Indicators of ICT in Education (IIE)

Summary of main findings

June 2009
Background and purpose

- To identify a set of indicators that are relevant for enabling the regular monitoring of the use and impact of ICT in primary and secondary education.

- To describe scenarios for monitoring ICT in Education in the European Union.

- 32 target countries (EU+)

- Start: November 2008

- End: October 2009
Policy topics

- Infrastructure. This concerns issues like hardware and software and within these sub-issues such as access to the Internet, broadband connections, open source software.
- Curriculum and content. This covers issues such as pedagogical approach (e.g. autonomous learning), content (e.g. development of methods), assessment (e.g. portfolio’s, digital drivers license).
- Opportunities to learn
- Outcomes, e.g. competencies, digital literacy.
- School leadership, e.g. change management.
- Connectedness, e.g. national and/or international cooperation, public-private partnerships.
- Teacher training, e.g. teacher competencies, pedagogical drivers license.
- Support, e.g. the way technical and/or pedagogical support is made available.
- Transversal issues, e.g. equity, financing, safety.
The project from a birds-eye perspective

- Concepts
  - Available and desirable indicators
    - Proposal indicators
      - Feasibility
      - Sustainability
    - Feedback national experts
    - Quality
  - Natnl.dbases
    - Research docs
    - Policy docs
    - Exist.int.dbases
  - Statistics from existing sources
    - Scenarios for data collection
    - Natnl.dbases
Monitoring in education - the core

Intentions

Opportunity to Learn

Indicators

Outcomes: competencies and attitudes
Methodology

- Policy issues/Concepts
- Available indicators
- New indicators
- Priorities
- Proposal
- Scenarios

Gaps

Steering Ctee & Nat. experts

Steering Ctee
Main sources

- Policy documents
- Existing data bases (IEA, OECD, EU)
- National ICT experts (screening: 54 names from 28 countries; indicator survey 55 indicator areas: 76% respondents from 93% countries)
First a few words about monitoring

- Navigation tool
- Common destinations?
- Compare progress
- Diagnose deficiencies
- Interventions for improvement
- Need valid indicators
Monitoring in general: as tool for evidence based policy making

1. Policy goals/intended

2. Assessment

3. Evaluation and reflection

4. Diagnosis

5. Interventions

- Policy documents
- Research literature
- Primary indicators
- Secondary indicators
Monitoring: regular assessments

Assessment 1 → Diagnosis → Intervention
Assessment 2 → Diagnosis → Intervention
Assessment 3 → Diagnosis → Intervention
Monitoring

- Important concepts
  - Policy cycle
  - Primary and secondary indicators: dilemmas
  - Common targets
  - Priorities
  - Periodicity
  - Multi level monitoring
  - Concerns (atomistic versus holistic): conservative effects?
  - Need for monitoring ICT?
Main conclusions: see handout

- Need
- Policy topics
- High priority indicator areas
- Focus on learner
- Indicator and data gaps
- Validity
- Multi-level monitoring
- Differences in indicator needs
- Inferences about impact?
- Innovative monitors needed in EU
- Coordination between main players
Need for international comparative monitoring of ICT in education

- Yes, definitely: 50% of countries
- Yes, depending on the kind of indicators: 40% of countries
- Maybe, if certain conditions are met: 10% of countries
- No: 5% of countries
- Unlikely: 5% of countries

Percentage of countries
Percentages need indicators for OTL-ICT

- 1. Extent use learners at school
- 2. Extent use learners outside school
- 3. Subject ICT used at school by learners
- 4. Learners' use of information sources
- 5. ICT-use in general at school
- 6. ICT use for learning in five EU competency areas
- 7. Learners' ICT use in general for learning outside school
- 8. OTL about specific ICT applications
- 9. Learners' ICT use for autonomous learning
- 10. Learners' ICT use for cooperation/communication
- 11. Frequency learners use ICT for self/peer evaluation/assessment

Legend:
- High need
- Medium need
- Low/no need
Percentage students having used computers at all Grade 4

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Percentage students using ICT at school weekly Grade 4

| Country | AT | BFL | BFR | BG | CY | CZ | DE | DK | EL | ES | FR | HU | IS | IT | LT | LU | LV | MK | NL | NO | PL | RO | SE | SI | SK | TR | UKE | UKS | USA |
|---------|----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| PIEA2001| 11 | 15  | 18  | 17 | 13 | 38 | 28 | 59 | 24 | 7  | 17 | 8  | 50 | 22 | 13 | 35 | 16 | 5  | 22 | 67 | 63 | 70 |
| PIEA2006| 27 | 28  | 21  | 35 | 24 | 39 | 41 | 41 | 34 | 63 | 63 | 21 | 15 | 24 | 11 | 65 | 41 | 19 | 65 | 85 | 79 | 74 |
Percentage students using internet outside school daily Grade 4

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GENERIC SCENARIO

Diagnostic and developmental research

Legend
Indicators first used in assessment 1
Indicators first used in assessment 2
Indicators first used in assessment 3
The End

- THANK YOU FOR YOUR ATTENTION!