Creating A Foundation for Open Knowledge

Technology Assessment of
Web-based Learning

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Overview

- Problems of Access and Quality of Academic Content
- Basic Strategy and Assumptions including Theory of Action
- Hewlett Grantees & Demonstrations
- Challenges

UNESCO's Deputy Asst Director General for Communication and Information

- *"Knowledge has become a principal force of social transformation. Knowledge-based and -led development holds the promise that many of the problems confronting human societies could be significantly alleviated if only the requisite information and expertise were systematically and equitably employed and shared."*

Problem

- Lack of Access
  - Technical -- Reliability, Bandwidth, Search Engines, Interoperability
  - Cost
- Lack of Quality
  - Not Harnessing Power of Technology
  - Little Quality Control
  - Few Mechanisms to Evaluate

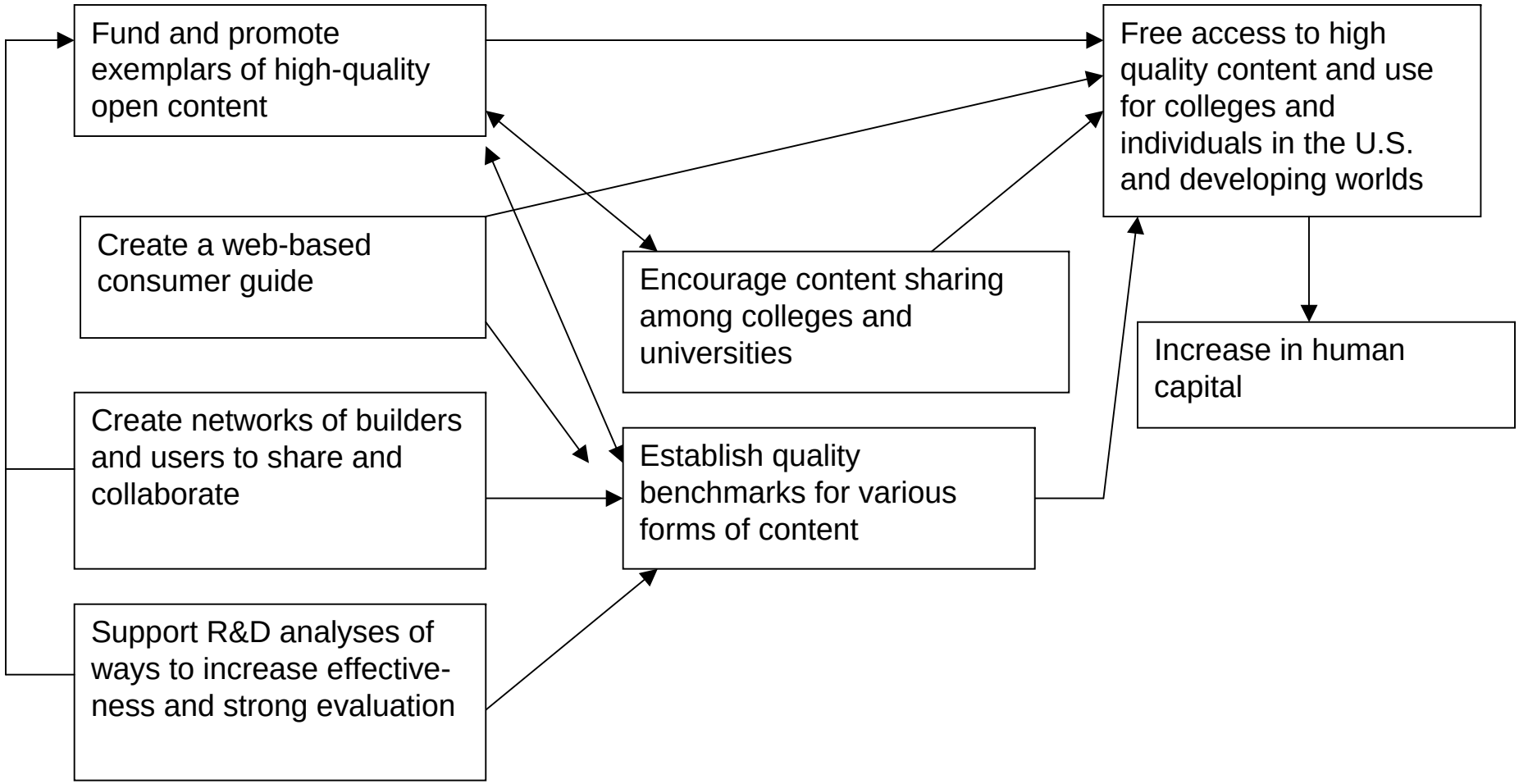
Basic Strategy

- Focus on high quality exemplars to enhance teaching and learning
  - Courseware, full courses, modules, learning objects, library collections, journal related data, etc.
- Make free, accessible and reusable
- Examine and address problems in use
- Develop sustainable models

