitive workplace sector, building accessibility expertise runs additional risks, in *'churn'* and *'turnover'*.

this is all made more difficult by how often our accessibility experts turn over...we very frequently find that we will get people excited about accessibility, they will get super-well trained, and then they will get stolen...while that churn is really, really good for society, it makes it that much harder for me because that means I have to start over with a new group of people who are sometimes not even at zero. (WFG3)

3.1.2 *Colleagues do not engage with accessibility.*

Panellists and focus group participants described the challenges they and colleagues face in raising awareness of accessibility, to influence and motivate others to embed it in their teaching and training, to build capacity, and enable

a 'step-change': *'fundamentally...we need to make [sure] those skills are common and acknowledged in many different roles'* (Anon-W).

However, with many people working in 'silos' and *'in horizontal ways'* (GFW-W), disciplinary and role-based cultures in academia and the workplace persist, resulting in inconsistencies in how accessibility is valued and appropriated across curricula and in different job roles. Many academics teach across different computer science disciplines, and experts highlighted fundamental differences between human-centred approaches prevalent in HCI and more technology-focussed fields.

Academics also talked about the tendency to defer responsibility of accessibility to other departments, such as Disability Services, and the value of modelling accessibility through the delivery of institution-wide service roles, such as advising on the procurement of learning resources.

[we] need to implement accessibility into our framework. So not necessarily our curriculum or our teaching and learning, but into the institution as a whole...it needs to be intrinsically intertwined with everything that we do. (AFG3)

Several academic experts also described the need to teach digital accessibility beyond the computer sciences, in neighbouring Social Science and Humanities disciplines, as well as raising awareness of teaching in accessible ways.

the faculty believe they are the expert in their area, and they've been teaching for many years and they've got it down, and they've seen two students with disabilities in their entire career. Right?...“Why do I have to learn more and change things?” (AFG1)

3.1.3 Industry and academia are disconnected.

While it is recognised that developers and designers *'can come from multiple different routes into their role'* (WFG2) there is an expectation that those graduating from formal computer science courses enter the workplace suitably equipped and motivated to apply their knowledge and skills. However, there was consensus in both sectors that not enough accessibility teaching is taking place in higher education, and that many students are not receiving the educational foundations needed to instil accessibility into practice.

I'm not convinced that accessibility is integrated sufficiently strongly within [developer and designer] professions... in some cases it starts from school all the way through university and into the professional bodies. (WFG2)

Educators suggest a disconnection, and in some cases distrust, persists between higher education and industry, described by several experts as a 'chicken and egg' problem. Several academics suggested accessibility can be overlooked in workplace settings, voicing concerns over the standards and levels of competency in accessibility practice, with one expert suggesting, *'if industry asked for it, then instructors would do it'* (KS-A).

Industry experts highlighted the need to provide some graduates with foundational training in accessibility as they enter the workplace. One noted, *'it's not necessarily included in the coding courses, it's not included in design courses,'* adding, *'Our hope would be that the next generation of employees coming through require less of that training because they're getting more of it at school.'* (WFG1). One expert (Anon-W) with significant experience in both sectors highlighted the lack of research-informed professional practice, observing how academia could contribute in this area.

While perceptions of teaching in universities and colleges varied significantly—accessibility was described as virtually *'non-existent'* in Japanese universities (MU-W)—the consensus view was that more formal education is required, with some experts suggesting accessibility should be taught far earlier: *'the challenge is how do we teach people accessibility way before they get to becoming developers and designers?'* (SK-W).

3.1.4 Challenges to building accessibility communities of practice.

Educators actively engaged in accessibility constitute a relatively small community, with expertise tending to be dispersed and individualised. Some saw this as a barrier to shared discourse and knowledge:

if that was happening at scale, people would then debate how you should do it and who's doing it well and who is doing it not well and why that is. But because it's happening in tiny little pockets, here and there, I don't think there's any debate at all. (JB-A)

However, the status of accessibility as a relatively small field can elevate the visibility of those who become established and recognised within it. As such, many described the accessibility field as a close-knit community, where *'everyone knows everyone'* (HS-W).

