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Planning for Effective College Teaching

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Biggio Center for the Enhancement
of Teaching and Learning

Associate Professor

Educational Foundations, Leadership, and Technology

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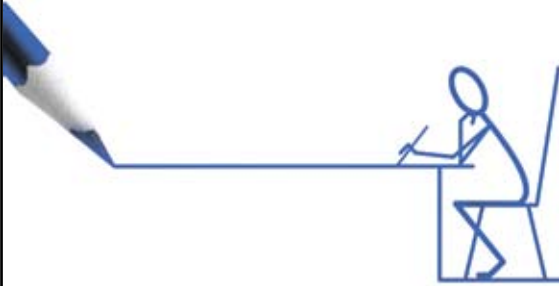
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INTRO



WORKSHOP GOALS & OBJECTIVES:

Process/Instructional Goals: During this workshop I will:

- Create a safe place for reflective thought and action
- Provide foundational information about effective college teaching and learning
- Facilitate collegiality and collaboration
- Facilitate feedback and sharing
- Create an interactive, engaged learning experience

Product/Outcome Objectives: As a result of participating in this workshop, faculty members will:

- Develop a better understanding of the impact of contextual, student, faculty, and content variables on effective college teaching and be able to integrate this information into a comprehensive course design
- Create effective and aligned student learning outcomes and assessment techniques
- Be able to analyze between and choose instructional techniques that are appropriate to teaching goals, student preparation, content and desired student learning outcomes

Presenter Biography



Dr. James E. Groccia

Dr. James E. Groccia is the Director of the Biggio Center for the Enhancement of Teaching and Learning and Associate Professor of Higher Education in the Department of Educational Foundations, Leadership and Technology at Auburn University. He is a former President of the Professional and Organizational Development Network in Higher Education (POD Network), the world's largest faculty and educational development organization. He received his Doctor of Education in Educational Psychology and Guidance from the University of Tennessee in 1979.

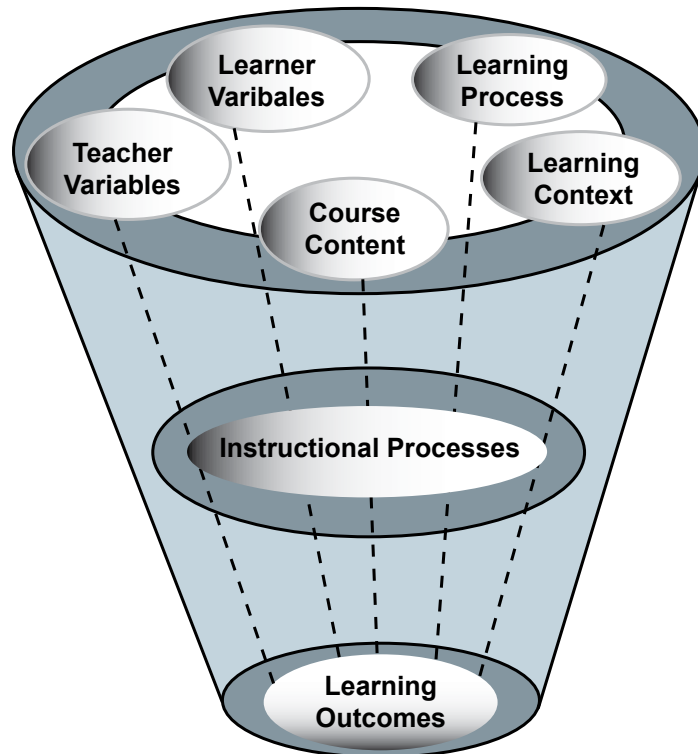
Over his career, Jim has directed psychological and career counseling, health and orientation services and has coordinating faculty and educational development programs at Auburn University, the University of Missouri-Columbia, and Worcester Polytechnic Institute. He served for two years as Assistant Dean of the Graduate School at Missouri prior to coming to Auburn in 2003.

Jim's teaching focuses on teaching and learning in higher education. He has developed and taught courses on educational psychology, adolescent psychology, college teaching, cross-cultural psychology, and on professorial roles and responsibilities. Under his leadership, Auburn University has developed a new Graduate Certificate in College Teaching to begin fall 2009.

Groccia has presented at dozens of national and international conferences, conducted hundreds of workshops worldwide, has served as an advisor and consultant to institutions nationally and abroad, and has authored numerous articles and book chapters on teaching and learning issues. Dr. Groccia is the author of *The College Success Book: A Whole-Student Approach to Academic Excellence* (1992) and co-editor of *On Becoming a Productive University: Strategies for Reducing Costs and Increasing Quality in Higher Education* (2005) [translated into Arabic in 2007]; *Student Assisted Teaching: A Guide to Faculty-Student Teamwork* (2001); and *Enhancing Productivity: Administrative, Instructional, and Technological Strategies* (1998). His latest project is a book, co-authored with Marilyn Miller and Karen St. Clair, entitled *Building Your Academic Portfolio*, which provides a blueprint for describing and documenting effectiveness in the multiple roles performed by a university professor. Dr. Groccia was just selected for a four-year term as Co-Editor then Editor of *To Improve the Academy*, the POD Network's annual journal.

PLANNING FOR EFFECTIVE COLLEGE TEACHING

The first step of developing effective college teaching involves an in-depth understanding of the multiple variables that comprise the teaching process. The following model provides a foundation for planning by identifying the elements that are central to effective college instruction. During this workshop we will consider each of these variables (some in more detail than others) and integrate the results of this analysis into enhancing our teaching and student learning.



A Model for Understanding Teaching and Learning

Context: Learning does not occur in a vacuum, where and when teaching takes place influences teaching and learning. Classroom variables, such as room size and design, and instructional technology accessibility influence (and occasionally dictate) teaching strategies and student learning. Also, the emphasis our educational institution places on instruction influences what our students and we do in and out of the classroom. Local, state and national priorities can also shape what we teach, what our students know and even how we teach.

Faculty Variables: Who I am and what I bring to the learning situation affect the quality of that experience. My background (socioeconomic status, race, gender, age, and culture), preparation (education, teaching experience and training) and individual characteristics (thinking, learning and personality styles, attitudes, values and knowledge of subject) color my teaching and relationships with students. The more I can understand about myself the better able I will be to capitalize on my strengths, minimize my weaknesses and improve my teaching and my students' learning.

Student Variables:

Learners differ in the same ways that teachers differ. Students' backgrounds, preparation and individual characteristics influence how, when and why they learn. Armed with this knowledge (which needs to be reassessed regularly as students change frequently), I am better able to teach my students in ways that are appropriate to their skills, interests and needs.

Course Content: Analysis of the accuracy, difficulty level, organization and meaningfulness of what is taught can improve teaching. With the ever-increasing expansion of knowledge in many disciplines and the corresponding demands that this places upon students and faculty, we need to insure that what is taught in our courses is necessary, challenging and well organized. Curricular review to assess what is taught, how this material is integrated across individual courses and how it relates to success in the field should be a regular departmental activity and should also be our concern in every course we teach.

Instructional Processes: The most obvious aspect of this model describes what we as teachers and learners actually do with the variables just described. This is the component that draws most of our attention (often to the exclusion of the others). Included in this are teaching strategies (competitive, cooperative or individual teaching techniques, computer aided instruction), grading procedures and criteria, teacher behaviors (such as oral and written communication skills, enthusiasm, organization, time management) and student learning responses (note taking, class participation and student interaction).

Improved teaching should be grounded in an understanding of the research on the mechanics of learning. In the past hundred years, human learning has been extensively researched. However, this research is not fully utilized in the college classroom,

laboratory or out-of-class learning environment. As instructors, we tend to focus on what we are currently doing in the classroom and on implementing some new teaching strategy (i.e., cooperative learning or cases) without an understanding of why these approaches may be effective.

Learning Outcomes: The desired results of our teaching, in terms of short and long term outcomes should be identified early in the course design process; before teaching, and assessed on a regular basis. What we do should be measured in light of what we want students to learn. Methods and instruments must be developed and imbedded in course design to assess the impact and quality of instruction and the attainment of desired learning outcomes. This assessment is both process (formative) and product-oriented (summative) in its perspective.

PRINCIPLES OF EFFECTIVE TEACHING

As we start the planning for effective teaching process I believe that it can be helpful to consider the characteristics of what others have determined comprise teaching. I will briefly describe three such attempts; the first is adapted from Gamson and Chickering's landmark publication, the *Seven Principles for Good Practice in Undergraduate Education*; the second is from Dee Fink's recent book, *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses*, and the third is from Wiggins and McTigh's book *Understanding by Design*.

7- PRINCIPLES OF GOOD COURSES IN UNDERGRADUATE EDUCATION⁽¹⁾

1. Good Teaching Encourages

Learning ("What I hear, I forget; what I see, I remember; what I do, I understand." Chinese proverb)

- Learning is not a spectator sport
- Students learn more by becoming actively engaged learning process
- Engagement must be connected to real problems, the real stuff of the discipline
- Learning is best when students are solving bona fide, real-world problems
- Learners are active constructors of their own knowledge
- Strategies promoting active learning are as effective as lectures with respect to



1- (Adapted by J. E. Groccia in 2005 from Gamson, Z., & Chickering, A. 1987. Seven principles for good practice in undergraduate education. AAHE Bulletin, 39: 7, 5-10.)

mastery of content, but superior to lectures in developing students' thinking and writing skills

Applications to Teaching

- Let students see faculty as real people
- Minimize student isolation:
 - Provide students a workplace that encourages individual and group interaction
- Utilize email, computer conferencing, the www, etc.
- Establish "Teaching Consultants" program
- Form faculty-student learning teams:
 - Establish mentoring relationships and programs
 - Structure interaction toward achieving meaningful, shared goals
- Encourage atmosphere where students feel free to seek out faculty members as learning resources
- Facilitate an attitude that faculty can learn from students--they are contributors as well as consumers
- Involve students in curricular revision efforts
- Involve students on faculty committees whenever possible
- Move faculty-student relationship away from an Us-Them position

2. Good Courses Encourage Cooperation Among Students (*"All for one and one for all."* Alexandre Dumas)

- Learning is enhanced when it is a team effort rather than a solo activity
- Good learning is collaborative and social, not competitive and isolated

Applications to Teaching

- Create space (physical or virtual) for students to work together
- Encourage the use of cooperative and collaborative learning, learning projects and PBL
- Support the formation of study groups, base groups and learning teams
- Analyze content material now being taught in lecture format and determine which information could be better learned in groups
- Utilize email, computer conferencing, the www, etc.
- Use "engaged" lecture format when learning goals dictate its use

3. Good Courses Encourage and Reinforce Student-Faculty Interaction (*"Student-faculty interaction has significant positive correlation with every academic attainment outcome."* Alexander Astin)

- Frequent interaction in and out of classroom increases student motivation, involvement and retention
- Students want to know faculty care about them
- Teamwork and cooperation is necessary in successful practice of business and public administration

- Being a team member encourages taking responsibility for learning--must hold up one's part of the bargain

Applications to Teaching

- Utilize aspects of Small Groups, Projects, Case Studies, and Problem Based Learning:
 - Teams working together, supporting one another in their learning
 - Using critical thinking
 - Consulting with experts as needed
 - Seeking and constructing own knowledge
 - Working with “real” cases
- Minimize lecturing
- Utilize email, computer conferencing, mLearning (clicker) technologies
- Consider computer simulation, virtual reality, games
- Provide incomplete lecture notes
- Require note taking, journaling
- Use Active Learning techniques: Think-Pair-Share; Jigsaw, etc.



