Multimedia in Education

Economic and Technological Considerations

Robert McClintock
Director
Institute for Learning Technologies
Teachers College, Columbia University
525 West 120th Street
New York, NY 10027-6625

212 678 3375

rom2@cunixf.columbia.edu

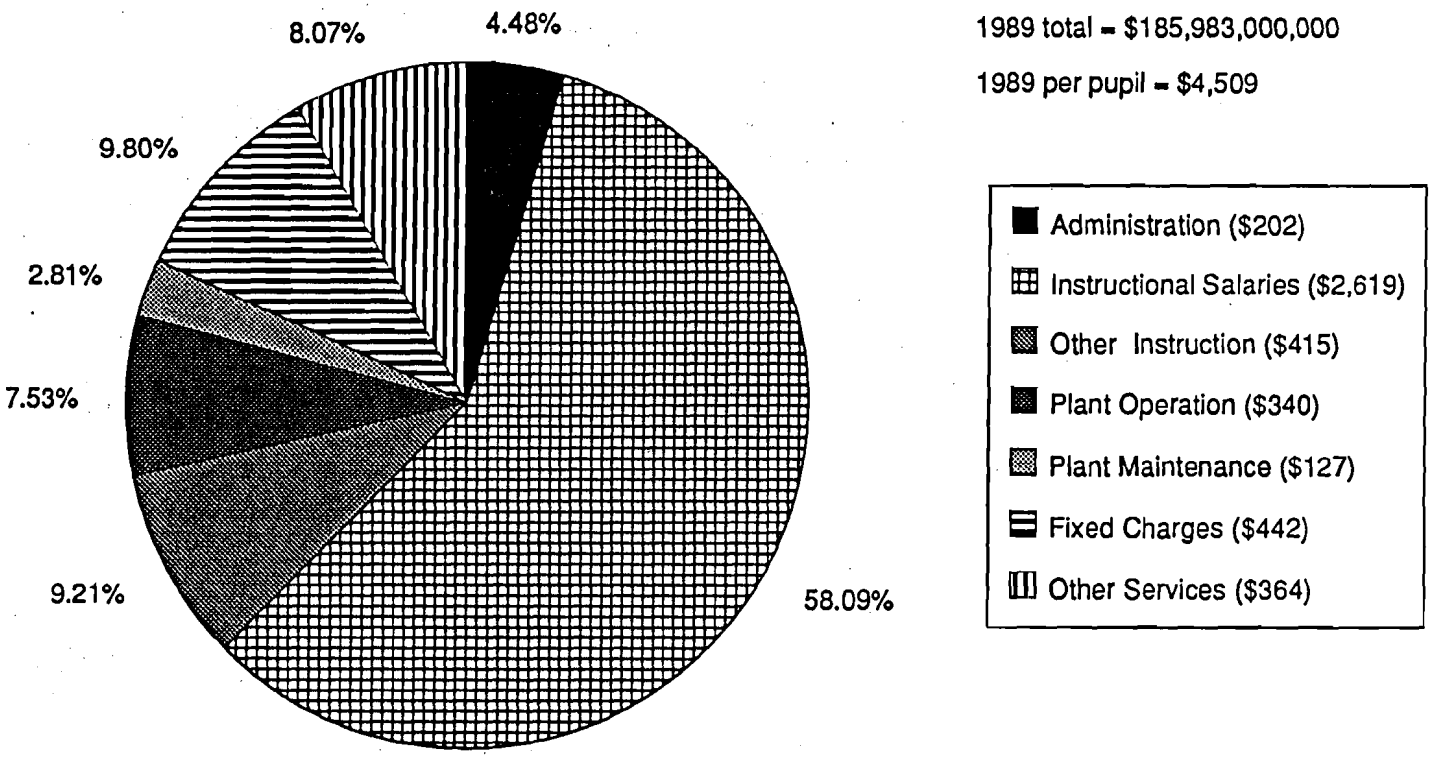
Basic Points

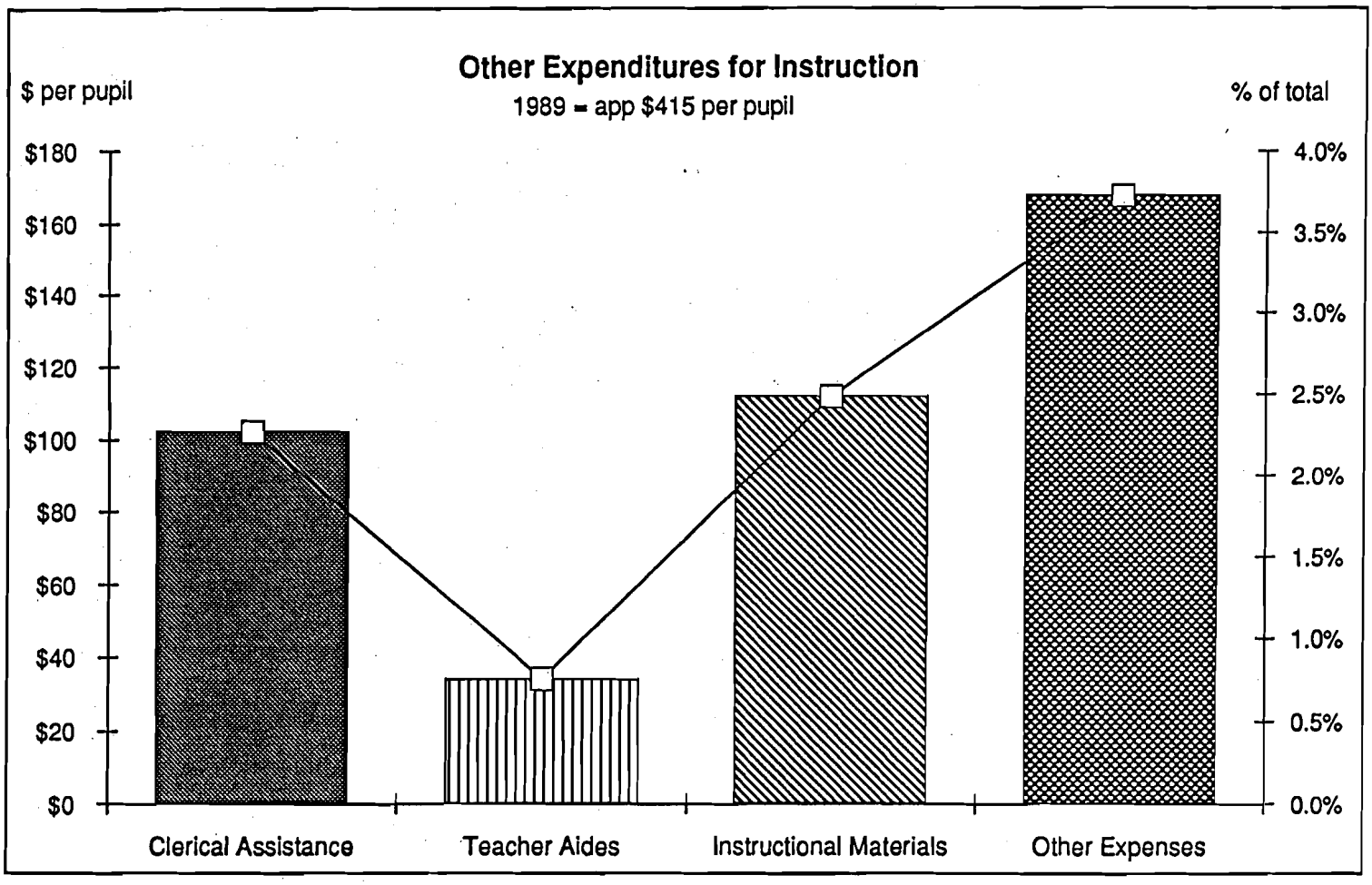
- Multimedia will involve systemic change in education.