Operating Hypothesis

- Establish standards of practice
- Stimulate other institutions to freely share
- Materials are intended to support the improvement of teaching, learning and research
- Help to equalize access

Theory of Action



Funding Examples

- MIT OpenCourseWare, ocw.mit.edu
- Harvard, Open Collections
- Carnegie Mellon, Open Learning Initiative
  cmu.edu/cmoli
- Rice U, Connexions, cnx.rice.edu
- Meetings - national and international,
  learning objects and intellectual property.
- OECD, UNESCO ci-cairo.org/opencourseware

Demonstration

- MIT OpenCourseWare
  - ocw.mit.edu
- Internet Archive
  - archive.org
- Carnegie Mellon
  - cmu.edu/cmoli

Challenges to Open Knowledge

- Intellectual Property
- Cultural - Adaptations, translations
- Academic - Institutional Incentives
- Understanding Use
- Technological - interoperability, search strategies, structure of knowledge
- Financial - initial capital, sustainability

Appendix

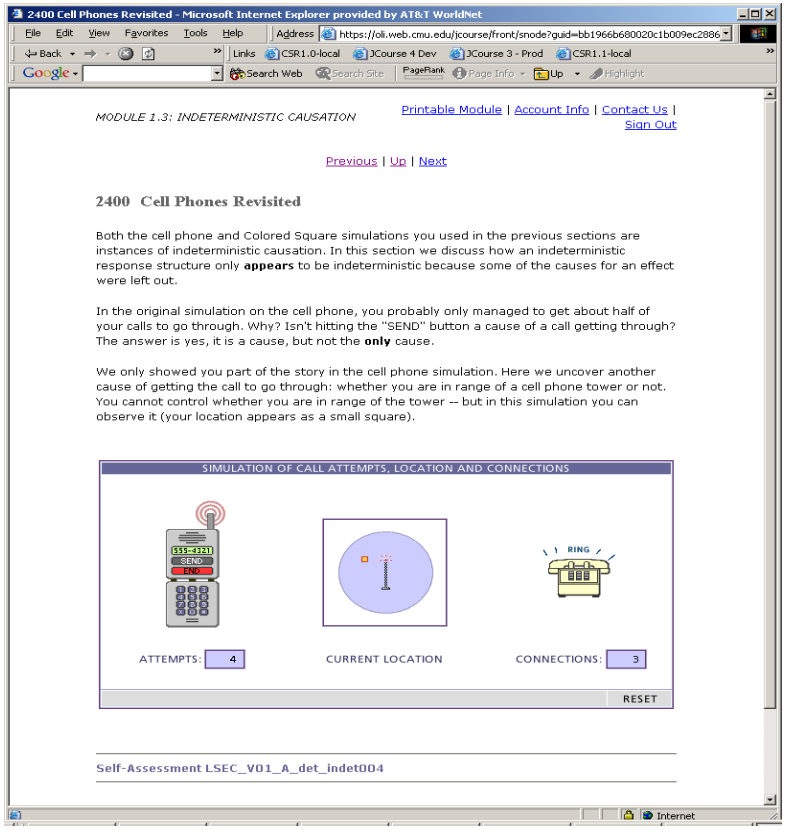
openlearninginitiative

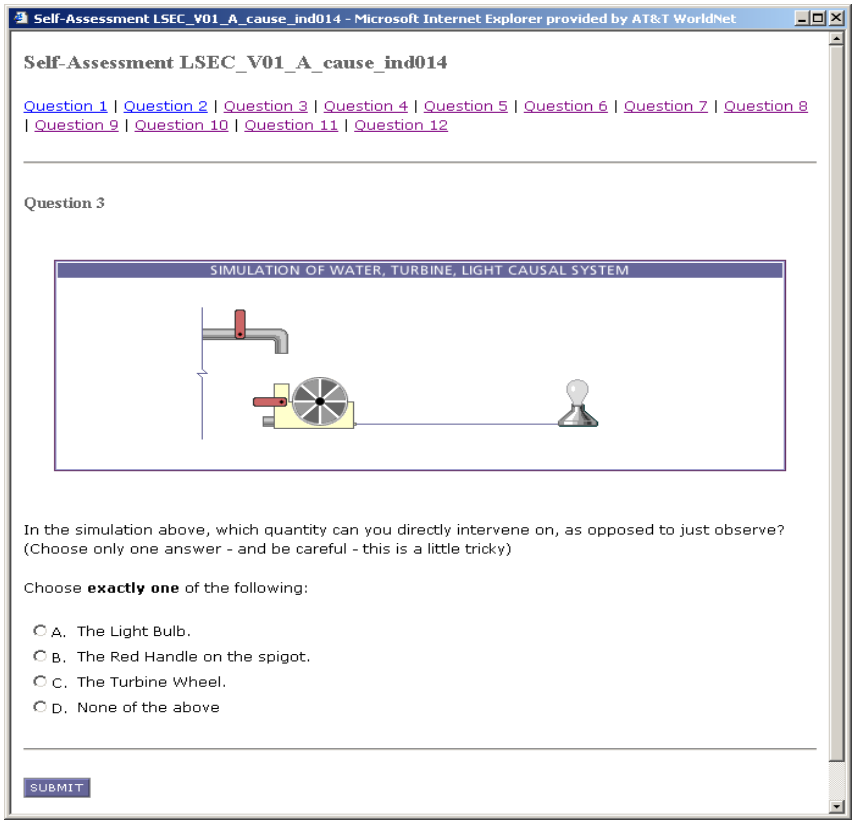
CarnegieMellon

Cognitively-informed Education
Data-driven Iteration

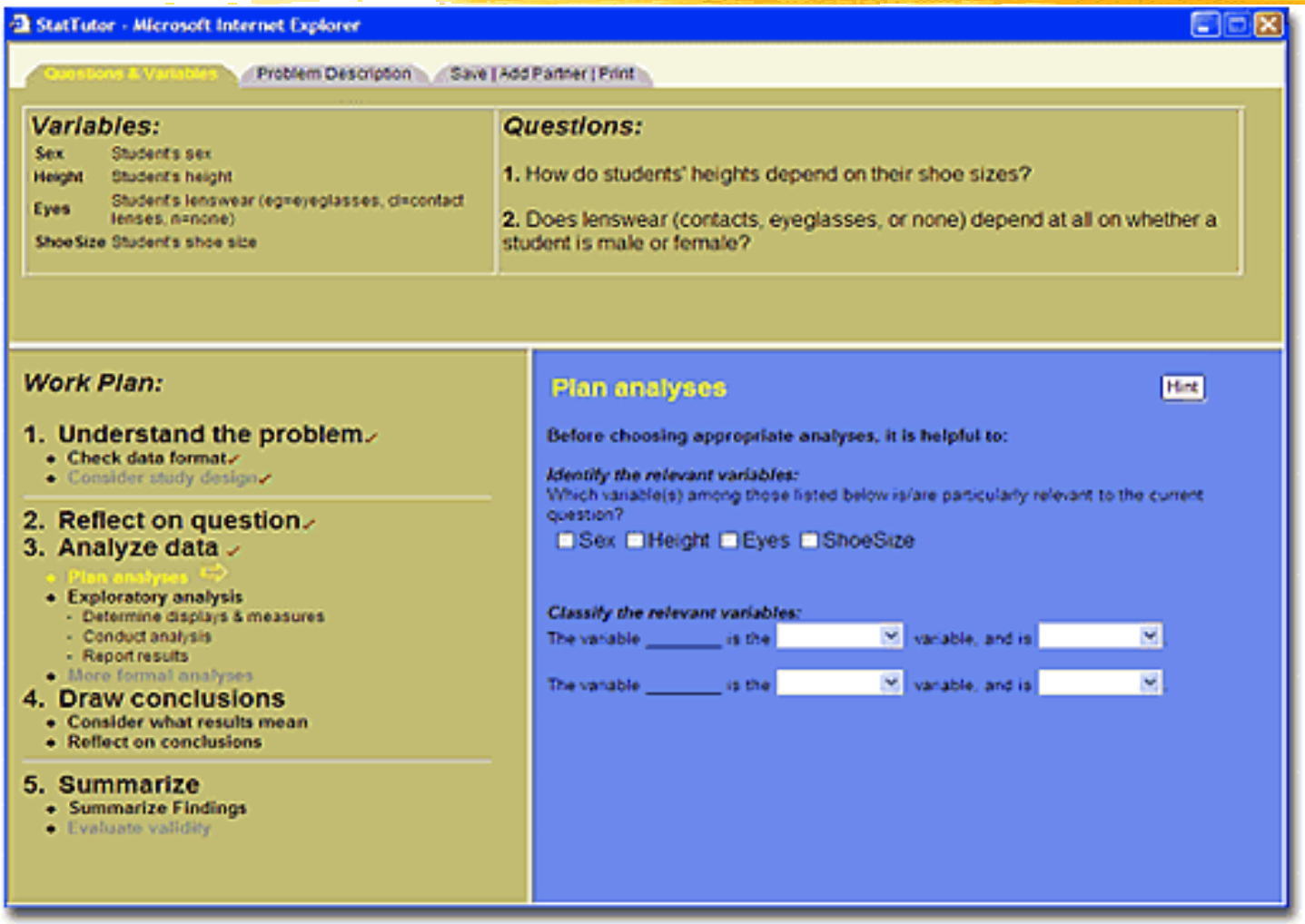
Funding for Carnegie Mellon's OLI has been provided by the William and Flora Hewlett Foundation