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4. Good Courses Respect Diverse Talents

and Ways of Learning (*“Difference is not a qualitative variable.” James Groccia*)

- Students differ in learning style, cognitive style, experience, background, culture, gender, age, physical and learning ability/disability and these differences affect academic performance
- There are many roads to learning
- Cognitive diversity leads to superior quality group work

Applications to Teaching

- Don't assume students understand:
 - Ask and ask again; Ask in many ways, not just verbally
- Provide feedback early and often
- Utilize email, computer conferencing, the www, etc.
- Help students learn to assess their own progress and needs (assess confidence of knowledge)
- Use testing procedures that require the kind of learning that you wish to promote
- Learning is most effective when students have clear, explicit goals and know when they have attained them
- Use “Classroom Assessment Techniques” (i.e., One-Minute Paper)
- Encourage the use of reflective techniques (i.e., learning journals, self-assessment inventories, parallel evaluation forms, critical incident reports)
- Use “Authentic Assessment” techniques:

Real case studies for assessment of performance

- Encourage study groups to provide peer feedback mechanism
- Avoid a “Gotcha” attitude
- Provide rewards for learning early in the program
- Create “Achievement Markers” early and often to provide motivation

5. Good Courses Give Prompt Feedback (*“Supposing is good, but finding out is better.” Mark Twain*)

- Knowing what you understand and what you don’t yet understand focuses learning
- Students need feedback throughout the learning process: beginning, middle, end
- Testing guides learning so it needs to support, not contradict learning goals

Applications to Teaching

- Help students develop good time management techniques (Amount to learn in college is huge. Novice learners are often overwhelmed)
- Provide outline of activities at beginning of each class (“Advanced Organizers”, “Roadmap”)
- Build in preview, review, summary time into class (Knowledge that is applied immediately is better learned)
- Teach students to make use of teams to divide up work
- Utilize email, computer conferencing, the www, etc.
- State learning objectives clearly and frequently
- Let students know what they are in for from the onset—“LEARNING DOES NOT OCCUR BY SURPRISE”
- Challenge students to make connections between learning tasks and problems/cases/examples in real practice



6. Good Courses Emphasize Time on Task (*“Time is something we never seem to have enough of. But, when you think about it, we have all there is.” James Groccia*)

- Time + Energy = Learning
- B. Bloom’s 1986 research--found that talented young adults who had achieved mastery in a variety of fields took an average of 16 years to do so. They had spent between 25 and 50 hours per week of practice and study (15,000 to 30,000 hours)
- Learning tends to be context and course bound; therefore, tasks need to be generalizable and transferable
- We need to stimulate and reward students to apply and transfer knowledge from the classroom to the real situation

- Learning requires focused attention. Beginning students often have difficulty, not because of lack of intelligence, but because they lack experience with a new learning environment and the new demands required of them

Applications to Teaching

- Communicate your expectations early and often:
 - Expectations of students as learners and of what they are supposed to learn
 - Expectations of students as future professionals and what they are supposed to do
- Assess what students expect of themselves
- Provide successful academic experiences early to build confidence
- Have successful former students talk to new students to show that high expectations can be realized
- Provide role models and mentors
- Utilize email, computer conferencing, the www, etc.



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7. Good Courses Communicate High

Expectations (*“People tend to perform to the level expected of them.” Robert Rosenthal*)

- High expectations lead to high performance
- Self-fulfilling prophecy and the power of positive thinking: Robert Rosenthal, Dale Carnegie, cognitive psychology, Albert Ellis; “The Little Engine That Could”

Applications to Teaching

- Use varied teaching methods (visual, auditory, sensory, examples, diagrams, small groups, electronic)
- Expect conflict in group problem solving due to cognitive diversity—teach students how to work with that conflict
- Encourage formation of support groups
- Make all students feel welcome and that they have something to contribute, eliminate bias
- Treat students as individuals
- Utilize email, computer conferencing, the www, etc.
- Encourage all students to participate fully in learning activities

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FINK'S 5 PRINCIPLES OF FINE TEACHING⁽²⁾

Good teaching...

1. Challenges students to higher level learning
2. Uses active forms of learning [and teaching]
3. Has teachers who care about the subject, their students, and teaching and learning
4. Has teachers who interact well with students
5. Has a good system of feedback, assessment, and grading

SIX FACETS OF UNDERSTANDING⁽²⁾

Good teachers are able to...

1. **Explain** — provide thorough and justifiable accounts of phenomena, facts, and data
2. **Interpret** — tell meaningful stories, offer apt translations, provide a revealing historical or personal dimension to ideas and events; make subjects personal or accessible through images, anecdotes, analogies, and models
3. **Apply** — effectively use and adapt what they know in diverse contexts
4. **Have perspective** — see and hear points of view through critical eyes and ears; see the big picture
5. **Empathize** — find value in what others might find odd, alien, or implausible; perceive sensitively on the basis of prior indirect experience
6. **Have self-knowledge** — perceive the personal style, prejudices, projections, and habits of mind that both shape and impede our own understanding; they are aware of what they do not understand and why understanding is so hard



2- From Fink, L.D. 2003. *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses*. San Francisco: Jossey-Bass.

3- Fink, L.D. 2003. *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses*. San Francisco: Jossey-Bass.

DEVELOPING LEARNING OUTCOMES

The first step in planning for effective college teaching is to clarify your desired student learning outcomes. While this may seem a simple thing to do, developing good learning objectives and clearly described outcomes are often more difficult than we think.

Dee Fink identifies six different kinds of significant learning outcomes that he suggests should be integrated into every course. If so done, significant learning occurs that goes beyond simple comprehension of the information being communicated.

SIX IMPORTANT LEARNING OUTCOMES⁽⁴⁾

Key Component(s)
of Learning Involved Special Value General Label

LEARNING	Provides capability for long-term continuation of learning.	LEARNING HOW TO LEARN
CARING	Provides the <u>energy</u> (short term or long term) for learning; without this, nothing significant happens.	VALUING
SELF / OTHERS	Connects one>s Self to oneself and to others; gives <u>human significance</u> to the learning.	HUMAN DIMENSION
CONNECTING	Adds <u>power</u> by connecting different ideas, disciplinary perspectives, people, and/or realms of life.	INTEGRATION
THINKING / ACTING	Allows other learning to become <u>useful</u> .	APPLICATION
KNOWING (esp. about PHENOMENA and DEAS)	Provides necessary <u>understanding</u> for other kinds of learning.	FOUNDATIONAL KNOWLEDGE

Fink poses a number of questions that he suggests that faculty members consider when designing these six significant learning outcomes for their courses.

QUESTIONS FOR FORMULATING SIGNIFICANT LEARNING OUTCOMES⁽³⁾

“Learning How to Learn”

- Are there things you would like for students to learn about:
 - how to be a good student in a course like this?
 - how to learn about this particular kind of subject matter?
 - how to become a self-directing learner relative to this subject, i.e., having a *learning agenda* of what else they need and want to learn, and a *plan* for learning that?

Valuing

- Are there any changes you would like to see, in what students care about, i.e., any changes in their:
 - Feelings?
 - Interests?
 - Values?

Human Dimension

- Is there anything important that students could or should learn about themselves?
- Is there anything important that students could or should learn about understanding others and/or interacting with others?

Integration

- Are there important connections (similarities and interactions) that students should recognize and make:
 - Among ideas *within* this course?
 - Between the information, ideas, and perspectives in this course and those in other courses or areas?
 - Between material in this course and the students’ own personal, social, and/or work life?

Application

- What kinds of thinking are important for students to learn here:
 - Critical thinking, in which students analyze and evaluate?
 - Creative thinking, in which students imagine and create?
 - Practical thinking, in which students solve problems and make decisions?
- Are there important skills that students need to learn?
- Do students need to learn how to manage complex projects?

3- Fink, L.D.. 2003. Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses. San Francisco: Jossey-Bass.

Foundational Knowledge

- What key information (e.g., facts, terms, formula, concepts, relationships, etc.) is important for students to understand and remember in the future?
- What key ideas or perspectives are important for students to understand in this course?

UNDERSTANDING TEACHING GOALS

Faculty members often have different types of desired student learning outcomes for different kinds and levels of courses. In designing a course it is helpful to carefully consider the goal, focus or desired outcome.

Learning goals are the ends that we work toward, outcomes that provide the internal structure of our course as well as the final destinations that we hope to arrive at for both our instruction and student learning. The Teaching Goals Inventory (found at <http://campus.umn.edu/assess/tgi/tgi4.html>) is one assessment tool that can help faculty to identify the desired instructional goals for the courses that they design and teach. This instrument can help faculty clarify what they want students in their courses to learn and can also provide some feedback on the relative importance that faculty ascribe to these goals. The Teaching Goals Inventory was developed in 1992 at UC-Berkeley by K.P. Cross & T.A. Angelo with support from the Pew Charitable Trusts and the Ford Foundation. The authors have granted permission for use of the inventory for teaching improvement and educational development purposes.



TEACHING GOALS INVENTORY⁽⁴⁾

Self-Scorable Version

PURPOSE: The *Teaching Goals Inventory* (TGI) is a self-assessment of instructional goals. Its purpose is three-fold: (1) To help college teachers become more aware of what they want to accomplish in individual courses; (2) To help faculty locate Classroom Assessment Techniques they can adapt and use to assess how well they are achieving their teaching and learning goals; and, (3) To provide a starting point for discussions of teaching and learning goals among colleagues.

4- Angelo, T.A., & Cross, K.P. 1993. *Classroom Assessment Techniques*. Permission to reproduce granted.

DIRECTIONS: Please select **ONE** course you are currently teaching. Respond to each item on the Inventory in relation to that particular course. (Your responses might be quite different if you were asked about your overall teaching and learning goals, for example, or the appropriate instructional goals for your discipline.)

Just to remind yourself, please print the **title** of the specific course you are focusing on below:

Please rate the importance of each of the 52 goals listed below to the specific course you have selected. Assess each goal in terms of what you deliberately aim to have your students accomplish, rather than in terms of the goal's general worthiness or overall importance to your institution's mission. There are no "right" or "wrong" answers; only personally accurate or inaccurate ones.

For each goal, circle only one response on the 1 to 5 rating scale. You may find it helpful to quickly read through all 52 goals before rating their relative importance.