- Systemic change will occur as we learn how to use capital investment to make the work of **students** more creative and productive.

- Study Support Environments will involve three key components --
  - Powerful motivational queries and simulations
  - High quality, comprehensive, multimedia informational resources
  - Very high-speed wide-area-networks.

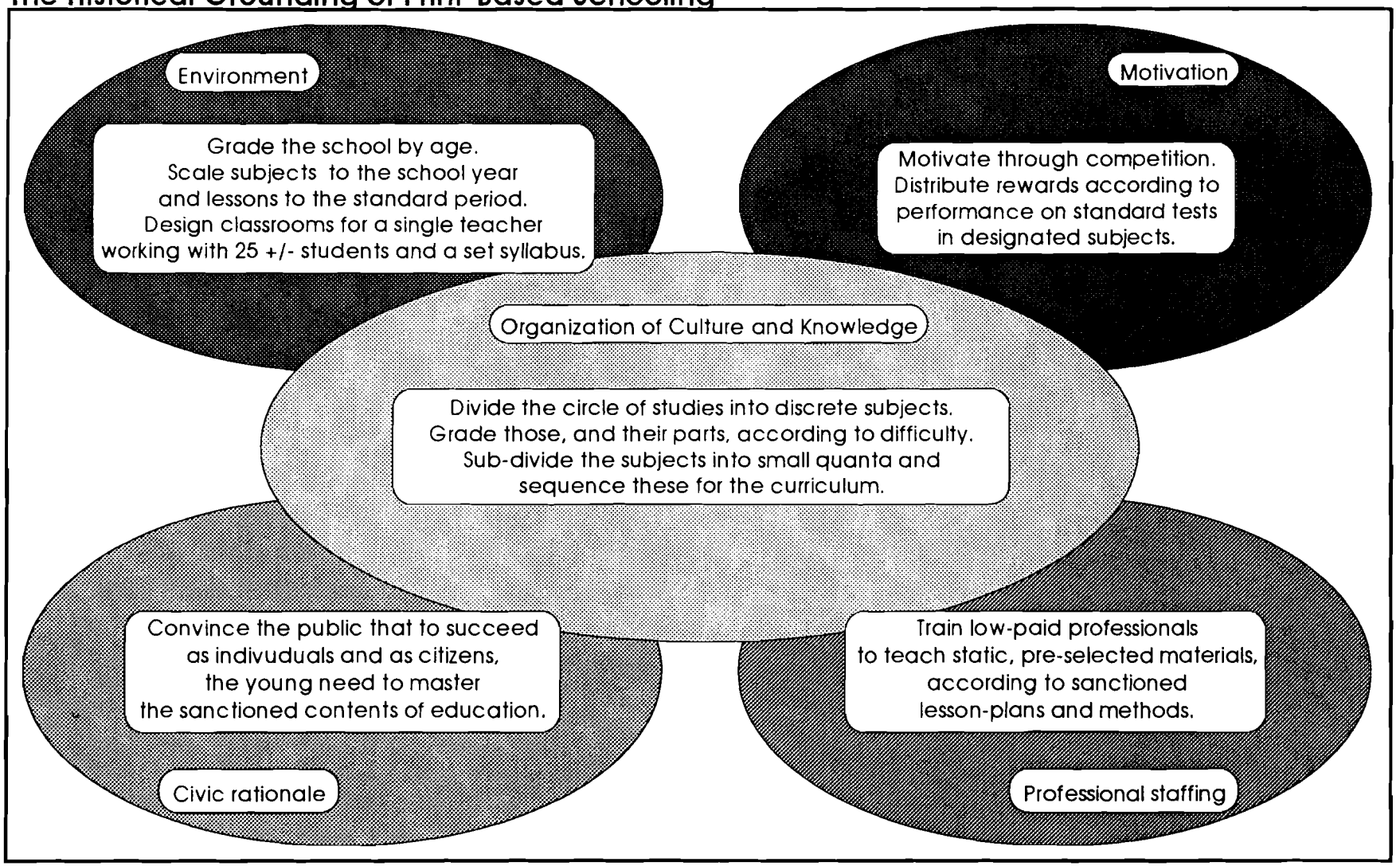
Public Elementary and Secondary Expenditures by Function





