Masa Depan
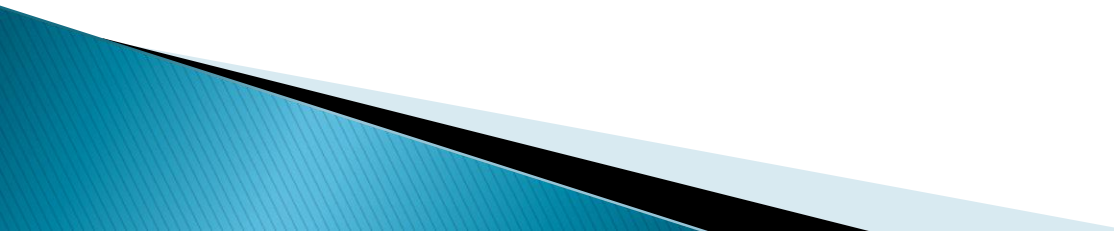## Teknologi dalam Pendidikan

Bahan Kajian : Cepi Riyana

Emerging Technologies

- Wireless communication
- The information highway
- Asynchronous transfer mode (ATM) transmissions
- Integrated Services Digital Network (ISDN)
- Multimedia applications
- Personal Digital Assistants (PDA)
- Artificial Intelligence (AI)
- Virtual Reality (VR)

Artificial Intelligence

- Dates back to 1956 conference at Dartmouth College
- Expectation for a computer to perform in ways comparable to human behavior
- Only as smart as the input
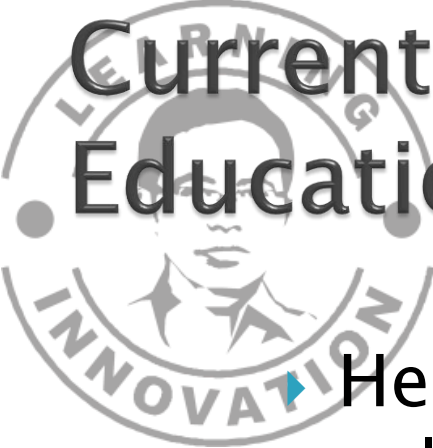
Artificial Intelligence Software Components

- Knowledge base – collection of information on a particular subject
- Inference engine – computer program that makes sense of the knowledge base

Expert Systems

- A form of AI that computerizes human expertise

- Attempts to duplicate the responses of an expert in a very narrow field of knowledge

Current Applications of AI in Education

- Help with problem solving – helping to solve difficult mathematics problems
- Intelligent agents – do various jobs for students such as searching online systems to find information tailored to the student's interests
- Personal tutoring systems – monitors user's reasoning, tracks sources of errors, and offers advice on solving the problem

Virtual Reality

- A computer-created sensory experience that so completely immerses participants that they can barely distinguish this 'virtual' experience with a real one
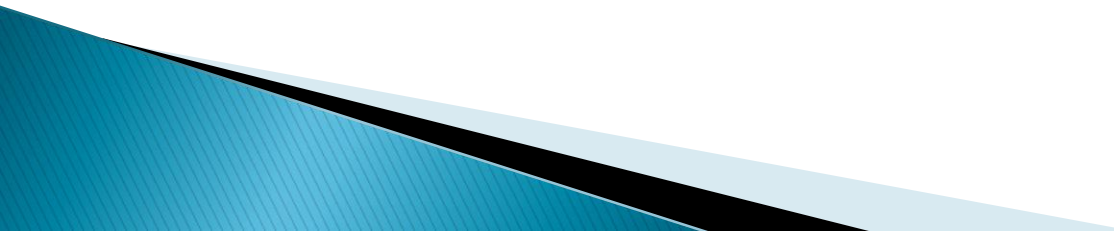
Components of VR

- ▸ Head-mounted video display with a tracking device
- ▸ Glove with sensors to detect hand movement

Current Uses of AI and VR in Education

- Medical Education – Expert systems in ERs and training facilities
- Astronaut Training – Simulate weightlessness, etc.
- Military Training – Simulate costly manuevers
- Learning about nuclear reactors

Implementation Issues

- Cost!!!!
- Quality, speed of systems
- Pedagogical Issues – Does it improve teaching and learning?
- Moral and ethical issues – appropriate behavior?

When will we see these technologies in the classroom?

▶ As the costs decrease and the preprogrammed functions of each technology increase, assimilation into education will offer unlimited means for teachers to provide the most appropriate learning settings and activities for individual students.