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THE LEARNING PARADIGM COLLEGE

WHAT DO YOU WANT TO ACHIEVE?

What is the single most important experience that you hope every student in your college will have before graduating or completing the program?

WHAT WE WANT TO ACHIEVE IS

- ✘ A significant change in the student,
- ✘ A self-conscious change,
- ✘ That affects the student for the long term, not the short term,
- ✘ That increases the student's abilities to meet future challenges.

ORGANIZATIONAL THEORIES

- ✘ Chris Argyris (Harvard) and Donald Schön (MIT)

ORGANIZATIONAL THEORIES

- ✘ Espoused Theory: “Espoused theories are those that an individual claims to follow.”
- ✘ Theory-in-Use: “Theories-in-use are those that can be inferred from action.”
 - + Argyris, Putnam, and Smith

THEORIES-IN-USE GUIDE BEHAVIOR

✘ “Although people [often] do not behave congruently with their espoused theories . . . , they do behave congruently with their theories-in-use, *and* they are unaware of this fact.”

+ Chris Argyris

ORGANIZATIONAL PARADIGMS

- ✘ An organizational paradigm is the governing theory-in-use, the global framework, the lens through which we see everything about the organization.

THE GOVERNING PARADIGM OF THE COLLEGE?

- ✘ Instruction Paradigm
- ✘ Learning Paradigm

WHAT DO WE MEAN BY “LEARNING”?

- ✘ Ference Marton and Roger Säljö
 - + Sought to distinguish qualitatively rather than quantitatively between student approaches to learning.
 - + “A description of *what* the students learn is preferable to the description of *how much* they learn.”

TWO APPROACHES TO LEARNING:

- ✘ Surface approach: focusing on the *signs*, the words of the essay, the numbers in the physics problem.
- ✘ Deep approach: focusing on the *meaning*, what the signs signify, the ideas the author is presenting, the concepts that the numbers represent

HOW DO APPROACHES AFFECT LEARNING?

- ✘ “Deep approaches were related to grasping the author’s message, and surface approaches were related to miscomprehending or missing the message altogether.”

–Ferenc Marton & Shirley Booth, *Learning and Awareness*, 1997

WHAT WOULD A SUCCESSFUL LEARNER LOOK LIKE?

- ✘ An expert:
- ✘ “Experts have acquired extensive knowledge that affects what they notice and how they organize, represent, and interpret information in their environment.”
- ✘ “The study of expertise shows what the results of successful learning look like.”
 - Bransford, Brown, & Cocking, *How People Learn* (2000)

EXPERTS

- ✘ Notice meaningful patterns in information
- ✘ Much content information, organized to reflect deep structure of subject
- ✘ Knowledge is contextualized, reflects contexts of applicability
- ✘ Flexibly retrieve knowledge with little effort
- ✘ Identify discrepancies that drive idea revision
- ✘ Participate in a second-order environment focused on the object of expertise
 - + Bransford, Brown, & Cocking
 - + Bereiter & Scardamalia

NOVICES

- ✘ Remember information piecemeal
- ✘ Organize content by surface structure
- ✘ Knowledge a collection of isolated facts
- ✘ Retrieve knowledge by association with learning experience.
- ✘ Fail to recognize when ideas need revision
- ✘ Work individually, without a community of collaborators
 - + *How People Learn*
 - + *Surpassing Ourselves*

SECOND-ORDER ENVIRONMENTS

- ✘ “*Second-order environments* are ones in which the conditions to which people must adapt change progressively as a result of the successes of other people in the environment”
 - + Berieter & Scardamalia, *Surpassing Ourselves*, 1993.

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- ✘ “In sum, experts have a greater tendency to base the organization of their knowledge on meaning, whereas novices base their organization on the surface features of the information presented.”
 - + Jean Bédard and Michelene T.H. Chi, “Expertise,” *Current Directions in Psychological Science*, 1992

MOTIVATION?

THE COGNITIVE ECONOMY

“One might call the cognitive economy of the typical classroom a ‘cool’ rather than a ‘hot’ cognitive economy—one that does not motivate the energy needed for complex cognition but runs at an altogether lower level of cognitive demand.”

--David Perkins

THE COGNITIVE ECONOMY OF THE COLLEGE

- ✘ Goals
- ✘ Activity
- ✘ Information
- ✘ Time horizon
- ✘ Community
- ✘ Alignment

GOALS

Cool

Hot

Promotes extrinsic goals.