"Instructional Materials" comprise
Free Textbooks $32
School Library Books $21
Teaching Supplies $60

The Historical Grounding of Print-Based Schooling



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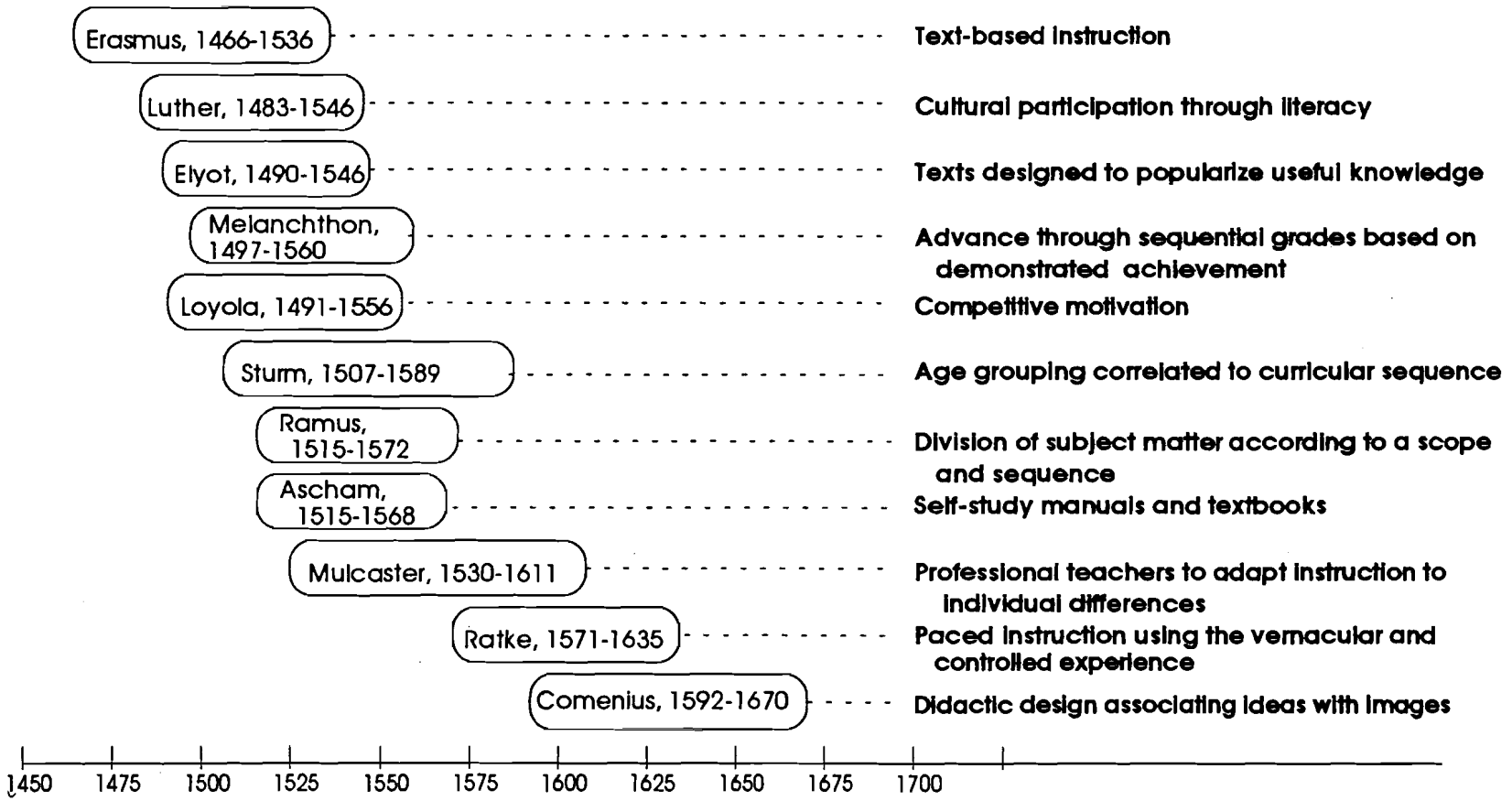
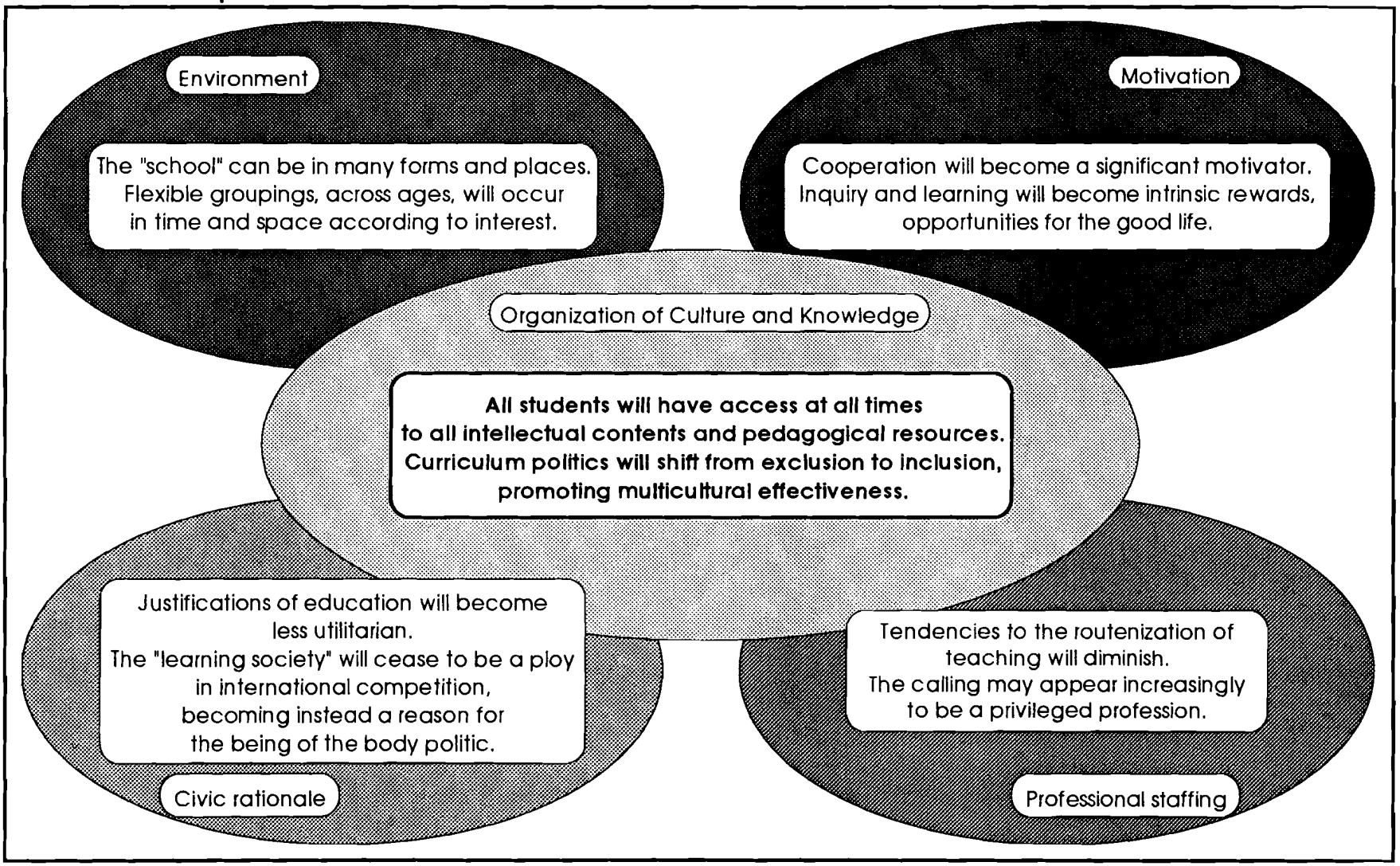
Printing and Early-Modern Educational Reform

