

LAUSANNE LEARNING INSTITUTE 2013

Ubiquitous Computing and its Effects on the Educational Digital Divide

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Download the handout at

<http://tinyurl.com/LLI13mh>

MY BACKGROUND

- Head of Learning Resources, German European School Singapore
- Member of the Board of Directors, ISTE
- 10+ years of experience
 - Teacher – IT, Informational Literacy, Math, PP, EE
All grades PreS -> GradS
 - Administrator
- Educational Doctorate in Educational Leadership
- Worked in private schools, international schools, universities



- How do you define “The Digital Divide?”
- How would you define “The Educational Digital Divide?”



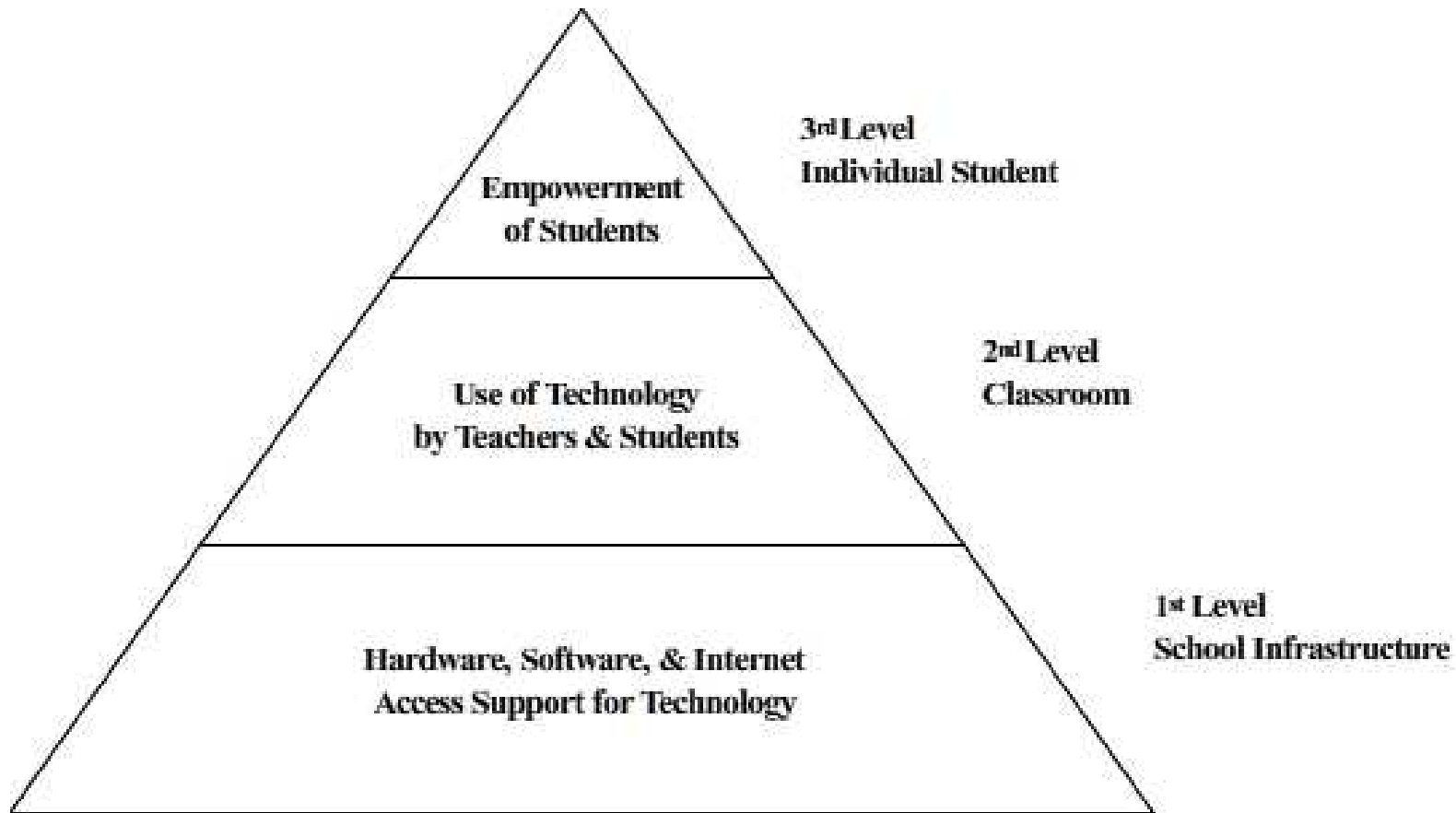
AFFECTED GROUPS

- SES groups
- Racial groups
- Geographic groups
- Gender
- Urban/rural
- Linguistic groups

“The Educational Digital Divide in its primacy is seen as a disparity of access to information technology resources, resource access inequity, namely socioeconomic status.”



THE EDUCATIONAL DIGITAL DIVIDE



MY RESEARCH

- Chavez High School
 - Low SES and Non-Low SES
 - Free and Reduced Price Lunch
 - Public High School

- Four High SES Schools
 - All private schools
 - 2 Middle Schools and 2 High Schools

EXISTENCE OF THE EDUCATIONAL DIGITAL DIVIDE

<i>Rating Area</i>	<i>CHS low SES vs. All non-low SES</i>	<i>CHS low SES vs. CHS non-low SES</i>
<i>Access to Computers and the Internet</i>		
<i>No. of computers to which students had access</i>	X	X
<i>Internet access at home</i>		
<i>Frequency of access to school computers</i>	X	
<i>Quality of school computers</i>	X	
<i>Classroom Uses of Technology</i>		
<i>Teachers' technology knowledge</i>		
<i>Frequency of computer use at school</i>		
<i>Computers enhance learning</i>		
<i>How interesting is school computer use</i>	X	

EXISTENCE OF THE EDUCATIONAL DIGITAL DIVIDE

<i>Rating Area</i>	<i>CHS low SES vs. All non-low SES</i>	<i>CHS low SES vs. CHS non-low SES</i>
<i>Student and Community Empowerment</i>		
