Access to & use of ICT in education: A few results from a school survey

Yanhong Zhang
● Trends in Mathematics and Science Study 2003
● Grades 4 & 8
● Eight countries in this region participated in study of Grade 8
● Paper & pencil test
● Background questionnaires completed by students, teachers and school heads
ICT-related questions (partial)

- **Student**
  - Having a computer at home
  - Have ever used a computer, and if yes
    » Where and for what purposes

- **Teacher**
  - Do students in the have computers available to use during their math/science lessons, and if yes
    » Any of these computers connected to the internet
    » How often do students use computer for a number of activities
  - Teacher perception of inadequacy of hardware, software and support for using computers

- **School head**
  - Total # of computers and internet connectivity
  - Availability of support for the use of computer
  - Inadequacy of computer resources

- ......
Owning a computer at home

% of grade 8 students reporting to have a computer at home

- Egypt
- Tunisia
- Jordan
- Palestine
- Saudi Arabia
- Lebanon
- Bahrain
Owning a computer at home

% of grade 8 students reporting to have a computer at home
...divide along socio-economic background

Probability of having a computer at home if at least one parent completed upper secondary school relative to that if not
...divide along socio-economic background

Probability of having a computer at home if at least one parent completed upper secondary school relative to that if not
Access and equity: not necessarily a trade-off

% of grade 8 students having a computer at home

Probability of having a computer if at least one parent completed upper secondary school relative to that if not

- Egypt
- Jordan
- Saudi Arabia
- Bahrain
- Lebanon
- Palestine
Equity in computer access: gender angle

Countries are sorted in ascending order by the size of boy advantage.
Double jeopardy for girls from lower socio-economic backgrounds: the case of Lebanon

At least one parent completed upper secondary schooling
How prevalent is computer use?

% of Grade 8 students reporting to have ever used a computer

<table>
<thead>
<tr>
<th>Country</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jordan</td>
<td>41</td>
</tr>
<tr>
<td>Bahrain</td>
<td>81</td>
</tr>
<tr>
<td>Egypt</td>
<td>16</td>
</tr>
<tr>
<td>Lebanon</td>
<td>59</td>
</tr>
<tr>
<td>Palestine</td>
<td>41</td>
</tr>
<tr>
<td>Morocco</td>
<td>19</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>57</td>
</tr>
<tr>
<td>Tunisia</td>
<td>22</td>
</tr>
</tbody>
</table>

Figures following country names represent the % of grade 8 students reporting to have a computer at home.
Where do students use a computer?

1. Countries are sorted by proportion of students reporting to use a computer at home.
2. Figures following country names represent the % of students reporting to have a computer at home.

- Bahrain (81)
- Saudi Arabia (57)
- Lebanon (59)
- Palestine (41)
- Jordan (41)
- Tunisia (22)
- Morocco (19)
- Egypt (16)
Countries are sorted by proportion of students reporting to use a computer to look ideas and information for mathematics.

What do students use a computer FOR?
% reporting to use computer for school work once a week or more frequently
Summary

- Opportunity to obtain much more detailed information on access and use
- Threats to validity and reliability of data obtained if not done carefully
- Strong design, instrument development, sampling, administration, data processing, analysis and reporting is a must in order to take advantage of such surveys