

Information & Communication Technologies and the Changing Roles of Teachers

In this presentation:

- ICT Applications
- New roles for teachers
- Issues and problems
- Long term impact of ICT
- Future Technology

society

culture

technology

economy



pedagogy

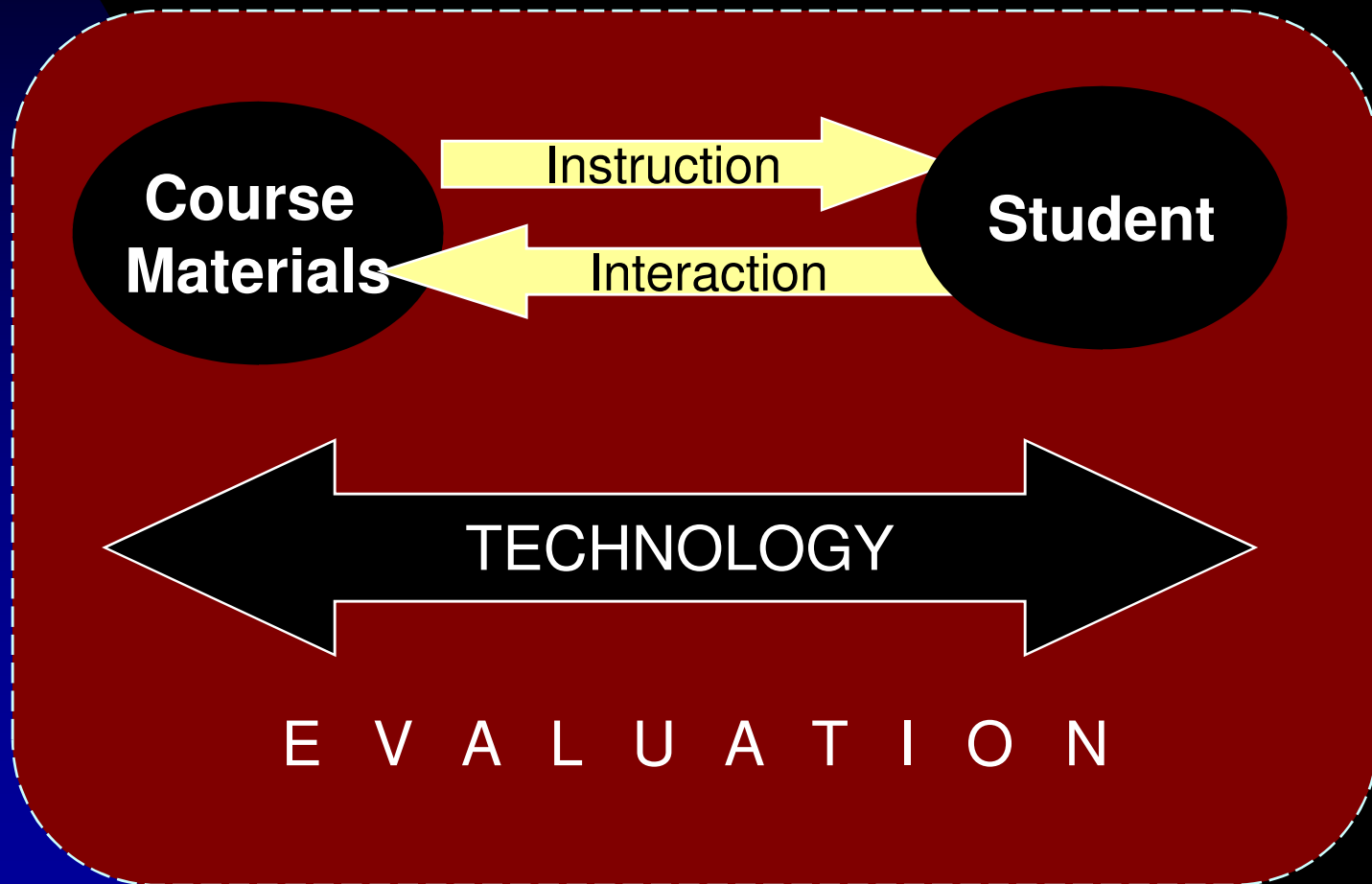
Change is occurring in all aspects of our lives