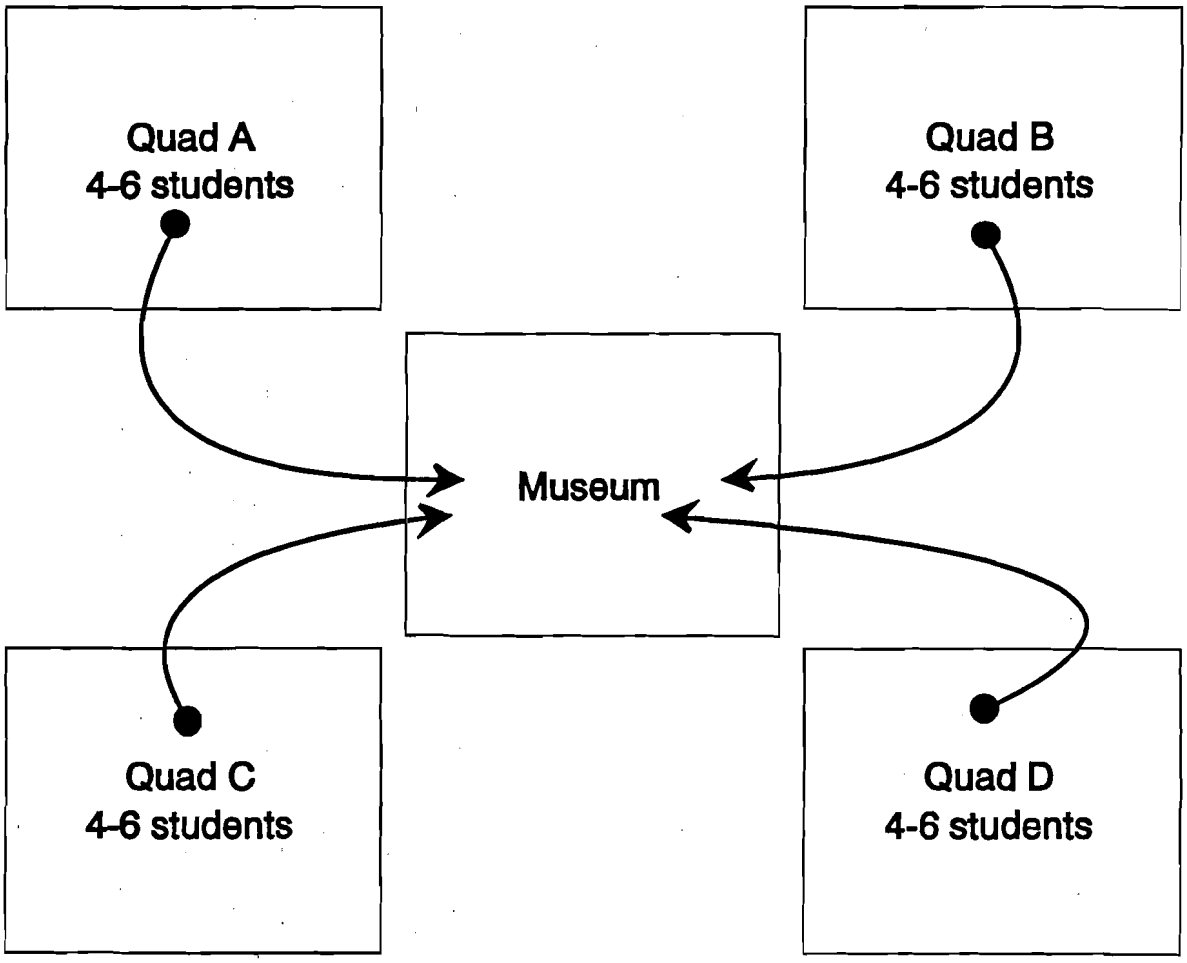


Most of the main techniques of schooling were developed between 1500 and 1650, and printing was an essential means by which the reformers implemented their ideas.

Educational Expectations with the Cumulative Curriculum



Archaeotype
A Study Tool for