In relation to the course you are focusing on; indicate whether each goal you rate is:

(5) ESSENTIAL -- A goal you **always/nearly always** try to achieve (81% to 100% of the time)

(4) VERY IMPORTANT -- A goal you **very often** try to Achieve (51% to 80% of the time)

(3) IMPORTANT -- A goal you **sometimes** try to achieve (21% to 50% of the time)

(2) UNIMPORTANT -- A goal you **rarely** try to achieve (1% to 20% of the time)

(1) NOT APPLICABLE -- A goal you **never** try to achieve

Rate the importance of each goal below in terms of what you aim to have students accomplish in your course.

ESSENTIAL=5 VERY IMPORTANT=4 IMPORTANT=3 UNIMPORTANT=2 NOT APPLICABLE=1

- | | |
|--|-----------|
| 1. Develop ability to apply principles and generalizations already learned to new problems and situations. | 5 4 3 2 1 |
| 2. Develop analytic skills. | 5 4 3 2 1 |
| 3. Develop problem-solving skills. | 5 4 3 2 1 |
| 4. Develop ability to draw reasonable inferences from observations. | 5 4 3 2 1 |

5. Develop ability to synthesize and Integrate information and ideas.	5	4	3	2	1
6. Develop ability to think holistically; to see the whole as well as the parts.	5	4	3	2	1
7. Develop ability to think creatively.	5	4	3	2	1
8. Develop ability to distinguish between fact and opinion.	5	4	3	2	1
9. Improve skill at paying attention	5	4	3	2	1
10. Develop ability to concentrate	5	4	3	2	1
11. Improve memory skills.	5	4	3	2	1
12. Improve listening skills.	5	4	3	2	1
13. Improve speaking skills.	5	4	3	2	1
14. Improve reading skills.	5	4	3	2	1
15. Improve writing skills	5	4	3	2	1
16. Develop appropriate study strategies, and habits.	5	4	3	2	1
17. Improve mathematical skills.	5	4	3	2	1
18. Learn terms and facts of this subject.	5	4	3	2	1
19. Learn concepts and theories in subject.	5	4	3	2	1
20. Develop skill in using materials, tools and/or technology central to this subject.	5	4	3	2	1
21. Learn to understand perspectives values of this subject.	5	4	3	2	1
22. Prepare for transfer or graduate study	5	4	3	2	1
23. Learn techniques and methods to gain new knowledge in this subject.	5	4	3	2	1
24. Learn to evaluate methods and materials in this subject.	5	4	3	2	1
25. Learn to appreciate important to this subject.	5	4	3	2	1
26. Develop an appreciation of the arts and sciences.	5	4	3	2	1
27. Develop an openness to new ideas	5	4	3	2	1
28. Develop an informed concern contemporary social issues.	5	4	3	2	1
29. Develop a commitment to exercise the rights and responsibilities of citizenship.	5	4	3	2	1
30. Develop a lifelong love of learning.	5	4	3	2	1
31. Develop aesthetic appreciations.	5	4	3	2	1
32. Develop an informed historical perspective.	5	4	3	2	1
33. Develop an informed understanding of					

role of science and technology.	5 4 3 2 1
34. Develop an informed appreciation of other cultures.	5 4 3 2 1
35. Develop capacity to make informed ethical choices.	5 4 3 2 1
36. Develop ability to work productively with others.	5 4 3 2 1
37. Develop management skills.	5 4 3 2 1
38. Develop leadership skills.	5 4 3 2 1
39. Develop a commitment to accurate work.	5 4 3 2 1
40. Improve ability to follow directions, instructions, and plans.	5 4 3 2 1
41. Improve ability to organize and use time effectively.	5 4 3 2 1
42. Develop a commitment to achievement.	5 4 3 2 1
43. Develop ability to perform skillfully.	5 4 3 2 1
44. Cultivate a sense of responsibility for one's own behavior.	5 4 3 2 1
45. Improve self-esteem/self-confidence.	5 4 3 2 1
46. Develop a commitment to one's own values.	5 4 3 2 1
47. Develop respect for others.	5 4 3 2 1
48. Cultivate emotional health and well-being.	5 4 3 2 1
49. Cultivate physical health and well-being.	5 4 3 2 1
50. Cultivate an active commitment to honesty.	5 4 3 2 1
51. Develop capacity to think for one's self.	5 4 3 2 1
52. Develop capacity to make wise decisions.	5 4 3 2 1

53. In general, how do you see your primary role as teacher?

(Although more than one statement may apply, **please circle only one.**)

1. Teaching students facts and principles of the subject matter.
2. Providing a role model for students.
3. Helping students develop higher-order thinking skills.
4. Preparing students for jobs/careers.
5. Fostering student development and personal growth.
6. Helping students develop basic learning skills.



Teaching Goals Inventory Self-Scoring Worksheet

1. In all, how many of the 52 goals did you rate as "Essential"?
2. How many, "Essential" goals did you have in each of the six clusters listed below?

Cluster Number and Name	Goals included in cluster	Total number of Clusters Ranked in each cluster		Goals “Essential” goals
		Goals included “Essential” goals (1st to 6th) by number of		

I. Higher-Order Thinking Skills	1-8	---	---
II. Basic Academic Success Skills	9-17	---	---
III. Discipline-Specific Knowledge & Skills	18-25	---	---
IV. Liberal Arts &	26-35	---	---
V. Work and Career Preparation	36-43	---	---
VI. Personal Development	44-52	---	---

3. Compute your cluster scores? (average item ratings by cluster) using the following worksheet.

A	B	C	D	E
included	Goals	Sum of ratings	Divide	Your
and Name	in that cluster	given to goals	C by this	Cluster Number
		number	Scores	
I. Higher-Order Thinking Skills	1-8	_____	8	_____
II. Basic Academic Success Skills	9-17	_____	9	_____
III. Discipline-Specific Knowledge & Skills	18-25	_____	8	_____
IV. Liberal Arts & Academic Values	26-35	_____	10	_____
V. Work & Career Preparation	36-43	_____	8	_____
VI. Personal Development	44-52	_____	9	_____

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Please reflect on the following questions

- Are you surprised or comforted by your Teaching Goals Inventory results?
- Are your results consistent with others in your discipline?
- How can the results of the Teaching Goals Inventory be incorporated into your course design efforts?

WRITING INSTRUCTIONAL OBJECTIVES

Now comes the time to write your instructional objectives for the course that you are designing. The following ABCDs of instructional objectives identifies four elements that should be contained in every desired outcome.

Verbs that you might think of using to specify different sorts of outcomes

For Knowledge

arrange	order	define	recognise	duplicate
label	recall	list	repeat	memorise
name	state	relate	reproduce	**

For Comprehension

classify	locate	describe	recognise	discuss
report	explain	restate	express	review
identify	select	indicate	translate	**

For Application

apply	operate	choose	practice	demonstrate
schedule	dramatise	sketch	employ	solve
illustrate	use	interpret	write	**

For Analysis

analyse	differentiate	appraise	discriminate	calculate
distinguish	categorise	examine	compare	experiment
contrast	question	criticise	test	**

For Synthesis

arrange	formulate	assemble	manage	collect
organise	compose	plan	construct	prepare
create	propose	design	write	**

For Evaluation

appraise	judge	argue	predict	assess
rate	attach	score	choose	select
compare	support	estimate	evaluate	**

The six categories in which the verbs listed above are taken from Blooms Taxonomy of Educational Objectives. The information below describes this taxonomy in more detail.

BLOOMS TAXONOMY⁽⁵⁾

In 1956, Benjamin Bloom headed a group of educational psychologists who developed a classification of levels of intellectual behavior important in learning. This became a taxonomy including three overlapping domains; the cognitive, psychomotor, and affective. Each of the domains can be utilized through the interaction of media.

Cognitive learning is demonstrated by knowledge recall and the intellectual skills: comprehending information, organizing ideas, analyzing and synthesizing data, applying knowledge, choosing among alternatives in problem-solving, and evaluating ideas or actions. This domain on the acquisition and use of knowledge is predominant in the majority of courses. Bloom identified six levels within the cognitive domain, from the simple recall or recognition of facts, as the lowest level, through increasingly more complex and abstract mental levels, to the highest order which is classified as evaluation.

Verb examples that represent intellectual activity on each level are listed here.

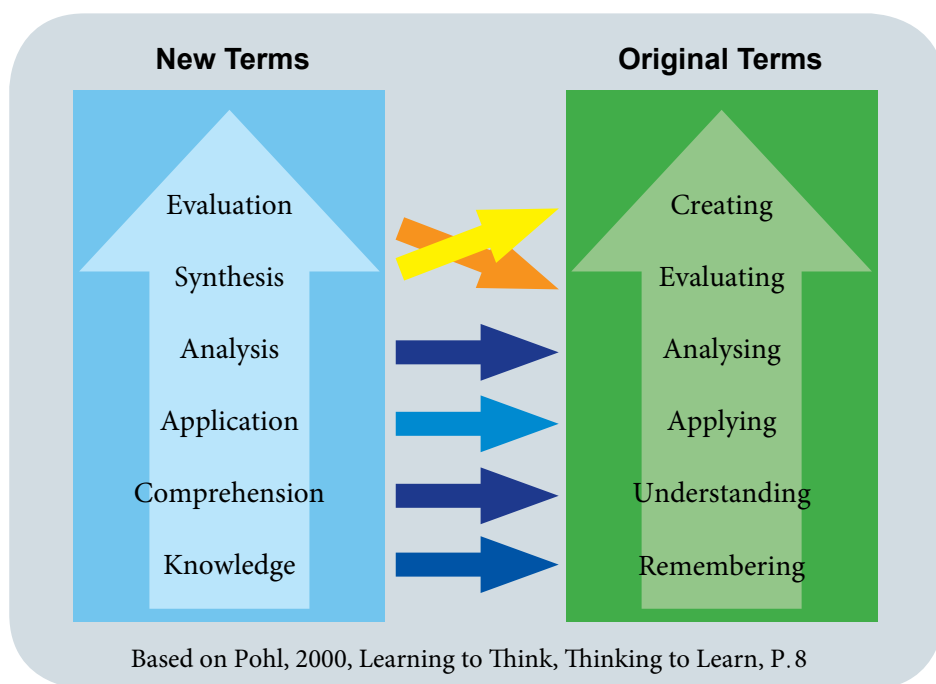
1. **Knowledge:** arrange, define, duplicate, label, list, memorize, name, order, recognize, relate, recall, repeat, reproduce state.
2. **Comprehension:** classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, restate, review, select, translate,
3. **Application:** apply, choose, demonstrate, dramatize, employ, illustrate, interpret, operate, practice, schedule, sketch, solve, use, write.
4. **Analysis:** analyze, appraise, calculate, categorize, compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test.
5. **Synthesis:** arrange, assemble, collect, compose, construct, create, design, develop, formulate, manage, organize, plan, prepare, propose, set up, write.
6. **Evaluation:** appraise, argue, assess, attach, choose compare, defend estimate, judge, predict, rate, core, select, support, value, evaluate.