The accessibility field is such a lovely community. It's like a family. We brainstorm together, collaborate on solutions, and share best practices, as we're all working towards a common goal. (HS-W)

However, some noted the lack of new entrants. *'The problem is that we get the same people participating all the time, right?...And then we have this huge group of people who just aren't there.'* (WFG1). One expert was particularly critical of the 'gatekeeping' he sees in the field, suggesting it has gained a reputation as a *'confrontational and hard-to-get-along-with type community.'* (BG-W). Others highlighted the transiency of key roles, and the lack of defined career paths or opportunities to progress: *'Often people come into accessibility and then go off back into their original area...it's a bit of like, "well, where do I move up to? What's my next level?"'* (Anon-W). As one academic explained, any individual's sense of where they may be positioned in the accessibility (and its teaching) community is dependent on their perceptions of professional self-identity and agency:

Nobody on campus would think of me as one of the core people on campus that studies accessibility. I think of myself as one of these second layer people, bringing in expertise that I have, gaining a little bit more, and thinking about "where does this fit within what I'm teaching?" (AK-A)

3.1.5 Accessibility lacks currency.

Despite the continuing need to raise awareness, participants from both higher education and the workplace raised concerns about how and where accessibility is framed, suggesting its status is increasingly perceived as lacking 'currency' whether as a concept, a topic or a practice: *'It's not seen as valuable anymore...I find now in computer science, where accessibility would have been key to some of the curriculum in the past...it's not that central focus, even [in] HCI.'* (AFG3). Several academics explained how this is impacting on their teaching. This was characterised in terms of pedagogic decision making and curricular design:

we don't teach accessibility anymore. You have to go for projects. You embed it. And I think what I really teach at university now is how to produce enabling technology, and enabling technology will promote the accessibility of students and their inclusion. (AFG3)

Lack of perceived currency also resulted in teacher strategies to harness emerging technologies and the necessity of embedding accessibility in this way: *'it's...hard to keep alive on its own somehow. It's like it has to be part of something else which is hot, and that is typically new technology in our field'* (AFG3). Within universities, this was also seen as a barrier to funding opportunities in research, with some academics exploring more interdisciplinary approaches, to ensure *'accessibility is focussed on a wider picture (rather) than just sitting in computer science.'* (AFG3).

In workplace settings, the necessity of ‘buy-in’ was repeatedly raised: *‘it often feels like being a salesman leading accessibility...that horrible word “buy-in”’* (DC-W). At a structural level, locating accessibility can be determined by specific contexts of the sector in which educators are engaged:

in the financial services industry we talk about disabled customers as part of a wider group of vulnerable customers...many have got financial vulnerabilities as well as health, so accessibility gets included in that type of training. (Anon-W)

Educators also indicated how accessibility is increasingly being reframed or repositioned alongside or within wider concepts such as inclusion or sustainability. *‘Organisations seem to feel that this is competing with sustainability. So they’re trying to pick an agenda and it’s like, “Oh, well, you know what? Sustainability is more important than accessibility.”’* (WFG4). Others viewed this as an opportunity to progress the accessibility agenda and reach a broader audience:

the last few years I’ve been working in the public sector and that has come with an easier sell for accessibility in as much as the ideals of inclusion are in the pre-eminence. (WFG2)

3.2 Towards accessibility as a shared endeavour

Exploring the impact of contextual challenges on accessibility education exposes structural and cultural gaps that limit how learners can engage with accessibility and take it forward into professional practice. Expert panellists and focus group participants also shared perspectives and strategies on how to manage and negotiate those challenges. Through attention to strategic and structural elements of accessibility education, we find a foundation for adopting accessibility as a core value and competency across roles and disciplines to be enacted as a shared endeavour.

3.2.1 Accessibility is embedded throughout.

Participants shared endeavours to position accessibility as a core value and competency, where it is considered at the forefront of design and development stages or embedded throughout a programme.

