Selecting and Evaluating Digital Learning Materials in Higher Education

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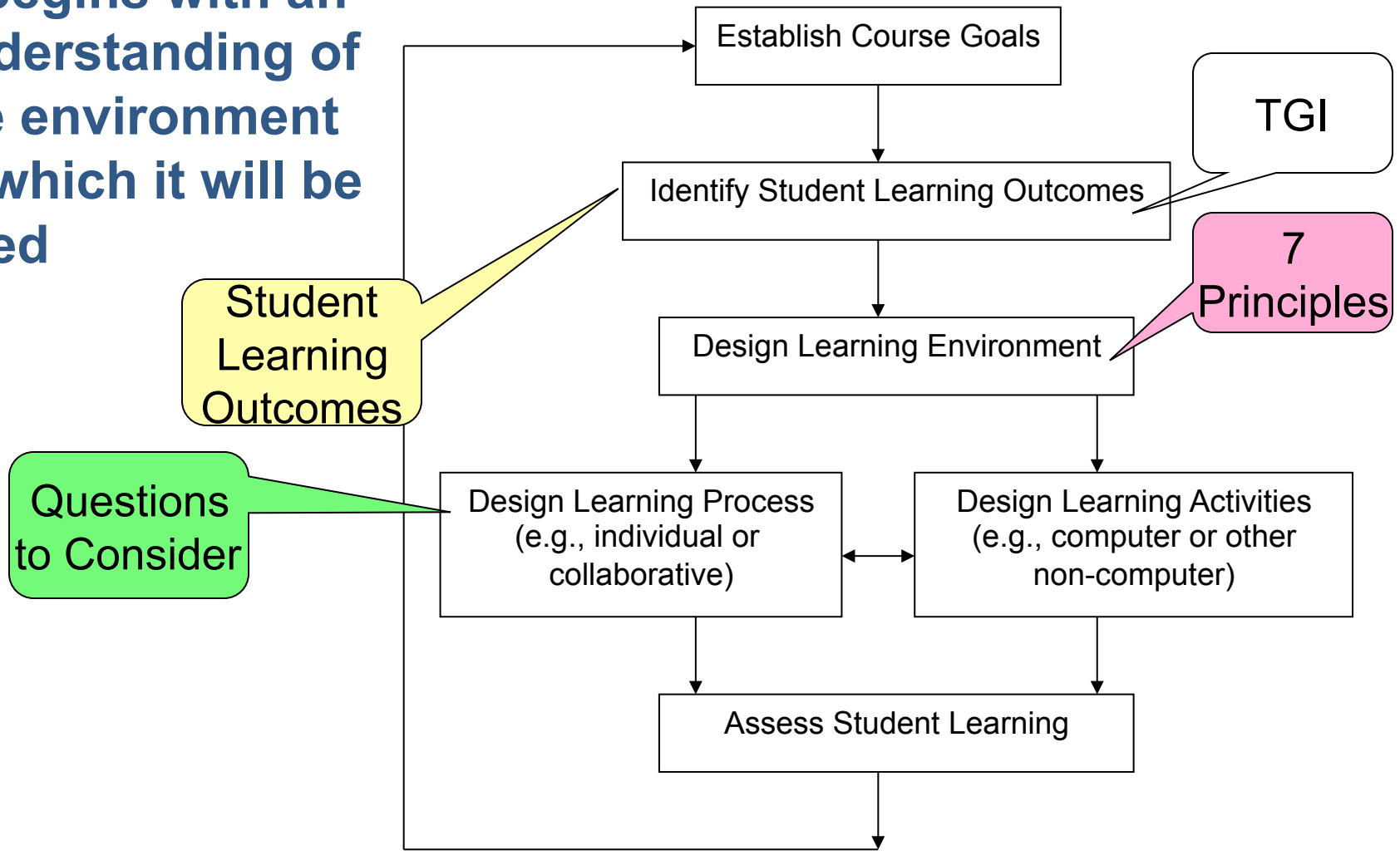
Outline