Affective learning is demonstrated by behaviors indicating attitudes of awareness, interest, attention, concern, and responsibility, ability to listen and respond in interactions with others, and ability to demonstrate those attitudinal characteristics or values which are appropriate to the test situation and the field of study. This domain relates to emotions, attitudes, appreciations, and values, such as enjoying, conserving, respecting, and supporting. Verbs applicable to the affective domain include accepts, attempts, challenges, defends, disputes, joins, judges, praises, questions, shares, supports, and volunteers.

Psychomotor learning is demonstrated by physical skills; coordination, dexterity, manipulation, grace, strength, speed; actions which demonstrate the fine motor skills such as use of precision instruments or tools, or actions which evidence gross motor skills such as the use of the body in dance or athletic performance. Verbs applicable to the psychomotor domain include bend, grasp, handle, operate, reach, relax, shorten, stretch, write, differentiate (by touch), express (facially), perform (skillfully).

BLOOM'S REVISED TAXONOMY



BLOOM'S REVISED TAXONOMY

Higher-order thinking



Creating

Generating new ideas, products, or ways of viewing things
Designing, constructing, planning, producing, inventing

Evaluating

Justifying a decision or course of action
Checking, hypothesising, critiquing, experimenting, judging

Analysing

Breaking information into parts to explore understandings and relationships
Comparing, organising, carrying out, using, executing

Applying

Using information in another familiar situation
Implementing, carrying out, using, executing

Understanding

Explaining ideas or concepts
Interpreting, summarising, paraphrasing, classifying, explaining

Remembering

Recalling information
Recognising, listing, describing, retrieving, naming, finding

Bloom's Revised Taxonomy Planning Framework⁽⁶⁾

Higher-order thinking		<i>Actions</i>	<i>Products</i>	<i>Learning Activities</i>
	<p><u>Creating</u></p> <p>(Putting together ideas or elements to develop an original idea or engage in creative thinking).</p>	<p>Designing Constructing Planning Producing Inventing Devising Making</p>	<p>Film Story Project Plan New game Song Media product Advertisement Painting</p>	
	<p><u>Evaluating</u></p> <p>(Judging the value of ideas, materials and methods by developing and applying standards and criteria).</p>	<p>Checking Hypothesising Critiquing Experimenting Judging Testing Detecting Monitoring</p>	<p>Debate Panel Report Evaluation Investigation Verdict Conclusion Persuasive speech</p>	
	<p><u>Analysing</u></p> <p>(Breaking information down into its component elements).</p>	<p>Comparing Organising Deconstructing Attributing Outlining Structuring Integrating</p>	<p>Survey Database Mobile Abstract Report Graph Spreadsheet Checklist Chart Outline</p>	

Lower-order thinking	<u>Applying</u> (Using strategies, concepts, principles and theories in new situations).	Implementing Carrying out Using Executing	Illustration Simulation Sculpture Demonstration Presentation Interview Performance Diary Journal	
	<u>Understanding</u> (Understanding of given information).	Interpreting Exemplifying Summarising Inferring Paraphrasing Classifying Comparing Explaining	Recitation Summary Collection Explanation Show and tell Example Quiz List Label Outline	
	<u>Remembering</u> (Recall or recognition of specific information).	Recognising Listing Describing Identifying Retrieving Naming Locating Finding	Quiz Definition Fact Worksheet Test Label List Workbook Reproduction	

THE CRITICAL COMPONENTS OF A COURSE SYLLABUS

Stimulus Questions:

- What are the essential components of a good syllabus?
- What underlying principles should guide syllabus development?
- What role can there be for students in syllabus development?
- What process should/could be followed for syllabus review and improvement?
- What can be done on the first day of class to facilitate student involvement?

What are the essential components of a good syllabus?

- “Housekeeping” information (Course name and #; semester; professor’s name; room; phone and fax #s; email address; web address; office hours; course prerequisites; discussion list address).
- Required and recommended readings.
- Course objectives/desired outcomes. Stated in both process and product terms.
- Teaching philosophy/course rationale.
- Structure and sequence of course activities (w/due dates and graded activities).
- Course policies (re: attendance, academic dishonesty, ADA accommodations, classroom civility).
- Assessment policies and procedures (w/weighting of assignments and final grade criteria; writing requirements; penalties and bonuses).
- Participation and group work guidelines.
- Additional resources (outside readings; reserved library holdings; list of featured presenters; bibliography).



What underlying principles should guide syllabus development?

- Syllabus should clearly articulate the aims and objectives of the course; identify the relationship between course objectives, course content, and course sequencing; demonstrate the relationship between course objectives and assessment; and describe mutual expectations and responsibilities.
- Syllabus should demonstrate how the course is linked to department and university’s mission. Connections between course and departmental objectives, between departments’ and university mission statement and between instructor’s goals and student’s expectations should be clear.
- Syllabus should provide direction and structure to facilitate student learning.
- Syllabus should provide students with a clear map to the “method to your madness”.
- Syllabus should be consistent with the expectations and needs of colleagues in related courses.
- Syllabus should reflect and be based on knowledge of how students learn, data on teaching effectiveness and an understanding of diversity of student development and learning styles.
- Teaching philosophy, instructional and assessment methods and desired student outcomes should be linked.

What role can there be for students in syllabus development?

- Students should have the opportunity to evaluate the syllabus at the end of the semester to make suggestions for the next course offering.
- The syllabus should also have some flexibility to allow for student input into the course and their assigned learning tasks during the semester. It should have a dynamic quality that allows for continuous improvement.

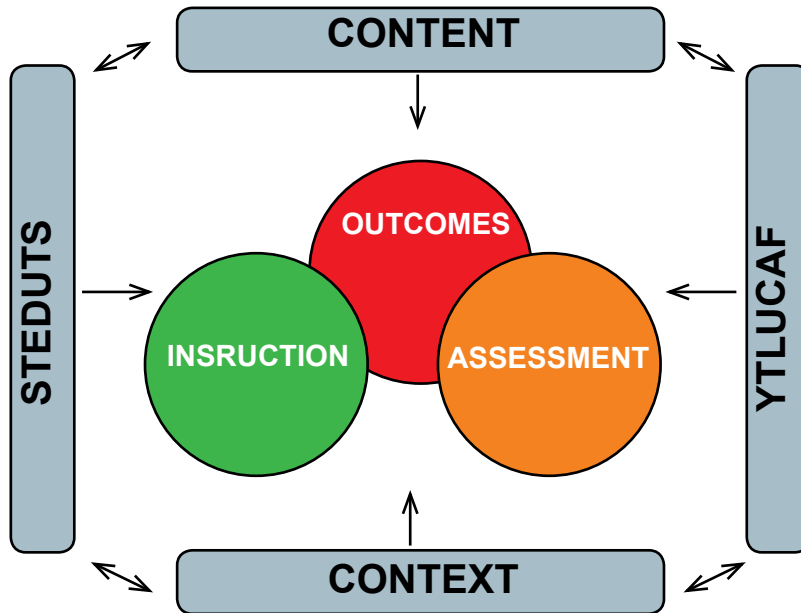
What process should/could be followed for syllabus review and improvement?

- Consult with colleagues.
- Review department and university objectives and mission statements.
- Review syllabi of “follow-on” courses.
- Review “industry” needs and expectations.
- Review student evaluation and course assessment data.
- Review final student performance. (To what degree were the desired objectives achieved? How could the syllabus and course be improved to better reach those objectives?)
- Review data on effective teaching and learning.
- Review course “balance”. (Did content sequencing and selected content emphasis match desired weighting and level of importance?)
- Review the connection between the learning objectives, learning tasks and assessment techniques in the syllabus and your philosophy of teaching.

What can be done on the first day of class to facilitate student involvement?

- Come to class at least 10-15 minutes early to introduce yourself and to chat with students as they file into class.
- If possible, arrange classroom the way you want it before students arrive.
- Try to break shackles of anonymity of students.
- Model desired behavior at the start of the very first class.
- Student involvement should occur before taking attendance and preview of syllabus.
- Begin first class with activity that gets students to interact, discuss and participate.
- Use student discussion of a topic that is relevant to course content, first in small groups and then with the entire class.
- Use paired interview where each student interviews another and then introduces her/him to the class.
- Have students fill out data card that asks for major, hometown, career plans, reasons for taking course, expectations for course, extracurricular activities, etc.
- Goal is to have student voice heard for *at least* half of the first class.

- Attendance and syllabus overview occurs after pattern of student involvement initiated.
- Discuss the rationale for class involvement and participation.



A Model for Comprehensive Course Design

CONTEXT

Reflection on and analysis of the impact of a number of contextual or situational factors on course planning, design, delivery and assessment are important starting places for Comprehensive Course Design. Select one course that you are currently teaching or plan to teach in the near future and answer the following questions. After you have responded in writing to each question, discuss with others in a small group at your table. If you do not know the answer to any question, think about where or how you can find this information and jot it down after the question.

- How and where does this course fit into your departmental curricular structure? (Is this a part of the core curriculum, a foundational course, a course for majors, etc.)
- How essential is this course in meeting your department's mission statements and goals?
- How does this course build upon prior courses and lead to future courses?

- What is the typical class size and how does class size impact the course?
- What do you know about the students who will take this course?
 - How well are students prepared? What is the level of their prior knowledge
 - How motivated are your students to do well?
 - How does student socio-economic, gender, cultural background impact the course?
 - What are the reasons that students take this course?
 - What are student expectations of the course? Of you? Of their work load?
- When and where will the course be offered and how will this impact the course?
- What is the physical structure of the classroom and how will this impact the class?
- How will the course be delivered (live, distributed, distance) and how will this impact the course?
- Why is it important for your students to take this course?
- The bottom line question is: “How will (or should) knowledge of your teaching context influence your course design efforts?”

CONTENT

University faculty members are nurtured to focus on developing content competence in one's discipline. Mastery of the structure, syntax, facts, theories and knowledge embodied in one's discipline (and our ability to generate new research that further develops and extends these) is the main reason why we were hired. With this emphasis on content during our developing years, it is no accident that content (and the issue of coverage) is central to new faculty member's conceptions of what it means to be a good



teacher. Mastery of content is essential and not to be discounted (content is frequently mentioned along with character and caring as essential elements of good teaching by students) however; comprehensive knowledge of one's discipline is not enough when it comes to constructing a course.

In the design and development of a course, faculty members need to carefully reflect upon and judiciously select what is to be included in the course as a whole and in each individual class session. Content selection necessarily involves a process of filtering and choosing. Time constraints, course level, student interest and ability, as well as differences in what we think is important will influence our selection of what we cover. The seemingly sacred and objective issue of coverage is in reality a somewhat subjective issue.

Analysis of the validity, difficulty level, organization and meaningfulness of what is taught can improve one's teaching and student learning. With the ever-increasing expansion of knowledge in many disciplines and the increasing demands this places upon students and faculty, we need to ensure that what is taught in this class is necessary, challenging and well organized.

Responding to questions such as those that follow can be helpful in choosing the most appropriate content for each course you design and develop.

