Team-based design and development
Learning design as hypothesis
Principles Derived from Learning Science

- Goal directed practice and targeted feedback are critical to learning

Learners receive support in the problem-solving context
Identifying Specific Learning Challenges:

Practice Synthesizing and Applying Skills & Knowledge
Data drives powerful Feedback Loops
Design Audits

E-Learning Design Principles

Apply thinking skills principles Focus on job-specific thinking skills Design whole-task learning environments Make thinking processes explicit Base lessons on cognitive task analysis

Skills

- Focus on job-specific thinking skills
- Design whole-task learning environments
- Make thinking processes explicit
- Base lessons on cognitive task analysis

Identify the characteristics of a good experiment
Improving Models (Learning Curves)

All Selected Knowledge Components

LearnLab
DataShop
Empowering Students: Active, Asynchronous Learning Activities

“Learning results from what the student does and thinks and only from what the student does and thinks.

The teacher can advance learning only by influencing what the student does to learn.”

- Herb Simon
Empowering Students: Metacognitive Development