

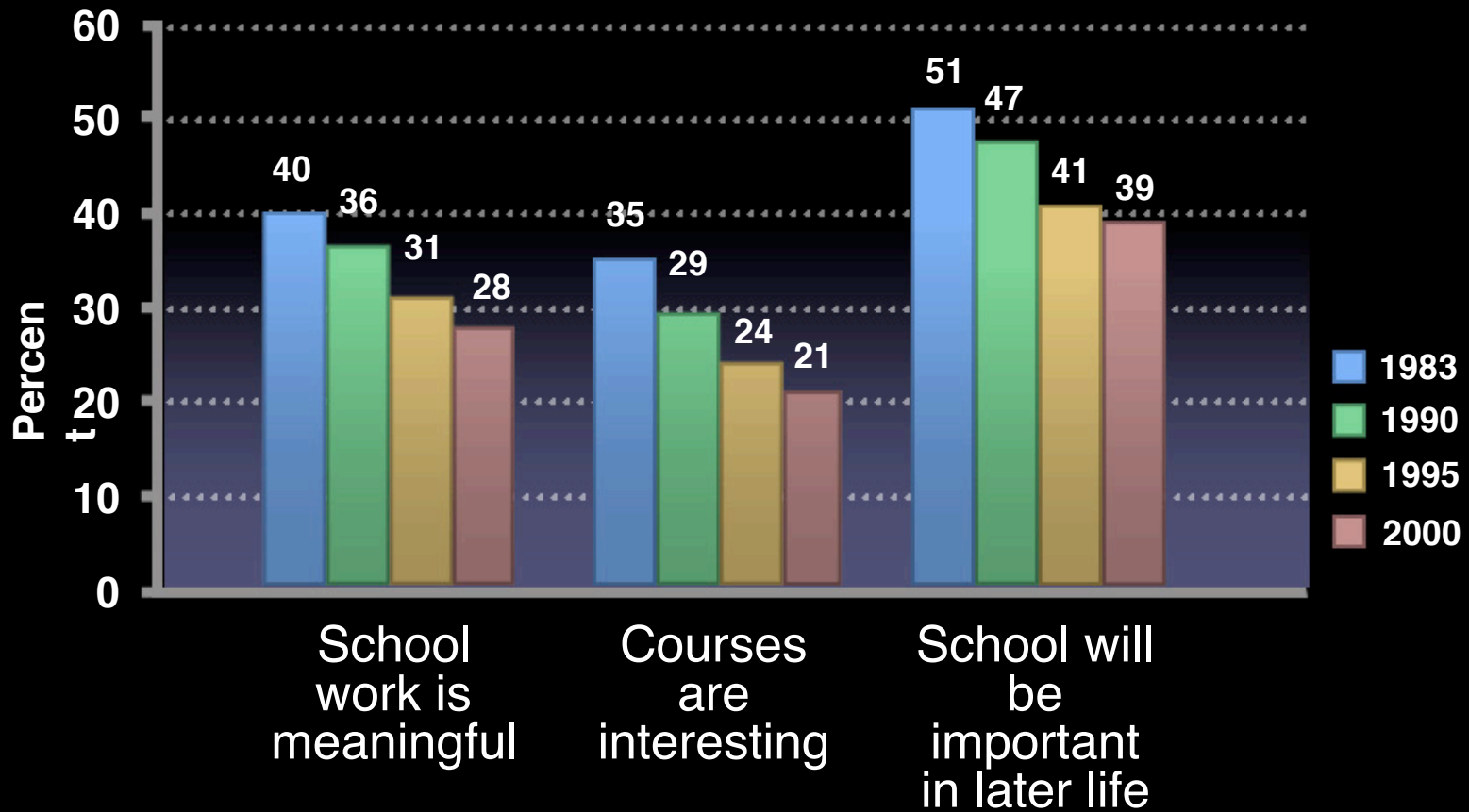
# **Technology and Student Achievement**