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Course Content Analysis Questions:

- What material (facts, concepts, theories, attitudes, methods, etc.) do I need to teach in this course? What is this need based on?
- How much time should I spend on each topic, theory, unit, etc.?
- How is this information best organized and integrated?
- Is the content well organized in my text(s)? If not, how should I structure the content?
- What do (or should) students already know about this material? How can I find this out?
- What common misconceptions do students have about this material? How can I help them unlearn these misconceptions?
- What content am I most comfortable or competent to teach? Least comfortable or competent?
- What can I do to overcome these shortcomings?
- What do students need to know at the end of this course to be successful in follow-on courses?
- What instructional methods are most appropriate to teach this material?

- How well does the text cover the material I want to teach?
- Is the text appropriate to the course level?
- Does the text present the content in a systematic and logical order so as to enhance the understanding of someone unfamiliar with the topic?
- Do my supplemental reading lists:
 - Contain relevant and current material?
 - Include content that is challenging yet not inappropriately difficult?
- Do my lecture outlines/notes/PowerPoint presentations given to students provide enough information to assist the note-taking process without making note-taking unnecessary?
- Do my study questions/review material
 - Facilitate student learning?
 - Provide an opportunity to practice problem solving skills?
 - Cover content that is covered on the quiz/exam?
- What additional resources should I use to cover the necessary material?
- Do students have access to the material that I need to cover? If not, how can I provide access?
- What new material will I cover that is not yet included in standard texts or teaching resources?

STUDENTS

In designing an effective course it is important to gather as much information as possible about the students who will be taking this class. Learning, I believe, is a “mutually interactive encounter” involving a sequence of influence and counterinfluence between instructor and students. It behooves the instructor, therefore, to develop a course with students in mind.

It is both informative and helpful to construct a general profile of college students as well as a specific and detailed picture of students actually enrolled in the course that you are designing. This information can be gathered from many sources including:

- Your own personal knowledge based upon experience teaching this or similar courses
- Your colleagues (especially those that have taught this course or those who teach prior or subsequent courses)
- Your institutional research department

- Students themselves (through formal and informal surveys, pretests to assess prior knowledge)
- National research efforts (in the US we have the CIRP, NSSE, CLA)
- Accreditation reports and self studies
- Departmental data
- Employer feedback

Increased knowledge of your students, their abilities, interests, expectations, perceptions, needs, learning styles, motivations, will assist in the design and development of appropriate learning and assessment strategies as well as guide you in the choice of essential content to be taught.

Time again for some reflective action: Please answer the following questions about the course you are designing:

- What are student's reasons for taking the course?
- What can I expect students to know before they come to the first class?
- What general misconceptions do students typically have with this material?
- What range of knowledge, prior experience, and background should I expect?
- How motivated are students to learn?
- What problems do students typically have with the material?
- What are students "life realities" (i.e., work, family, health, etc.) and how will they affect student behavior in this course?
- What do students want, need and expect from this course? (These three things may or may not be the same.)

FACULTY

Comprehensive Course Design must take into consideration factors about you, the instructor. What you bring to the learning situation affects the quality of that experience. Your background (socioeconomic status, race, gender, age, and culture), preparation (education, teaching experience and training) and individual characteristics (thinking, learning, teaching and personality styles, attitudes, values and knowledge of subject) color your teaching, the selection of curricular material, and your relationships with students. The more you can

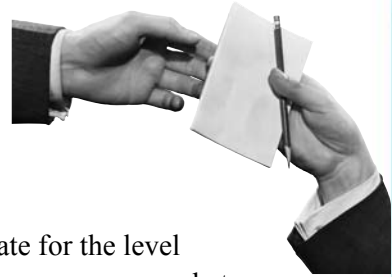


understand about yourself the better able you will be to design a course that meets your instructional and student learning goals.

Increased self knowledge concerning your abilities, interests, expectations, perceptions, needs, learning styles, instructional and student learning goals will assist in the design of appropriate learning and assessment strategies as well as guide you in the choice of essential content to be taught.

Some questions to ask and answer include:

- What are my reasons for teaching this course?
- How confident do I feel about my grasp of the content?
- Am I certain that my choice of content is appropriate for the level of students enrolled, needed for success in follow-on courses, what students will need for career success?
- What problems do I typically have with the material?
- What are my “life situations” (i.e., work, family, health) that might affect my teaching?



Stephen Brookfield⁷ challenges faculty to cast themselves in the role of learners to better understand what it is like to experience the struggle that many students share in learning new material. According to Brookfield, by placing oneself in the role of a novice learning attempting to grasp difficult learning tasks, faculty members are forced to review their own autobiographical learning histories and test their assumptions about how students learn. The knowledge gained has direct applications to course design by helping faculty create meaningful learning experiences for the many students who just “don’t get it”.

INSTRUCTION

Comprehensive course design must include clearly specified teaching and learning activities—what it is that you and your students are going to do. The choice of appropriate learning activities is influenced by student variables, course content, context, instructor experience, knowledge, and comfort level, and instructional and student learning goals. These should also be influenced and directed by the general research on human learning. Knowledge of how people learn best should help us to select the best teaching techniques. A survey of the literature on human learning provides the following suggestions for applying what we know about learning to course design and teaching.

7- Brookfield, S. 1996. Through the lens of learning: Wow experiencing difficult learning challenges and changes a - sumptions about teaching, 15, 3-15. New Forums Press.

FACTS ABOUT HUMAN LEARNING

1: Information has to be processed and practiced to be learned

Learning does not occur in an intellectual vacuum. It occurs in ways that involve doing, organization and establishment of meaningful connections. Human memory is both limited and limitless. Facilitating effective encoding and decoding opportunities enhance learning.

Details	Applications
<p>Individuals exert control over processes necessary for learning: attention, rehearsal, elaboration, organization, and meaning.</p> <p>If information is not processed, it is lost.</p> <p>Information is processed in stages in the brain.</p> <p>Situated learning: The closer to “real life” situations, the easier the learning. The most important learning is situated in practice.</p> <p>Learning is context-bound.</p> <p>The amount of information that can be processed at one time is limited.</p> <p>Organization of information is critical.</p>	<p>Start with new material and then provide an opportunity to process, apply or review information.</p> <p>Put activity and practice before conceptual or theoretical study.</p> <p>Develop opportunities for fieldwork, “cognitive apprenticeships”, internships, collaborative learning, PBL and service learning.</p> <p>Divide material to be introduced into manageable chunks; group material into logical categories.</p> <p>Introduce new information as a series of mini-lessons, with a chance to process and apply each lesson before moving on to the next.</p>

What does this suggest for your course design?

2: Learning is an active, community endeavor

We have the picture of the solitary scholar who sits alone quietly and learns without assistance from others. This is evidenced by the giving of credit to a single person for an invention, idea or article, and by the common practice at universities of placing higher value on individual scholarship. We also have the picture of knowledge or learning as the transfer of knowledge – the teacher as the source, the packaging agent and the transporter of that knowledge and the student as the receiver, or the passive empty vessel, for that knowledge.

Details	Applications
<p>Learning is a social endeavor; it must be done with others.</p> <p>Learners are social creatures, striving to meet needs for belonging.</p> <p>Teacher and students are learning sources.</p> <p>A student must be involved in the learning process. Both the student and teacher are responsible for insuring that learning occurs.</p> <p>Good learning is collaborative and social, not competitive and isolated.</p> <p>Frequent learner/learner and learner/teacher interaction in and out of the classroom increases motivation, involvement, retention and learning.</p> <p>First exposure to new material may be done alone, but for most people deep learning requires interaction and application with others (e.g., other learners and/or a teacher or facilitator).</p>	<p>Develop and utilize interactive learning environments.</p> <p>Apply group dynamics principles to learning – help students learn to work cooperatively and collaboratively.</p> <p>Establish learning communities.</p> <p>Develop collaborative teaching relationships.</p> <p>Develop peer facilitated/supported teaching and learning.</p> <p>Use educational technology to establish distributed and distance interaction.</p> <p>Minimize student isolation.</p> <p>Establish learner/faculty mentoring programs.</p> <p>Create learner/faculty interaction space.</p> <p>Involve learners in curricular development activities.</p> <p>Include learners in academic committees and organizations.</p> <p>If class time, or time together is limited, have learners get first exposure to new material on their own (through reading, viewing a videotape, etc.) and then review and apply the material in time together with the instructor and/or other learners.</p>

What does this suggest for your course design?

3: Each person’s learning process is different

Individual difference has been a key concept in the psychology of learning since the earliest laboratory and classroom experiments. While we strive for learning principles that have general application to all learners, we must recognize human variety and diversity and provide opportunities for each learner to maximize his/her learning potential.

Details	Applications
<p>There are many roads to learning.</p> <p>Learners differ in experience, background, gender, age, and physical abilities, cognitive and learning styles.</p> <p>Diversity leads to increased group conflict but superior quality work.</p> <p>Learners will take different approaches to learning based upon the demands of the course and instructor, the learning context and individual needs.</p> <p>Intelligence is a multiple, not singular, attribute and each learner possesses some of each attribute. Intelligence can include linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal and natural history dimensions.</p>	<p>Use varied teaching approaches.</p> <p>Challenge and support learners to develop skills at operating in their non-preferred learning styles.</p> <p>Utilize all sensory modalities.</p> <p>Guide learners on how to deal with group conflict.</p> <p>Encourage formation of support groups.</p> <p>Recognize and eliminate or reduce bias and teach learners to do the same.</p> <p>Use technology to increase communication.</p> <p>Allow students to have input in determining course goals and assessment strategies.</p> <p>Strive to address multiple aspects of intelligence as appropriate during each learning encounter.</p>

What does this suggest for your course design?

4: Emotions play a vital role in the learning process

Western culture tends to downplay the importance of emotions. Science and school learning are portrayed as rational and logical. Emotions are portrayed as irrational and illogical and as being out of control. Emotions should be squelched, subdued and controlled. Humanistic theory as developed by Rogers, Maslow and others promoted humane education that considered the whole person (affect as well as intellect) in learning, but this theoretical approach was often criticized as unscientific.

Details	Applications
<p>Emotional pathways are faster than logical pathways. So, all teacher actions and expressions are emotionally interpreted before they are logically interpreted. Emotional interpretation will flavor or even block logical interpretation.</p> <p>The brain responds hierarchically to differing sensory input. Emotional data take higher priority than cognitive processing involved in learning. Data necessary for survival are processed first then data that generate emotions then data for new learning.</p> <p>Complex learning is inhibited by threat.</p> <p>Messages from the emotional area of brain flow constantly into the thinking areas of brain. Emotion is part of every thinking action. Memory and accuracy increase when emotions are a constructive part of the learning process. The emotional area generates plans and helps carry them out. Thinking areas only perfect those plans.</p> <p>How we feel is usually how we act—messenger molecules (peptides) are distributed throughout the brain and body affecting mental and physical states.</p>	<p>Acknowledge the importance of emotion in the learning process.</p> <p>At the start of a new class or new encounter, build a safe, welcoming environment.</p> <p>Show enthusiasm for the subject, learning and life.</p> <p>Engage emotions in learning activities.</p> <p>Use rituals, ceremonies, and celebrations to acknowledge accomplishments.</p> <p>Provide avenues for expression of emotions during the learning process, for example, journals, discussions and critical reflection.</p>

What does this suggest for your course design?

