Young People's Digital Skills Practices in Non-formal Learning Contexts: observations, interviews, co-design

# Details

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Report and working paper

## Topics

* Learning
* Social mediation
* Internet usage, practices and engagement
* Literacy and skills
* Access, inequalities and vulnerabilities
* Digital and socio-cultural environment

## Sample

Children and young people attending non-formal educational activities, organisers, and moderators from Belgium, Denmark, and Italy.

## Implications For Educators About

## Implications For Policy Makers About

Other

## Other PolicyMaker Implication

Implementing non-formal learning environments for digital skills acquisition

## Implications For Stakeholders About

Industry

# Abstract

This report is based on findings from a cross-national qualitative study investigating young people’s digital skills practices in non-formal learning contexts in Belgium, Denmark, and Italy.

The goal of this study was to gain better knowledge about how to foster digital skills acquisition and practices in non-formal learning contexts.

This study combined 16 observations of digital skills workshops (i.c. programming and robotics workshops), 11 interviews with organisers and moderators of such activities, and 4 subsequent co-design activities with the collaboration of children, organisers, moderators, and researchers.

The research activities took place in non-formal learning contexts, such as public libraries, youth clubs, and school spaces used for extra-curricular activities (i.e., outside the formal curriculum). Due to different COVID-19 restrictions across Belgium, Denmark and Italy, flexibility with the research protocol was needed.

The main aim of the observations and interviews was to first map existing situated experiences of digital skills workshops across countries, investigate their structure and teaching philosophies, and inform co-design activities. Then, with the co-design activities, we aimed to gain knowledge about potential future trajectories, drawing insights from best practices and formulating recommendations, with Italy focusing on teaching style, Denmark on technology and tools, and Belgium on policy.

Our work allowed us to address several research questions, investigating three main areas to be understood as broader thematic units.

As a first thematic unit concerned with teaching, we questioned how the philosophies that drive the digital skills workshops ran by moderators and organisers have an impact on the workshop organisation in terms of their formality, activities chosen, teaching styles, imaginaries and values. Indeed, we argue that these matters should not go unnoticed, as part of a hidden curriculum (Gordon, 1982), as these are likely to impact children’s and young people's digital skills acquisition and practices.

Secondly, as for the theme of learning, we investigated whether and how the formality and structure of the non-formal digital skills workshops may have influenced children’s digital skills practices and learning, what types of learning strategies were promoted by moderators, and what practices were enacted by the children themselves.

As a third theme sensitive to including, we aimed to understand who participates in digital skills workshops and who is excluded, and why, questioning for instance potential sociocultural or material barriers (or absence thereof) shaping the democratisation and distribution of the learning opportunities.

# Outcome

" Digital skills workshops in non-formal learning context are designed and run with the mission of promoting children’s collaboration and active participation, moving beyond the normative and asymmetrical logic typical of formal education. In this context, across countries, moderators emphasised that they are not to be seen as teachers, but rather as facilitators, framing participants as the main actors of their educational experiences, echoing previous research studying digital skills practices in non-formal learning contexts (Livingstone Blum-Ross, 2020).
 Although collaboration and active participation are key words in moderators’ and organisers’ imaginaries, most of the times the structure of the learning activities, the affordances of the digital learning environment, and the choices of the children themselves, promoted individualistic practices, where each child worked on their own to achieve their own personal goals. We hereby acknowledge that any educational activity is characterised by, at least partially, asymmetrical relationships, where adults are the ones who are likely to make choices for children. In this sense, the choice of activities, software and, generally, the organisation of the workshop itself, comes down to adults. To counteract this tendency, in implementing teaching strategies, social goals and learning goals should be put forward during the non-formal learning activity.
 The spatial organisation of the workshops including the features of the technologies and tools can both hinder or facilitate collaboration and learning practices. It is important to align these to the intention and orchestration of moderators so that the room, the physical materials, and the technologies contribute to the overall goals. Also, to design situationally appropriate learning technologies and activities that integrate with current practices, it is important to understand the implicit and explicit social and material structures that constitute the activities and interactions with technologies.
 Our study further challenges the myth of the digital native, showing that children need appropriate and meaningful external support, individual effort, and motivation to become digitally skilled. Even if informed by a narrow understanding of programming skills as an individual achievement, digital skills workshops are promising for children to train digital practices and acquire new digital skills.
 A “free” and “open door” approach to the organisation of digital skills workshops does not necessarily mean that it is inclusive, not even when all materials are provided for free by the organisation. Apart from initiatives specifically tailored for usually under-represented groups (including girls, children from lower socio-economic status (SES) households, ethnic minorities), digital skills workshops are mainly attended by upper- or middle-class boys, showing how organisers and moderators struggle in attracting a diverse range of participants. The degree to which parents value programming as beneficial for their children’s future achievements turns out to be one of the main incentives to participate in digital skills workshops, together with the child’s genuine interest in the topic.
 To foster inclusivity, our findings suggest that workshops should allow a certain degree of open-endedness and freedom, so that children can adjust and embed the projects into their own lived experiences and future-oriented imaginaries. This also means adapting the educational proposals to suit the interests, needs and competences of a wide variety of children with different backgrounds and aspirations. This way the activities can be meaningful for participants to be able to express themselves using technology, while taking into consideration external factors such as the influence of parents and schools which contribute to the opportunities and attendance by participants.
 Finally, the organisation of digital skills workshops and initiatives should become embedded in the social fabric of the city and/or youth work, conceiving of them as a communitarian effort. This means that an active dialogue between policymakers, organisers and moderators, researchers, parents, and, of course, children themselves from different backgrounds is needed. Participatory co-design among these actors can be a key strategy to promote child-centred approaches that move beyond individualistic accounts of learning, towards the creation of more collaborative, and more inclusive digital skill activities through a systemic and holistic approach." (Cino et al., 2022, pp. 5-7)