

OPEN ACCESS

EDITED AND REVIEWED BY Kostas Karpouzis, Panteion University, Greece

*CORRESPONDENCE Andy Coverdale a.coverdale@soton.ac.uk

RECEIVED 19 April 2024 ACCEPTED 29 April 2024 PUBLISHED 29 May 2024

CITATION

Coverdale A, Lewthwaite S, Elglaly YN, Hollier S, Horton S, Sonka K and Zimmermann G (2024) Editorial: Advancing digital accessibility in academic and workplace education. *Front. Comput. Sci.* 6:1419986. doi: 10.3389/fcomp.2024.1419986

COPYRIGHT

© 2024 Coverdale, Lewthwaite, Elglaly, Hollier, Horton, Sonka and Zimmermann. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

Editorial: Advancing digital accessibility in academic and workplace education

Andy Coverdale^{1*}, Sarah Lewthwaite¹, Yasmine N. Elglaly², Scott Hollier³, Sarah Horton¹, Kate Sonka⁴ and Gottfried Zimmermann⁵

¹University of Southampton, Southampton, United Kingdom, ²Western Washington University, Bellingham, WA, United States, ³Centre For Accessibility Australia Ltd, Fremantle, WA, Australia, ⁴Teach Access, Lansing, MI, United States, ⁵Stuttgart Media University, Stuttgart, Germany

KEYWORDS

accessibility, teaching, pedagogy, digital, computer science education, higher education, industry, curriculum design

Editorial on the Research Topic

Advancing digital accessibility in academic and workplace education

With society's increasing reliance on technology, it is vital to build and sustain the capacity to create inclusive digital experiences for all. There is a growing demand for graduates and professionals with the knowledge and skills to produce digital resources that can be used by people who have accessibility needs, including disabled and older people. However, professionals often do not encounter digital accessibility in academic study and professional development. Requirements for accessibility are absent from many structured education programs, such as program accreditation, and curriculum and degree requirements. As a result, many professionals who have access to knowledge and skills are self-taught rather than formally educated or trained. To date, the teaching and learning of digital accessibility is relatively under-researched and under-developed, occupying a comparatively marginal position within broader efforts to develop computer science education, digital skills, and capacity in the workforce.

We established this Research Topic to build a research-led foundation for digital accessibility education in academic and workplace settings. We hope it provides both a starting point and a catalyst for educators to raise awareness, broaden pedagogic conversations, generate new ideas, and identify areas for future research. Teaching development is often reliant on trial and error, and hard-won insights. We seek to move on from "what works" and "best-practice" advice to widen the available resources for those developing their pedagogical understanding. In doing so, this Research Topic contributes to scholarship around effective teaching and learning of accessibility in diverse disciplines and roles, supporting the development of an emergent pedagogical culture. The five papers on this Research Topic are indicative of the field, highlighting the interrelated roles teachers and trainers, researchers, and learners play in promoting and progressing awareness and understanding of digital accessibility. The collection is interdisciplinary and geographically diverse, engaging both higher education and workplace settings. It highlights the important contexts these sectors provide for learning.

Our Research Topic includes rich accounts of teaching and training accessibility to demonstrate the wealth of pedagogical knowledge and expertise that is cultivated and refined over years of teaching experience, curriculum design, and course iterations. Weeden describes an open curriculum dedicated to accessibility as part of an undergraduate degree, featuring a foundational course followed by more advanced modules to provide a specialized track. Drawing on Universal Design, she describes ways to incorporate elements of inquiry-based, problembased, and experiential learning for engaging learning experiences. Similarly, Gay provides a detailed account of an open accessibility curriculum, with each course designed to introduce accessibility knowledge and skills for specific employment roles, emphasizing the close relationship with industry practice and the need for specialist knowledge. He describes how course content from a series of Massive Open Online Courses (MOOCs) was converted into successful open textbooks to provide a range of activities for teachers to use and adapt, highlighting how content can be repurposed for different educational contexts. Game design is a growing field, and Westin highlights how open-access curriculum development can deliver pedagogical strategies for engaging learners in game accessibility and inclusive design. He describes the co-creation of a tentative curriculum framework for higher education, presenting a set of generalized modules developed around roles and competency levels that can be used within existing courses or as the basis for new programs. Together, these accounts describe a wide range of teaching and learning activities, including lectures, demonstrations, and project work, drawing on aspects of storytelling, role-play, and the use of personas. They also emphasize the importance of collaboration and co-design with disabled users and the need to create authentic learning experiences to prepare graduates for the workplace.

Research on workplace accessibility education is scarce. In the first cross-case study, Lewthwaite et al. identify how foundational pedagogic approaches to awareness and understanding support core accessibility learning objectives in the workplace. Trainers' pedagogic strategies navigate organizational and workplace culture to meet the learning demands of different roles and responsibilities. The paper connects higher education and industry, identifying a need for greater collaboration—a theme echoed in other papers describing curricula that prepare graduates for industry.

Maturity models are increasingly used by organizations and present an interesting counterpoint to curriculum design and pedagogic approaches to examine accessibility capacity building through the lens of organizational change. Auer et al. present a multinational systematic review of 25 existing maturity models, six within higher education, with detailed analysis and comparison identifying key indicators used to measure accessibility. These maturity models vary significantly, and the study highlights a need for empirical foundations, evaluation, and standards. The authors also note a lack of explicit focus on the teaching and learning of accessibility across these models. However, this important review shows that the application of maturity modeling to teaching and training accessibility constitutes a rich new territory for further exploration and research.

For educators looking to embed accessibility in teaching, there is a wealth of practical teaching approaches, content, and course

designs to draw from here, as well as insights into the challenges and precarity of how accessibility is both perceived and engaged within the field. Educators and researchers have undertaken the task of designing, creating, and evaluating accessibility modules and courses. However, since several of these courses are not mandatory, accessibility knowledge may not reach the majority of students. This Research Topic underscores the necessity for systematic change, wherein institutions prioritize accessibility learning and integrate accessibility knowledge across various programs and courses. Accessibility as a field needs to value and reward the sharing of teaching knowledge and expertise, whether it be through greater networking and collaboration, sharing curriculum designs and open educational resources, or conducting original research.

Author contributions

AC: Conceptualization, Writing – original draft. SL: Conceptualization, Writing – original draft. YE: Conceptualization, Writing – review & editing. SHol: Conceptualization, Writing – review & editing. SHor: Conceptualization, Writing – review & editing. KS: Conceptualization, Writing – review & editing. GZ: Conceptualization, Writing – review & editing.

Funding

declare The author(s) that financial support was received for the research, authorship, and/or publication of this article. This research funded was by the UK Research and Innovation Future Leaders Fellowship (MR/S01571X/1).

Acknowledgments

The authors would like to thank all the authors, reviewers, and guest editors who contributed to this Research Topic.

Conflict of interest

SHol was employed by Centre For Accessibility Australia Ltd. KS was employed by Teach Access.

The remaining authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.