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Part 3: Advancements in Adult Learning

Chapter 11: Information Technology and learning

WHAT ARE SOME TECHNOLOGICAL ADVANCES THAT HAVE MADE FUNDAMENTAL CHANGES IN YOUR LIFE?

Examples:

- Personal Computer
- Internet/Email
- Cell phone/smart phone portable computer connection
- Computer-based digital information (Google)
- Computer shopping (Amazon)
- Computer banking
- Digital music and movies

Information Technological Advancements

The Past

I. Xerography Copied Instructional Materials

II. Television Delivered Instruction

III. Automatic Teaching Machines

The Past

I. Xerography Copied Instructional Materials

1. The precursors to xerography included: 1. Stencil Duplicator (mimeograph) and 2. Spirit Duplicator

2. Xerography was developed in 1938 and commercially available in 1960

3. Xerography technology aided instructors in being able to quickly produce documents containing both original graphics and text for learners.

The Past (CONT.)

II. Television Delivered Instruction

1. In the 1960's educational institutions made use video tape technology for creating learning aids and classroom broadcastings.

2. 2" wide video tape was simplified to smaller compact media and playback systems.

3. Lower cost alternatives to video tape instruction included synchronized filmstrips and slide shows.

The past (Cont.)

III. Automatic Teaching Machines

1. PLATO (Programmed Logic for Automatic Teaching Operations) began in 1960 via University of Illinois.

2. William Norris of Control Data Corporation assumed leadership of PLATO.

3. In 2006 PLATO discontinued, however elements of it were reformulated and incorporated into later information technologies.

The Present

Factors currently influencing learning Experiences

- Internet-Delivered Information and Training
- Digital Books
- Free Online Learning (MOOCS)
- Possibilities of virtual connections with experts world-wide

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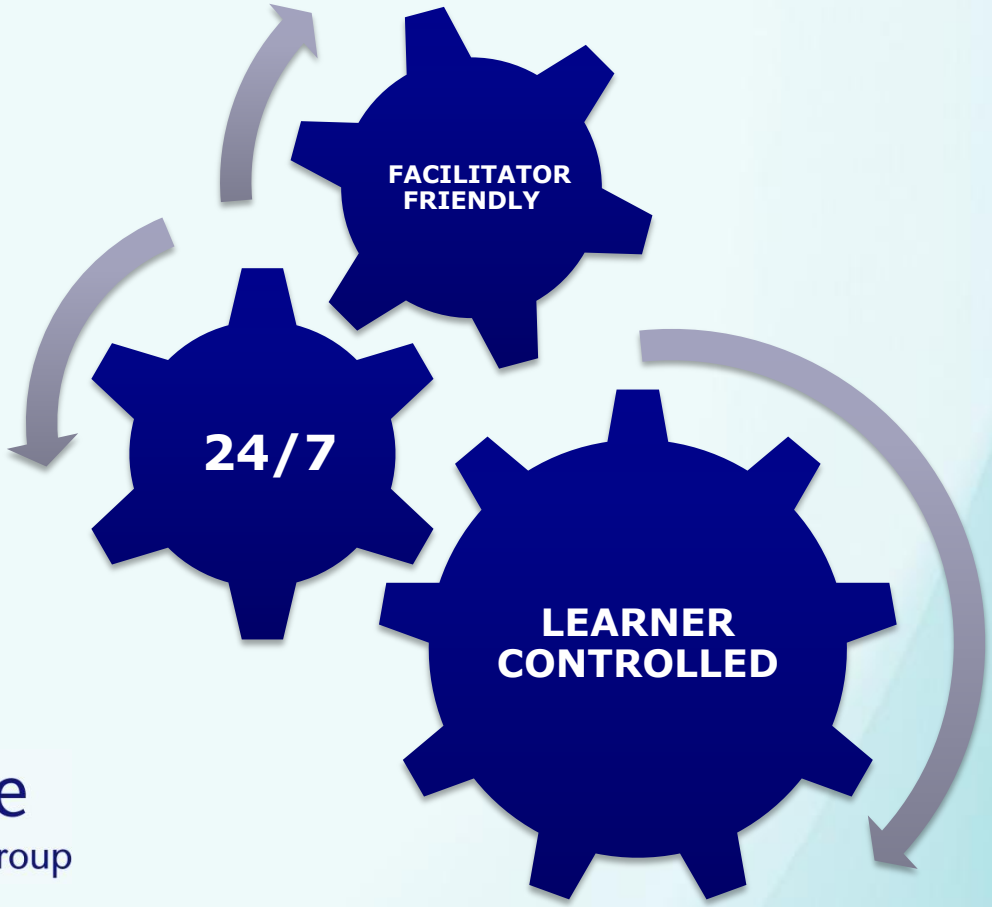
THE PRESENT (CONT.)

Principal ideas grounding information technology and its learning influence



The Present (Cont.)

Issues the learner encountered due to open accessibility of the Internet content

- **Quality of content**
- **Accuracy of content**
- **Completeness of content**

The Present (Cont.)

Questions and suggestions to ponder when accessing Internet based content as suggested by McGraw-Hill (2014)

- Who is the author or sponsor of the page?
- Are there obvious reasons of bias?
- Is contact information provided?
- Is there a copyright symbol of the page?
- Is the page considered a "zombie" or "walking dead" because the person who posted it no longer maintains or updates it?
- What is the purpose of the page?
- How well organized is the page?
- Is the information on the page *primary* or *secondary*?
- Can you verify the information on the Web some other way?
- If you are concerned about the credibility of the information offered, try starting with a source you know is credible.
- Even though the page may not meet your standards as a citable source, it may help you generate ideas.

The future

The positions technology occupies in future learning

- As a lone facilitator of learning
- As an abolisher of traditional hierarchies
- As a self-directed locus of expertise development and certification

The future (cont.)

Possibilities for Future Learners Through the Technological Positions

Self-Direction—The learner is able to manage their targeted learning experience

Expunging of Traditional Learning Hierarchies—The option for the learner to select their course and when challenges are met computer aided diagnosis assist in remediation.

Influence of infrastructure and Data Base—The learner's ability to self-enroll with the assistance of an informational infrastructures and data bases in order to progress through knowledge and expertise requirements.

The Future (Cont.)

Forecasting Trends Influencing Adult Learning (Johnson et. al. 2014)

- Growing Ubiquity of Social media
- Integration of Online, Hybrid, and Collaborative Learning
- Rise of Data-Driven Learning and Assessment
- Shift from Learners as Consumers to Learners as Creators
- Agile Approaches to Change
- Evolution of Online Learning
- Significant Challenges Impeding Technology Adoption
- Low Digital Fluency of Instructors
- Relative Lack of Rewards for Teaching
- Competition from New Models of Education
- Scaling Teaching Innovations
- Expanding Access
- Keeping Education Relevant
- Flipped Classroom
- Learning Analysis
- 3D Printing
- Games and Gamification
- Quantified Self
- Virtual Assistants

Reflection Questions

1. Name five information technology developments in your lifetime that have impacted your life.

2. Discuss one recent information technology and how it is impacting your own learning.

3. Speculate on the next advancement in information technology that will have a great impact on adult learning. Present a scenario of this advancement in action.

4. Identify and describe a potential loss or pitfall from a high investment in information technology in the context of learning.