



Overview of Some Best Practices in Teaching and Learning

CASSL Institute

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Student Success • Professional Development • Inquiry



PREPARING

[Preparing



Designing courses, educational materials, or presentations

- Backwards design
- Balanced design for diverse talents
- Active learning



Backwards Design

- Begin by asking “what will the students be able to do when they are done?”
- Instruction methods and assessment of learning aligned with outcomes and objectives
- Build up from the “trunk” to the “twigs” and prune the twigs.
- Include ways to teach all the tasks you ask of students.

[Balanced Design for Diverse Talents]

- Balance intrapersonal and interpersonal work opportunities
- Balance repetition with exploration
- Balance the systematic with the messy
- Balance memory work with deep “authentic” questions

[Diverse talents - CRC Students]

From spring 07 Research Office Newsletter

Nearly 60% are under the age of 25

Asian 30%, Latino 15%, African Amer. 14%, White 30%

Nearly 40% are first generation college students

30% below are the poverty level; 70% are working

More than 50% plan to transfer. Nearly 20% plan to get an AA Degree or Certificate.

[Active Learning]

- Project-based learning using a variety of tools
- Collaborative learning - synchronous and asynchronous
- Ongoing improvement of a work in progress
- Effective student-faculty and student-student interaction

From: Asking the Right Question: What Does Research Tell Us about Technology and Higher Learning? Stephen C. Ehrmann, The Annenberg/CPB Projects



CONTENT

[Content considerations]

- Connect knowledge
- Consider learning styles
- Sequence structures thinking

[Connect knowledge]

- Hook new information to what the students already know
- Counter previous misconceptions
- Explicitly teach disciplinary thinking
- Demonstrate meta-cognition
- Address authentic questions

"Habits, preconceptions, and misconceptions can be formidable barriers to new learning because this prior learning is usually 90 percent hidden from view" (Angelo, 1993)

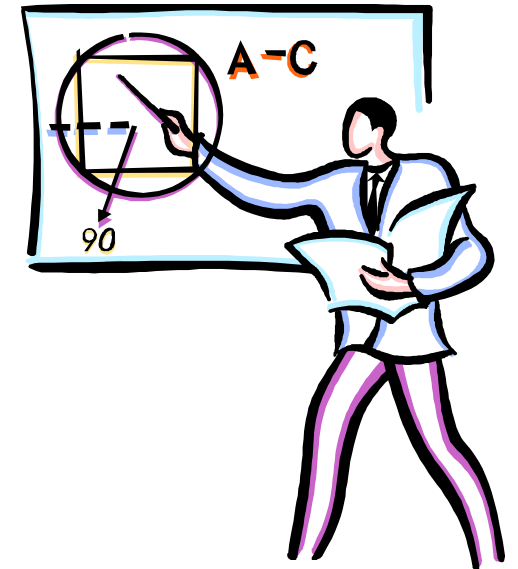
[Learning Styles]

Sensory Preferences

- Visual / Verbal / Auditory / Kinesthetic

Information processing

- Global / Analytical
- Interpersonal / Intrapersonal
- Linear / Indirect



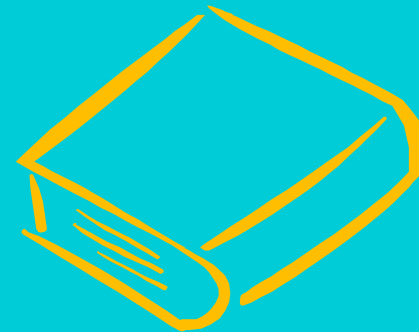
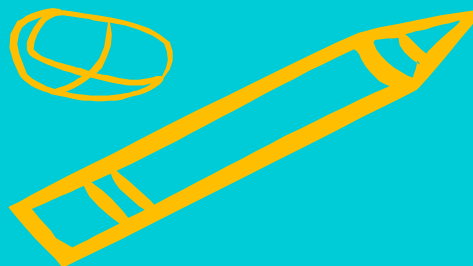
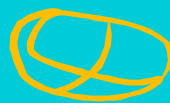
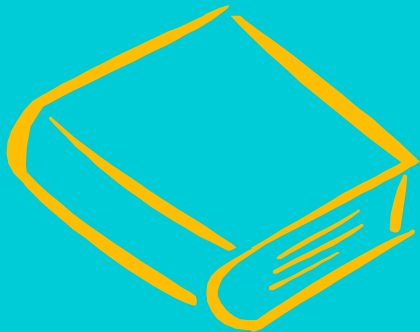
[Time and sequence]

- Outcomes
- Skills build-up and internal prerequisites.
- Themes - group ideas into broader areas
- Time on task– in and out of the classroom
- Disciplinary approach to sequence

ASSESSING LEARNING

A B C

“Will that be on the test?”



