

KNOWLEDGE MAP: EQUITY ISSUES: GENDER, SPECIAL NEEDS AND MARGINALIZED GROUPS

GUIDING QUESTIONS:

- What do we know about equity issues as they relate to ICTs in education, and how they are being / can be addressed?
- What is known about how ICTs can be used to reach marginalized groups (economic, linguistic, cultural, gender) to benefit education, and how ICT use may have differential impact on such groups?

CURRENT KNOWLEDGE-BASE

What we know, what we believe – and what we don't

General

■ **Equity issues are critical — and acute**

It is clear that there are critical equity issues related to the uses of ICTs in education. There is a real danger that uses of ICTs can further marginalize groups already excluded or marginalized from existing educational practices and environments. That said, ICT use also holds very real promise for facilitating greater inclusion of such groups into existing educational practices and environments as well.

Special Needs and Disabilities

■ **Solid documentation from OECD countries**

There is a richly documented history of what works – and what doesn't – related to the uses of ICTs to assist in the education of students with a variety of disabilities, both cognitive and physical based on OECD experience. Certain applications of ICTs have been shown to have positive and important effects on the educational development of students exhibiting a great variety of special needs (including blind, deaf, and learning disabled students).

■ **Accessibility issues well documented**

There is a large and rich literature of best practices and lessons learned related to accessibility issues related to the use of ICTs in education based on OECD experience.



This Knowledge Map is an excerpt from the publication, *Knowledge Maps: ICTs in Education: What Do We Know About the Effective Uses of Information and Communication Technologies in Education in Developing Countries?* produced by the Information for Development Program (infoDev).



- **Applicability to LDC context under-studied**

That said, there is very little study of uses of ICTs as they relate to the educational requirements and circumstances of 'special needs' students in LDCs.

- **Impact on motivation varies**

While ample evidence exists that ICT use can have a positive impact on student motivation, such gains in motivation tend to correlate most closely with students who are already the most academically motivated and highest achievers.

Gender

- **Lots of research from OECD countries**

There is a large and robust research literature on gender issue related to ICTs in education (access to, attitudes towards, uses of, and impact of) in OECD countries.

- **Some research from LDC experience**

There is limited but emerging quality research into such issues in LDCs.

- **What is known has not been mainstreamed**

There appears to be little mainstreaming of lessons learned in this area into educational practice of using ICTs in LDCs, although the need to do so is almost universally acknowledged.

Marginalized & indigenous groups

- **Impact on marginalized groups is being studied, but lessons are slow to emerge**

While ICTs are increasingly being used in pilot projects to aid in the education of marginalized and/or indigenous groups in LDCs, there is very little impact data to date on impact and cost effectiveness of such programs, and there have not been many nor case studies and lessons learned from such programs (many of which are on-going).

- **Some useful lessons from OECD experience**

That said, there is literature on the use of ICTs to 'reach out' to marginalized and indigenous groups in OECD countries, most notably from Canada and Australia.

- **Cultural context is all important**

It is clear that ICT in education interventions targeting marginalized and indigenous groups must place ICT-related interventions within the broader cultural and social contexts that frame education in issues in such groups more generally. Failure to do so may result in minimal (or deleterious) results from such programs.

COMMENTS

General comments

- To date, much of the research in this area has focused on access-to-ICT issues as they relate to equity. However, less work has been done surrounding how specific types of uses of ICTs impact equity issues as well.
- Much research has focused on the impact of ICTs on learning outcomes (which, in the case of special needs students, are in many cases more compelling than for the 'average' student), but less on the impact of ICT of on psychological, emotional and cultural issues of teachers and learners.

Applicability to LDC/EFA context

- If education-related MDGs are to be realized, new and innovative methods for reaching out to disadvantaged and special needs students need to assume greater prominence.
- At the same time, where ICTs are used in education to help meet education-related MDGs, care must be taken that such use does not further marginalize already marginalized groups.

Some areas for further investigation and research

- What is the gender impact of ICTs in education on access, use of, attitudes toward, and learning outcomes?
- How can/should educational content for dissemination via ICTs be produced to ensure inclusion?
- How do the types of learning strategies fostered by the use of ICTs impact special needs and disadvantaged students, and how do they differ by gender?
- How do different ICT applications, audio/verbal versus visual representations of educational content, and communicative modes impact communicative practices and create/reinforce/ameliorate various exclusions and inclusions as curriculum and communication methods are moved on-line?
- What are the best practices for producing, disseminating, and using educational content in audio format (including via radio) for deaf students?
- How can issues related to ICT use for special needs and disadvantaged students be introduced into teacher professional development activities, and what are best practice examples of such activities?
- What are the emotional, psychological and cultural impacts of ICT use on learners from disadvantaged, marginalized and/or minority communities?
- What is the impact of the promotion of collaborative activities in groups facilitated by ICTs on students with little interest or background in computers, and what practices can better promote their inclusion?
- Are there differential impact of ICT use in education on identifiable sub-groups of boys and girls?
- How can ICTs be utilized to attract and retain out-of-school and at-risk students (for example, through improved communication and provision of alternative modes of learning)?
- How can ICTs be used to reach out to and teach illiterate youth?

Some Recommended Resources

to learn more

- *Effective Use of Information and Communication Technology (ICT) to Enhance Learning for Disadvantaged School Students* [Blackmore 2003]
- *Engendering ICT: Ensuring Gender Equality In ICT for Development* [World Bank 2003]
- *Gender issues in the use of computers in education in Africa* [Derbyshire 2003]
- *ICT Based Solutions for Special Educational Needs in Ghana* [Casely-Hayford 2003]
- *Inclusive Learning and Teaching - ILT for Disabled Learners* [Becta 2003]
- *Overcoming the Gender Digital Divide: Understanding ICTs and their Potential for the Empowerment of Women* [Huyer 2000]
- *Preparing Disadvantaged Youth for the Workforce of Tomorrow* [Teens and Technology Round Table 2002]
- *A Review of Good Practice in ICT and Special Educational Needs for Africa* [Casely-Hayford 2003]
- *Special Educational Needs and ICT provision* [Becta 2003]
- *Understandings of Education in an African Village: The Impact of Information and Communication Technologies* [Pryor 2003]
- *What the Research Says about Special Education Needs* [Becta 2003]

About these Briefing Sheets:

infoDev's Knowledge Maps on ICTs in education are intended to serve as quick snapshots of what the research literature reveals in a number of key areas. They are not meant to be an exhaustive catalog of everything that is known (or has been debated) about the use of ICTs in education in a particular topic; rather, taken together they are an attempt to summarize and give shape to a very large body of knowledge and to highlight certain issues in a format quickly accessible to busy policymakers. The *infoDev* knowledge mapping exercise is meant to identify key general assertions and gaps in the knowledge base of what is known about the use of ICTs in education, especially as such knowledge may relate to the education-related Millennium Development Goals (MDGs).