Accessibility is not a stage, part of development, part of any process. It’s embedded throughout the entire process from beginning to end. It’s more of a mindset than a particular technical skill to develop and build on. (JC-W)

Educators emphasised methods to embed accessibility, recognizing that *‘...for it to be useful and effective, it has to be integrated into how technologists are educated.’* (SR-W). Accessibility is integral across their teaching: *‘...it was dissonant for me to teach something like design, but not talk about accessibility at all’* (KS-A) and in some cases is historically embedded, *‘we tried in the very beginning to cover as many aspects of accessibility as possible...we didn’t start it from one course ... we actually designed the whole curricula.’* (AFG1). Integrating accessibility means moving away from treating it as a *‘separate, little specialised thing’* (SR-W) that is the responsibility of an ‘accessibility hero’ or specialist team, to a model that is more robust. One model is to develop ‘centres of excellence’ or hubs where accessibility is *‘not seen as an optional extra, it’s embedded in everything we do.’* (AW-A). With institutional support and recognition, centres such as these can enlist others, including user groups, and engage colleagues and educators:

learning how to teach is very important. Developing learning communities, centres of practice, communities of practice...where people can share their knowledge and experience with other people. (WFG2)

In academia, where *'things are very decentralised'* (WFG2) and accessibility is often confined to subspecialties like HCI or Usability Engineering, several educators emphasised accessibility should be a cross-disciplinary and *'distributed more across the curriculum.'* (SL-A).

Those engaged in corporate training and consultancy with external clients recognise the limitations of their work, acknowledging that any subsequent capacity building is largely dependent on the organisations taking it on themselves:

we hope that they can build a community around accessibility within their own organisation. Having a team or even one point person that heads this up can help build some of that community. And that really promotes success. But our training isn't about building those communities. (JS-W)

Such teams and individuals *'need to navigate the internal politics of organisations as well'* (JC-W), be attuned to, and have the agency to work *'within an existing framework'* (GF-W) and affect specific organisational cultures and working practices:

they take that stuff into their teams. They ask questions. They put their hand up in every sprint and say, 'how are we going to do this accessibly?' And they may have a conversation about it. And people then are learning because it's becoming part of that process. (GF-W)

3.2.2 Accessibility is core to professionalism.

Many educators emphasised the need for learners to view accessibility as a core competency and professional responsibility – also highlighting this as an engaging and motivating approach that helps learners take ownership of their learning *'as part of their professional development'* (DC-W) and developing their understanding of *'the nature of their responsibility as makers and as designers.'* (AK-A). For some experts, it's a matter of redirecting well-meaning efforts:

[we] promote to students that...you may be the accessibility advocate within your organisation and stressing that in a project it's never too early to bring accessibility into the conversation. (AFG1)

In the workplace this sentiment was expressed more bluntly: *'That's their job, that's their responsibility to make it right. That's not something to have a good conscience or karma points.'* (AA-W). One approach is to emphasise the professional consequences of accessibility barriers: *'I make them go and look at the things that they've built and discover all of the defects...and recognise...that every single one of those defects has a consequence on somebody's experience.'* (AK-A).

Presenting accessibility from an organisational perspective can make professional expectations clear, where learners *'...think about how accessibility is managed in their organisation and consider whose responsibility is what.'* (TC-A). The most effective path to establishing expectations may vary by role: *'...our user-centred design professions...tend to see that as a moral imperative...some of our developers definitely feel...like that's them doing a good job.'* (DC-W). In some cases, this requires relating responsibility to the professional development of individuals at an early stage:

[you] really want to get to a stage where it's the responsibility of every developer to actually implement accessibility as they're going along. That's something that we try and instil in the students...to understand that no one is going to do this for you. You have to do this for yourself. (AFG1)

Individual and collective expertise in accessibility needs to be sustainable by providing environments that support continued professional development. Educators must ensure that they and their learners update their knowledge and

skills *'because accessibility is always changing'* (HS-W) in a field that is fundamentally bound to continual technological development and amendments to legislation and standards.

it's not enough to [say], "I've learnt accessibility. Right, I don't need to do it again". You need to revisit it on a very frequent basis to make sure you're up to date. (JC-W)

Finally, noting the increasing ascendancy of technological quick fixes such as overlays, one participant reflected on *'independent responsibility versus that corporate Band-Aid,'* adding this is *'a coming issue we're going to have to all grapple with.'* (AFG1).

