

Creating Significant Learning Experiences

SACS-COC Institute on Quality Enhancement and Accreditation

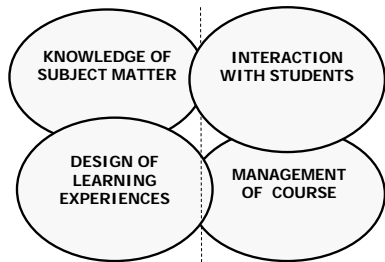
July 27-30, 2008

Virginia S. Lee, Ph.D.

Virginia S. Lee & Associates, LLC

Durham, NC, USA

Four Components of Good Teaching

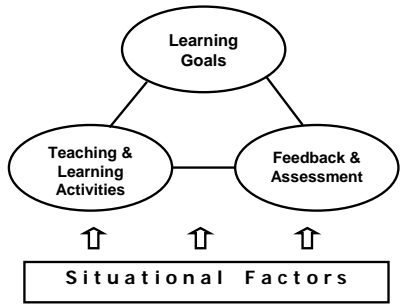


Beginning of the Course

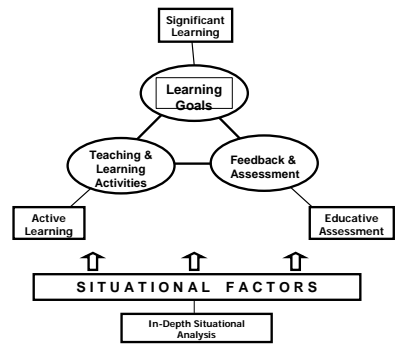
Visioning Exercise

Think of a course you currently teach. What is the learning you most deeply value and wish for your students?

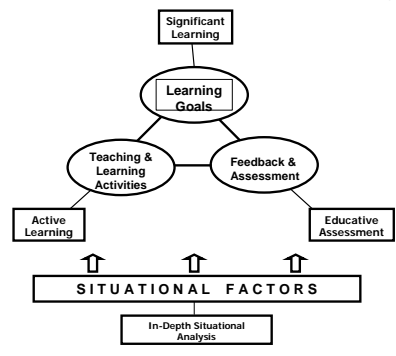
Key Components of Integrated Course Design



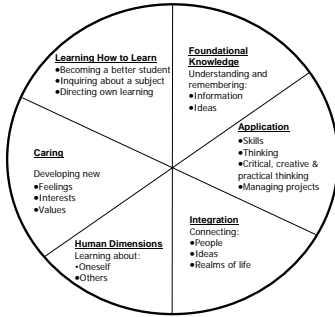
Criteria of "GOOD" Course Design



Criteria of "GOOD" Course Design



Fink's Taxonomy of Significant Learning



Sample Learning Goals from an Introductory Psychology Course

- **Foundational knowledge**
Explain selected fundamental concepts in psychology in your own words
- **Application**
Think like a psychologist by using psychological theories to solve real world problems and designing and conducting a group research study

Sample Learning Goals from an Introductory Psychology Course cont'd

- **Integration**
Relate psychological concepts & theories to your own experience including relationships with others, day-to-day events & experiences, articles & books you have read, and/or talks, films, programs, performances viewed & attended
- **Human Dimension**
Identify your strengths & weaknesses as a group member through self reflection & the feedback of other group members

Sample Learning Goals from an Introductory Psychology Course cont'd

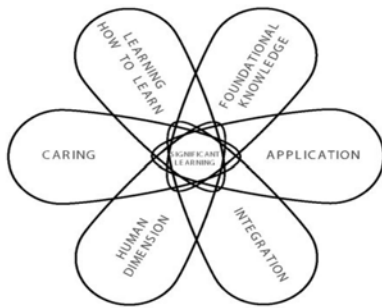
- **Caring**

Demonstrate the valuing of the psychological perspective in one or more ways including taking further courses in psychology, reading a journal or magazine such as *Psychology Today*, and/or seeking out talks or films on psychological topics