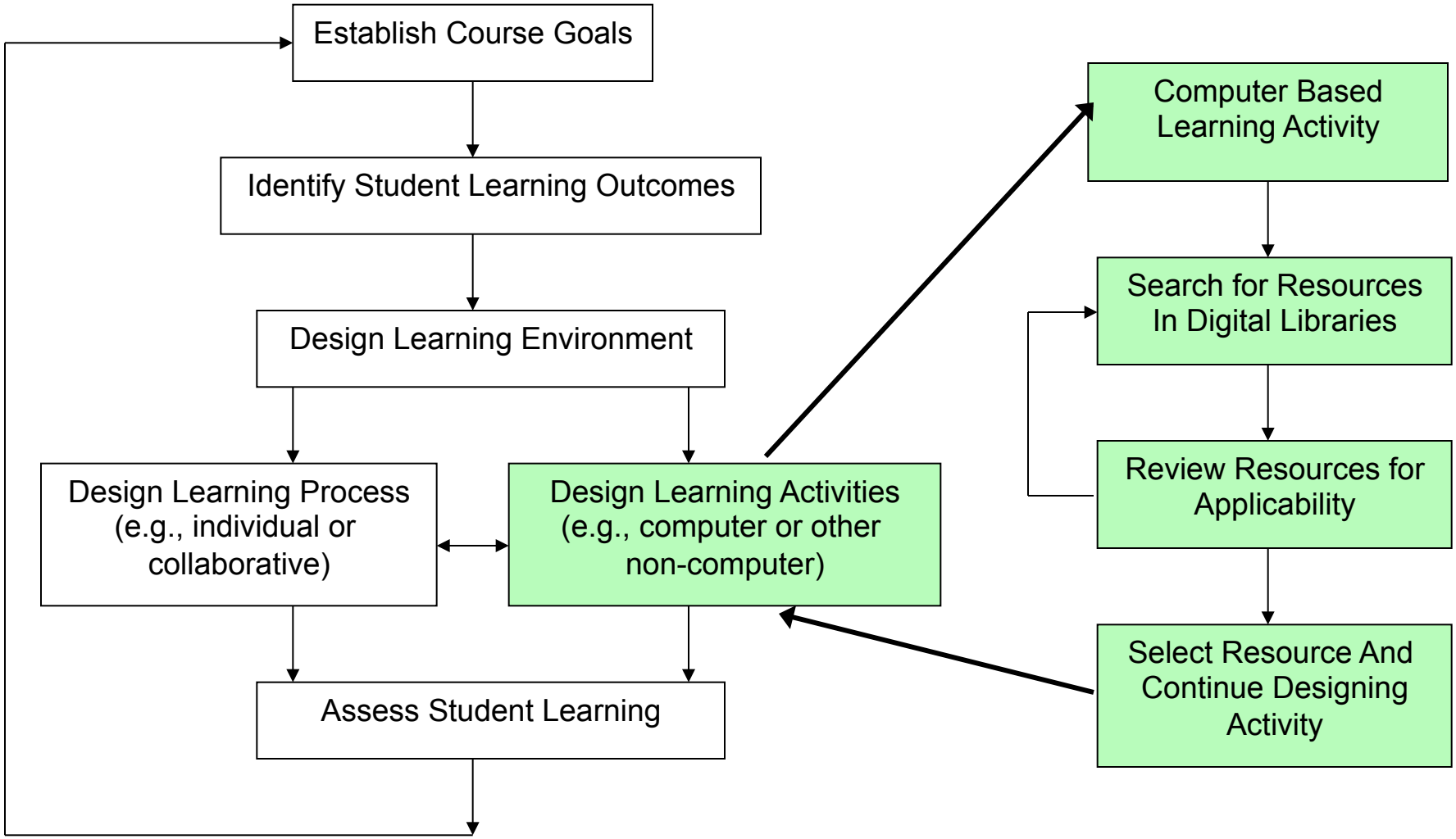
- Greetings and Overview
- General Framework for Selecting and Evaluating Digital Learning Materials
- Educational Digital Libraries
- Evaluation Criteria
- Interactive Discussion: Comparing Digital Learning Materials to the Criteria

Selecting Learning Materials...