3.2.3 *Accessibility is cross-role and interdisciplinary.*

Addressing role-based training was highlighted as a critical concern. Educators identified traits within the different disciplines and roles that they see influencing their learning. *'Developers like tools...that's something that they can go back and actually use...and designers like challenges'* (WFG1). Another added:

developers much prefer trial-and-error. They want to dive in, they want to experiment, and they want to see what comes out of it. Our content development teams, they want a structured course. (WFG1)

Therefore, some educators support the approach of teaching specialized roles and responsibilities to deliver targeted content. *'...all of our training is role-based because I don't want to waste anybody's time.'* (JH-W). Others see value in teaching different roles together:

If possible, we love to mix the roles and get QA, design and development all in the room at the same time, so they understand what their individual responsibilities are and how they overlap and how they can work together. (BG-W)

These different approaches reflect and adapt to workplace structures, where some teams are homogenous, for example, UX, design, or developer teams, while others are interdisciplinary, with different roles working together collaboratively. Building skills and knowledge across workplace roles is supported when accessibility is taught across academic disciplines.

There was consensus on the need for effective communication on accessibility, for example, to delegate tasks and identify blocks to workflow. Without close connection between roles, communication is difficult. *'A lot of times the designers are so distanced from the coders that...good communication doesn't happen.'* (PB-W). Making sure professionals can communicate accessibility concepts is a focus of training across roles. *'...if we don't explain the "why", our customers can't explain it (or) implement it well because they don't understand why they're solving that problem.'* (SK-W). Effective communication was fostered through 'champions network' workplace programs to *'keep the conversation going...It keeps people working in very horizontal ways and outside of their silos.'* (GW-W). Teaching multiple roles together also fosters a shared commitment rather than encouraging *'a little island of someone that's into accessibility.'* (SH-W). As another expert noted: *'accessibility is not...something you do in isolation. You need to engage with other disciplines—design, usability, development—to succeed.'* (DM-W).

3.2.4 *Accessibility is aligned with professional practices.*

Academics recognise the need for accessibility education to align with professional practices, bringing in first-person practical perspectives and modelling varied professional practices and methodologies. By engaging experienced accessibility professionals in their teaching, to guest lecture, facilitate classes, and provide ongoing mentoring, academics are establishing direct links with the workplace.

the experience of having people from industry coming in always has a really big impact. Such as when they explain the impact of accessibility not just from the user experience perspective, but also as a business case. (Anon-W)

In doing so, they help clarify, authenticate and contextualise learning. As one academic noted about a guest lecturer from industry, *'their talk wasn't any more than what we could teach. But they could then say, "well, we've just done this..."'* (RE-A). Some academic programmes also incorporate internships or apprenticeships, where learners can engage with accessibility in a professional context. One academic described how work experience enhances employability, motivating students to be *'ready to roll'*, to *'hit the ground running'* and be *'better problem solvers,'* adding, *'if they're sitting there waiting to be shown, waiting to be told—employers hate having their time wasted.'* (JB-A). In some cases students take what they have learnt into the workplace and adopt an influential role: *'by the end of the unit they've become the advocate in their particular team or their part of the company.'* (RE-A).

Educators also described developing *'real-world'* assignment briefs and client-based projects, with opportunities for learners to work collaboratively with real clients.

Our students work with industry partners to support their capstone project throughout the lifecycle of their learning. They use it as a case study throughout each and every course. (AFG3)

In some cases, this engagement extended to user communities, with learners *'working directly with people in the community and trying to find solutions'* (AK-A), an approach that is seen as particularly valuable in raising student awareness and understanding of disabilities. In the workplace, educators are providing on-the-job training, building accessibility knowledge and skills through work projects and peer learning: *'we are a build organisation, we build skill sets.'* (SK-W)

3.2.5 Accessibility is broad-ranging and inclusive.

The technology profession has a strong leaning and impetus toward informal self-directed learning. This approach is evident in the *'just-in-time learning'*, where professionals engage with online forums, for example, when they are *'trying to fix a bug or something like that, our developers or designers...and they're like, I don't know what this is or how to do it.'* (WFG3). Several experts highlighted the role of hackathons and boot camps: *'That's where we really need to focus.'* (BG-W).