5: The desire to make order and meaning is innate

In order to cope in an environment of multiple stimuli, humans constantly filter, select and combine stimuli in an attempt to understand our world. The “mind” strives for closure, consistency and meaningfulness. We do this in ways that are often unknown to us and in ways that shape future knowledge.

Details	Applications
<p>Humans have an innate need to make meaning out of chaos.</p> <p>People try to organize and simplify complex social, psychological and physical realities with which they must cope on a day-to-day basis.</p> <p>Making meaning or formulating rules for what is experienced is real learning.</p> <p>These initial versions of reality get “hard wired” into the brain and are very resistant to change.</p> <p>Prior beliefs or mental models can hinder future learning—especially classroom-based instruction.</p> <p>When we “know” something, in other words made meaning of it, we take in little new information on the subject.</p> <p>The “developmental niche” (the cultural framework, including religious, ethical, and political beliefs) of the learner colors perception and awareness of new information. These realities are resistant to change as survival and belonging in the group require maintaining these definitions or perceptions of reality.</p>	<p>Present information as a puzzle to solve (so as to engage the learner’s mind) rather than simply providing facts to memorize.</p> <p>Find out what learners believe or “know” before trying to teach new information.</p> <p>Have learners explain something in their words so that their mental model or explanation is revealed and can be analyzed and modified if necessary.</p> <p>Understand cultural context and realities of the learner.</p> <p>Provide opportunities for critical reflection.</p>

What does this suggest for your course design?

6: Self-efficacy builds motivation for learning

There is a fine line between our needs for structure, organization and freedom when learning. Creating an appropriate balance between these conditions will create a learning environment that encourages self-efficacy, responsibility and motivation.

Details	Applications
<p>When correct answers or actions are tightly controlled or rigidly preplanned, learner curiosity and desire to learn are stifled.</p> <p>When punishment and rewards are external and/or immediate, learners revert to self-protective behaviors learned in childhood.</p> <p>Learners who have experienced trauma, repeated or harsh criticism, or excessive control, may act helpless, apathetic or hostile, behaviors that protect them from their negative feelings.</p>	<p>Make sure information has personal meaning to the learner. Whenever possible, let the learner help determine outcomes.</p> <p>Provide choice of learning activities.</p> <p>Build intrinsic motivation.</p> <p>Don't threaten learners.</p> <p>Ask for an unwanted action to cease, but don't add a threat of what will happen if the action doesn't cease.</p> <p>Set reasonable timelines and allow flexibility or build steps to an unchangeable deadline.</p> <p>Reduce stress and increase learner control. Negative reactions decrease with time if the learning environment is improved.</p> <p>Include the learner in the planning process.</p> <p>Teach control-taking skills, such as test-taking skills or visualization of success.</p> <p>Provide "flexible structure".</p>

What does this suggest for your course design?

7: Learning is influenced by expectations

The messages that others send us about our abilities and chances for success or failure help determine our own internal perceptions and external behaviors. Beliefs have powerful impact on feelings, attitudes and behaviors.

Details	Applications
<p>People tend to perform to the level expected of them.</p> <p>The learner’s cognitive beliefs influence their behavior, attitudes and affect.</p>	<p>Communicate your confidence in and expectations of learners early and often.</p> <p>Provide opportunities for learners to develop positive expectations for their own learning.</p> <p>Provide successful learning experiences early to build confidence.</p> <p>Scaffold difficulty of learning experience. Increase challenge while providing support.</p>

What does this suggest for your course design?

8: Feedback facilitates learning

Feedback is a self-regulating device that allows the learner to correct, modify and redirect his/her learning strategies and attitudes and enables the teacher to correct, modify and redirect his/her teaching strategies and attitudes.

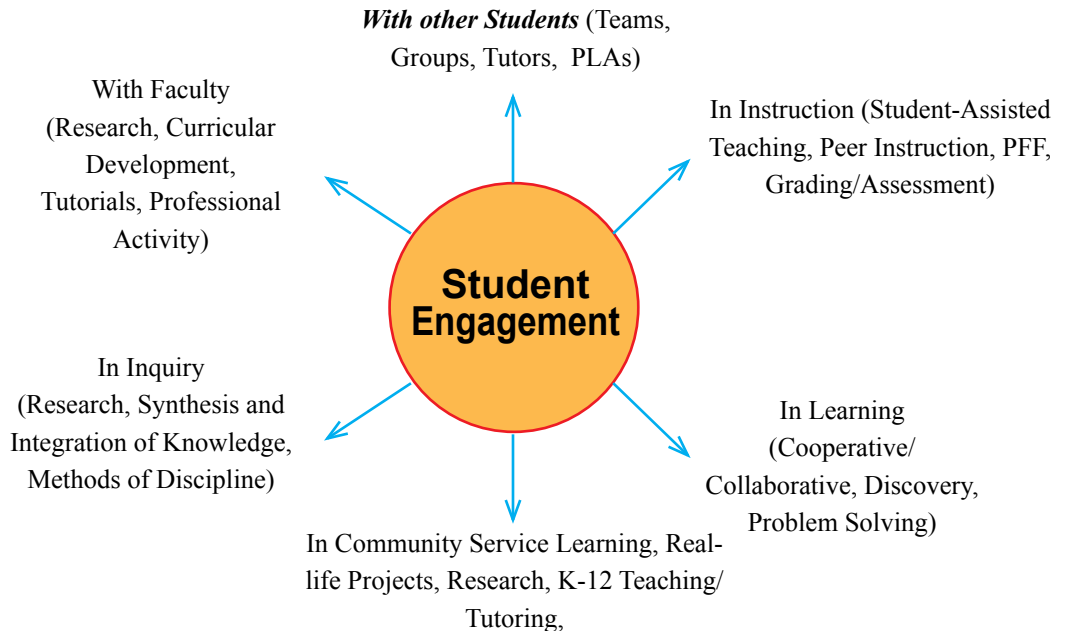
Details	Applications
<p>For both learner and instructor, knowing what is understood and what is not focuses learning.</p> <p>Feedback throughout the learning process enhances motivation.</p> <p>Testing guides learning.</p> <p>Instructor demands and learner feedback influences whether students take a “deep” or “surface” approach to learning. Instructors who emphasize and test for coverage create learner anxiety and the desire to attain surface rewards at the expense of deeper understanding.</p> <p>Frequent feedback guides learners better than infrequent feedback.</p> <p>Feedback reduces uncertainty thereby increasing coping ability while lowering stress responses.</p> <p>The brain is self-referencing; it decides what to do based on what has just been done.</p> <p>Feedback is most effective if it involves choice—it can be received at will and lead to performance modification.</p>	<p>Don’t assume learners understand; inquire directly, indirectly and often.</p> <p>Assist learners in developing the personal assessment of their learning (feedback) strategies.</p> <p>Use testing procedures that encourage intended kinds of learning.</p> <p>Use “classroom assessment techniques” early and often to keep up with how much students have understood.</p> <p>Encourage learners to use reflective techniques (learning journals, self-assessment inventories, parallel evaluation forms, critical incident reports, etc.).</p> <p>Provide “assessment markers” to learners early and often.</p> <p>Encourage study groups to provide frequent peer feedback to group members.</p> <p>Develop assessment techniques that facilitate “deep” rather than “surface” learning.</p> <p>Make feedback specific not general, and make feedback immediate.</p>

What does this suggest for your course design?

CREATING EFFECTIVE AND ENGAGED LEARNING AND TEACHING ENVIRONMENTS

It may be helpful as you design your teaching and learning experiences to consider starting from a basis of theory to practice. On page 142 I have summarized four leading theories of human learning that suggest general and specific teaching techniques.

A MODEL OF STUDENT ENGAGEMENT⁸⁾



Science-Society Interface, Professional Societies & Organizations)

CREATING ENGAGED, INTERACTIVE LEARNING ENVIRONMENTS⁹⁾

I. Definition of an engaged, interactive learning environment:

A. An engaged, interactive learning environment is a classroom or laboratory situation in which:

1. Students are involved in seeking and creating knowledge for themselves and others

8- J.E. Groccia, 2002.

9- J.E. Groccia, 1997

2. Students are active (listening, thinking, writing, discussing, questioning, responding, solving problems, computing, forming hypotheses, doing experiments, working on projects, sharing information and feelings) not just passive (listening and taking notes) learners
3. Students are not perceived as empty vessels waiting to be filled with knowledge by the instructor
4. Knowledge is constructed by students, not just transmitted from teacher to students
5. Students are given and accept the responsibility for their own and, to some degree, other students' learning
6. Communication between instructor and students and student and other students is encouraged and facilitated
7. Students are perceived as potential teachers as well as learners
8. Students are involved in higher-order thinking (analysis, synthesis and evaluation) as well as memorization, recall and recognition
9. Learning is perceived as developing new skills as well as learning facts and information
10. Faculty provide immediate and detailed feedback
11. Students are motivated to learn and apply what they learn, not just to perform on tests
12. Excitement for learning is evident and shared by the instructor as well as students
13. Each student, rather than the instructor, is the focus of attention of the learning/teaching process



B. “The aggregate of surrounding, conditions or influences affecting the development of knowledge, comprehension or mastery created through people acting reciprocally and mutually upon each other” (Groccia, 1997).

C. An interactive learning environment can be created by any instructor in any discipline with appropriate planning, support and courage.

II. Why is creating an interactive learning environment important?

A. ILEs promote attainment of general education goals. (Astin, 1991; Gamson, 1994).

1. Living in community.
2. Civic responsibility.
3. Critical judgment and analysis.
4. Negotiation and conflict resolution skills.
5. Oral and written communication skills.

B. Lectures are not always the most effective way to facilitate learning.

1. Student attention and concentration during lectures are shown to decline after 15-20 minutes (Stuart & Rutherford, 1978).
2. Students are unable to listen effectively for an entire lecture (Penner, 1984).
3. Lectures are no more effective in transmitting information and less effective in promoting thought or in changing attitudes than other methods (Bligh, 1972; Costin, 1972).
4. "The evidence suggests that if an instructor's goals are not only to impart information but also to develop cognitive skills and to change attitudes, then alternative teaching strategies should be interwoven with the lecture method during classroom presentations" (Bonwell & Eison, 1992).
5. Effectiveness of a lecture is dependent upon the educational level of the audience [which is beyond the instructor's control] (Verner & Dickenson, 1967).
6. While teachers lecture, students are not paying attention 40% of the time (Pollio, 1984).
7. In the first 10 minutes of a lecture, students retain 70% of the information presented, in the last 10 minutes only 20%. (McKeachie, 1986).
8. Four months after taking a traditional lecture oriented introduction to psychology course, students knew only 8% more than a control group who had never taken the course (Richard, Rogers, Ellis & Beidleman, 1988).

