

*Helsinki Process  
ICT Track Workshop*

*"Assessing the Impact of ICT in Education Workshop"  
23 & 24 May, 2007*

*Final Report*

The workshop was inaugurated with a speech by Ms. Ghada Howaidy, Director of International Relations at MCIT, Egypt, who iterated the objectives and mission of the Helsinki Process in the ICT track and the general areas of focus. She stressed the role Helsinki process plays as a special mechanism of WSIS follow up.

Dr. Jyrki Pulkkinen, advisor for ICT in MFA, Finland gave an opening speech in which he highlighted the challenges of assessing the impact of ICT in education stressing the fact that we should be clear about what impact of ICT in education we should be assessing. Mr. Pulkkinen highlighted the need for the Helsinki friends to share ideas and results and exchange expertise in the area of ICT in education, as well as the importance of documenting the progress of the Helsinki process.

Mr.Theophilus Mlaki, Director of Information and Documentation at Tanzania's Commission of Science and Technology expressed in his inauguration speech the role of ICT to leverage education and development and the need for a rigorous effort in assessing the impact of ICT in education since governments as well as the private sector are interested in this kind of assessment results and that with the expansion of education, the potentials of ICT is getting even bigger.

**I- Workshop Presentations:**

Dr. Hoda Baraka, First Deputy to the Minister, MCIT, Egypt presented on the Egyptian Education Initiative (EEI). Her presentation gave an overview of the EEI highlighting the strategic mandate and the potential impact of the EEI model. She elaborated on certain issues in regard to the Public-Private Partnership (PPP) and the governance models adopted in implementing EEI. The presentation highlighted the domains of cooperation between MCIT and the Ministries of Education and Higher Education to achieve the ministries strategic goals in regard to Quality, Accreditation and Accountability. The presentation also highlighted the need for e-learning as a tool for life long learning referring to the Egyptian E-

learning Competence Centre (ELCC) and the efforts conducted in establishing 1000 IT clubs all over Egypt as accredited e-learning centers. Dr. Baraka also referred to the efforts done to provide ICT services and facilities for small and medium enterprises in Egypt. The presentation emphasized how Egypt is paying extensive effort in integrating ICT as an integral part of the education process not only in pre-university, but in higher education as well so that we can close the gap between the two sectors on one side and the educational process and the job market on the other side. Dr. Baraka expressed Egypt's interest in assessing which ICT investment model yields the highest impact given the huge investment difference between smart school 100,000 LE/school initiative and the EEI school 50,000LE/school one. The presentation also addressed MCIT priority to make PC's affordable for teachers, local e-content development, and EEI schools accredited.

A slide show was presented featuring Egypt's efforts in the area of ICT in education with documentation of success stories from students, teachers, teacher trainers, and parents advocating the difference ICT could bring to Education.

### **Egypt Presentation:**

Dr. Amal Nasralla, Monitoring and Evaluation Director in the Egyptian Education Initiative presented a presentation entitled: "Early Measures to Foster Multi-level Impact of ICT in Education: EEI Impact-generating Framework. This presentation included the following key points:

- Impact of ICT does not come as a natural end unless strategic and action planning are taking rigorously to yield the expected impact..
- Designating the level of impact is instrumental in the assessment of impact.
- Monitoring and evaluation of personal factors such as the level of knowledge, skills and dispositions, on-the-job performance and the sustainability of ICT related practices, along with the contextual factors such as work place management, appraisal system, peers pressure, supervision and mentorship scheme, are significant in yielding the expected impact.
- Identification of expected changes in performance and the expression of the KSD matrix needed to reach these performance changes are key issues in the impact-generating model presented.
- Formative evaluation of interventions is needed among the identified early measures in the presented framework to foster impact.
- Monitoring and evaluating changes in individual and institutional performance as the "outcomes" of the planned interventions are key results in yielding the expected impact.

### **Finland Presentation:**

Dr. Timo Aarrevaara, research director at the University of Tampere in Finland presented a presentation entitled "ICT in Educational Use in Finland". The presentation covered the following key issues:

- The KOTA database maintained by the Ministry of Education monitors the development of universities' performance.
- The database is used for implementing with electronic communication the annual information exchange for performance discussions, follow-up of the achievement of objectives, and other reporting facilities.
- Challenge for ICT in educational use in Finland from technology transfer in 2000 to social innovations in 2006 and the search for evidence-based improvements for ICT in educational use.
- Good governance and the responsive and effective mode of operation which would lead to economic results, trust, effectiveness and legitimacy.
- The evaluation of virtual universities framework that is composed of 4 segments: contribution and implementation, effectiveness, productiveness and usefulness.
- The changing nature of teaching as a result of ICT and the need to secure the supportive services of learning technology
- Suggestions for universities included the following points:
  - Quality goals could be better implemented into ICT based practices
  - A need for quality criteria for ICT in educational use
  - Virtual University can act as an arena for regional, national and international cooperation
  - Enhance more effective use of the existing virtual learning environments
  - More user-based development work and a more specific division of labour among the supportive staff across these educational units.
  - Developing ICT in educational use should be seen as a part of core funding, not project-based
  - ICT in educational use should have a stronger role in management strategies and performance agreements