Information and Communication Technologies

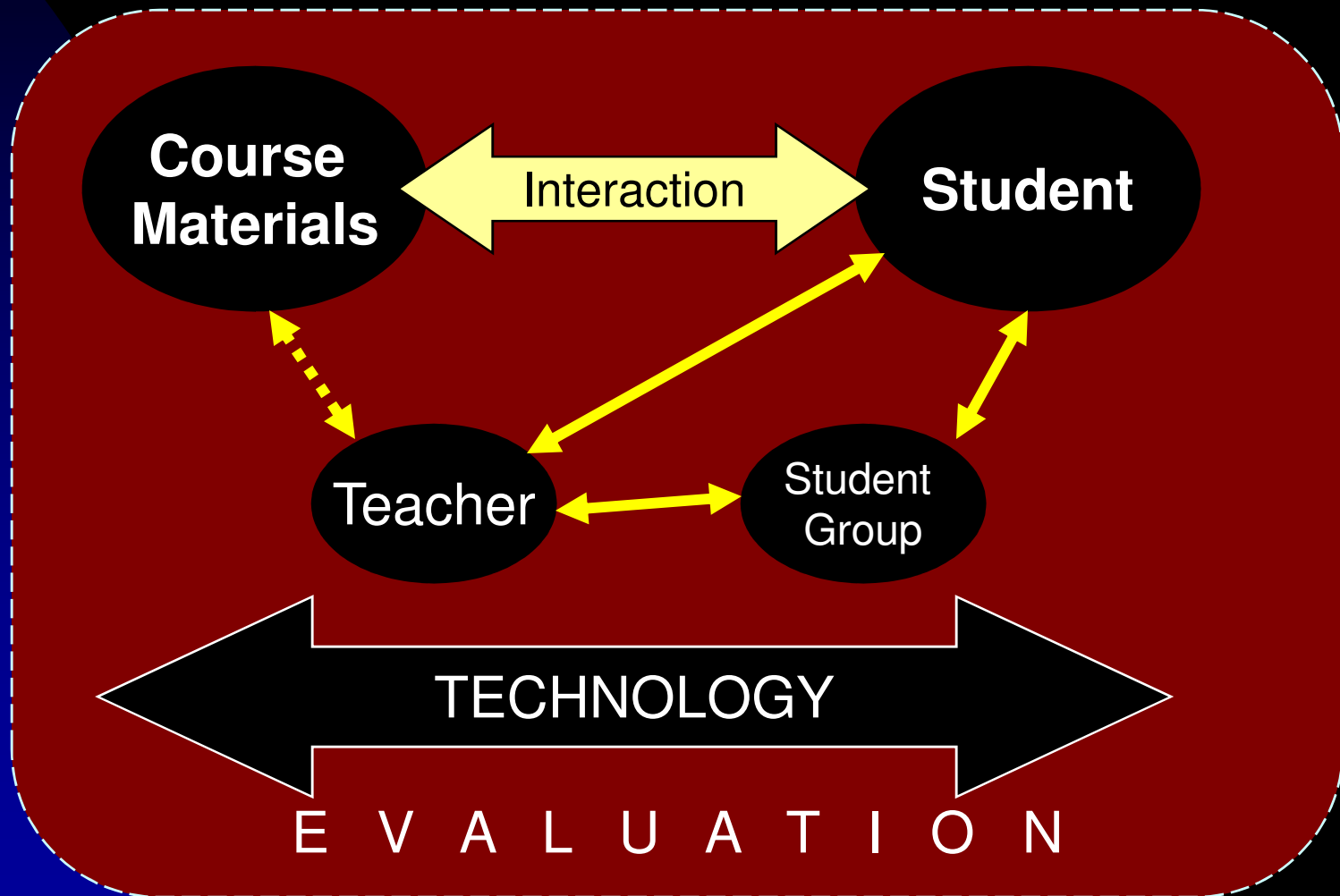
- Computers
- Networks
- Internet and WWW
- Telecommunications
- Video



Technology Supported Learning



Technology Supported Learning and Communication



Anytime Anyplace Learning

SYNCHRONOUS

Same Time Same Place

Same Time Different Place

**L
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**R
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Different Time Same Place