Exploring Ancient Civilizations



Task: To interpret the human experience and culture evidenced by some 300 artifacts, dating from about 800 B.C. to 300 A.D.

Archaeotype and Related Programs
Design Principles

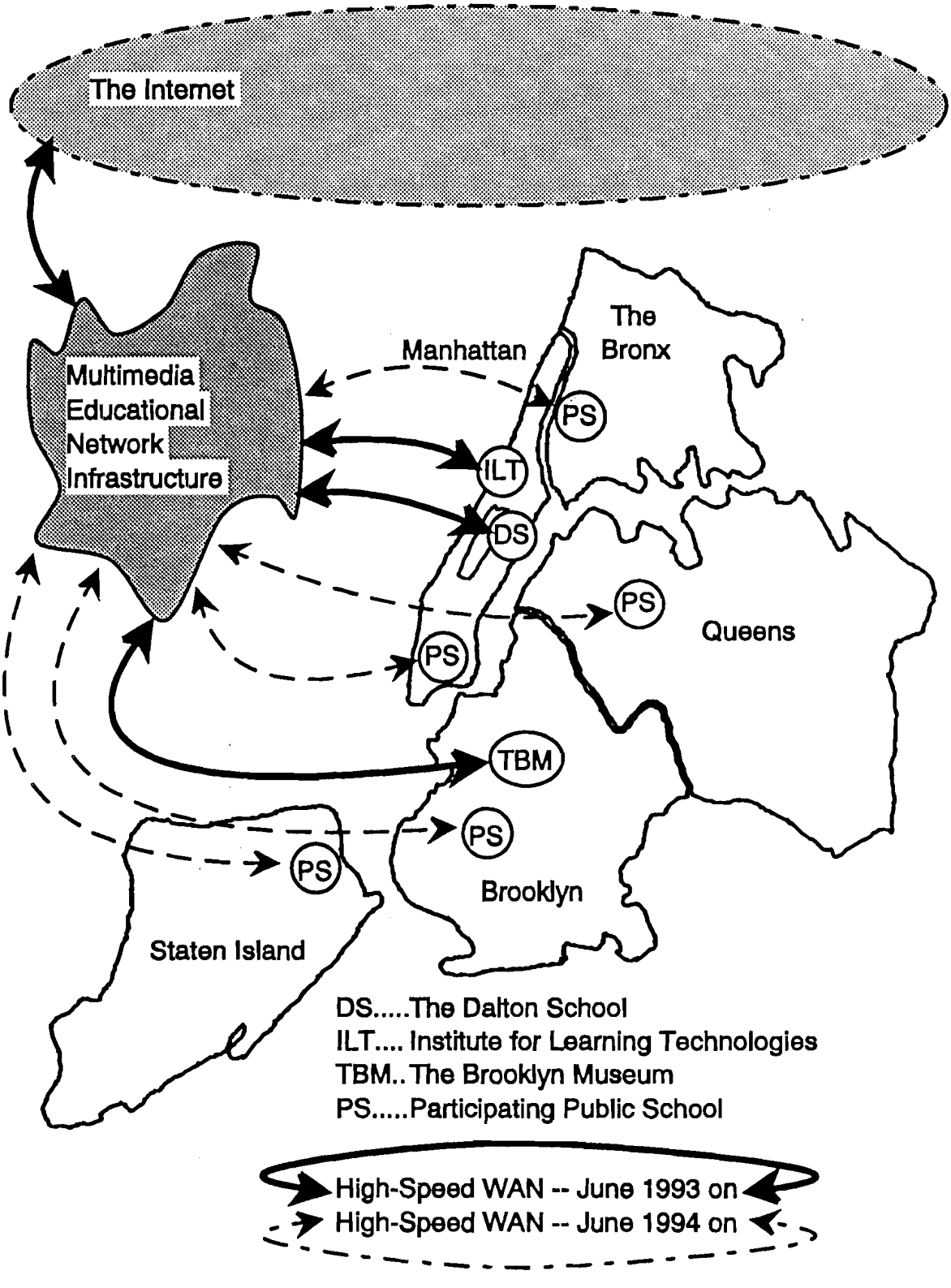
Provide students with direct access to powerful ways of knowing.

