Digital skills positively affect children's learning outcomes

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Findings from 110 studies published in 64 countries point out that digital skills play a key role in children's and young people's learning, participation and other opportunities. International research also reveals that the benefits of digital skills apply online and offline, potentially affecting multiple dimensions of children's lives. There is also evidence

that better digital skills can protect children from online risk of harm as well, although this evidence needs to be strengthened.

This worldwide research review, presented in a new report of the ySKILLS project, explores the factors that favor or hinder children's acquisition of digital skills and impacts on their everyday lives.

As expected, age matters: older children report higher levels of skills than the younger ones. However, gender differences are not significant in most countries, thus contradicting the common-sense belief that boys are more naturally inclined than girls to like and be better at using technology.

Parents' practice of restrictive mediation is linked to children's lower digital skills, while enabling mediation tends to be linked to better digital skills. Moreover, those children with earlier or broader access to ICT, including at home, have better digital skills. When ICT is more available in schools, children's digital skills also tend to be better.

The impact of digital skills on children's and young people's everyday lives has been considerably less researched, namely in terms of their wellbeing. However, there is empirical evidence that greater digital skills are linked to better learning outcomes for children and empower them to better protect their privacy online.

Although higher levels of digital skills are associated with more exposure to risky and potentially harmful online content, evidence also suggests that children with higher levels of digital skills are more able to cope with online risks.

Prof. dr. Alexander van Deursen, member of the ySkills board of directors underlines that this review a first overview of the entire field of young people's digital skills provides. It reveals how skills have been

studied, measured, and the key evidence gaps. Among many findings, one is that while boys often report better digital skills than girls, studies which actually test children's skillsfind no gender differences. This is something Alexander already concluded in earlier research on adults.

Digital skills, risks and wellbeing in Europe

Another ySKILLS report based on recent EU Kids Online data supported new findings on digital skills, risks and wellbeing among European children. Findings on 9- to-16-year-old children from 19 European countries do not indicate clear-cut differences with respect to the North-South digital divide, since country differences in children's self-reported digital skills are small.

In all countries but one, children who engage in more online activities—including communication, entertainment, education, etc. – report higher digital skills. In all countries, children score lower on digital skills when parents limit the online activities of their children.

The children's feeling of self-confidence may also reflect on their digital abilities. The more children become familiar with the online environment and the more they feel safe online, the better knowledge and understanding of the internet they gain, supporting their acquisition of digital skills.

European findings also reveal that higher levels of digital skills are associated with more exposure to risky and potentially harmful online content, including racist and discriminatory content, self-harm and pro-anorexia content, etc. The more skilled children who explore the internet to a greater extent may be more likely to encounter risks. However, digital skills can also help them avoiding that risks do not translate into harm.

Recommendations for improving digital opportunities

- Both ySKILLS reports include recommendations for improving digital opportunities, targeted at policy-makers, parents and teachers.
- Strengthen children's digital skills as a priority on the policy, research and public agenda, to ensure that children's engagement with the internet results in wellbeing at various levels;
- Encourage the design of both informal and formal educational programs that promote digital skills through playful activities and that reinforce children's self-confidence;
- Raise parents' awareness that a positive attitude towards ICT in the domestic environment contributes to higher digital skills and more abilities to cope with online risks;
- Foster peer-to-peer education, since co-use of ICT with peers and learning from peers are associated with higher levels of digital skills;
- Encourage new and longitudinal research on children's wellbeing, to better understand whether and how digital skills can prevent exposure to online risks, and foster children's resilience;
- Understand which kind of digital skills can strengthen vulnerable children's resilience and help them cope with higher exposure to online risks (a priority on research and policy agendas);
- Pay particular attention to rural areas, where children may benefit from fewer opportunities to get involved in peer education or other forms of digital skills training, and to children suffering from emotional problems, who are seemingly more likely to be exposed to online risks.

Information about the project

Youth SKILLS (ySKILLS) is a large international HORIZON 2020

research project, whose aim is to understand what kinds of skills are needed among children and youth so that the long-term positive impact of the digital environment can be maximized. The project will provide recommendations for strategies that can be used by children, parents, schools, and people working with and for children to develop skills that will maximize positive opportunities and minimize the risk of harm.

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