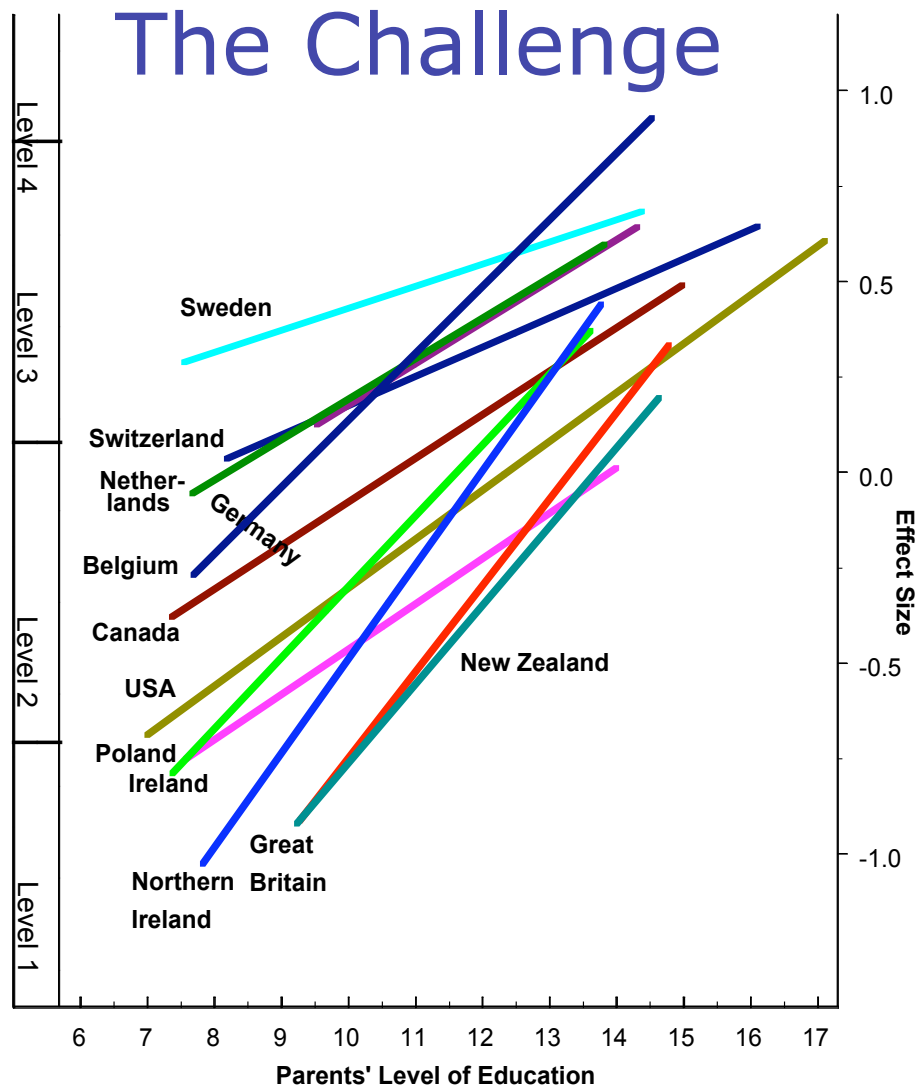
Presentation to BCSSA Summer Leadership  
Academy

August 12, 2003

By Stewart Ladyman

## 12th Graders' Views of School: 1983–2000





**Figure 4. Quantitative Literacy Scores for Youth Aged 16-25  
International Adult Literacy Study, 1994**

# Factors affecting achievement in schools (culture)

## Disciplinary Climate

- Academic Press
- Parental Involvement
- Teacher - Student Relationships
- Segregation...
  - grouping and double jeopardy
- Sense of Belonging
- Teacher Efficacy
- Leadership
- Use of Resources

# Learning about learning

Children would learn better if learning were truly a part of a living experience.  
John Dewey

Children would learn better if they were truly in charge of their own learning.  
Paulo Freire

Intelligence emerges from an evolutionary process in which many factors have time to find their equilibrium.  
Jean Piaget