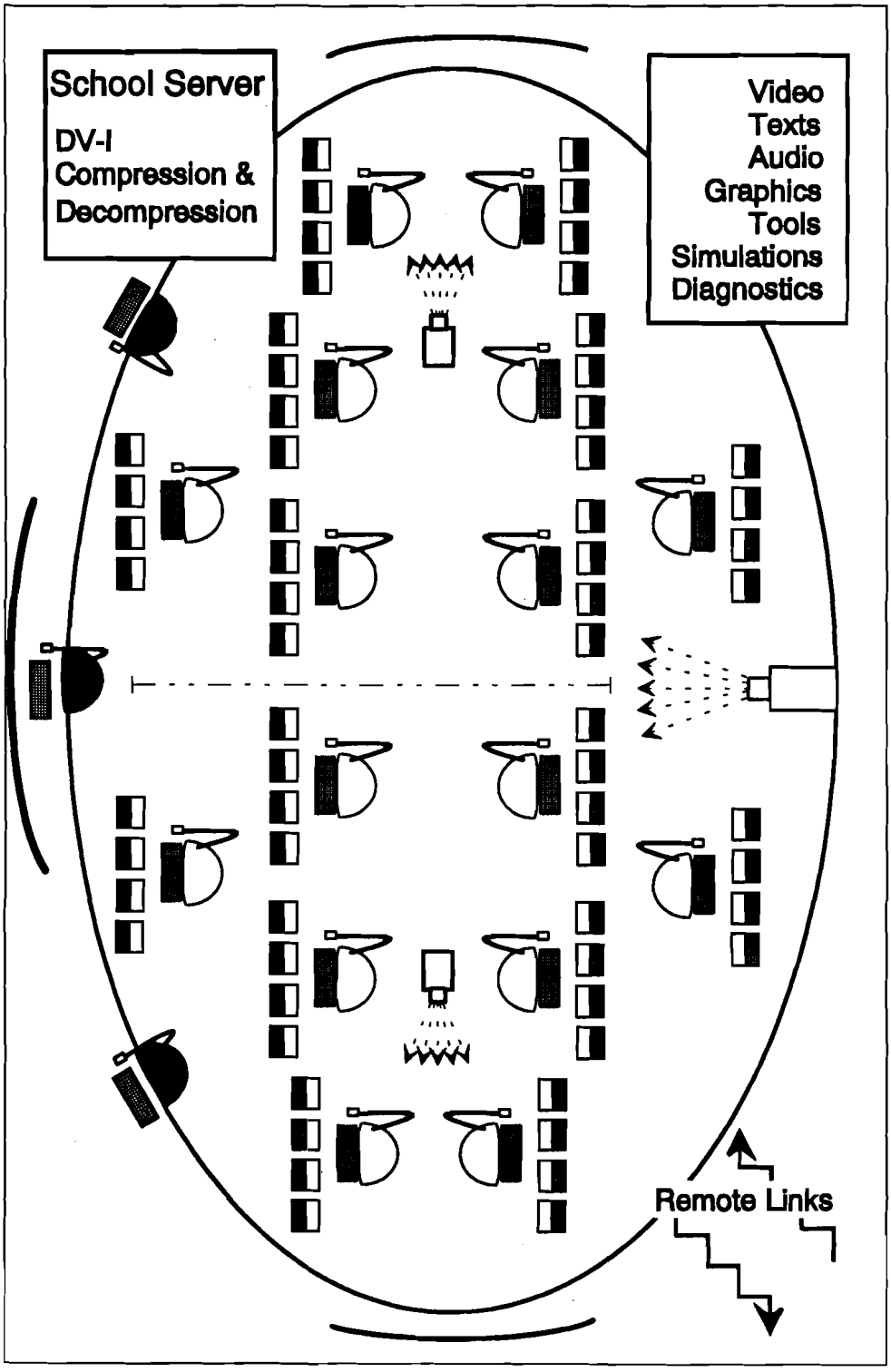
Challenge students with sustained assignments and scenarios for cooperative inquiry.

