Culturally relevant pedagogy & culturally responsive teaching

Culturally relevant pedagogy is a framework for teaching that emphasises the importance of incorporating and valuing all learners' knowledge, ways of learning, and heritage. It promotes the development of learners' critical consciousness of the world and encourages them to ask questions about ethics, power, privilege, and social justice. Culturally relevant pedagogy emphasises opportunities to address issues that are important to learners and their communities.

Culturally responsive teaching builds on the framework above to identify a range of teaching practices that can be implemented in the classroom. These include:

- Drawing on learners' cultural knowledge and experiences to inform the curriculum
- Providing opportunities for learners to choose personally meaningful projects and to express their own cultural identities
- Exploring issues of social justice and bias

The Roots project: research design

The Roots project uses a collaborative and participatory design and focuses on the ways in which culturally responsive computing teaching can be implemented in primary and secondary schools.

We are investigating what adaptations to existing lessons might aid inclusivity. To date we have conducted two workshops in nine participating teachers' schools during the first half of the year.

In Workshop 1, teachers worked together with us to discuss culturally responsive computing teaching and how to make use of the guidelines in adapting existing lessons and programmes of study.

In Workshop 2, teachers discussed their experiences of implementing changes to their teaching. The next phases of the research include interviews with participating teachers and the development of a revised and adapted set of guidelines based on the learning. Qualitative data is being captured from the workshops and follow-up interviews with teachers are being analysed using thematic analysis. Full results will be available by the end of 2022.

Nine opportunity areas within classroom practice in computing

The collaborative work with teachers in Workshops 1 and 2 focuses around nine classroom practice opportunity areas which we have developed through our experience of creating the original Guidelines. Teachers identify where existing lessons can be adapted to incorporate more awareness of cultural identity. Teachers work with researchers to categorise these adaptations using a framework of nine opportunity areas shown in the figure below.

Developing guidelines for culturally responsive teaching

In the Roots project we draw on our previous work to develop a set of guidelines for teachers. In 2021 the Raspberry Pi Foundation developed a set of guidelines in conjunction with a working group of teachers and academics (Leonard et al., 2021). The group met up over three months to explore and discuss culturally relevant pedagogy. The result was a collaboratively written set of guidelines for culturally relevant and responsive teaching.

The guidelines are set out in three sections, which are likened to the structure of a tree:

- the roots or basis of culturally relevant pedagogy lie in the focus of the curriculum;
- the branches are the different teaching approaches that can be taken to deliver the curriculum;
- the learning materials are represented by the leaves and are the most visible aspect of the lessons.

Localisation to a UK context

While the computing education community in the UK has had a significant focus on developing culturally relevant, responsive and sustaining curricula for computing, there is no current literature or specific initiatives focusing on culturally responsive computing teaching in the UK (Leonard and Sentance, 2021). In the US, one large-scale development and implementation of a curriculum for formal K-12 education using culturally relevant and equity-focused approaches in the US is the Exploring Computer Science (ECS) course. It was initially developed for Los Angeles school districts and uses a student-centred and inquiry-led approach to computing topics that are relevant to the urban high school students for whom they are designed (Goode, 2010). Many other new initiatives are now emerging in the US.

Our experience working with teachers has shown us that work from the US in computing education cannot be directly transferred. Many localisations are needed in terms of language, context, content and teachers’ understanding of culture. Thus through this project we have focused on working with teachers in a range of schools to specifically identify the opportunities for culturally responsive computing teaching in a UK context, making a unique contribution.

References