…begins with an understanding of the environment in which it will be used



Designing Computer-Based Learning Activities



"Working" Description of Educational Digital Libraries

…or…how they go beyond traditional brick and mortar library on your campus or research digital libraries…

- Directly supports teaching and learning activities
- Provides support (through comments of use, lesson plans, etc.) for adapting or adopting resources developed by others
- Uses technology to support collaboration, personalization, recommendation of resources
- Covers a wide range of disciplines and allows for connections between disciplines
- Supports communities of users

Development Philosophy

- **The difference is *learning*, not just bibliographic information retrieval**
  - Teaching and learning require something more
- **Guided by *user needs* and philosophy of education that is constructivist**
- **Link content to community and services**
- **Build integrative tools and incorporate "best of breed" tools from partners**

MERLOT

MERLOT
www.merlot.org

www.merlot.org

- **Collaborative to improve access to quantity and quality of teaching and learning resources and to help faculty identify and use those materials**
- **Institutional partnerships with 20+ systems of higher education in the U.S. and Canada**
  - Reaching 8 Million students
  - 350,000 faculty
- **Broad collection extending beyond STEM**
  - Search, browse, catalog, comments, assignments
  - Including: History, Music, World Lang., etc.
- **14 Disciplines doing peer review**
  - Including engineering in collaboration with NEEDS

NEEDS—A Digital Library for Engineering Education

www.needs.org

- **Established circa 1992**
  - from NSF Synthesis Coalition (engineering education reform)
- **Collection of digital learning resources for engineering education (search, browse, catalog)**
- **Hosts *Premier Award for Excellence in Engineering Education Courseware***

Review Criteria

- ***Premier Award* Criteria**
  - Developed in 1995-1997, refined in 1998
  - Used for six years in the *Premier Award* competition
  - Designed and used to find the "best of the best"
- **MERLOT Evaluation Standards**
  - Developed in 1999
  - Applied in MERLOT's peer review process

The Premier Award for Excellence in Engineering Education Courseware

- **A national competition to identify and reward the authors of high-quality, non-commercial courseware designed to enhance engineering education**
  - The *Premier Award* is about the entire experience of using the courseware by learners, not just the courseware itself
- **A dissemination system to distribute the Premier Courseware (via CD's, ASEE Prism ads, presentations at FIE and ASEE)**

Premier Award

Judging and Review Process

- **Convene Judging Panel**
  - Professors and content experts, students, instructional designers, publishers
- **Review supporting material in the submission packet**
  - Author supplied responses to criteria
  - Evidence of student learning and evaluation
  - Testimonials
- **Review and test the courseware**

Premier Award

Premier Award Criteria: Instructional Design

Does the courseware enhance learning?

- **Learning Objectives**
  - Learning objectives are clearly stated and supported by the software.
- **Interactivity**
  - The learner is actively involved in the learning process—the interaction enhances learning.
- **Cognition/Conceptual change**
  - Learning appears to be significant and long lasting, and strong and useful cognitive models can be built.
- **Content**
  - The content is well chosen and structured.
- **Multimedia use**
  - Multimedia is used effectively and promotes the learning objectives and goals.
- **Instructional use/Adaptability**
  - The software can be used in a variety of settings.

Premier Award Criteria: Software Design

Is the courseware well designed and usable?

- **Engagement**
  - The software holds the interest of a diversity of learners.
- **Learner Interface and Navigation**
  - The software is easy to use.
- **Technical Reliability**
  - The software is free from technical problems.

Premier Award Criteria: Content

Is the content appropriate and well presented in the courseware?

- **Accuracy of Content**
  - The content is accurate and error free.
- **Appropriateness**
  - The content is appropriate for the scope of the *Premier Award*.