Provide "industrial strength" data and tools and put questions to which those tools and data will be relevant.

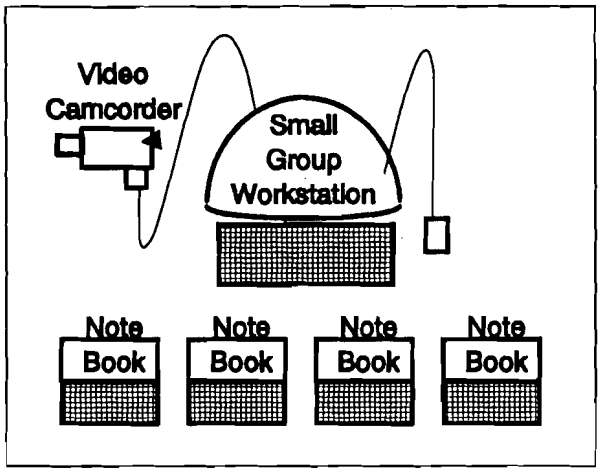
Enable students to produce and share their findings within a community of peers, including other students, teachers, and members of the community.

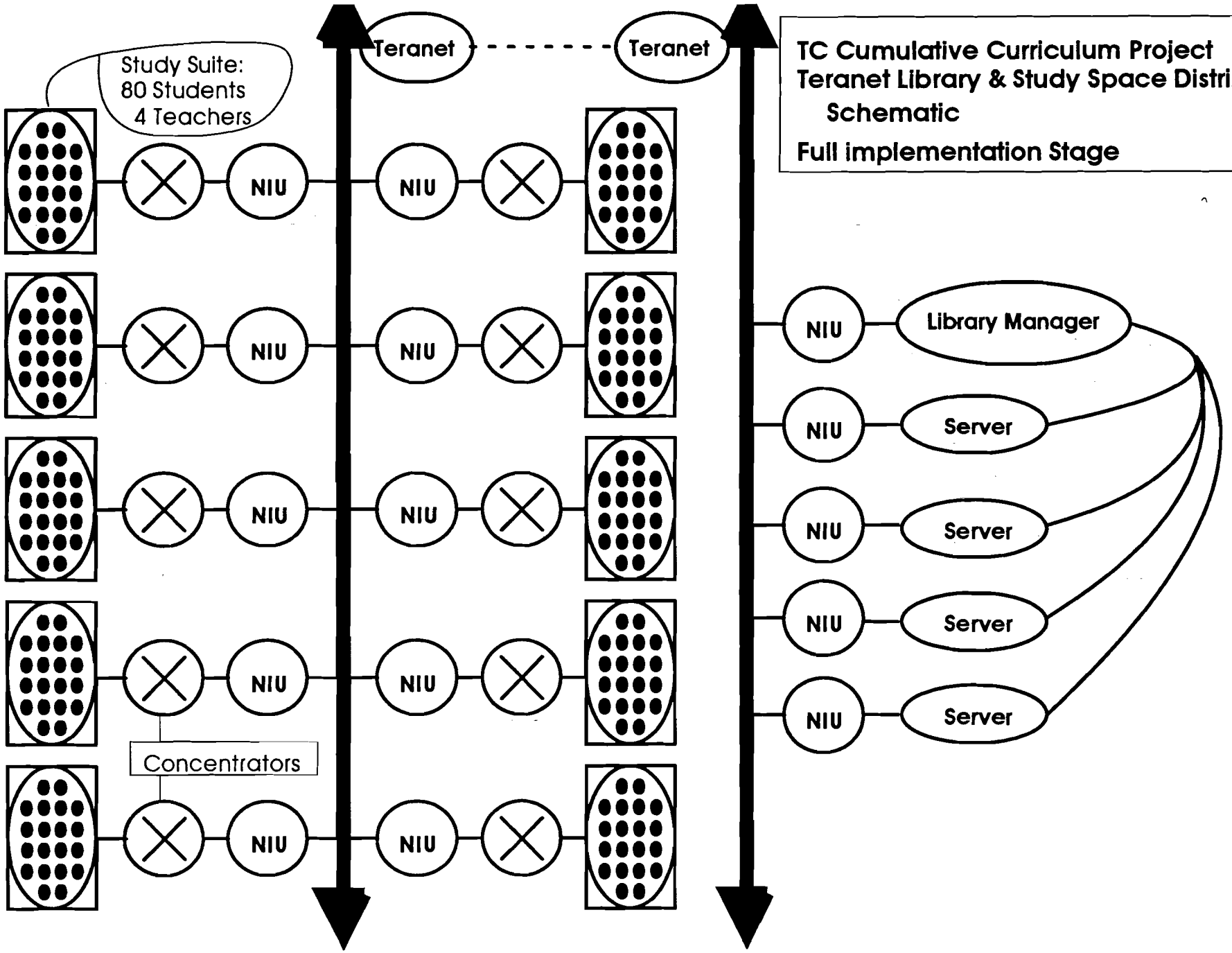
Archaeotype 3.0
A Multimedia Social Studies Curriculum
Using High-Speed Wide-Area Networking