### **Tanzania Presentation:**

Ms. Theophilus Mlaki, Director of Information and Documentation at Tanzania's Commission of Science and Technology presented a presentation entitled: "Impact Assessment of ICT in Education in Tanzania - The Case of The National Examination Council in Dissemination of Examination Results". The presentation covered the following key points:

- The recent use of ICT in Tanzania
- The National Examination Council of Tanzania (NECTA)
- Trends in ICT use in NECTA
- The Impact study
- Results of the impact study that included the following:
  - \* Effective utilization of manpower
  - \* Faster processing time of exam results
  - \* Early release of examination results has enabled candidates to join Colleges without delay.
  - \* Improved access to examination results
  - \* University validating grades submitted by applicants (cross-checking).
- The presentation concluded that:
  - \* More online transactions need to be implemented.
  - \* E-ordering of results slips
  - \* E-registration of candidates
  - \* Adopting SMS service
  - \* Major impact assessment studies should be supported in the future to have concrete empirical evidences.

### **UK Presentation:**

Ms. Dalia Adel, Educational Manager at the British council delivered a presentation on behalf of Dr. Baldev Singh at Bristol university in UK. The presentation was entitled "Impact of ICT on Education: What does research evidence say? The presentation covered the following key points:

- Possible reasons for the low impact of technology in education
- The new student who are: digitally literate, always connected, experiential, mobile, and community-oriented
- Reasons for conflicting research evidence of impact on ICT
- The Need for :
  - \* Re-evaluation of both the research questions and methods by which we seek to capture educational experiences
  - \* Taking into account the complex and dynamic nature of system of Education
- The major impact findings presented were:
  - \* Substantial evidence of positive impact of ICT on attainment in core curriculum subjects (Maths, English and Science)
  - \* Strong relationship between student attainment and impact of ICT
  - \* Appropriate selection by teacher and use of ICT impacted attainment
  - \* Pedagogical approach in using ICT played an important role
  - \* Advent and spread of new technologies has led to major changes in

communication and interpersonal behaviours

- \* Specific technologies can enhance learning if used in specific ways within particular contexts
- \* Teachers continue to be centrally important in designing and supporting learning with ICT across the curriculum
- \* The presented wrapped the presentation with the conclusions that:
- \* Hardware and infrastructure are necessary but not sufficient
- \* Teachers lack confidence to take risks with ICT in teaching and learning
- \* Teachers need to understand more about how to put ICT to use in teaching and learning
- \* Teachers question the relevance of ICT-based learning to achieving in the current assessment regime
- \* The impact of out-of-school learning is underestimated

## **II- Working Group Discussions: "Commissioning an Impact Assessment Study and Utilization of Results"**

### **Main Discussion Points:**

- Return on investment is not easy to measure. Assessing the impact of ICT on the economy is difficult to isolate. However, unintended outcomes could be bigger than intended outcomes. We should pay considerable attention to cultural and societal outcomes as well as other intended outcomes.
- It is a very simplistic view to see ICT as a tool, it should be looked at as a process for development. ICT is an enabler for development. It provides the operating environment for e-learning processes. From this perspective, ICT could not be seen as just a tool. This developmental view should be taken into account in assessing the impact of ICT.
- We should be clear about the areas of impact we want to commission an impact assessment study to measure.
- A pilot project could be a good way to assess impact before we scale up.
- The existence of an ICT policy document could be a good pressure to assess impact, but in some cases they could be just ink on paper. A need to develop implementation plans out of ICT policy documents with expected outcomes

stated clearly and assessment guidelines mapped out.

- The issue of which indicators we are using to assess impact was raised.  
Countries should be working on the set of indicators that would best reflect the area/level of impact that the country wants to assess.
- We should also consider the impact of education on ICT and not only of ICT on education as ICT tools and services have changed dramatically to meet educational diversified needs.
- We have to differentiate between teaching ICT as a subject and integrating it in the teaching and learning process.
- ICT as an integral part of the curriculum could yield more impact in the long run but then will we be evaluating the impact of education and training or the value-added of ICT in the educational process?
- ICT affects the mind set. We should not underestimate this big impact.
- ICT is about development since individual development is the heart of the ICT initiatives in Education.
- ICT could lead to social innovations and more creativity in the teaching process.  
This should be taken into account in measuring impact.  
There is more in ICT than just subject attainment and teaching the curriculum.
- Some countries are still in the process of articulating what they want to accomplish by using ICT. Impact studies could help them in articulating their ICT policy.
- There is a need to join forces between countries to assess the impact of ICT in education and utilize results for better planning and implementation purposes.