Conversation plays critical role in learning.  
Lev Vygotsky

# Socio-cognitive research

- Teaching for deep understanding

Wiske, Gardiner, et al, Project Zero

- Intentional learning

Bereiter, 1989

- Active student engagement

American Psychological Association, 1997

- Authentic contextual learning

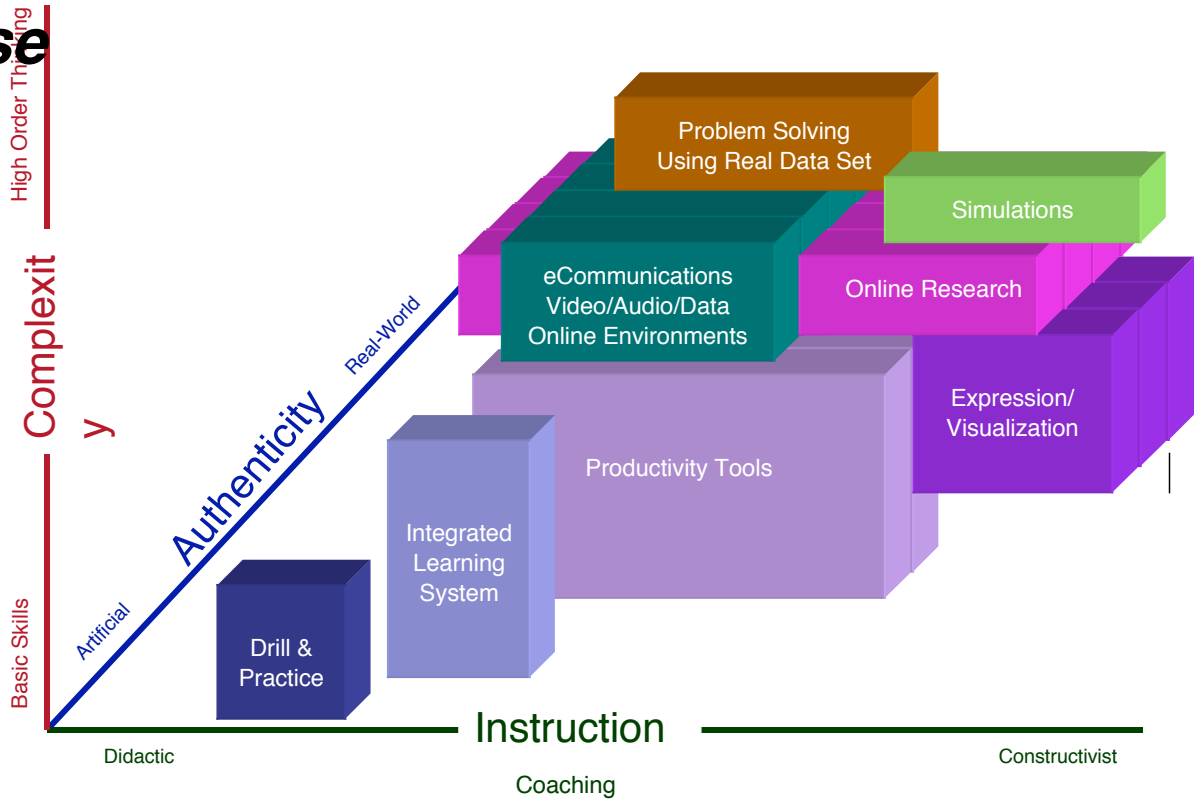
Bransford, 2000

# The role of assessment in raising achievement

- Active involvement of students in their own learning
- Need for the student to be able to assess themselves and understand how to improve
- Recognition of the influence assessment has on motivation and sense of efficacy
- Adjust teaching using results of assessment
- Effective feedback to students

Assessment Reform Group, 2000

# Technology in Schools: A Range of Use



Technology is largely used  
to learn *from*

Technology is a tool to learn  
and think *with*

*The classrooms assumed the feel of studios and think-tanks where artists and scientists work together on various projects.*

*Rob Tierney, Dean, UBC*

students became independent and collaborative problem solvers, theorists, communicators, record keepers, and learners with computers;

- they developed a repertoire of skills to explore possibilities that would be too cumbersome or difficult to attain without the technology;
- while they had the capability of achieving independent agendas, their approach to learning was collaborative.

# Technology for Achievement

Assessment Reform Group (2001).

Assessment for Learning: Beyond the Black Box

<http://www.assessment-reform-group.org.uk/publications.html>

Bransford, John D et al, Editors (2000).

How People Learn: Brain, Mind, Experience and School.

<http://www.nap.edu>

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<http://www.ncrel.org/engage/framework/>

Tierney, Rob (2000).

*Redefining Computer Appropriation: A Five-Year Study.*

In Roy Pea (Ed), The Jossey-Bass Reader on Technology and Learning.

Jossey-Bass, Wiley Publishers, San Francisco.

Willms, Doug <http://www.unb.ca/crisp/pubs.html>