- **Learning how to learn**

Using scoring guides developed by the instructor, analyze your own performance on selected class assignments and develop strategies for improvement

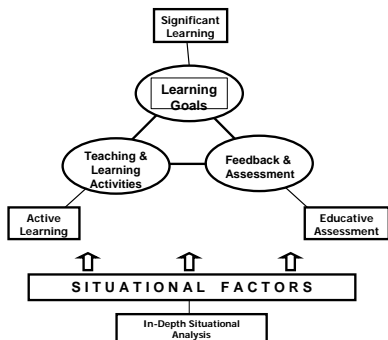
Interactive Nature of Significant Learning



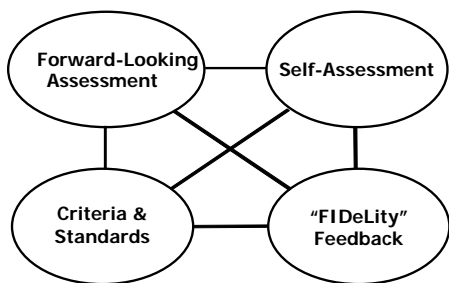
Writing Learning Goals

- Write 6 learning goals, one of each type, using Fink's Taxonomy on the three-column table.
- As you write the goals, think about the following as a preface for each goal: "By the end of the course, I hope my students will be able to..."
- Pay attention to the verbs you use; try to make them concrete and specific. Avoid words like "understand," "appreciate," "be acquainted with" and the like.

Criteria of "GOOD" Course Design



Feedback and Assessment: "EDUCATIVE ASSESSMENT"



Forward-Looking Assessment

- Focus on what students should be able to DO in the future.
- Focus on real-life context
- Have students imagine themselves in a situation where people are actually using this knowledge.
- Create assignments and tests that require judgment/exploration rather than reciting or restating facts.
- Focus assessment on integrated use of skills

Example of Forward-Looking Assessment

President Harry S. Truman has requested that you serve on a White House task force. The goal is to decide how to force the unconditional surrender of Japan, yet provide for a secure postwar world.

You are now a member of a committee of four and have reached the point at which you are trying to decide whether to drop the bomb. Identify the alternatives you are considering and the criteria you are using to make the decision. Explain the values that influenced the selection of the criteria and the weights you placed on each. Also explain how your decision has helped you better understand this statement: "War forces people to confront inherent conflicts of values."

Source: McREL Institute cited in Huba & Freed (2000). *Learner-center Assessment on College Campuses*. Boston, MA: Allyn and Bacon, 204.

Criteria and Standards

- Develop rubrics (i.e., scoring guides) including the main traits of the performance in question.
- Create clear & appropriate assessment criteria & standards for each trait, using a 2-5 point scale with descriptive statements of good, satisfactory & poor levels of performance.
- Try out the rubric including criteria, standards & anchors of performance with a sample of students or colleagues and revise.

Example of Criteria & Standards

Accurately identifies constraints or obstacles

- 4 Accurately & thoroughly describes the relevant constraints or obstacles.
- 3 Accurately identifies the most important constraints or obstacles.
- 2 Identifies some constraints or obstacles that are accurate along with some that are not accurate.
- 1 Omits the most significant constraints or obstacles.

Identifies viable & important alternatives for overcoming the constraints or obstacles.

- 4 Identifies creative but plausible solutions to the problem.
- 3 Proposes alternative solutions that appear plausible and that address the most important constraints or obstacles.
- 2 Presents alternative solutions for dealing with the obstacles or constraints, but the solutions do not all address the important difficulties.
- 1 Presents solutions that fail to address critical parts of the problem.

Source: McREL Institute cited in Huba & Freed, 191.

Self-Assessment

- Create multiple opportunities for students to engage in self-assessment of their performance.
- Provide and/or let students identify relevant criteria for assessing their work and the work of others.
- Let students practice using the criteria to assess their own work.