Learning Environments that Engage the Student in Active Learning Practice with Frequent Opportunities for Feedback

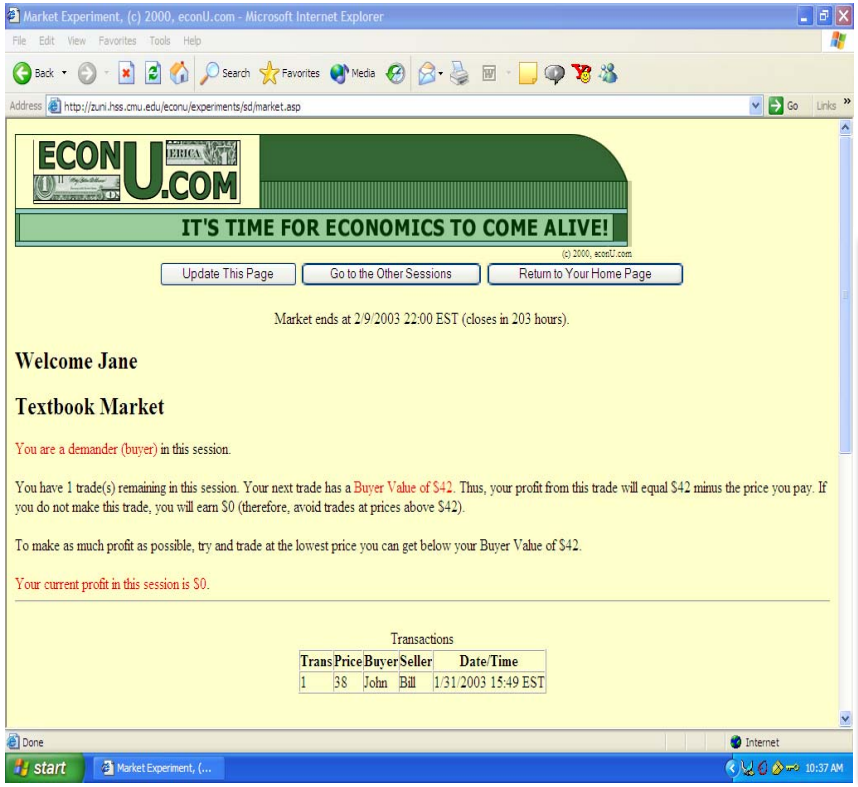


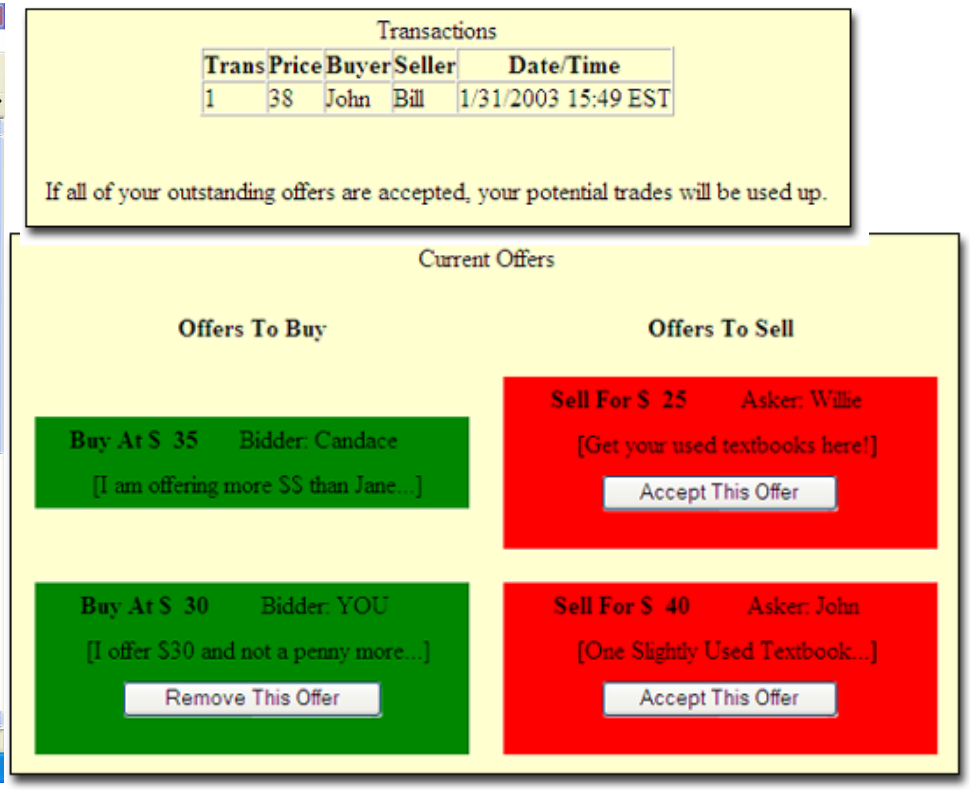


