

ICTs in Inclusive Education – Research Results

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Focus of research

- Promoting equity in educational opportunities
- Access to ICT as an entitlement
- Training of educational staff in general and specialist ICT
- Multi-stakeholder research and development into ICT
- Monitoring the use of ICT for inclusion



Overview

- Research predominantly focused on promoting equity in educational opportunities, and access to ICT as an entitlement
- There was little research on monitoring the use of ICT for inclusion
- A significant volume of research focused on discrete aspects of the use of ICT to support learners with special educational needs and disabilities
- The pace of technological development constantly creates both opportunities and barriers



Promoting equity in educational opportunities

- Research on inclusive education, and on ICTs for education, often focus on the transformation of education systems, and reforming schools
- Advances in technologies are increasing the opportunities to access education, for example:
 - Eye-control and brain control interfaces
 - Increased accessibility built into devices
- Although relatively new there is emerging evidence on value of tablet devices
- The potential of interactive whiteboards and learning platforms is still to be fully realised



Promoting equity in educational opportunities

- Although the ratio of computers to learners across the EU is generally high, where this is not the case there are still significant barriers to ICT becoming integrated into practice, inclusive or otherwise...
- ...but usage of ICTs in lessons is not predicated only on the availability of technology
- Experts emphasise the value to educators of understanding basic access features and configurations built into operating systems, and other utilities in commonly used software



Access to ICT as an entitlement

- Variable levels of:
 - access to support and expertise in the use of assistive technologies (AT)
 - teaching and learning strategies that incorporates ICT to meet the needs of learners with SEN
- Progress in provision of accessible information and learning content
- Closing but continuing digital divide, which significantly affects learners with special educational needs
- Considerable Europe-wide research into e-safety, and some on vulnerable learners, but little into the implications for learners with disabilities and SEN



Training of educational staff in general and specialist ICT

- Newly trained teachers well versed in inclusion principles and e-learning often struggle to put this into practice – with a focus on access rather than achievement and belonging
- Whether digital technology is used is more likely to be based on a teacher's attitudes towards ICT and not on inclusive practices
- Continuing challenge of matching appropriate technologies to individual specific needs of learners
- Need for critical evaluation of digital education content to ensure schools provide an inclusive offer



Training of educational staff in general and specialist ICT

- Whether digital technology is used is more likely to be based on a teacher's attitudes towards ICT and not on inclusive practices
- Evidence of effective teaching and learning strategies, but only a few studies focused directly on how these can be enhanced through ICT
- No need for separate pedagogies for learners with special educational needs
- Significant challenge of bringing together inclusive education that meets the needs of all learners, and effective exploitation of ICT



Training of educational staff in general and specialist ICT

- Incorporating a practical understanding of the ways in which assistive and enabling technologies can be mainstreamed and form a core element of inclusive teaching practice
- Access to the most up to date information on the range of ICTs and their application - not only for teachers but specialist educators and teacher trainers
- Teachers express the need for access to expertise and on-going support and training in the inclusive use of ICTs...
- ...but this is often not universally available and can be of variable quality



Multi-stakeholder research and development into ICT

- Lack of longitudinal studies on the effectiveness and impact of technology on learning
- There is increased interaction between different disciplines that focus on specific disabilities (such as autism spectrum disorders)
- Research highlights the practical and ethical issues of participatory research design methodologies that involve learners with special educational needs
- Social construction of technology and the inherent value systems of product designers



Multi-stakeholder research and development into ICT

- Learning materials are often not accessible and traditional assistive technologies sometimes viewed by the learners as socially isolating and reflecting a negative image of themselves among their peers
- Evidence that learners reject assistive technologies in favour of less accessible but socially acceptable technologies, both in school and at home
- Impact of procurement legislation – Section 508 in the USA. Mandate M376 in the EC to identify a set of functional accessibility requirements for public procurement and provide a toolkit



Monitoring the use of ICT for inclusion

- Many countries collect data on learners' characteristics, progress and achievements, type of institution where they receive education, and other indicators,
- Surveys of the use of ICT for teaching and learning increasingly covers a wide range of aspects, but rarely refer to the use of accessible technologies
- Generally, information on monitoring the use of ICT for inclusion is scarce and where available, the impact of ICT upon inclusion has to be inferred rather than it being explicitly stated.



Summary

- Technological developments continuing to provide significant opportunities and challenges for learners with special educational needs and disabilities
- Significant amount of specific research...but little that is holistic, or provides robust and comparative evidence of the impact of technology for inclusive learning
- Challenge to translate inclusive education and e-learning principles into teaching practice
- Increasing accessibility and mainstreaming of ICTs showing inclusive potential



More information

<https://www.european-agency.org/agency-projects/ict4i>

www.european-agency.org

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