

Redesigning school activity together with teachers in Botswana in order to get innovative and sustainable solutions of e-Education

Ritva Engeström
University of Helsinki, Finland
ritva.engestrom@helsinki.fi



CHANGE LABORATORY SETTING

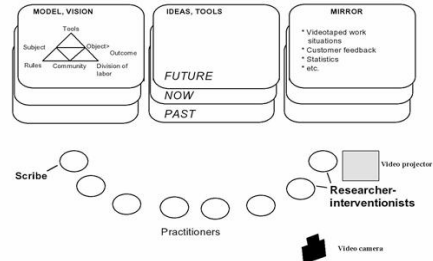


Figure 2. Change Laboratory (Engeström, 2007)



CHANGE LABORATORY

- A way of approaching **where to go+**
- Collaboration for intertwining scientific, professional (practice) and policy discussion with an interest in **situated, transformative** and **open-context expertise**.
- Researchers become a part of the toolkit utilized by participants in a setting that mediates capacity building (based on Activity theory and Expansive Learning theory).
- The method searches for **double binds** and historically constituted **contradictions of activity** being societally essential dilemmas which cannot be resolved through separate individual actions alone . but in which joint co-operative actions can push a historically new form of activity into emergence.



CL AS A TOOL FOR SCHOOL CHANGE

- Implementing ICTs in schools is more complex than only adding technology to teaching practices.
 - In order to get results in widespread use and impact education projects should start to coordinate the introduction of computers with national policies and programs related to changes in curriculum, pedagogy, assessment, and teacher training (*Handbook for Developing Countries .. 2005*)
- Implementing new technology in schools strengthens links to global education policy markets and challenges even more than before national education policies.
- Having a revolutionary impact on knowing digital tools and Internet question institutional traditions of understanding **what counts as knowledge+**



BeST –PROJECT IN THE GLOBAL CONTEXT

- International tests for comparing national school systems have revealed conflicting agendas of reforms for managing educational change; **no universal solutions** (*Finnish Lessons*, Sahlberg, 2011).
- The shaping of future education in Botswana requires **new kinds of negotiations** about borders and content of new activities in society.
- The focus of the present project has been on the interplay of local, national and global forces as they shape the activities of education; **interaction between global trends and local responses**; dialogically mediated inquiry.



THE 1. CONTRADICTION: "a white elephant"

- The policy guidance has moved from computer awareness program (introduced as part of RNPE) to the integrated curriculum or infusion.
- A prevailing institutionally built-in feature of using IC . technology is *curriculum-based conceptualization of computer studies*.
- A result: notable constraints of creative use or even to take use of available technology in the pilot schools.



INTERVIEWS

School A (Junior secondary)

Teacher: Huu it is not much because most of the time we spend in the classrooms with the students and we only go to the computer lab when we want to type some tests that is mostly when we use it.

School B (Senior secondary)

Researcher: this is *room of excellence* and so what is it used for?

Teacher (math): It is used mostly for the maths and science classes

Teacher (language): we could use it to teach languages but right now it is not possible as it is only for maths and science so with our subject this is not possible.

Principal: the people that donated these computers the donors stipulated that it is for maths and science lessons



THE 2. CONTRADICTION: *"like learning to drive a Ferrari and then been given a donkey cart"*

- Curriculum is based on the behaviorist model of understanding curriculum development in Botswana (Tabulawa, 2009) and it goes hand in hand with textbook and test-oriented pedagogy.
- The policy management based on Performance Management System (PMS) has conflicting influences to teachers' contribution of working on ICTs with the students.
- A result: teachers do not have time and are not professionally rewarded in using ICT technology *"if you can drill the students to get good marks even if they don't understand the content, you are a good teacher"*



INTERVIEW in the excellence room+

- Teacher (geography):** we are teaching an exam driven curriculum, and so this exam is designed on the basis of assimilation and the computers were supposed to be a teaching aid and to take over our use of chalk board; and if you spend all of your time on the computer then you delay the time needed to cover the curriculum, and so it is sometimes faster if you cover it manually; and computers come as something on the side
- Researcher:** Do you agree with what he says?
- Teacher (math):** Ya I agree the computer is just on the list of what we are doing so we don't use it often.



THE 3. CONTRADICTION: Digital tools vs. Government policy

- Digital tools are changing our ways of learning and expectations about what it means to know something; objectives should become more geared towards producing competencies that have to do with abilities of transforming information.
- *"we have a government policy that we don't install software that is not in government machines so we have a problem"*
- A result: One of the prospects taken in the present project has been to start using different freeware net-based tools in order to rely more on digitalization and mobile technology and Internet, thus capitalizing on lighter technical infrastructures.



THE 4. CONTRADICTION: Rhetoric vs. Transformative knowledge

- Rhetoric is based on international borrowings of educational reforms and their rational and bureaucratic implementation
- Policy-makers in Botswana are not adept at critically analyzing concepts, because the concept has more political appeal than educational value. Nobody has an interest in paying attention to mutually conflicting epistemologies and consequences or justifying actions of the concepts (Tabulawa, 2009)
- A result: The project stakeholders (incl. policy-makers) are on the way of accomplishing a new kind of future-oriented activity which is provided with epistemological and human concerns on school change.



ZONE OF PROXIMAL DEVELOPMENT

- E-content is digital information delivered over network-based electronic devices
 - it helps in better lesson planning, through relevant and timely content selection systems that can make it easy for teachers to find the best content or lesson for a particular student or class, or to create their own, new material
- Education is more geared towards producing competencies that have to do with abilities of transforming information
- Therefore, rather than waiting for borrowed educational reforms to take place in Botswana, the project puts efforts into creating local ecologies of technology-mediated learning, which will provide models and frameworks, which are also to be discussed globally for going through school transformations in the era of ICTs.



The Change Laboratory setting

