Circuits Virtual Community of Practice

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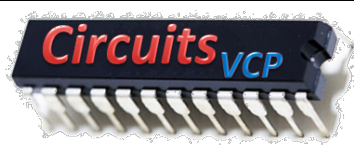connor@rpi.edu

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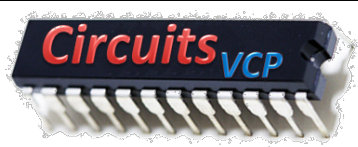
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Session 2: Research-Based Instructional Approaches

March 28th, 2013

Agenda

- Welcome and Learning Objectives ~ 5 mins

- Activity & Discussion: Research-Based Principles ~ 50 mins

- Wrap-up & Plans for Session 3 ~ 5 mins

Announcements

- Our sessions are being recorded each week. You can find the recordings on the Open Atrium portal, in the Notebook.

- We will post the slides and reading materials from each session on the Open Atrium portal in the corresponding folder.

- We will create a location on the portal for VCP members to cite relevant research that they have published.

Circuits VCP

# Session 2: Overview of Research-based Instructional Approaches

In preparation for Session 2 (March 28th):

- Read and be prepared to discuss HLW Introduction and Conclusion
- Read and be prepared to discuss Chickering & Gamson's Seven Principles for Good Practice in Undergraduate Education
- Come prepared to share a concrete example of something that you do or have observed when you teach circuits (or other course, if you have not taught circuits before) that reflects or relates to your assigned Principle.

Session 2: Learning Objectives

- Describe key concepts underlying research-based instructional approaches

- Relate research-based principles to concrete instructional strategies

- Apply principles and strategies to your own course
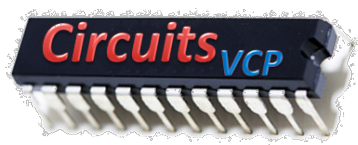
7 Principles for Good Practice

Good practice in undergraduate education:

- encourages contact between students and faculty,
- develops reciprocity and cooperation among students,
- encourages active learning,
- gives prompt feedback,
- emphasizes time on task,
- communicates high expectations, and
- respects diverse talents and ways of learning.

Chickering & Gamson, 1987. *Seven Principles for Good Practice in Undergraduate Education.*

7 Research-Based Principles
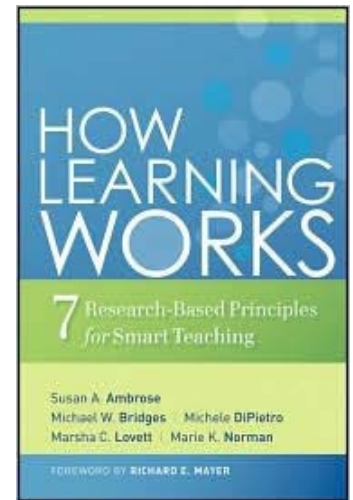
1. Students' prior knowledge can help or hinder learning

2. How students organize knowledge influences how they learn and apply what they know

3. Students' motivation determines, directs, and sustains what they do to learn

4. To develop mastery, students must acquire component skills, practice integrating them, and know when to apply what they have learned

5. Goal-directed practice coupled with targeted feedback enhances the quality of students' learning

6. Students' current level of development interacts with the social, emotional, and intellectual climate of the course to impact learning

7. To become self-directed learners, students must learn to monitor & adjust their approaches to learning
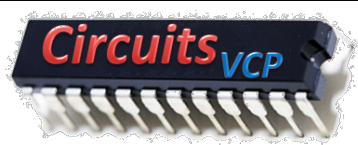
Activity: Model

<u>Principle #6</u>

Student's current level of development interacts with the social, emotional, and intellectual climate of the course to impact learning.

<u>Examples</u>

- Ken's example
- Lisa's example

Ken's Example

- Self-Regulated Learning in a Flipped Classroom
  - Strong initial support for video lectures
  - Majority asked for some lecture after the experience
    - Provided more materials to navigate lectures & reading
    - Added formal rubric for check-off process
    - Added reflection task for the beginning of each class
    - Have not yet added *ticket* task
  - Students like the approach but are still reluctant to take formal responsibility for their learning

Ken's Example

- Different types of partnerships emerge that can impact students' educational experience and learning outcomes.

- Collecting
  - Individual characteristics
  - Partnership characteristics
  - Cognitive outcomes …

- Educating TAs & me … then students
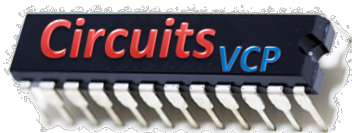
Activity: Model

Principle #6

Student's current level of development interacts with the social, emotional, and intellectual climate of the course to impact learning.

Restatement of Principle: What does this mean for instruction?

When designing a course (syllabus, exams, projects, activities, teams), be mindful of the differences among students and how that may impact their approach to learning, interactions with each other, and overall culture of learning.

Activity Instructions

- Start Breakouts (pre-assigned groups)

- In breakout session (12-15 minutes)
  - Select a Recorder to take notes (to be shared later)
  - Each person should give a <u>concrete</u> example from their own experience that reflects or is related to this principle. Be sure to include the name of the person with their idea.
  - As a group, restate the principle from the instructor's perspective (i.e., how could instructors apply this principle when designing or teaching their course? Does a general theme emerge from the concrete examples?

- Report out (5 minutes per group)
  - The Recorder will
    - Present the restated principle that the group wrote
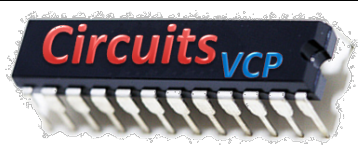   - Describe one concrete example
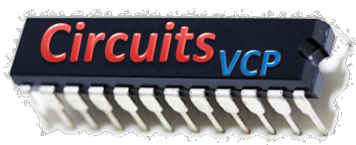
Activity Wrap-Up

Polls (multiple answer):

For which of these principles did you hear an interesting idea that you plan to consider further and possibly use in your own course?

Which of these principles are the most challenging to apply?

Session 3: Learning Objectives and Bloom's Taxonomy

In preparation for Session 3 (April 4th):

– Read and be prepared to discuss HLW Appendix D: What are learning objectives and how do we use them?

– Review the two websites about (1) Changes to Bloom's Taxonomy and (2) the revised Bloom's Taxonomy:

- www4.uwsp.edu/education/lwilson/curric/newtaxonomy.htm
- www.celt.iastate.edu/pdfs-docs/teaching/RevisedBloomsHandout.pdf