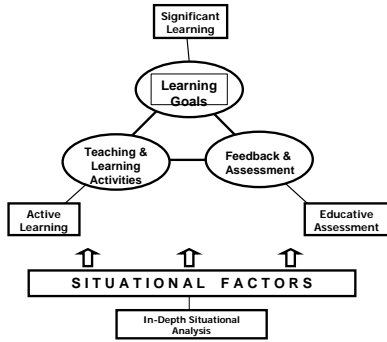
FIDeLity Feedback

- Frequent
- Immediate
- Discriminating (based on criteria & standards)
- Lovingly or supportive approach used

Forward-looking Assessment Exercise

- Develop a possible forward-looking assessment for one or more of the learning goals for your course, describing it briefly on the three-column table.
- Determine the key traits of the assessment on which you & your students will evaluate their performance.
- Decide how you will have students practice self assessment

Criteria of "GOOD" Course Design

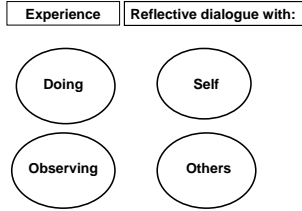


A Model of Active Learning (The Basic Version)

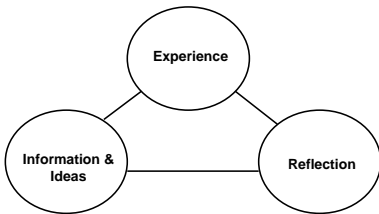
Passive Learning



Active Learning



A Holistic View of Active Learning



Multiple Activities that Promote Active Learning

| | INFORMATION & IDEAS | EXPERIENCE | | REFLECTIVE DIALOGUE, with: | |
|---------------------|---|--|---|--|--|
| | | "Doing" | "Observing" | Self | Others |
| DIRECT | <ul style="list-style-type: none"> Original data Original sources | <ul style="list-style-type: none"> Real Doing, in authentic settings | <ul style="list-style-type: none"> Direct observation of phenomena | <ul style="list-style-type: none"> Reflective thinking Journaling | <ul style="list-style-type: none"> Live dialogue (in or out of class) |
| INDIRECT, VICARIOUS | <ul style="list-style-type: none"> Secondary data and sources Lectures, textbooks | <ul style="list-style-type: none"> Case studies Gaming, Simulations Role play | <ul style="list-style-type: none"> Stories (can be accessed via: film, literature, oral history) | | |
| ONLINE | <ul style="list-style-type: none"> Course website Internet | <ul style="list-style-type: none"> Teacher can assign students to "directly experience" ... Students can engage in "indirect" kinds of experience online | | <ul style="list-style-type: none"> Students can reflect, and then engage in various kinds of dialogue online. | |

A Case Study of Active Learning

In a course "Leadership for Engineers," the instructor does the following:

- Begins the course by asking students to think about what leadership means to them, individually and then collectively.
- Then the class reads a book or case study about people in leadership positions (e.g., Abraham Lincoln).
- Following this, they re-visit the central question of "What constitutes leadership?" and revise their earlier definition accordingly.
- This sequence is repeated throughout the course: students read something, revisit the central question, read something, revisit the central question, etc.

Exercise

Question #1

How does the course incorporate each of the three components of **holistic active learning**?

- Information and Ideas
- Experience
- Reflection

Question #2

How might you strengthen each of the three components—information & ideas, experience, reflection—in the course?

Holistic Active Learning Exercise

- For one or more of the learning goals for your course, develop a holistic active learning activity, describing it briefly on the three-column table.
- How does the activity incorporate information & ideas, experience, and reflection?

Rich Learning Experiences

- **What are they?**

Learning experiences in which students are able to *simultaneously* acquire *multiple* types of learning goals from Fink's Taxonomy through the integration of information & ideas, experience, and reflection.

