



Integrated Course Design

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Teaching is a complex human action. The many tasks that are involved comprise four general components:

- Knowledge of the subject matter.
- Decisions about the purpose and nature of the learning experience.
- Interactions with students (through lectures, discussions, office visits, etc.).
- Management of the entire instructional event.

The degree to which these tasks are performed well directly affects the quality of the learning experience that students have. We have traditionally relied on graduate schools to instill the needed subject matter mastery. Faculty development programs commonly include efforts to improve communication strategies and the quality of interactions with students. The department or its curriculum committee frequently controls decisions about the purpose and nature of the learning experience. But the problem of designing and managing the instructional event is the responsibility of the faculty member and, in many cases, the area in which he/she is least prepared.

At the same time, this area is probably the most crucial one in determining whether or not students have a significant (rather than a boring or trite) learning experience. To ensure that learning experiences are significant, it is necessary to understand how they are designed and to develop the skills to perform this task. This paper seeks to contribute to those ends. It begins with identifying two general approaches to creating a course (or any other form of instruction).

The most common is the *content-centered approach*, sometimes called the "List of Topics" approach. The teacher works up a list of important topics, often using the table of contents from one or more textbooks, decides how much time to give to each topic, and how many tests will be given. The advantage of this approach is that it is relatively easy and simple; the disadvantage is that it pays virtually no attention to the question of what students might learn beyond content knowledge, the type of learning most easily forgotten.

The alternative is to take a systematic, *learning-centered approach* to designing courses. The heart of this approach is to decide first what students can and should learn in relation to this subject and then figure out how such learning can be facilitated. Although this approach requires more time and effort, it also offers the best chance of ensuring that students have a significant learning experience.

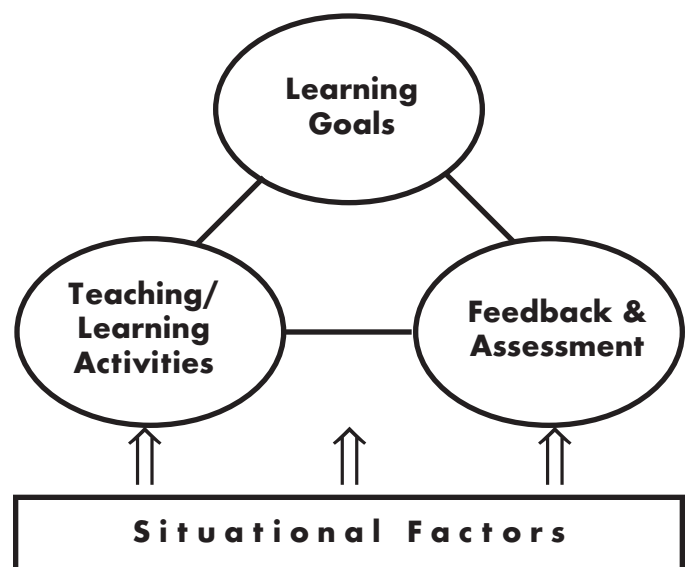
A Model of Integrated Course Design

My recent book (Fink, 2003) provides a full description of an integrated approach to designing college courses. This paper outlines the key ideas and components of this model.

Figure 1 identifies the model's components. It indicates that, to design any form of instruction, the teacher needs to:

1. Identify important **Situational Factors**
2. This information should be used to make three key sets of decisions:
 - a. What do I want students to learn? (**Learning Goals**)
 - b. How will students (and the teacher) know if these goals are being accomplished? (**Feedback and Assessment**)
 - c. What will the teacher and students need to do in order for students to achieve the learning goals? (**Teaching/Learning Activities**).
3. Make certain that these key components are *integrated* (that is, that they support and reinforce each other).

Figure 1
A Model of Integrated Course Design



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The remainder of this paper expands on each of these requirements.

Step 1. Identifying Situational Factors

An initial step in designing a course is to size up the situation carefully. Review information about the teaching and learning situation and, in some cases, gather additional information. Situational factors provide the backdrop against which important decisions about the course will be made.

There are a number of potentially important situational factors that affect the design of the course, including:

1. Specific context of the teaching/learning situation. How many students are in the class? Is the course at the lower division, upper division, or graduate level? How long and frequent are the class meetings? Will the course be delivered live, online, in a laboratory, etc.? What physical elements of the learning environment will affect the class?
2. General context of the learning situation. What learning expectations are placed on this course by the university, the college, one or more of the institution's curricula, one or more professions, and society in general?
3. Nature of the subject. Is this subject primarily theoretical, practical, or a combination? Is it primarily convergent or divergent? Are there important controversies or recent changes within the field?
4. Characteristics of the learners. What are the life situations of the learners (what percent work, have family responsibilities, have a specific professional goal, etc)? What prior knowledge and experiences relevant to this subject have students had? What are their goals and expectations of the course? What are their preferred learning styles?
5. Characteristics of the teacher. What beliefs and values does the teacher have about teaching and learning? What level of knowledge does she/he have about the subject? What are his/her teaching strengths and weaknesses?