C. Interactive learning approaches promote better learning (research findings).

1. Manner in which general education curriculum structured makes little difference for most learning outcomes. Most predictive of positive change were two environmental factors: interaction among students and interaction

between students and faculty. How students approach their general education and how faculty deliver the curriculum is more important than the formal curricular structure. (Astin, 1991)

2. Discussion methods produce increased retention of information, problem solving performance, higher order thinking, attitude change, motivation for further learning in comparison to lecture methods (McKeachie, 1987).
3. Meta-analysis of cooperative learning indicates CL produces higher achievement and increased retention; more frequent higher-level reasoning; deeper-level understanding and critical thinking; more time on task and less disruptive behavior; greater achievement motivation and intrinsic motivation to learn; greater ability to view situations from others' perspectives; more supportive social relationships; more positive attitudes toward teachers, subject, learning and school; greater psychological health and adjustment; more positive self-esteem and greater social competencies (Johnson & Johnson, 1989).

D. Interactive learning approaches promote better learning (Experts).

1. American Association for Higher Education (Chickering & Gamson, 1989).
 - a. "Good practice encourages active learning." Learning is not a spectator sport. Students don't learn much by just sitting in classes listening to lectures, memorizing prepackaged assignments, and spitting out expected answers. They must talk about what they are learning, write about it, relate it to past experiences, and apply it to their daily lives.
 - b. "Good practice encourages cooperation among students." Learning is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's own ideas and responding to others' reactions improves thinking and deepens understanding.
2. Study Group on the Conditions of Excellence in American Higher Education (1984): Faculty should make greater use of active modes of teaching and require that students take greater responsibility for their learning.
3. Pat Cross (1987): When students are actively involved in the learning task, they learn more than when they are passive recipients of instruction.

E. Interactive learning approaches promote better learning (Educational learning theories).

1. Piaget's theory of cognitive development a. states that knowledge is constructed by the learner through active interaction with his/her environment and other

learners and is not transmitted whole by the teacher.

- b. recommends the use of active methods of teaching that require the learner to discover or construct the truths to be learned.
- c. defines the teacher's role as primarily one of organizing and creating situations that present useful problems and counter examples to students, situations which will lead to reflection of students comments, strategies and solutions.

2. Vygotsky's sociohistorical theory of psychological development states:

- a. students learn to think in ways that are dependent upon social interaction and that are directly fostered and developed by his/her culture.
- b. learning should be structured as a collaborative teacher-student activity.

3. Alexander Astin's Involvement Theory advocates that:

- a. "the amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program."
- b. "the effectiveness of any educational policy or practice is directly related to the capacity of that policy or practice to increase student involvement."

4. Constructivist learning theory states that the student is an active maker, discoverer, transformer of his/her own knowledge.

5. Social Cognitive Theory (Bandura):

- a. Supports the idea that people learn from others who model behavior.
- b. Emphasizes the social context for learning.
- c. States that the observation of a variety of models and the reinforcements delivered to peers and others are important influences on learning.

6. Control Theory in the Classroom (Glasser):

- a. Participation in team provides for satisfaction of individual needs for power.
- b. Students gain sense of belonging by working in learning teams.
- c. Belonging provides the initial motivation for students to work.
- d. Stronger students find it need fulfilling to help weaker ones. Weaker students find it need fulfilling to be part of successful learning team.
- e. Students dependent on other students not just on teacher (interdependence).
- f. Learning teams provide structure necessary for in-depth

learning.

- g. Teams take responsibility for quality of own learning.
- h. Teacher to share success can change teams.

F. The “Cone of Learning” postulates that learning is improved as the learner becomes more involved in his/her learning. Accordingly, learning by doing and personal experience leads to the highest level of retention.

III. Research shows that interactivity in class is not a given.

- A. Study of faculty on 24 campuses in the US (covering a wide range of courses, class sizes and levels of students) found that for between 73% and 83% of the faculty surveyed the primary method of instruction was lecturing. The authors concluded “Give a faculty almost any kind of class in any subject, large or small, upper or lower division, and they will lecture” (Blackburn, Pellino, Boberg & O’Connel, 1980).
- B. Lecture is the mode of instruction for the majority of faculty in U. S. colleges and universities. 89% percent of physical scientists and mathematicians, 81% of social scientists, and 61% of humanities faculty studied lectured (Thielens & Wagner, 1987).
- C. 125 students in an American History survey course when asked to identify the kind of active learning they had encountered in the first 6 weeks of class responded (Eison & Bonwell, 1988):
 - a. 17% had not seen a class discussion lasting 15 minutes or more,
 - b. 39% had not seen visual aids used in class,
 - c. 41% had not done a short, in-class writing assignment,
 - d. 48% had not participated in a small-group discussion,
 - e. 58% had not made a class presentation,
 - f. 69% had not completed a self-assessment activity, and
 - g. 77% had not made a small-group presentation.

IV. Faculty need to overcome the barriers to creating interactive learning environments.

- A. There are often “gaps” between educational research findings and practice, and a gap between how faculty teach and how they know they should teach (Cross, 1988). A new theory typically takes 25 years or more to translate into educational practice (Bigge, 1982).
- B. The most frequently mentioned barriers are according to Eison & Bonwell, (1992):

1. Not being able to cover as much material in the time available.
2. Developing interactive learning environments takes too much work and too much time.
3. Large class size prevents implementation.
4. The faculty belief that they are good lecturers and that it would be a shame to deprive students of their talent, skill and expertise.
5. Lack of material/equipment to support interactive learning environments.
6. Student preference for lectures and resistance to non-lecture approaches.
7. Using interactive learning involves too much risk and may lead to:
 - a. lower student ratings,
 - b. scorn or disapproval of colleagues,
 - c. fear of tenure denial,
 - d. perceptions of being easy, and
 - e. loss of control.

C. Additional barriers (Ekroth, 1990):

1. Stability of the situation
2. Self-definition of the professor
3. Feedback circle in the classroom
4. Discomfort and anxiety
5. Like being center of attention ("One's most enchanted listener")
6. See few incentives for change

D. Response to these barriers:

1. Yes, we may not be able to cover as much material. Interactive learning reduces the amount of time for lecturing (and information dissemination); therefore other ways to cover material must be found, such as:
 - a. reading and writing assignments
 - b. student study groups
 - c. use of technology, or
 - d. independent student research.
2. More time is required for pre-class preparation than if using recycled old lectures, but not necessarily more time than is needed to create thorough new lectures.
3. Large class size may restrict use of some interactive learning activities, but not all. For example, we can divide a large class into smaller groupings and use many of the same interactive learning techniques. We may need to learn to become more tolerant of increased noise, however.

4. Good lectures do not guarantee learning and learning is not always indicated by good test grades.
5. Lack of resources is a barrier to some, but not all interactive learning.
6. Students resist interactive learning because they:
 - a. Have learned to be passive; it's all they know because it's how they have always been taught.
 - b. Have learned to be passive through watching TV. Neil Postman (1985) said "anyone who has spent over 16,000 hours huddled in front of a television set before entering a college classroom will not likely emerge from the experience unscathed by passivity."
 - c. Are insecure with their knowledge and competence.
 - d. Are afraid to deviate from what they have been successful with in the past.
 - e. Are uncomfortable with their own social skills in a classroom situation.
 - f. Have learned culturally influenced learning behaviors. Therefore, need to educate students on merits of and procedures for interactive learning.

D. Overcoming risks to using interactive learning may be difficult so we need to carefully assess the risk and our own risk tolerance and required comfort levels.

1. In general,
 - a. start small,
 - b. find someone to work with so that you are not alone in this adventure,
 - c. inform the powers that be (department chair, etc.) of what you are doing,
 - d. and get help from your campus teaching center

V. General strategies for creating interactive learning environments.

A. Communicate expectations early and often.

1. Let students know what is expected of them and you and reasons that you are using these methods.
 - a. Include this information in the course syllabus.
 - b. Remind class during term.
2. Include students in providing input on their expectations
3. Inform your colleagues and superiors and provide a solid rationale for what you are doing.

B. Create a psychologically safe classroom.

1. Get to know students and let them know you.
 - a. Learn student names.
 - b. Share information about yourself.
2. Praise rather than punish.
 - a. Focus on what students do right rather than what they do wrong.
3. Use activities that encourage students to develop interdependence and knowledge of each other.
4. Foster cooperation and collaboration rather than competition between students.
 - a. Use group projects.
 - b. Use group exams or quizzes.

C. Learn about student development and about how students learn (read any introduction to educational psychology text book).

D. Make learning meaningful.

1. Relate course material to students' lives, past experiences, current events, the future.
2. Use examples and problems that are relevant to students.
3. Have students contribute examples.

E. Focus on the affective as well as the cognitive dimensions of learning.

1. Have students record personal reactions, thoughts, experiences, applications in a personal journal.

F. Encourage in-class activity.

1. Start class with a brief (student-led) review.
2. Use brief stimulus material (quote, problem, reading) to focus attention and provoke thought.
3. Involve all, including the silent students, in class.
4. Ask students to help teach.
 - a. Select a student to take notes on the board of discussion or of instructor and student comments.
 - b. Have a group of students plan a whole-class activity.
5. Design take-home assignments that result in some meaningful product.
 - a. Make these short and frequent rather than long and infrequent.
 - b. Use these in class as part of the lesson.
 - c. Encourage students to create a lesson or learning activity that will also be applicable outside of class (in church, the community, elementary school, etc.)
6. Provide examples of desired outcomes, products (show an "A" paper).
7. Use variety and novelty. Change classroom activities regularly.

8. Set and communicate high but attainable standards of student performance.
9. Provide frequent feedback.
 - a. Use brief quizzes in addition to exams.
 - b. Use assignment feedback check-lists.
10. Get feedback from students on your teaching and their learning.
 - a. Use classroom assessment techniques (one-minute paper).
 - b. Use early semester student feedback forms, Small Group Instructional Diagnosis process.

- G. Be flexible in how students can demonstrate their learning.
- a. Use a student-designed test or project to replace a regular assignment.