In particular, workplace experts acknowledged the legitimacy of these peer-learning networks and communities of practice. *'It's still learning'* (GF-W), *'if you came across it on your own, it's authentic...everyone's entitled to discover things at their own pace,'* (BG-W). Importantly, these spaces provide a *'cultural learning experience'* (GF-W) that evolves *'outside of'* and *'goes beyond'* organisational training contexts. Others noted the currency of expertise evident in these spaces:

they probably have come across a challenge before in the accessibility space and actually what they know is probably more current than what an accessibility specialist will know. (DC-W)

However, several educators expressed concerns over the reliability of internet-based informal resources: *'there's so many wrong things out there or misconceptions that you want people to find the right resources, the right perspective.'* (WFG2). One expert commented, *'the Internet is almost the worst place to learn about accessibility sometimes. But...it's the best place to learn about accessibility most of the time.'* (DC-W).

Educators discussed strategic approaches to harnessing these informal leaning spaces, adopting a curator's role to identify trustworthy resources: *'because of our communal open-source community, you can borrow from other people. You don't have to rebuild everything from scratch.'* (WFG1). Others look to integrate self-directed and self-regulated learning approaches in their formal training programmes to harness active-learning and discovery-learning ahead of

teaching: *'a lot of the material now is delivered via podcast or via postcard prior to the workshop...so as to actually spend much, much more time giving people a sense of agency and autonomy.'* (WFG3).

4 DISCUSSION: BUILDING ACCESSIBILITY PEDAGOGY AND SHARED RESPONSIBILITY

In this paper we have considered the socio-cultural conditions of accessibility education from the perspective of expert educators in both academia and the workplace. We have addressed how these conditions influence their teaching of digital accessibility, identifying a series of contextual challenges (section 3.1) and examining how educators manage and negotiate those challenges in their teaching and professional practice (section 3.2). Here, we discuss the implications of these findings, in view of wider educational literature, to examine how these strategies contribute to the building digital accessibility capacity.

Across this study, we find that academic and workplace contexts constrain capacity building when accessibility is structured as an individualised, specialist practice. To secure and scale capacity building, accessibility must be recognised and prioritised as a shared endeavour for both educators and practitioners, as it is in and across leading centres of excellence.

Educators in both workplace and academic sectors identified pedagogy that can be brought to bear to instigate a closer relationship between professional practices and formal education. Some centre on professional socialisation, with a deliberate focus on making learners 'competent members of particular professional communities' [Biesta, 2015]. For Bohman (2010), academic programmes that 'align as closely as possible with industry needs and expectations, rather than merely idealistic scholarly desires and expectations' (p.278) provide students with clear career paths. One approach is to connect learners with professionals through lectures from industry-based guest speakers [Alonso et al., 2010; Robertson and Chan, 2019] and disabled instructors [Ludi, 2007], or engage with accessibility communities and activities that cross professional roles (e.g., Teach Access, Accessibility Internet Rally³). Our educators also modelled accessibility as a core-value and professional requirement, sharing industry perspectives and defining professional expectations. Emphasising employability and helping learners to experience and recognise accessibility practices also proved crucial strategies towards professional socialisation.