Promotes intrinsic goals.

META-ANALYSIS

“Careful consideration of reward effects reported in 128 experiments leads to the conclusion that tangible rewards tend to have a substantially negative effect on intrinsic motivation. . . . Even when tangible rewards are offered as indicators of good performance they typically decrease intrinsic motivation for interesting activities.”

--Edward Deci, Richard Koestner, & Richard Ryan. “A Meta-Analytic review of Experiments Examining the Effects of Extrinsic Rewards on Intrinsic Motivation,” *Psychological Bulletin*, 1999.

TO PROMOTE STUDENT AUTONOMY

✘ Choice

- + Of assignments
- + Of assessments
- + Of objectives
- + Of methods

✘ Control

ACTIVITY

Cool

Emphasizes inauthentic activities, fragmented tasks.

Hot

Emphasizes authentic performance.

DECI AND BENWARE

TO PROMOTE PERFORMANCE

- ✘ Possible consequences in the “real world.”
- ✘ Effects or responses from people outside the classroom.
- ✘ Self-selection of criteria for success and level of support.
- ✘ Simulation of “real world” setting, information, or consequences—or the real thing.
- ✘ Self-assessment.

INFORMATION

Cool

Hot

Emphasizes evaluation.

Emphasizes feedback.

META-META-ANALYSIS

- ✘ “Feedback was among the most powerful influences on achievement.”
- ✘ John Hattie, Synthesis of 1,287 studies addressing feedback involving 67,931 students. *Visible Learning: A Synthesis of over 800 Meta-Analyses Relating to Achievement*, 2009

CONDITIONS FOR FEEDBACK

- ✘ A chance to repeat the task
- ✘ Actionable information on the performance
- ✘ Self-assessment

TO PROMOTE FEEDBACK

- ✘ Frequent response and reaction to work.
- ✘ Chance to repeat the performance.
- ✘ Multiple sources of response—peer and outside as well as teacher or coach.
- ✘ Staged response: fast and medium and slow.
- ✘ Self-assessment.
- ✘ Evaluation subject to change.

TIME

Cool

Creates a short time horizon.

Hot

Creates a long time horizon.

TO PROMOTE A LONG TIME HORIZON

- ✘ Goals connected to larger goals.
- ✘ Criteria staged and linked to medium-term goals.
- ✘ Mistakes lead to progress.

COMMUNITY

Cool

Students isolated and
separated

Hot

Students engaged in
communities of practice

COMMUNITIES OF PRACTICE

- ✘ “Practice is, first and foremost, a process by which we can experience the world and our engagement with it as meaningful.”
 - + Etienne Wenger, *Communities of Practice*, 1998.

TO PROMOTE COMMUNITIES OF PRACTICE

- ✘ Create stable cohorts around learning goals.
- ✘ Use peer feedback with self-assessment.
- ✘ Create frequent opportunities for peer interaction around learning.

ALIGNMENT

Cool

Experiences misaligned—
mixed messages

Hot

All experiences aligned to
support deep learning

TESTS OF ALIGNMENT

- ✘ Continuity
- ✘ Consistency
- ✘ Collaboration

TO PROMOTE ALIGNMENT

- ✘ Learning outcomes across the curriculum.
- ✘ Rubrics across courses and across disciplines.
- ✘ Ongoing self-assessment and choice: Learning Plan or Student Success Plan.
- ✘ A coherent curriculum—group and sequence courses in developmental pattern.
- ✘ Electronic Portfolios.

WHAT ABOUT YOU?

- × Goals
- × Activities
- × Information
- × Time Horizon
- × Community
- × Alignment

ARE YOU THINKING LIKE AN EXPERT LEARNER: TEACHER, ADMINISTRATOR, EDUCATOR

- ✘ Notice meaningful patterns in information—about students.
- ✘ Much content information, organized to reflect deep structure of subject: learning. (“Pedagogical content information”—Lee Shulman)
- ✘ Knowledge is contextualized, reflects contexts of applicability—to student learning.
- ✘ Flexibly retrieve knowledge with little effort—about students and their learning process.
- ✘ Identify discrepancies that drive idea revision—through scholarship, formal or informal, to test your teaching ideas.
- ✘ Build a second-order environment around promoting student learning.
 - + Bransford, Brown, & Cocking