[Assessing learning]

- Summative and formative functions
- Validity, reliability, feasibility
- Academic integrity

[Assessment characteristics]

- Validity
- Reliability
- Feasibility

[Academic Integrity]

COMMUNICATION MOTIVATION



[Communication and motivation]

- A little demographic information
- A little biology
- A little cognitive science
- A little educational research

Demographics: Diverse Communities

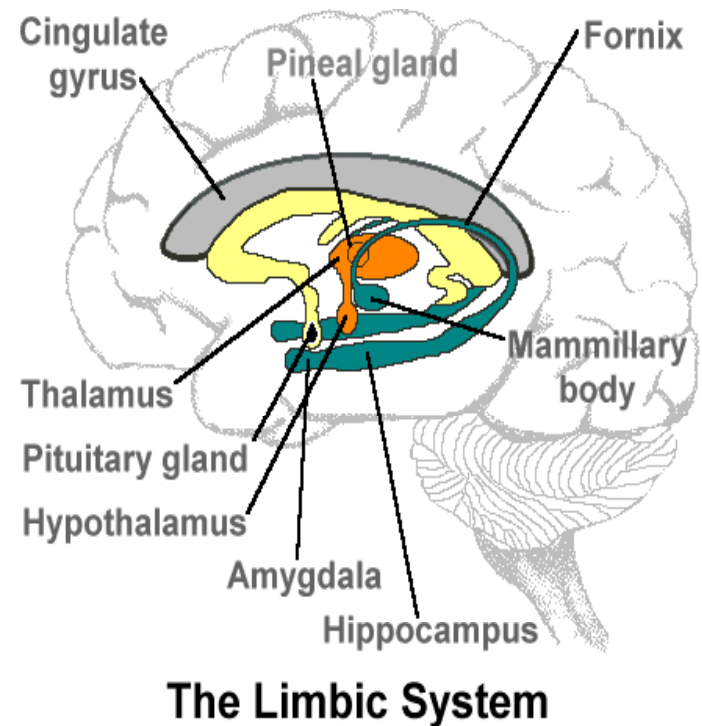
The trend is toward greater social and cultural disparity among young students who come from different local communities.

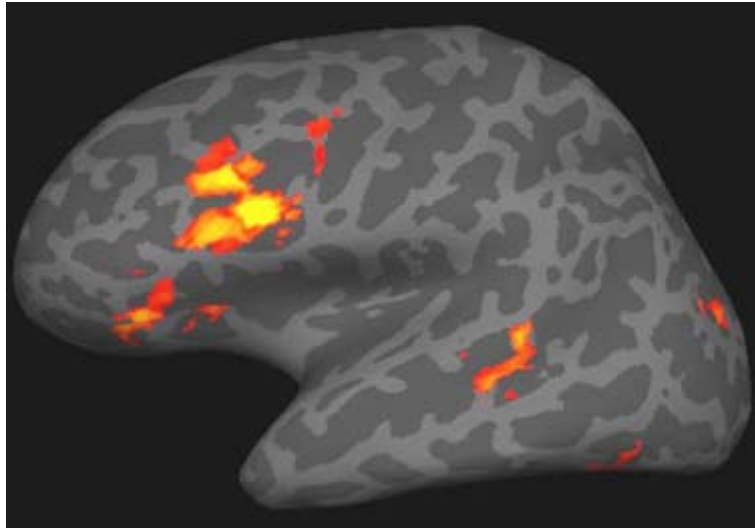
High School	% White	% ELL	% low cost lunch
Elk Grove	62	8	18
Sheldon	42	12	22
Franklin	39	8	12
Laguna	25	15	27
Florin	14	29	55
Valley	8	33	64

CPEC data: www.cpec.ca.gov

[A Little Biology: Limbic system]

- **Emotion is crucial to learning** - If the limbic system moderately engaged, learning is more effective.
- **Empathic emotional engagement in the classroom is likely to result in engaged learning.**





A little Biology - Frontal lobe

- The prefrontal lobe controls attention. **Attention is crucial to learning.**
- An area in frontal lobe allow recall of the meaning of words and objects.
- There is a connection from the limbic system to the frontal lobe.

Engage both the attention and the emotions

[A little Cognitive Science - Stages]

- The answer is whatever the teacher says it is.
- All knowledge is opinion; my opinion is as good as anyone else's.
- Knowledge involves following a set of rules; if I follow the procedures, I'll get the answer.
- Knowledge is complex and critical thinking is essential; we need to weigh the evidence and arguments.

Modified from Perry's stages of undergraduate cognitive development

[A Little Educational Research



Student success factors

- Student personal motivation (CRC study)
- Clear lectures or lab presentations
- Fair exams and other evaluation (CRC)
- Encouragement and respect from professors (CRC)
- Personal conscientiousness (several studies)
- Social integration and connectedness to the college (Tinto)
- Validation by peers, professors, etc. (Rendon)

Education = future

Never forget that what you do makes a
difference