Through creating authentic scenarios that replicate industry practices, workflows and deadlines, academics can provide experiential learning opportunities and real-world professional dynamics [Gay et al., 2017; Putnam et al., 2016]. In a usability and accessibility project described by Keates (2015), small groups of master's students work to a design brief where a 'tight deadline was chosen to specifically to emulate the time pressure in most commercial environments' (p.99), though as Keates (2015) notes, many computer science students at that academic level are mature and have already gained industry experience. Advanced courses in accessibility tend to incorporate 'real-world' projects, including the participation of industry partners especially during capstone courses [Ludi, 2007], some of which provide significant engagement with user groups throughout the various stages of design and development [Carter and Fournay, 2007; Fuertes et al., 2012; Molina-Carmona et al., 2017; Rosmaita, 2007; Shinohara et al., 2018a; Sitbon, 2018]. In some cases, user groups can also be involved in research activities [Menzies et al., 2019], providing students with a link to enhanced academic work. While these activities are seen as highly effective in raising student awareness and understanding of disability, they also model user-centred design practices that students might be expected to take with them into the workplace after they graduate.

In the workplace, authenticity is potentially compromised through the challenges involved in effectively transferring what is learnt in training environments to work activities and contexts. The issue of 'learning transference' is a common concern and focal point in workplace training [Holton and Baldwin, 2003]. Typically, employees are adept at learning new training material, but may lack the opportunities to apply new knowledge and skills in a timely

³ <https://knowbility.org/programs/air>

way [Vermeulen, 2002]. In this study, educators have described how they minimise this by using organisations' own materials and workflows as a basis for their training programmes.

Studies highlight attempts to broker vital cross-sector connections between academia and the workplace. Collaborative and flexible approaches to course and workshop design across the two sectors have led to formats that are adaptable to both academic and workplace learners [Benavídez et al., 2006; Crabb et al., 2019]. Similarly, Miesenberger and Ortner (2006) took a modular approach to the development and design of a post-graduate online course in accessible web design, enabling the potential transference of course design and content to industry training courses. Wood and Hollier (2013) describe how a university working directly with an industry partner redesigned an undergraduate accessibility course into a fully online accredited training programme for workplace professionals. Engagement across both sectors is also apparent in the emergence of MOOCs as online communities of practice [Druffan et al., 2015; Gilligan et al., 2018]. The importance of cross-sector collaboration is underscored by Gay et al., (2017) whose MOOC development was guided by an advisory committee comprising educational institutions and local businesses, as well as representatives from the accessibility community and members of the public.

Recognising inconsistencies in accessibility knowledge, practices and resources across both academic and workplace sectors, educators have sought to establish curriculum standards, professional development models and materials for teaching accessibility [Bohman, 2012; Bustamante et al., 2018; Kawas et al., 2019; Whitney et al., 2010]. Shinohara et al. (2018b) propose that curricular change is a more organic process established through discourse between educators 'who are intimately aware of the culture of specific institutions and who can devise and implement strategies to work within them' (pp.197-198). In this way, educators can act as 'local change agents' [Shinohara et al., 2018b] to leverage their situated knowledge and embedded understanding of specific disciplinary and role-based contexts to integrate accessibility across faculties and organisations [Gellenbeck, 2005; Waller et al., 2009]. Bohman's (2012) in-depth case studies of three universities also highlight the role that key educators play in implementing and developing accessibility in their faculties.

However, our experts identified clearly how individualised modes of accessibility practice and accessibility teaching are vulnerable to failure. There is a clear need for a community-level response, through the establishing of champions networks and other communities of practice that support educators, learners, practitioners and user-advocates, to ensure that precarity does not become a defining factor of accessibility education as investments in capacity increase. The International Association of Accessibility Professionals (IAAP)⁴ for example, supports a number of communities of practice, task forces, and topic-specific working groups.

Previous research [Lewthwaite and Sloan, 2016] has also called for more engagement with pedagogy through research, training and reflexive practice enhanced by educator networks, communities and forums. Our findings emphasise that brokering greater dialogue between the workplace and academia allows educators to develop and extend their pedagogical repertoire. By drawing on wider teaching experiences, they can understand how pedagogy iterates in different contexts, with different learners. Teaching that is effective for one group may not necessarily be effective for another [Peterson, 1979]. However, building communities of practice to extend and advance educator and learner insights will help to establish knowledge that cannot be achieved individually through trial-and-error, developing the pedagogical culture that is necessary to ensure successful learning and teaching outcomes. Moves suggestive of emergent pedagogical culture include the instigation and development of Teach Access in the US, an initiative created to aid technology companies to find graduates with the necessary skills in accessibility [Baker et al., 2020]. As Kearney-Volpe et al. (2019) explain, 'it became clear that in order to address the need of industry to be able to hire recent graduates with basic technical accessibility knowledge, a true collaboration would need to emerge between industry and academia' (p.379). This has resulted in a renewed and high-profile focus on teaching, learning and collaboration.