- **What are some examples?**

In-class: debates, role plays, simulations, dramatizations

Out of class: service learning, authentic projects, internships, situational observations

Example of a Course for First Year Students* designed as a Rich Learning Experience

I organized students as a consulting firm, *First Year Learning Associates*. We had been retained by the director of the First Year Inquiry Program to study the question, "Are First Year Inquiry (FYI) courses better than non-FYI courses?"

•Foundational knowledge: how students learn, student development during the college years

•Application: how to organize/implement a major study; research & analytical skills; oral & written communication skills

•Integration: relationship of skills/abilities learned in the classroom to real world problems; relationship of separate realities/experiences of students, faculty, & administration

•Human Dimension: how one performs as a member of a consulting team & small working group

•Caring: sharing the perspective of faculty & administration & developing empathy for them; recognizing that the findings of a study affect other people

•Learning how to learn: how to organize & direct an inquiry

*PSY 201 *Controversial Topics in Psychology*, NC State University, taught by Virginia S. Lee, Spring 2003.

Rich Learning Experience Exercise

- Design a rich learning experience for your course.
- Briefly articulate the goals from Fink's Taxonomy of Significant Learning your rich learning experience incorporates.
- Briefly describe how your exercise incorporates information & ideas, experience, and reflection.

The "Castle Top" Diagram:

A template for creating a good teaching strategy

| | | | | |
|-------------------------|---|---|---|--------|
| In-class Activities | ? | ? | ? | Exam |
| Out-of-Class Activities | | ? | ? | Review |

Teaching Strategies

You are teaching a course on "Social Psychology." You are using the following combination and sequence of teaching/learning activities:

| | | | | |
|--------------|--------------|---------|---------|------|
| In-class | Lecture | Lecture | Lecture | Exam |
| Out of class | Reading text | HW | Reading | |

Question

- What is the greatest strength of this teaching strategy?
- What is the greatest limitation of this teaching strategy?

Teaching Strategies

| | | | |
|--------------|--|--------------------------------|---|
| In-class | Readiness Assurance Test: • Individual • Group | Group work simple & complex | Exam: Done individually or in small groups |
| Out of class | Reading text | Homework exercises | Review |

Question

- What is the greatest strength of this teaching strategy?
- What is the greatest limitation of this teaching strategy?

Teaching Strategy Exercise

- What teaching strategy do you typically use in your course now?
- How could you strengthen or change the teaching strategy to enhance your students' understanding of course material, their ability to use it, and their appreciation of its value?

Culminating Project

- Have workshop participants practice the ideas of integrated course design—Fink's taxonomy of significant learning, educative assessment including forward looking assessment; holistic active learning including rich learning experiences; and teaching strategies—using the three column table and the castle-top diagram for an entire course, either a hypothetical course and/or their own course.

Effect of Redesigning A Course #1

- **Course Title:** Multi-Cultural Psychology
- **Central Learning Goal:** To help students learn about and interact with people who are different from themselves
- **Course Structure:**
 - Class meets 3 times a week as a whole class (1-hr sessions)
 - Plus 1 hr per week: Discussion Section, 25 students each

How the Course Operates

- Uses **Readiness Assessment Procedure (R.A.P.)** (from Team-Based Learning)
 - Students do readings beforehand
 - Students take a test on the readings
 - Individually
 - In small groups
 - Both scores count for course grade
- Students hear/learn **STORIES** of others who are different from themselves
 - Visiting speakers (from community, students)
 - Before speaker: In small groups, discuss and write – “What have you heard about this group?”
 - After speaker: “How much were your expectations reflected in this speaker’s stories?”

How the Course Operates cont'd

- Personal **REFLECTIONS** (written) on the readings (weekly)
 - What reactions (thoughts, feelings) do you have to the readings?
 - What experiences in your own life led to those reactions?
 - These are emailed to all other students in same Discussion Section
 - Each student must email a written response to the statements of at least two other students.