Different Time Different Place

ASYNCHRONOUS

Anytime Anyplace Learning

SYNCHRONOUS

Same Time Same Place

Same Time Different Place

**L
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**Real Time
Encounter Model**

**Independent
Study Model**

**R
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**Resource Based
Learning Model**

**Time
Independent
Model**

Different Time Same Place

Different Time Different Place

ASYNCHRONOUS

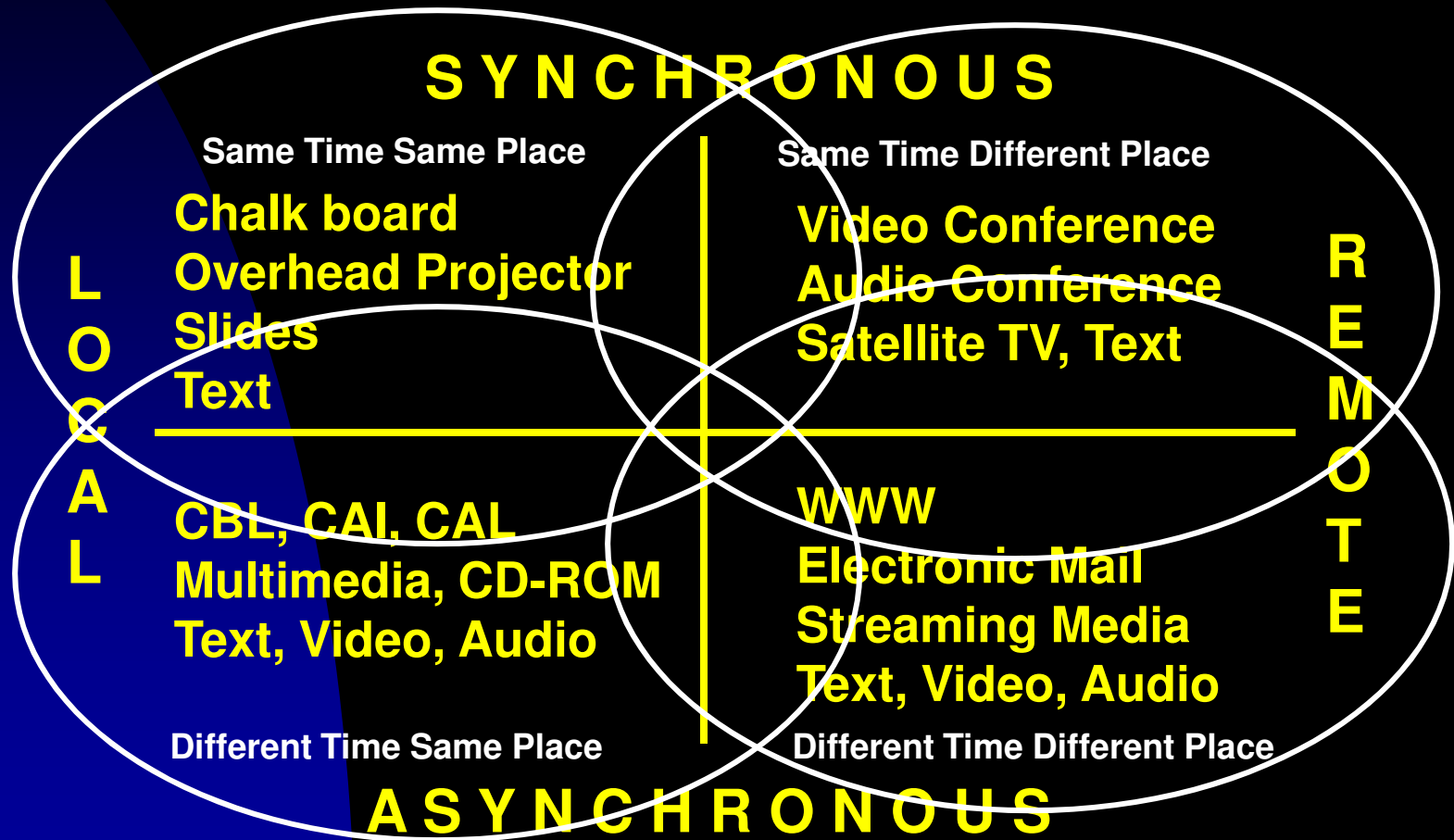
Anytime Anyplace Learning

SYNCHRONOUS

L O C A L	Same Time Same Place Chalk board Overhead Projector Slides Text	Same Time Different Place Video Conference Audio Conference Satellite TV, Text	R E M O T E
	Different Time Same Place CBL, CAI, CAL Multimedia, CD-ROM Text, Video, Audio	Different Time Different Place WWW Electronic Mail Streaming Media Text, Video, Audio	

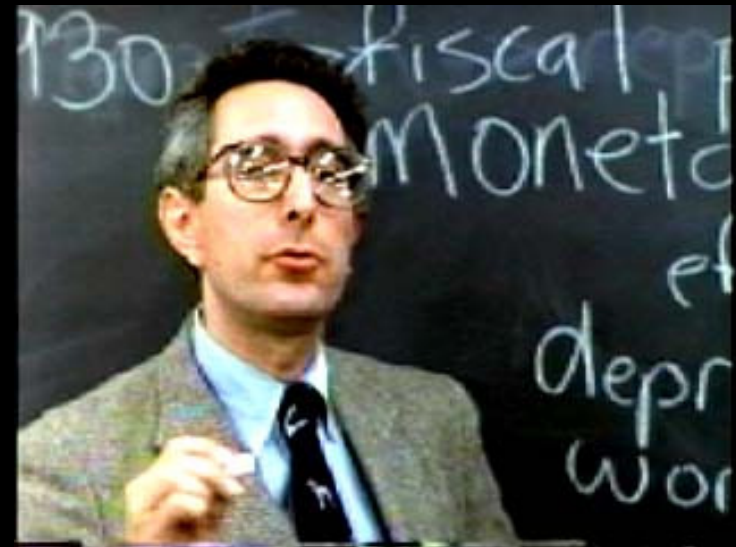
ASYNCHRONOUS

Anytime Anyplace Learning



ICT Promotes Changes in...