⁴ <https://www.accessibilityassociation.org/s/community-practices>

Beyond teaching, *learning* has been described as a continuous and frequently unrecognised process [Eraut, 2007] in which learners experience and perceive social situations and cultural practices cognitively, emotively and practically to acquire and shape knowledge, skills and attitudes [Jarvis, 1987]. A socio-cultural perspective emphasises learning through a nexus of participation, which can be understood simultaneously at personal, interpersonal, and community levels [Rogoff, 1995]. Through engaging in communities of practice [Brown et al. 1989; Lave and Wenger, 1991], learning is situated within activities, contexts and cultures in which shared meanings and understanding are acquired through mutual engagement, joint enterprise and shared repertoire [Wenger, 1998]. In the workplace, this is fundamentally directed at the continuity of vocational practices, which are often contested and historically embedded in the norms and values that shape and distribute opportunities for learning, and in the cultural and situational interests of those participating [Billet, 2002]. According to Fuller and Unwin, (2004), work environments can represent ‘expansive’ or ‘restrictive’ opportunities for learning depending not only on formal training but opportunities to engage in multiple and interrelated communities of practice existing in and beyond the workplace. An expansive learning environment requires a multi-dimensional approach to gaining expertise through the ways in which work processes and job roles are demarcated.

Notably, interdisciplinary learning has been posited as increasing empathy for ethical and social issues, assisting in the development of critical abilities, and enabling learners to tolerate ambiguity and accommodate, synthesise and integrate diverse perspectives [Newell, 1990]. Such abilities are essential to the core work of accessibility professionals and practitioners. Importantly, accessibility education and training that features a cross-role or interdisciplinary component allows learners to gain oversight of accessibility as a shared endeavour and provides the opportunity to gain and practice communication competencies that are crucial in the workplace. Gilligan et al., (2018) describe the potential to create ‘communities of learning’ that harness multiple perspectives ‘to exchange and to create new knowledge...can only be beneficial, to all those involved, both learners and content providers. We have experienced that the roles can be interchanged, enabling fluid movement from roles of designers and developers of learning content about accessibility to learning from our participants and becoming with them, new knowledge creators’ (p.85).

Our study has also highlighted how the learning journeys of accessibility professionals are often navigated through self-directed and informal means. In WebAIM’s [2021] survey of web accessibility practitioners, only 12.5% cited formal schooling as the predominant source of learning about the topic, with significantly greater numbers attending bootcamps and MeetUps, and using social media and online resources. While these sites of learning are associated with intensive training, ‘just in time’ learning and problem-solving, they can help create sustainable peer-learning networks and communities of practice. Engaging in these provides a social regulation of learning, where learners attain legitimacy through increased participation and particular ways of practicing (Wenger, 1998). Informal learning is a known and effective pedagogic tool for learning development [James and Pollard, 2011] that expert educators can and do harness. By actively selecting, curating and promoting sources of knowledge and expertise that are openly available, we have seen how educators can provide learning pathways that complement, extend and enhance their formal programmes of study and training, suggesting routes to longer learning journeys that can extend accessibility expertise for life.