Situational factors impose definite limitations and guidelines on those seeking to design a significant learning experience. For example, if the course is intended to provide background for more advanced courses, it is essential to understand the expectations of those teaching such courses. Similarly, if most students begin the class with an apathetic attitude toward the subject matter, the course design needs to recognize this and incorporate special motivational features.

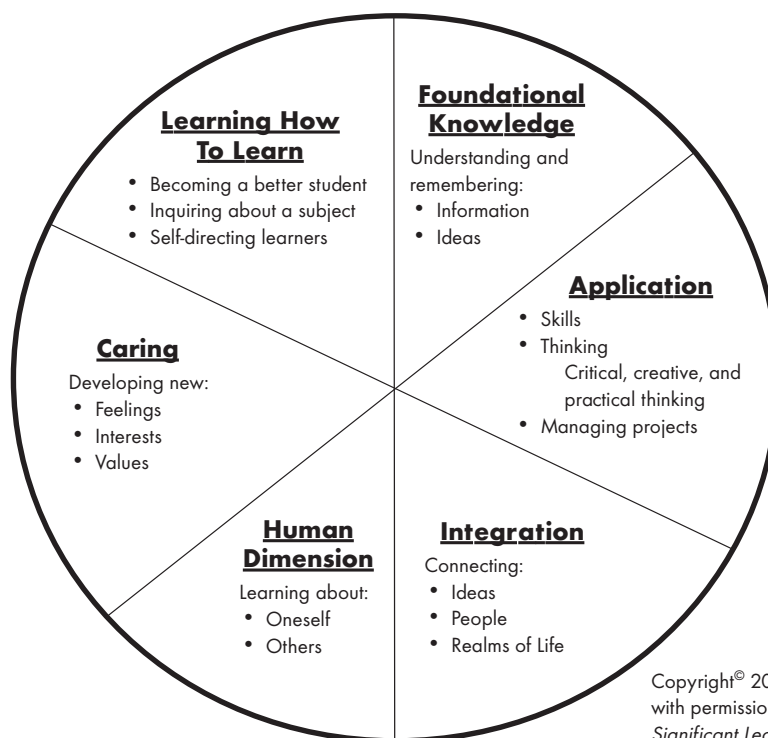
Once situational factors have been identified and considered, the instructor is prepared for the next step in the design process, namely the establishment of learning goals.

Step 2. Establishing Learning Goals

Given the information developed in the situational analysis, what is it that students should get out of the course? Traditionally, a *content centered approach* is taken: "I want students to learn about topics X, Y, and Z." Although such an approach is easy and natural, it generally results in an over-emphasis on "understanding and remembering," a type of learning that, while important, is seldom featured when teachers are asked "What would you like the impact of this course to be on students 2-3 years after the course is over? What should distinguish students who have taken this course from those who have not?" Answers to these questions usually emphasize such things as critical thinking, learning how to use course knowledge creatively, learning to solve real-world problems, changing the ways students think about themselves or others, or increasing a commitment to life-long learning.

After a number of years devoted to the study of faculty responses about what constitutes significant learning, I have developed a taxonomy consisting of six major types of significant learning. Each has sub-categories, as shown in Figure 2.

Figure 2
A Taxonomy of Significant Learning



One important feature of this taxonomy is that each kind of learning is *interactive*. That is, each is able to stimulate any of the other kinds of learning. For example, "Foundational Knowledge" may stimulate "Critical Thinking," which in turn may stimulate "Connecting Ideas," encouraging one to "Learn About Oneself," etc. The intersection of these inter-related kinds of learning defines "Significant Learning," the purpose of the *Integrated Design* process.

