Using scaffolding strategies to introduce accessibility topics

A TEACHING ACCESSIBILITY QUICK START GUIDE

For many students in computing and allied disciplines, disability and accessibility topics may be unfamiliar and potentially uncomfortable. Evidence about how to teach tells us that we need to 'provide activities, cultures and structures of intellectual, social and emotional support to help learners move forward in their learning' [1]. In this guide, we introduce 'scaffolding' as an evidence-based pedagogic principle for effective teaching, used to support and guide learners toward greater confidence and independence. Whether teaching a class or running a training session, accessibility teachers can benefit from using scaffolding approaches, particularly when working with learners who are unfamiliar with digital accessibility and disability inclusion.

What is scaffolding?

The term scaffolding is commonly used in construction. Scaffolding supports workers as they engage in the precarious work of creating new structures and maintaining existing ones. As the work is completed, the temporary supports are removed. In an education context, 'scaffolding' is a metaphor for a pedagogic approach designed to support learners as they extend their capabilities into new and challenging areas. The teacher gradually removes supports as learners become more independent and secure.

Why scaffolding is important

Accessibility teachers face unique challenges. Many learners come to the topic with little awareness of disability or digital accessibility and may question its relevance. Raising awareness requires attention to social, political, and human factors, which can be unfamiliar and unexpected topics.

To get started with active learning, students must possess sufficient skills to design, build, and evaluate accessible solutions. And there is no right answer when it comes to learning assessment, since the standards and context are dynamic and complex. Scaffolding helps learners bridge the gap between what they know and what they need to know for deep knowledge of accessibility, including procedural, technical, meta-cognitive, and strategic knowledge and skills [2]. Through scaffolded learning-by-doing, guided and supported by a more expert other—teachers, trainers, mentors, and peers—learners build familiarity and confidence, and become more independent in their pursuit of accessibility competency.

Ways to use scaffolding

Levelling: Assess where learners are in their familiarity and level of comfort with accessibility topics. Use scaffolds to get everyone to the same starting point before moving forward to the next level.

Experiential learning: Start with simple structured activities and tasks with clearly defined steps and expected outcomes. As learners become more familiar and confident with accessibility concepts and skills, increase the complexity of the task and reduce the specificity of the steps.

Tutoring: Provide prescriptive guidance at the start and specific feedback. Over time, offer learners more options and choices in how they approach a task, and encourage reflection and self-correction in feedback sessions.

Collaboration: Assign group activities to encourage sharing of knowledge and experiences. Provide opportunities for learners to learn from each other and consolidate their understanding.

References

[1] James, M. & Pollard, P. (2011). TLRP's ten principles for effective pedagogy: rationale, development, evidence, argument and impact, *Research Papers in Education*, 26:3, 275–328, DOI: 10.1080/02671522.2011.590007.

[2] Stanier, C. (2015). *Scaffolding in a Higher Education Context*. In: ICERI2015 Proceedings. 8th International Conference of Education, Research & Innovation, 18–20 Nov 2015, Seville, Spain. 7781–7790.

Examples and resources

Help learners recognize the value of accessibility and disability inclusion

Make disability and accessibility relatable. Use simple and familiar examples to communicate digital accessibility concepts. Share analogous accessibility examples from the physical world, like curb cuts, entry ramps, door widths. Deconstruct common features, like fire alarms and water fountains, to example concepts like equivalent use. Point out everyday examples of assistive technology, like eyeglasses and contact lenses.

Demonstrate the benefits of accessible technology. Arrange expert demonstrations and videos that provide first-perspectives on technology accessibility. Show learners how technology designed and built with accessibility features can open doors to opportunity and participation for people with disabilities and older people.

Explore common assistive technology features. Encourage learners to reflect on how they use assistive technology, such as voice recognition and text-to-speech technology on smartphones. From there, enable accessibility settings and explore how to operate the device using voice and gestures alone.

- Web Accessibility Perspectives Videos from the W3C's Web Accessibility Initiative (WAI) provide insights into different ways people use technology to address accessibility needs.
- My Computer My Way from AbilityNet provides guidance on how to use accessibility features on computers and devices.

Help learners establish baseline skills to support invention and independence

Solve real-world accessibility problems. Use projects to engage learners in addressing authentic accessibility needs and challenges. Start small, for example, by identifying and repairing defects in an existing website, and build up to more ambitious, bespoke solutions, where accessibility is integrated throughout the project. As learners gain confidence and autonomy, they will require less support and scaffolding can be removed.

- Easy Checks from WAI is an introductory course on evaluating web accessibility.
- Teach Access Tutorial provides guidance on building accessible apps and websites.
- Accessibility Open Educational Resources from MOOCs for Accessibility Partnership (MOOCAP) provides a collection of open educational resource for teaching accessibility topics that includes exercises and activities.

Help learners broaden their perspectives and deepen their knowledge

Provide mentors. Invite accessibility experts and specialists to participate in the learning experience as mentors.

Identify and promote peer-learning networks. Encourage learners to participate in informal communities of practice, like hackathons, Accessibility Meet-ups, Twitter Chats (#a11y #AXSchat) and annual events such as Global Accessibility Awareness Day.

Curate and share materials. Extend learning opportunities by signposting resources that interested learners can pursue outside class. Highlight podcasts, books and films about accessibility or closely related topics, like disability rights.

- Accessibility Internet Rally (AIR) hosted by Knowbility is an annual competition that provides mentoring as well as peer-learning opportunities.
- Global Accessibility Awareness Day (GAAD) and Inclusive Design 24 (ID24) are annual international celebrations that inspire a rich offering of events and presentations.
- A11y Meetups around the world provide opportunities for learners to join with others in exploring accessibility topics.

About our Quick Start Guides

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Further guides in this series are in production as part of current research on the Teaching Accessibility in the Digital Skill Set project. Look out for them on our website. We also appreciate feedback to inform future work.