- teaching methods
- assessment of learning
- record keeping
- resource development
- communication
- curriculum design
- evaluation



Issues to address

- Move towards shared working spaces
- Greater sharing of resources
- More collaborative learning
- Greater liberty for students
- Less control for teachers
- Motivation levels
- Technophobia
- Cost (purchase, updates, repairs, training)



New Teacher Roles

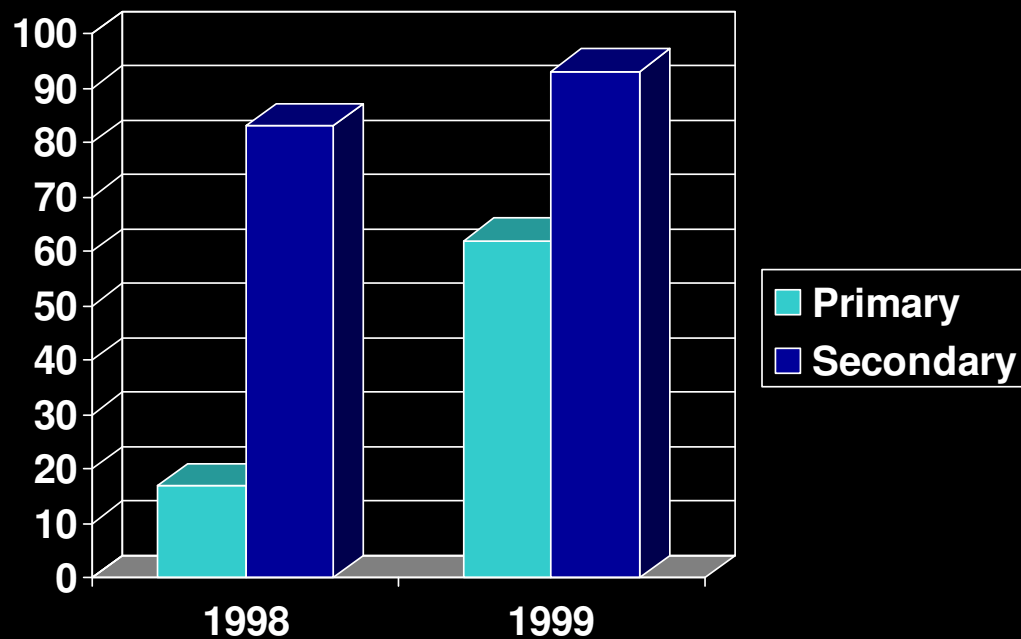
- ICT Co-ordination
- Integrating ICT into curriculum
- Specialist computer training
- New ways of assessing
- New ways of communicating
- New teaching resources
- New teaching methods
- More collaborative learning

Why Must Roles Change?

- Some resources will become obsolete
- Some assessment methods will become redundant
- Content knowledge is no longer enough
- Children need critical thinking skills
- Potential 'information overload'
- Human thought is non-linear

The UK Experience

- 1998/9 - National Grid for Learning



*Percentage of UK schools with Internet access
(Source: DfEE 2000)*

The UK Experience

- Uses of ICT in UK Classrooms:
 - ◆ Web pages for news / information
 - ◆ Homework assignments
 - ◆ E-transfer of work
 - ◆ Collaborative working
 - ◆ Creative expression (e.g. music)
 - ◆ E-mail 'penpals' (USA, Australia)
 - ◆ Distributed learning



The UK Experience



- Children love computers
- Children enjoy working together
- Children like to compete
- Computers can be used to help children to work together
- 'Off Task' behaviour may be constructive and helpful for learning

The American Experience

- Widespread use of networked computers
- Mix of media and technology
- All ages involved
- Distribution of resources
- Project based work
- Library based systems



The Future...?

- *'One day every town in America will have its own telephone'* - U.S. Mayor, 1880.
- *'I foresee a market for maybe 5 computers...'* - Thomas Watson, IBM, 1943.
- *'I predict a time when computers will weigh no more than 1.5 tons'* - Popular Mechanics, 1949
- *'I foresee no reason for people to have a computer in their home'* - Ken Olson, Digital Equipment Corporation, 1977.

The Future

- Integrated technology
- Personal / mobile technology
- Tele-collaboration
- Digital books / paper
- Wearable computers
- Any-time, any-place learning

