NJCIE Nordic Journal of Comparative and International Education

Call for papers

Special issue for the Nordic Journal of Comparative and International Education (NJCIE)

Title: Computational Thinking in Nordic Schools and Teacher Education

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Background

Computational thinking (CT) has been described as a universal 21st-century skill: a generic competence that plays an important role in fostering analytical and critical thinking, creativity, problem-solving, and scientific literacy in children (Voogt et al., 2015). CT can be traced back to Seymour Papert (1980) who argued that students' constructions through programming could facilitate thinking and learning across multiple disciplines such as mathematics, science, and literature (Papert, 1980; Zhang & Nouri, 2019). There are arguments stressing that modern science and mathematics rely heavily on computations, which creates a reciprocal relationship between learning CT and learning science and mathematics through real-world examples and problems (Weintrop et al., 2016). Influenced by Wing's (2006) argument that everyone should think like a computer scientist, CT in education has had a technology-centred focus, relying heavily on programming and computer science (Buitrago Flórez et al., 2017; Shute et al., 2017). However, this approach has been criticised for being too narrow and at odds with the broader view of CT as fostering analytical and critical thinking relevant for all (Kafai et al., 2019; Mannila et al., 2014).

In recent years, CT has acquired a more prominent place in education theory and policy. CT has been implemented in school curricula in several countries, including the Nordic countries, which accordingly have created a demand for CT in teacher education. These countries are currently at different stages of implementing and integrating CT in their educational systems and are doing so through differing strategies (Bocconi et al., 2022; European Commission, 2022). The Nordic countries have different national practices, rationales for, and interpretations of CT for school and teacher education (Bocconi et al., 2022; Román-González et al., 2019; Voogt et al., 2015; Zhang & Nouri, 2019, Andersen et al., 2023). Additionally, there is still a need to design new teaching and learning approaches that support the development of CT competencies (Musaeus & Musaeus 2019; Zhang & Nouri 2019).

This special issue focuses particularly on the Nordic countries to promote deeper understanding and new knowledge about these countries' specific approaches, and their implications. Furthermore, this issue points towards potential ways the Nordic countries can benefit from each other's distinctive approaches by exploring the various aspects of locally and nationally situated educational CT practices.

Call for articles

This special issue calls for papers focused on CT in teacher education or schools in Nordic countries, related but not limited to one or more of the following themes:

- In-service and pre-service teachers' development of CT competencies
- In-service and pre-service teachers' understanding of CT
- Student engagement with CT in plugged and unplugged activities, in and across subject(s)
- Different CT teaching strategies and learning activities
- The integration of CT in teaching as a method in and across subject(s)
- The assessment of CT in and across subject(s)

We encourage submissions focusing on primary and lower secondary education and teacher education. We encourage submissions from teacher educators and educational researchers, to share their advances and innovations in this field and to explore the impacts this has on educational practice in general. We would also like to encourage submissions of case studies or reports of educational design-based research to better understand the role of different artefacts – including unplugged approaches - in the development of CT and in-service and pre-service teachers' readiness to facilitate student's learning.

Deadline for Submission

Interested authors are kindly requested to submit full manuscripts of papers for peer review by

15 January 2024

Please ensure compliance with the NJCIE Author Guidelines in your submitted manuscript. Upon submission, please make a comment that the manuscript is considered for this special issue.

Accepted manuscripts will be published as soon as they are ready through the production phase.

Useful references for potential authors

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