To determine the appropriateness and relevance of each of the six types of goals for a given course or other learning experience, key questions need to be asked. Examples are given below:

1. Questions About Foundational Knowledge as a Goal. What key information (facts, terms, formulae, concepts, principles, relationships, etc.) is/are important for students to *understand and remember*? What key ideas or perspectives are important in this course?
2. Questions About Applications as a Goal. What kinds of thinking (critical, creative, practical) are important for students to learn? What skills are required? Should students be expected to learn how to manage complex projects?
3. Questions About Integration as a Goal. What connections should students recognize and make among ideas within this course? Among information, ideas, and perspectives from this course and those in other courses or areas? Between material in this

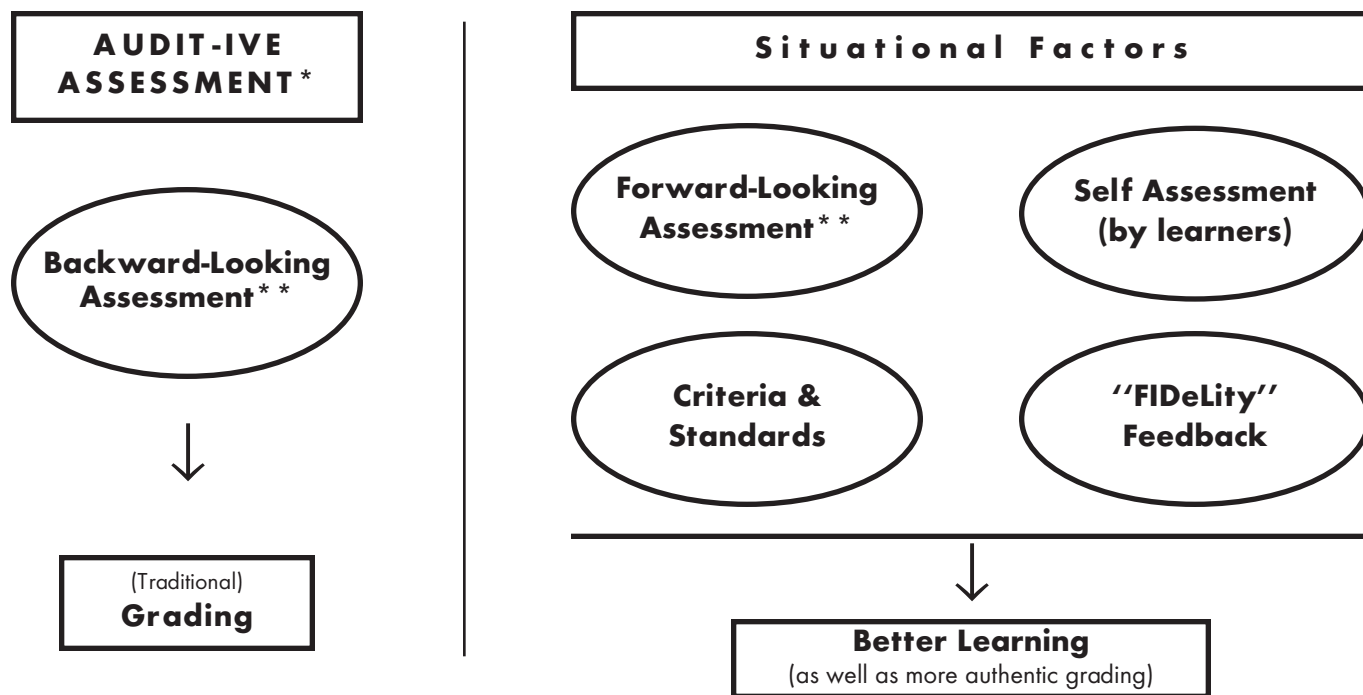
course and the students' personal, social, and/or work life?

4. Questions About Goals Related to Human Dimensions. What should students learn about themselves? What should they learn about understanding others and/or interacting with others?
5. Questions About the Appropriateness of Caring Goals. What changes/values should students adopt? Should interests be affected? Feelings? Commitments?
6. Questions About "Learning How to Learn" as a Goal. What should students learn about how to be good students in a course like this? How to learn about this specific subject? How to become a self-directed learner (developing a learning agenda and a plan for meeting it)?

Step 3. Feedback and Assessment Procedures

In a *content-centered course*, two mid-terms and a final exam are usually considered sufficient feedback and assessment for determining if the student "got it" or not. This "audit-ive assessment" process is designed principally to help the teacher assign grades. A *learning-centered course* calls for a more sophisticated approach to this aspect of course design. A set of feedback and assessment procedures collectively known as "educative assessment" is needed. This process is designed to enhance the quality of student learning. In Figure 3, the key components of educative assessment are contrasted with the more traditional audit-ive assessment.

Figure 3
Audit-ive and Educative Assessment



* **Audit-ive Assessment:** Assessment that only determines whether students learned correctly, rather than *helping* them learn, which educative assessment promotes.

** **Backward-Looking Assessment:** Assessment is constructed to determine whether students "got" the material they studied.

*** **Forward-Looking Assessment:** Assessment is constructed to determine whether students are ready for some future activity, after the current period of learning is over.