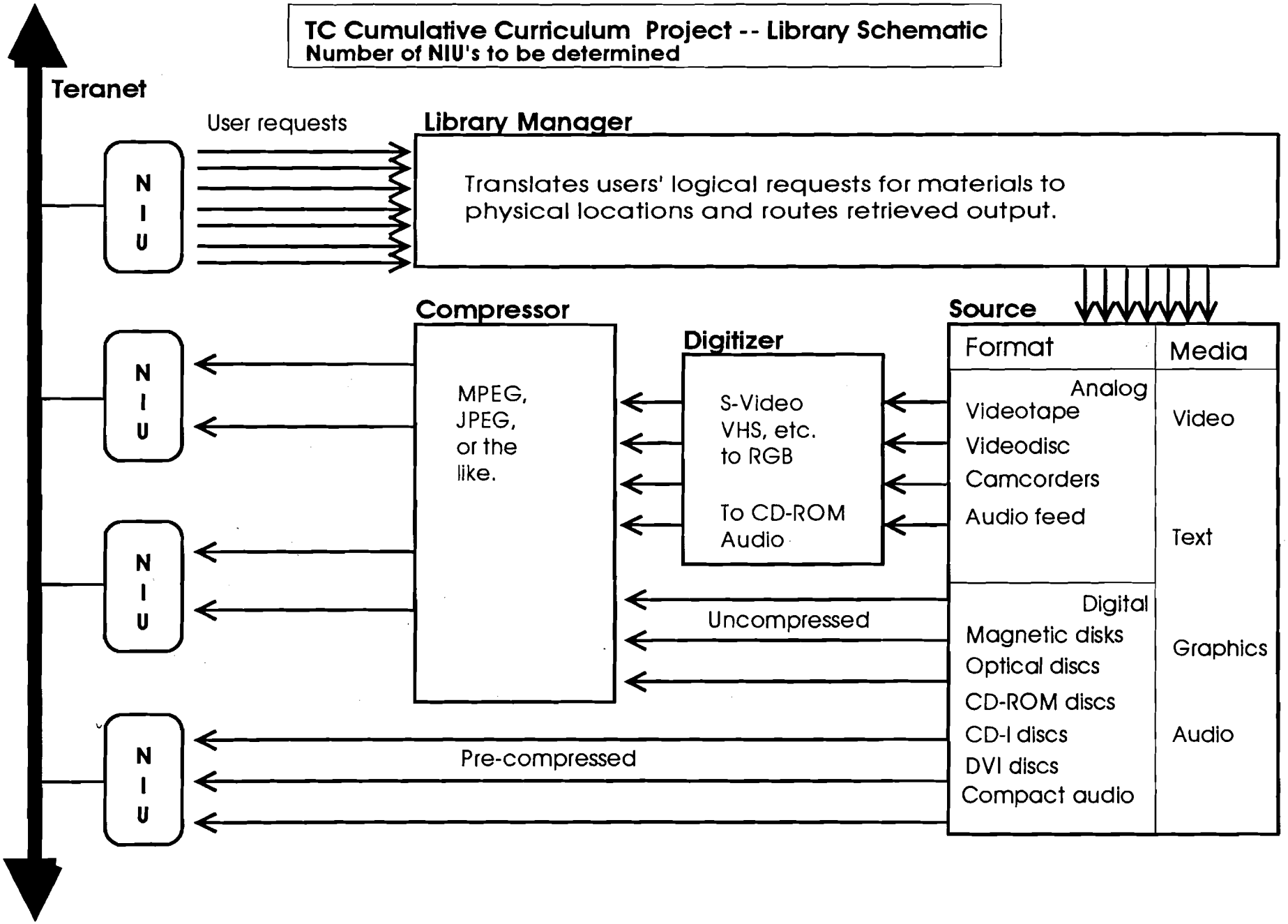



School Server
DV-I
Compression &
Decompression
Video
Texts
Audio
Graphics
Tools
Simulations
Diagnostics
Remote Links

Student's Technical Environment




TC Cumulative Curriculum Project
Teranet Library & Study Space Distribution
Schematic
Full implementation Stage
Teranet
Teranet
Study Suite:
80 Students
4 Teachers
NIU
Concentrators
Library Manager
Server
Server
Server
Server


TC Cumulative Curriculum Project -- Library Schematic
Number of NIU's to be determined
Teranet
User requests
Library Manager
Translates users' logical requests for materials to physical locations and routes retrieved output.
N I U
N I U
N I U
N I U
Compressor
MPEG, JPEG, or the like.
Digitizer
S-Video VHS, etc. to RGB
To CD-ROM Audio
Source
Format
Media
Analog
Videotape
Videodisc
Camcorders
Audio feed
Video
Text
Digital
Magnetic disks
Optical discs
CD-ROM discs
CD-I discs
DVI discs
Compact audio
Graphics
Audio
Uncompressed
Pre-compressed

The Dalton Technology Plan is featured in *Technology and the Evolving Classroom*, a 60 minute program produced recently by Apple TV.

Copies are $8, pre-paid by credit card

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