### **III- Panel Discussion: "Possible Factors that Could Impede or Facilitate the Impact of Using ICT in Education."**

#### **Main Discussion Points:**

- Investing in ICT in vocational education is an important leap to prepare

workforce to the labor market.

- Vocational training and life long learning are key factors to long term impact
- Different countries expressed their stand in regard to the translation and localization of e-content. While some countries use English e-content for science and technology to develop the English language of the users (Malasia), other countries use facilitators to translate and simplify the e-content to the local users (Tanzania). A third group of countries undertake translation and localization services (Finland and Egypt).
- Local e-content is important to convey local experience and preserve cultural heritage.
- Translation and localization services need to be taken with cost effectiveness considerations (i.e. which e-content needs to be translated/localized and why) Having a global market for educational resources could be an advantage, but since ICT makes access of English e-content easier, countries should keep a balance between existing e-resources and locally developed ones.
- Considerations of translation and localization of e-content are linked to the area/sector of knowledge and the level of expected users. However, preservation of local languages, cultural heritage and national entities should be a considerable issue.
- Since knowledge dynamically changes, even if countries develop E-content, they have to be open to other e-resources.
- Training parents on ICT skills is a strategized decision that is linked to the type of impact the country wants to yield. Such decision depends on the purpose of using ICT for parents. The actual use of e-communication between parents and schools is far more important than teaching parents about ICT.
- Parents oriented about the value added of ICT in the educational processes are more supportive of their children use of technology.

- Since ICT is a tool for community development, we should also think of training elderly and retired people on ICT skills since it will bring about many changes in their lives.

**IV- Working Group Discussion: "A Consolidated List of Output Indicators that Present a Positive Impact of ICT Projects in Education."**

**Main Discussion Points:**

- Universal indicators reflect the universal goals of using ICT in education. They manifest universal understanding of why we are investing in ICT.
- Indicators should be classified systematically to reflect the different aspects related to the educational system at large. Classification shows the micro and macro levels of indicators.
- Indicators are important tools, but they are also needed to measure progress towards identified targets. That's why a scale is needed to assess the extent of effort and the extend of progress.
- What is the level of performance that indicators should manifest; minimal, standard –best practices ?
- A balance is needed between the number of indicators (too many are difficult to attain to) and the different levels of performance that indicators reflect (a holistic indicator doesn't reflect the different aspects of changes expected).
- Indicators should leave room for innovative practices and new modes of operations and not to standardize performance.
- Some countries develop indicators for major areas in the system (e.g. policy, e-learning endeavors, implementation) with time line of outcomes. This could be used for cost analysis purposes.

- Indicators are important as a planning tool, but we should avoid treating them as goals. Before indicators are developed, we should be clear about the goals we want to achieve and what will be measured.
- There are many areas of anticipated impact as a result of the use of ICT in education. It depends on the country strategic plan and goals, e.g. gender equality, special needs access to education, availing learning objects in local languages are possible areas for impact.
- It's difficult to assess impact as an input-output kind of equation. Impact takes time and monitoring of plans.
- Core indicators are needed to act as an umbrella frame to other locally developed indicators.
- Countries should develop their set of indicators depending on their educational goals. Some countries even leave it to schools to decide on their own goals and indicators of measuring their attainment of these goals. In this case, schools goals and indicators are linked to the national goals.
- Plans for measuring impact should not come at the end, but rather at the outset of the projects.
- We need to define what we mean by ICT first, before we design plans to measure its impact since technology is not only computers, but there are other means that could yield high impact on community development such as mobiles, PDA's and Handhelds.
- Computers would yield high impact in areas where audio-visual means are needed (e.g. illiteracy and self learning programs)
- It is difficult to disassociate national and universal indicators. Universal indicators are needed to compare between countries and they could be used as guidelines in developing national indicators.
- ICT indicators must relate to educational indicators, since we have to be always clear about what we want to achieve by using ICT in education.

- Impact indicators could serve purposes of accountability since unless a demonstrated impact is manifested, it will be hard to convince stakeholders of the value of the investment. It is important though not to underestimate the time needed to assess impact and to be clear about the level of impact expected.
- Development of impact indicators should be the joint effort of many perspectives; educational, political and evaluative ones.

V- **Recommendations:**

- Develop a proposal for a joint research/activity in the area of the impact of ICT in education for a funding organization.
- Maximize the use of the internationally developed tools to make the best use out of them.
- Disseminate results of the Helsinki ICT track in WSIS related national and international events.
- A meeting before the conference in Dar-Es-Salaam in Nov. to bring issues of the different countries and reach consensus on the ICT track suggestions.