Forward-Looking Assessment incorporates exercises, questions, and/or problems that create a real-life context for a given issue, problem, or decision. To construct this kind of question or problem, the teacher has to “look forward,” beyond the time when the course is over, and ask: “In what kind of situation do I expect students to need, or be able to use, this knowledge?” Answering this question makes it easier to create a question or problem that replicates a real-life context. The problem should be relatively open-ended, not totally pre-structured. If necessary, certain assumptions or constraints can be given.

An example from a course in world geography in which the students have studied a unit on Southeast Asia illustrates the difference between a backward- and a forward-looking assessment. A backward-looking assessment would ask students about differences in the population and resources of the countries of that region. In a forward-looking assessment, students might be asked to imagine that they are working for a company that wants to establish itself in the region; the company seeks advice on which country has the necessary political stability, purchasing power, prospects for economic growth, etc. Such a question requires that students use what they have learned.

It is important to explain clearly the criteria and standards that will be used to assess student work. Teachers need to determine and share with students: “What are the general traits or characteristics of high quality work in this area?” These are the *criteria* for evaluation. On each criterion, *standards* must be established to define work that is acceptable, good, or exceptional.

It is also important for teachers to create opportunities for students to engage in self-assessment. Later in life, students will need to assess their own performance; they should start learning how to do that while in the course. Initially, these may be done in groups; after some practice, they should be done individually. In the process, students need to discuss and develop appropriate criteria for evaluating their own work.

As the students seek to learn how to perform well, teachers need to provide feedback that has “FIDeLity” characteristics:

- **F**requent: Give feedback as frequently as possible; at least weekly, if not daily.
- **I**mmEDIATE: Get feedback to students as soon as possible.
- **D**iscriminating: Make clear what the difference is between poor, acceptable, and exceptional work.
- **L**oving: Be empathic and sensitive when delivering feedback.

Processes for incorporating the four features of Educative Assessment are described below:

1. **Forward-Looking Assessment.** Formulate one or two ideas by identifying one or more situations in which students are likely to use what they have learned. Then replicate those situations with questions, problems, or issues.
2. **Criteria and Standards.** For one of your main learning goals, identify at least two criteria that distinguish exceptional achievement from poor performance. Then write two or three levels of standards for each criterion.

3. **Self-Assessment.** Create opportunities for students to engage in self-assessment of their performance.
4. **“FIDeLity” Feedback.** Develop procedures that allow you to give feedback that is frequent, immediate, discriminating (based on clear criteria and standards), and lovingly (empathically) delivered.

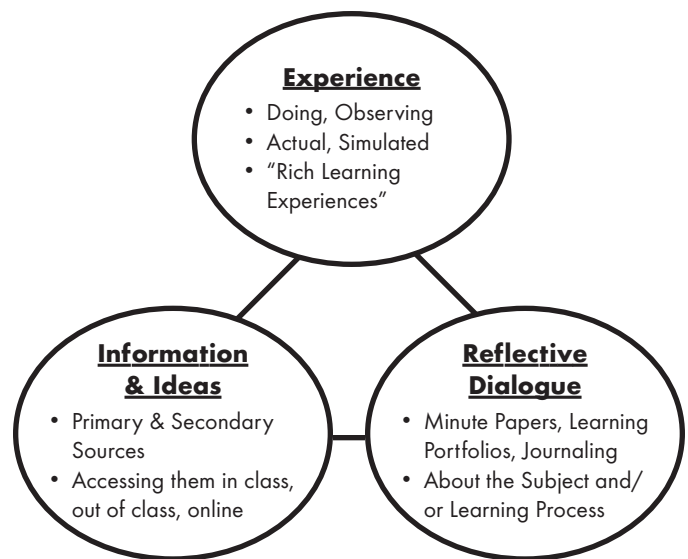
Step 4. Teaching/Learning Activities

In the past, the higher education literature focused attention on the instructor and the ways in which the subject matter could best be presented to the student. The emphasis was on “lectures” and “discussions” and the assumption was that learning consisted of a passive activity in which learners received information and ideas from authoritative sources. Although foundational knowledge, principles, and theories are essential, research over the past several decades has challenged the potency of passive learning as an exclusive approach; an impressive volume of studies has shown that students learn more and retain their learning longer if they acquire it in an active rather than a passive manner.

Bonwell and Eison (1991) describe active learning as “(involving) students in doing things and thinking about the things they are doing.” “Doing” refers to activities such as debates, simulations, guided design, group problem solving, and case studies. Thinking refers to reflections about the meaning of what students learn or about the learning process itself.