<i>Self assessed increase in academic performance</i>	X	
<i>Self rating of basic computer skills</i>		
<i>Self rating of Internet communication skills</i>		
<i>Self rating of productivity software skills</i>		
<i>Self rating of Internet research skills</i>		
<i>Frequency of Internet communication</i>	X	
<i>Desire for changes in frequency of computer use</i>	X	X

THE EDUCATIONAL DIGITAL DIVIDE

- Within the local context:
 - Nearly removed all three levels of the divide – Access, computer usage, and empowerment
 - Counter to conclusions found in the literature
 - Increased access, influence, and agency
- Within the broader context:
 - Reduction of the divide was less
 - Potential vs. Realization
 - Most significant in the 2nd level of the divide – Computer usage

IMPACTS ON LOW SES STUDENTS

- Addressing Inequity
 - Rare explicit outcome
 - Equality of access, not equity
- Effects on Student Learning
 - Experienced student learning to greater degree
 - Equal resources \neq equal academic achievement
 - Expanded worldviews and technology skills
- Implications for Home and Family
 - Extended access and learning into the home
 - Developed community, social capital, and vocational skills
 - Effects on social reproduction

IMPACTS ON LOW SES STUDENTS AND THEIR FAMILIES

- Reduction in the opportunity gap
- Academic improvement
- Extension of learning into the home
- Career advancement
- Decrease in social inequity

IMPLICATIONS AND RECOMMENDATIONS

- 1:1 can be effective academic investments for low SES schools
 - Administration, budgeting and accountability should reflect these SLOs
 - Clear milestones and guidelines for curriculum development and assessment
 - Laptop programs can reduce the EDD
- Use these SLOs to measure and refine practice
- Include a focus on inequity and non-academic learning
- Design these SLOs into the program to increase learning
- Further research
 - Participatory action research to implement and refine these conclusions
 - Make these conclusions actionable