5 CONCLUSION

This paper has reported on substantial cross-case qualitative research with 55 accessibility educators across academia and the workplace. We have interrelated the teaching expertise and experiences of accessibility professionals and academics for the first time, developing learning communities through our dialogic research practice, and interrogating the socio-cultural dynamics of learning and teaching that occur in a range of contexts, to establish areas and commonality and difference that allow these factors to be addressed. We find that the conditions in which accessibility is taught and practiced have huge implications for accessibility pedagogy—what is possible and what is

practical. Previous contextual work has focussed on delivery models [Gay et al., 2017] and the state of the art [Shinohara et al., 2018b]. We have sought to highlight the socio-cultural conditions that configure and continue to reconfigure teaching within higher education and the workplace. These conditions can drive individualised approaches to promoting and educating others in accessibility. Counternarratives of success suggest that for accessibility to succeed, it must be understood as a shared endeavour, in both practice and in teaching.

Interrelating insights from different contexts present new opportunities to build pedagogic knowledge and see new commonalities. Further, by recognising accessibility as a shared endeavour, interdisciplinary competencies gain visibility and communication skills are highlighted. We include below (section 5.2) actionable recommendations for developing the pedagogical culture necessary to ensure the effective teaching and learning experiences that can support broader efforts to build capacity across different sectors. At the heart of this, we find that communal efforts are necessary to bring about the necessary culture shift to embed accessibility in formal and professional education.

5.1 Future directions

Going forward, further empirical and conceptual research in this field will be vital to understanding the unique contextual challenges and opportunities relevant to building capacity in accessibility at both a structural and more granular level. It is essential that this incorporates pedagogic methods and approaches that are informed by learning and educational theories, to identify the most effective means with which these insights can be communicated to action. We suggest that harnessing perspectives and discourses from ‘friendly neighbours’—neighbouring and established academic fields such as inclusive education and others will help inform and open up debate, as well as championing marginalised voices. Many of these fields will have more established literatures to draw on and, as has been observed by some educators, can be seen to have greater currency and visibility.

In further work, we look to engage with a range of learners (university students, graduates and experienced professionals), and with expert user groups who are active in supporting and facilitating accessibility education and training. Incorporating these learner- and user-perspectives in dialogues around teaching and capacity building will be an important next step to exploring new frontiers for accessibility as a collaborative and transformational practice.

5.2 How can others make use of this work

Our analysis and findings demonstrate several key priorities for the field to promote a shared approach to accessibility teaching and training across the higher education and workplace sectors:

- *Embedding and integrating accessibility expertise:* Accessibility expertise is too frequently individualised to individual champions, limiting opportunities for capacity building and resulting in precarious models for developing expertise. Establishing networks, communities of practice and centres of excellence can help build accessibility awareness amongst colleagues, and create an impetus for sustained teaching, training and mentoring, and cultivate links between education and research.
- *Developing professional identities:* Learners graduating from higher education to industry are not yet guaranteed to have the necessary foundational skills and knowledge required for digital accessibility in practice. However, links between academics and the workplace demonstrate how collaborations between sectors can help connect learners with industry professionals and provide work placements, while ‘real-world’ projects provide authentic learning experiences that replicate industry practices. Together these model accessibility as a professional practice and begin a professional socialisation that engages learners and ensures smoother transitions to the workforce.
- *Harnessing and facilitating informal and self-directed learning:* Self-directed and informal methods of learning are culturally embedded in computing sciences. Developers and designers are predominantly learning about accessibility in bootcamps, conferences and online spaces, creating sustainable peer-learning networks and

communities of practice. Educators can harness these resources to support formal training programmes and help graduates and professionals develop continuing and self-regulated pathways to learning.

- *Introducing interdisciplinary and cross-role perspectives:* Engaging neighbouring disciplines promotes a nuanced perspective of accessibility, highlighting social, ethical and legal aspects, and helping learners to develop critical thinking. Education and training environments that bring together different disciplines and roles promote accessibility as a shared endeavour. Contextualising training within organisations' specific workflows helps professionals to identify overlapping tasks and responsibilities and encourages greater communication and understanding between colleagues.
- *Nurturing cross-sector communities of practice:* By reflecting on teaching experiences, educators can critically examine and share their teaching practice. Developing sustained educator networks and communities around dimensions of teaching and training of digital accessibility cultivates dialogue and knowledge sharing to build pedagogical understanding in the field. Active dialogue can establish conditions for further connections and pedagogic innovation between academia and the workplace.

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