How the Course Operates cont'd

- **Out-of-class learning EXPERIENCES**
 - During a 4-week period, student must spend time with an individual or group with whom they are new and/or uncomfortable. Examples include:
 - Interviewing someone with a severe disability from a stroke
 - Attending a meeting of a cultural group towards which the student has strong negative feelings
 - Attending a "pagan" religious service
 - Attending a drag show with some gay friends
 - Written reflections:
 - Before: "What are your expectations & feelings about the experience you are about to have?"
 - After: "What happened as a result of the experience? Did your perceptions & feelings change? If so, how?"
 - Students share their reflections electronically with other students in their Discussion Section.

Results of the Course

- **Students actually do the readings**
- **They understand the necessary content**
- Dialogue with Others + Experiences + Reflections
- **Students report major transformations of themselves and their ability to interact with others**
- **Teacher was awarded the university's primary teaching award**
- Dean of Student Affairs:
 - interviewed 16 upper division students.
 - asked them what their best course was during their entire undergraduate experience
 - 11 of the 16 identified this course as their best course**

Effect of Redesigning a Course #2

- **Situation**
 - Graduate course in Electrical and Computer Engineering
 - 18 students - traditional time structure (M/W/F – semester)
- **Original Course Design**
 - Traditional:
 - lecture on sequence of topics
 - do homework problems out-of-class
- **Problems**
 - Students resisting work on difficult math-based problems
 - Students overwhelmed by the material.
 - Result? Student frustration, apathy, low student evaluations.

Changes Made

(following a workshop on course design)

- Articulated **NEW LEARNING GOALS** in terms of the Taxonomy of Significant Learning. Examples:

FOUNDATIONAL KNOWLEDGE: Students will understand and remember key concepts from the main content areas listed in the topical outline (below).

APPLICATION: For a given communication channel, students will be able to compute the maximum rate of reliable transmission and design, evaluate, and implement codes that achieve capacity with reasonable decoding complexity.

Changes Made: Learning Goals cont'd

- **HUMAN DIMENSION:** Students will learn how to work effectively in a group setting to accomplish goals related to a coding theory project.
- **VALUING:** Students will appreciate the importance of coding theory and information theory and its impact on society.
- **LEARNING HOW TO LEARN:** Students will build the knowledge and develop the skills necessary to read and understand articles written in journals such as the *IEEE Transactions on Information Theory*.
- **LEARNING HOW TO LEARN:** Students will be able to direct their own learning in understanding, designing and evaluating new codes.

Changes Made cont'd

- **TEACHING STRATEGY:** Used team-based learning RATs - in-class, group work on structured problems - culminating project ("Coding Design Challenge")
- **LEARNING PORTFOLIO**
- **ORAL PRESENTATIONS** on recent research articles
- Option: **RE-SUBMIT HOMEWORK** for better grade

Results

- **Student Performance:**
Did equally well on Foundational Knowledge and Application.
Did much better on new learning goals
- **In-Class Events:**
"The student response was nothing less than phenomenal. I never could have anticipated such drastic improvements in student morale. I was especially surprised that the students were motivated to work so hard. Many students reported to me that they enjoyed the work load in the class."
- **Student Comments:**
"On the whole, EE447 Information Theory and Coding Theory has been an interesting learning experience which I will not forget for the rest of my life. The course has provided me with the requisite knowledge to carry out independent study and possibly some research over my career."
"I enjoyed this entire course to the fullest. . . . Being a part of the "Information and Coding Theory class" I learnt more than the course work. On the whole being a part of this class was entertaining and at the same time enlightening."

Please go to

<http://www.deefinkandassociates.com> for a 35-page self-directed guide based on the materials presented in the workshop.

Click on Resources, and then item 2.

Please feel free to contact me:

Virginia S. Lee, Ph.D.
Virginia S. Lee & Associates, LLC
P.O. Box 51746
Durham, NC 27717-1746
USA
(919) 493-4729
vslee@virginiaslee.com
<http://www.virginiaslee.com>