Mental Scaffolding Supports Students' Knowledge as Constructed Through Practice

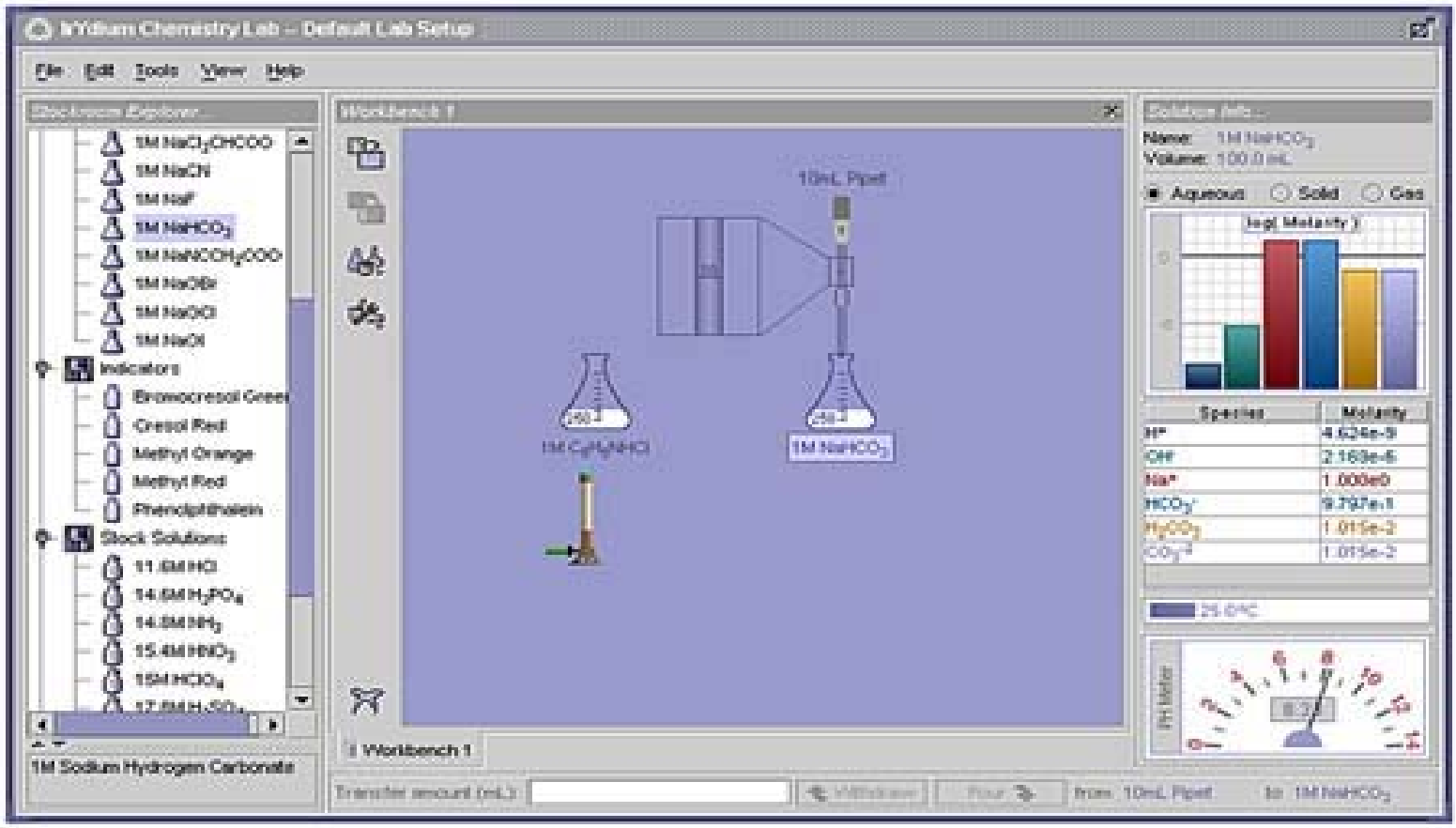


The Student is a Participant as well as an Observer

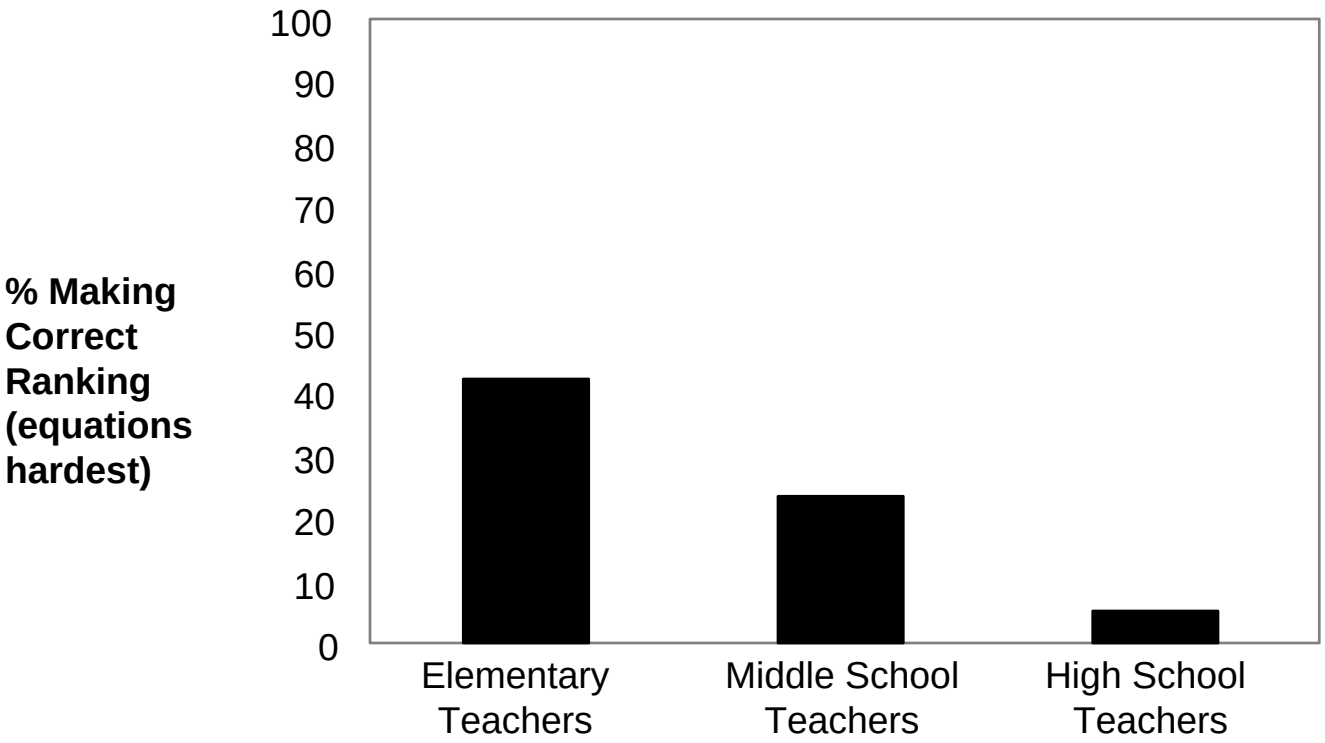




Tools that allow Instructors to Create Interactive Student Activities



Data-driven Iteration Mitigates The Expert's Blind Spot:



All OLI courses are instrumented to collect data about student use to inform the next iteration of course design.