Software Tools for Building and Nurturing Virtual Learning Communities

MU-SPIN 99
Florida

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Experience

- Information Technology Pressure
  - Media (e-commerce) going virtual
  - Students eager to know the technology
  - Work place requires the technology
  - Universities going virtual

“A need for a virtual self”

www.ecs.csun.edu/~gem/MUSPI N99.ppt
Overview

• Face-to-Face Paradigm.
• Virtual Paradigm.
• Building A Virtual Learning Community.
• Nurturing A Virtual Learning Community.
• Survey Of Software Tools
• Conclusion
Cognitive Strategies • Construction • Differentiation • Integration

Knowledge Base • Declarative • Procedural • Contextual knowledge

Learning Model by Tennyson (1994)
Course Objectives
Select Topics
Collect Material
Create Material
Edit Material

Syllabus
Books,..
Notes
Projects,..
Simulations
Case studies

Professor to Professionals relationship
Professor to students relationship
Cognitive Strategies
- Construction
- Differentiation
- Integration

Knowledge Base
- Declarative
- Procedural
- Contextual knowledge

Executive Control behavior

Internal Processing

Affects
- Motivation
- Feelings
- Emotions
- Attitudes
- Anxiety
- Values

Sensory Memory

External Environment

Professor to students relationship

Face-to-Face Live Delivery
Cognitive Strategies
- Construction
- Differentiation
- Integration

Knowledge Base
- Declarative
- Procedural
- Contextual knowledge

Internal Processing
- Motivation
- Feelings
- Emotions
- Attitudes
- Anxiety
- Values

Executive Control

External Environment

Sensory Memory

Face-to-Face Delivery

Information
Face-to-Face Live Delivery

Eye contact
Immediate feedback of students engagement
students understanding
students interaction
Non-verbal communication

Professor to students relationship
Real-time assessing students behaviors

Professor - Students relationship
Cognitive Strategies
• Construction
• Differentiation
• Integration

Knowledge Base
• Declarative
• Procedural
• Contextual knowledge

Internal Processing
Affects
• Motivation
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• Attitudes
• Anxiety
• Values

Executive Control

External Environment
Sensory Memory

Listening

Non-verbal

Live participation

Prepare for assessment

Knows the Scheme

Students knows his/her Role

Face-to-Face Delivery

Live participation

Prepare for assessment

Knows the Scheme

Students knows his/her Role
Online Delivery
Asynchronous

Virtual

Listening
Non-verbal
Live participation

Prepare for assessment

Know the Scheme

Listening
Non-verbal
Live participation

Do not know the Scheme

Students do not know his/her Role
Online Delivery
Asynchronous

Students need to know their Role
Building A Virtual Learning Community

• Prepare the students for this new experience
  – Expected study habits
    • Time management skills
  – Clearly define
    • their role
    • participation (when, how, expected)
Building A Virtual Learning Community

• Prepare the students for this new experience
  – Let them know the communication protocol
    • How to participate online
    • Manners to participate
  – Introduction of virtual mates
    • Sense of common experience
Virtual Course Design

Analyze interaction needs

Determine when and what type of interaction

Professor to students relationship

Executive Control

Cognitive Strategies
- Construction
- Differentiation
- Integration

Affects
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- Anxiety
- Values

Knowledge Base
- Declarative
- Procedural
- Contextual knowledge

Sensory Memory

Internal Processing

External Environment

Behavior

Syllabus
Books, ...
Notes
Projects, ...
Simulations
Case studies
Nurturing A Virtual Learning Community

- Continuous Interaction
  - Professor - students
  - Students - students
- Continuous Assessment
- Continuous Feedback
Nurturing A Virtual Learning Community

• Stimulate the network of virtual relationships

• regulate anxiety

• regulate the load of data

• Maintain group task
  – specific tasks and objectives
Nurturing A Virtual Learning Community

- Mechanisms to communicate group results to the community
- How to use technology to exploit online resources
- Support the transition to the new learning paradigm
Virtual Professor - Students relationship

Online Delivery

Programmed interaction

Content
presentation
resources

Flexible

Assessing

Updateing

Proactive

Online resources

Proactive

Feedback

Communication to one to all

Programmed
student support

Professor - Students relationship
Software Tools

- WWW-based tools
  - Browsers (Html, CGI, Java, ...)
  - Authoring tools (Micromedia, ...)

- Support
  - Publishing documents
  - Interaction
    - Bulleting boards
    - Chats
    - News groups
    - EMail

- Automate processing

No design tools
No management tools
No assessment tools
No group support tools
Low level

Software Tools

- WWW-based tools
  - Browsers (Html, CGI, Java,...)
  - Authoring tools (Micromedia,..)

- Support
  - Content, creation, presentation
  - Interaction
    - Bulleting boards
    - Chats
    - News groups
    - Mail

No design tools
No organizational tools
No assessment tools
No group support tools
Next level

**Software Tools**

- **Tool Kits**
  - Automatic page loading,
  - Assessment managing tools

- **Support**
  - publishing capabilities
  - Interaction
    - Bulleting boards
    - Chats
    - News groups
    - Mail
  - Online test engines

**Intrakal**

[www.anlon.com](http://www.anlon.com)
Software Tools

- **Integrate Tool**
  - Close environment
  - Organizational tools - content
  - Managing tools

- **Support**
  - publishing capabilities
  - Interaction
    - Bulleting boards
    - Chats
    - News groups
    - Mail
  - Online test engines
  - tracking, monitoring student’s activities
  - sharing documents, annotations, security

WebCT, Symposium, Cyberclass
Software Tools

- Commercial
  - Lotus Notes
  - Microsoft Exchange
  - Oracle
  - Collabra Share

Focus
- Group interaction
Software Tools

• Design
  - Content structure and interaction
  - student support to easy transition to new paradigm
  - stimulation of the virtual network
  - knowledge base with easy access and retrieval
Software Tools

- Design group tasks
  - Agents that facilitate design and layout of group task
  - Online agents that spread results to the community as well as link the results to relevant info in the knowledge base
Software Tools

• Online agents that
  - make possible meetings, brainstorms, and summaries
  - facilitate online resources to groups
  - monitors students involvement in the task
Software Tools

- Online agents that monitor learner progress and offers timely feedback and/or proper advice for improving performance

- Online database of resources, fast preview, resource’s strength, weakness, hardware requirement....
Conclusion

• Current software tools
  • Non integrated Tools
    • Browser - No automated processes
    • Programming
  • Integrated Tools - Commercial
    • Costly to students
    • Need more research..
Conclusion

• Start by introducing electronic communication in the traditional setting.
• Keep updating your technological skills.
• Fast growing innovation in technology will bring better tools.
• Do not focus in the technology, this is the medium and not the end.

Design and collaboration
Software Tools Sites

• **Intrakal**: www.anlon.com

• **WebCT**: www.webct.com

• **Virtual - U**: http://virtual-u.cs.sfu.ca/

• **Web Course in a Box**: http://cti.itc.virginia.edu/cgi/local/pmgi/pm/class/tkdoc/displaydocs

• **World Wide Web courseware developers Listserv Web site**: http://www.unb.ca/web/wwwdev