H. Get small groups to work effectively

1. Determine instructional goals and course objectives.
2. Learning objectives should form the basis of group work
3. Determine if group work is the best way to achieve goals and objectives
4. Communicate course objectives in writing to students at onset
5. Group work is especially appropriate for courses that emphasize the development of
 - a. Communication skills
 - b. Teamwork skills
 - c. Personal development
 - d. Professional skills
6. Group activities must be use subject matter that reflect the central concepts and content of the course
7. Match the amount of course structure with the level of students and course, class size, available resources and instructor comfort
8. Determine Group Composition.
9. Consider student diversity (cognitive, gender, racial, major vs. non-major, etc.) issues
10. Consider practical issues (such as ability to meet, course schedules)
11. Choose group formation methods (self-selected vs. instructor selected)
12. Consider group dynamics/group process issues
 13. Structure the Intellectual Environment
 - a. Inform students of rational for group work
 - b. Discuss how group oriented course is different from other instructional methods.
 - c. Discuss stages of group process/group work

- d. Communicate instructor enthusiasm for group work
- e. Explain additional learning benefits of group work (affective and

interpersonal as well as cognitive, future employment benefits)

14. Structure the Curriculum Flow and Tasks

- a. Explain guidelines for effective group work.
- b. Begin course with more structure and gradually reduce
- c. Sequence of tasks should be clearly laid out in step-by-step fashion early on in course, with less structured tasks reserved for later in course
- d. Tasks should take into account the cognitive diversity of students and allow students of different styles to shine
- e. High task difficulty is essential. Tasks must be difficult enough so as to require equal contribution from all group members
- f. Tasks must be meaningful (related to course objectives) and not

be perceived by students as “busy work”

15. Structure the Class Meetings

- a. Balance the need for lecture, conferences and group work
- b. Determine when groups meet (in or out of class)
- c. Include group work as an integral element of course
- d. Integrate group work into class meeting when possible

16. Structure the Assessment Process

- a. Assessment procedures should be based upon course objectives
- b. Implement criteria referenced instead of norm referenced grading procedures
- c. Effective group work (process as well as outcome) should be rewarded
- d. Assessment methods should foster cooperation not competition
- f. Establish methods that assess group responsibility and individual accountability
- g. Provide feedback mechanisms that allow students to discuss group process issues and intra-group conflict with the instructor

VII. Specific examples of interactive learning activities:

- A. active lecturing: student to student activity integrated into lecture

B. writing: journals, in-class assignments, one-minute papers (these are short and can be done in each class), term-long research papers, student-to-student summaries, peer writing and editing

C. TAPPS (Thinking Aloud Pair Problem Solving) (Lockhead & Whimbey, 1987). Students are in pairs. One talks aloud while attempting to solve a problem and the other listens and tries to clarify what is being said.

D. reading: provide specific study questions to guide reading and encourage active reading (mark up book, if possible)

E. reflection: use silence to promote thought

F. small groups: short term, base groups, and study groups

G. cooperative student projects

H. simulations: role playing, exercises and games that involve the entire class, computer models in small-group work

I. case studies: students work in teams to solve cases

J. reading materials and presentations by guest speakers: integrate these together

K. concept mapping: students work alone then together to diagram information, develop a visual map of a concept being learned

L. technology: MUDs, MOOs, discussion lists, WebCT, Blackboard

M. email discussion lists or web sites to encourage out of class interaction

N. in-class cooperative learning strategies: jigsaw, think-pair-share

O. reciprocal teaching

P. think-pair-share

Q. PBL

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THEORIES OF LEARNING APPLIED TO COLLEGE TEACHING

Theories of Learning Applied to College Teaching

<i>Theory:</i>	<i>Applications to University Teaching:</i>	<i>Specific Classroom Suggestions:</i>
Operant Conditioning or Behavioral Learning Theory	Consequences of behavior determine future behavior. Learning occurs in response to rewards, absence of rewards and punishments. Positive consequences shape behavior better than negative ones.	Look at your attention/praise formats for clues on student behavior. Reward good behavior rather than punish bad. Match reward to task difficulty. Provide frequent and clear feedback. Consider programmed materials to assist learning.
Information Processing Theory of Learning	Information is processed in stages in the brain. The amount of information that can be handled is limited. Information processing is interactive.	Teach a class session as a series of mini-lessons. Teach new material at the start of each mini-lesson and follow up with review or practice. Examples of review would include short quizzes, problem-solving, summarizing, using mnemonic devices, concept mapping, discussions, and study skills.
Cognitive Development Theory	Learning occurs from struggling with mental imbalance. The learner actively constructs knowledge.	Move to discovery learning, such as cooperative learning, discussions, experiential learning. Create chances for mental conflict, such as debates and case studies. Ask higher level questions in class and assignments. Increase student responsibility for learning by involving them in the construction of the class.
Humanistic Theory Applied to Learning	Learning involves affective as well as cognitive growth. Students have natural need for knowledge. Knowledge only possible when lower level needs are met.	Move from teacher-centered (lecture) to learner-centered environments (discussions, case studies, cooperative learning). Create psychologically safe classrooms. Allow students to see instructor as a real person. Provide opportunity for students to take responsibility for own learning (choosing assignments, assessment procedures, etc.).

ASSESSMENT

Assessment should address the following questions:

- How well are students learning?
- How effectively am I teaching?

Assessment opportunities should be built into your course in an intentional and strategic way, providing a continuous flow of information that can be channeled into course improvement. In this way, students are provided opportunities to provide feedback that you can use to fine tune your instruction, assessment and overall course design. Information is also generated that can be directed back to students to provide feedback to them on their learning that can suggest alternative or additional study strategies. Assessment, therefore, provides both the instructor and the learner with data that can be used to measure past learning and teaching activities and inform and guide future learning and teaching activities.

GENERAL INFORMATION ABOUT TESTING AND GRADING

One of the key principles gleaned from the research literature from cognitive science and the study of human learning indicates that frequent and varied testing aids learning. Testing is not just a way of assigning grades, but if done properly, can be a powerful way to produce and reinforce learning. To enhance learning faculty should provide “retrieval practice” so that students can decode or pull out information from memory. Assessment of learning should be frequent and varied. Assessment should be formal (quizzes and exams and informal (classroom assessment techniques such as Think-Pair-Share, classroom response systems [aka Clickers]. Tests and exams should include a variety of question types—multiple choice, essay, fill in the blank, etc.—to appeal to different learning styles and to provide different ways to encode and decode information. I have developed the following “ideal” testing plan to maximize the retrieval effect. Consider this as you design your courses:

<i>Week</i>	<i>Assessment</i>	<i>Coverage</i>
1	None	
2	Quiz	Week 1 & 2
3	Quiz	Week 3
4	Quiz	Week 4
5	Exam	Comprehensive 1-5
6	Quiz	Week 6
7	Quiz	Week 7
8	Quiz	Week 8

9	Quiz	Week 9
10	Exam	Comprehensive 1-10
11	Quiz	Week 11
12	Quiz	Week 12
13	Quiz	Week 13
14	Quiz	Week 14
15	Exam	Comprehensive 1-15

CLASSROOM ASSESSMENT

Classroom assessment is “a simple method faculty can use to collect feedback, early and often, on how well their students are learning what they are being taught. The purpose of classroom assessment is to provide faculty and students with information and insights needed to improve teaching effectiveness and learning quality. College instructors use feedback gleaned through Classroom Assessment to inform adjustments in their teaching. Faculty also share feedback with students, using it to help them improve their learning strategies and study habits in order to become more independent, successful learners.... Classroom Assessment is one method of inquiry within the framework of Classroom Research, a broader approach to improving teaching and learning.”¹⁰⁷

THE CLASSROOM CRITICAL INCIDENT QUESTIONNAIRE

Stephen Brookfield in his book, *Becoming a Critically Reflective Teacher* (1995), discusses an approach to gather regular student feedback concerning how they are experiencing his teaching and their learning. According to Brookfield, the use of this approach allows him to get accurate and timely information, free from his biases and personal learning background, to reflect upon whether or not he, the instructor, is attaining his learning goals, and thereby make appropriate course modifications.

The Classroom Critical Incident Questionnaire¹¹

Please take about five minutes to respond to each of the questions below about this week’s class(es). Don’t put your name on the form—your responses are anonymous. When you have finished writing, put one copy of the form on the table by the door and keep the other copy for yourself. At the start of next week’s class, I will be sharing the responses with the group. Thanks for taking the time to do this. What you write will help me make the class more responsive to your concerns.

Angelo, T.A., 1991. Ten easy pieces: Assessing higher learning in four dimensions. Classroom research: 1 •
Early lessons from success. New directions in teaching and learning (#46), Summer, 17-31.
From Brookfield, S.D. 1995, *Becoming A Critically Reflective Teacher*, (chapter 6, page 11
115.). San Francisco: Jossey-Bass. Permission to use granted by the author.

1. At what moment in the class this week did you feel most engaged with what was happening?
2. At what moment in the class this week did you feel most distanced from what was happening?
3. What action that anyone (teacher or student) took in class this week did you find most affirming and helpful?
4. What action that anyone (teacher or student) took in class this week did you find most puzzling or confusing?
5. What about the class this week surprised you the most? (This could be something about your own reactions to what went on, or something that someone did, or anything else that occurs to you.)

SMALL GROUP INSTRUCTIONAL FEEDBACK

Small Group Instructional Feedback (SGIF) is a process designed to channel student perceptions into opportunities for instructional improvement. Studies indicate that receiving feedback from students during the first half of the academic term is positively related to improving college teaching and to better end-of-semester student ratings. In addition, receiving some form of consultation to help interpret the mid-semester feedback increases the positive impact of the process.

SGIF PROCEDURE:

- 1) The instructional consultant visits the class during the last 30 minutes of a class session. The instructor informs the class prior to this date that the SGIF procedure will occur so that they understand why the consultant is there.
- 2) After a brief introduction, the instructor leaves the class and the consultant reviews the SGIF process. The consultant informs the class that this is a voluntary process and that he/she has been invited by the instructor to get their feedback because the instructor is interested in their comments and in enhancing the level of instruction in this particular class.
- 3) The SGIF procedure is introduced with a statement such as: "As your instructor has explained, I am an instructional consultant, and I am here to lead a conversation about this course. I will ask you to form groups of about five people and to choose one person in the group to be the recorder of your comments and spokesperson. I will write three questions on the board for you to discuss in your small groups. Please try to come to consensus on

your responses to these questions and the recorder will write down your comments. After about 10 minutes I will call all the groups back together and we will discuss each question together as a whole class. I will collect all of your small group responses and type them to give to and discuss with the instructor. No individual students will be identified and only the comments of students as a group will be shared.

The three questions are (they are written on the board as they are announced):

- A. What is going well in this class so far?
- B. What suggestions do you have for improvement?
- C. What other comments do you have?"

4) Students are reminded that responses to question B. should be stated in a way that can be translated into action to improve the course. This is not an opportunity to gripe or complain but rather one to make tangible suggestions to improve the educational experience. Also, students are told that responses to question C. can relate to aspects of the course not covered by the two previous questions.

5) After about 10 minutes of small group discussion, the spokesperson for each group reads the group's responses to question A. The consultant summarizes each comment by writing down key words or phrases on the board. A volunteer from the class is requested to copy what is written on the board so that they can be reviewed at a later time. After all groups have discussed their comments to question A., the process is repeated for questions B. and C. in turn.

6) The consultant allows for large class discussion of the small group comments if appropriate. This can allow students to hear opposing views and to modify or add to their small group comments.

7) After all groups have reported and the class has had the opportunity to discuss what they wish (this usually takes about 10 minutes), the students are thanked for their cooperation and assured that the consultant will communicate his/her feedback to the instructor as clearly and accurately as possible.

8) As soon as possible, the consultant types up all of the small group comments and schedules a consultation session with the instructor to be held within the week following the class visit. This process is confidential and the consultant does not share the students' verbal or written comments or discuss the results of the SGIF session with anyone other than the instructor involved. The instructor is provided with a copy of the written comments.



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