To create a complete set of learning activities capable of fostering significant learning, a comprehensive view of teaching/learning activities is needed. This is shown conceptually in Figure 4.

Figure 4
A Holistic View of Active Learning



In selecting learning activities, two general principles should be followed. First, they should include some from each of the three categories shown in Figure 4 (Information and Ideas, Experience, and Reflective Dialogue). Second, insofar as

possible, they should rely on *direct* rather than *indirect* learning activities. The following table illustrates the variety of options available.

Learning Activities for Holistic, Active Learning

	Getting Information & Ideas	Experience		Reflective Dialogue, with:	
		“Doing”	“Observing”	Self	Others
Direct	<ul style="list-style-type: none"> • Primary data • Primary 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"> • 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, oral history, literature) 		
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. 	

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Learning activities should reflect the instructor’s judgment of how effectively they address the learning goals of the class. Those that promote growth on several goals are considered “rich.” In-class examples include debates, role-playing, and simulations. Out-of-class examples include service learning, situational observations, and authentic projects.

Learning is enhanced and made more permanent when students reflect on the learning experience and its meaning to them. This can be done individually (journals; diaries) or with others (discussions with teacher or in small groups). When students reflect on what they are learning, how they are learning, its value, and what else they need to know, they are more inclined to both “own” and appreciate their learning.

Step 5. Integration

To ensure that the course design is properly integrated, a careful review should be made of decisions made in carrying out the first four steps. A few key questions should be asked about steps and their inter-relationships:

Questions regarding “Situational Factors”:

- How well are these reflected in decisions about learning goals, feedback and assessment, and learning activities?
- Are there potential conflicts that may cause problems?
- Are there any disconnects between the instructor’s values and beliefs, student characteristics, the specific or general context of the course, or the nature of the subject as it relates to the course plan?

Questions regarding “Learning Goals and Feedback and Assessment”:

- Do the proposed assessment procedures address all learning goals?
- Does the planned feedback give students information about their progress on all of the learning goals?
- Are students given help in learning how to assess their own performance?

Questions regarding “Learning Goals” and “Teaching/Learning Activities”:

- Do the learning activities support all of the learning goals?
- Are some activities “extraneous” (unrelated to any major learning goal)?

Questions regarding “Teaching/Learning Activities” and “Feedback and Assessment”:

- Does the proposed feedback loop help students understand the criteria and standards used to assess their performance?
- Do practice learning activities and associated feedback opportunities prepare students well for the final assessment process?

The second step is focused on creating a dynamic combination and sequence of learning activities, i.e., a dynamic teaching strategy. Laying out the combination of in-class and out-of-class activities in a “castle-top” diagram allows the teacher to sense how dynamic the teaching strategy is. The following diagrams of two very different strategies illustrate the importance of this step.

The first example, shown on the following page, is not very dynamic both because it is repetitive and because the individual activities do not engage students in active learning, typically, until the night before the exam.

In-Class Activities:	Lecture	Lecture	Lecture	Lecture	Exam
Out-of-Class Activities:	Reading	Reading	Reading	Review	

The second example (*Team Based Learning*; Michaelsen, Knight, and Fink, 2002) has a much more differentiated set of learning activities. Furthermore each in-class and out-of-class activity is meaningfully linked to what precedes and what

follows it. The plan fully engages students throughout the sequence and each day presents them with a different mode of learning. It also has a culminating activity that is much more engaging than a “Did ya’ get it?” exam.

Activities:		R.A.P.* 1. Individual test 2. Group Test 3. Appeal Process 4. Corrective Instruction	In-Class, Small Group Application Activities (Simple)	In-Class, Small Group Application Activities (Complex)	(Continue pattern as long as desired)	Culminating Application Project Done in groups
In-Class:						
Out-of-Class:	Reading	Homework	Homework		Review	

*R.A.P. refers to “Readiness Assurance Process.”

Conclusion

The purpose of instruction (and any other learning activity) is the promotion of student learning. All decisions relating to a given course (or other learning experience)—from the selection of reading materials to the assessment process—should be judged by their contribution to this end.

The quality of these decisions is a function of how well the course is designed and how well the design components are integrated. Because few college professors understand the concept of an integrated course design, and even fewer have the skill required to create one, this paper is offered as a way to improve this vital process.

An integrated course design requires a significant investment in time, energy, and thought. But this expenditure has great potential for exerting a potent effect on student acquisition of “significant” (rather than trivial) learning. Therefore, faculty members committed to improving their ability to facilitate significant learning are encouraged to adopt the processes described in this paper. There may be no “faculty development” activity with more potential and power for improving significant learning.

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