Promoting Student Learning through Effective Course & Syllabus Design

Worksheet
(revised December 2010)

Center for Teaching Excellence
Duquesne University

Feel free to ask for additional resources or feedback on your syllabus
from the Center for Teaching Excellence (but do allow ample time!)
Contact us at cte@duq.edu or 412-396-5177. Also available are sample syllabi.

CTE serves…

*To help faculty and TAs
excel as teacher-scholars
deeply invested in students' learning*

Getting Started: Remember Key Findings from Research on Learning

Meta-analyses of research on learning can be summarized into the following principles for a learner-centered understanding (National Research Council [NRC], 2000; Weimer, 2002). These are not exhaustive.

1. The importance of students' preexisting knowledge

We must engage students' preconceptions in the teaching/learning process. Otherwise, students may "learn" for the test and revert to their previous understanding and practices. They bring a lot of experience. We need to connect with that, build on it, and where necessary, address misconceptions (NRC, pp. 15-17).

Fish is Fish
(by Leo Lionni, 1970)

In this children's book, a fish tries to imagine what land animals look like based on his tadpole friend's description. Pictured here are birds, a cow, and humans. Note the inherent creativity and dangers (adapted from NRC, p. 11).

2. Competence requires a rich knowledge base

"To develop competence…, students must: (a) have a deep foundation of factual knowledge, (b) understand facts and ideas in the context of a conceptual framework, and (c) organize knowledge in ways that facilitate retrieval and application (NRC, pp. 16-17)."
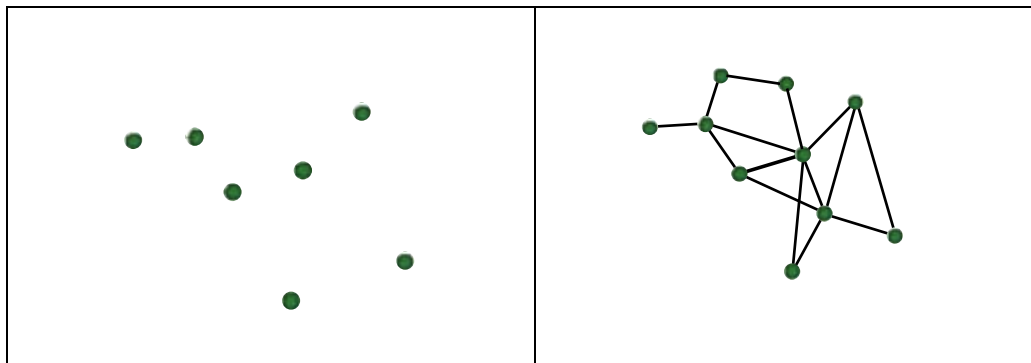

This is drawn from research that compares experts and novices; experts are not only bright thinkers, but they use a "richly structured information base." They have so

much practice that they rely on foundational knowledge in an automated or effortless way.

3. The role of the teacher

Teachers don't "transmit knowledge" or pour knowledge into students. They develop an understanding of how learning takes place, and everything they do is intended to promote this. They focus on facilitating learning by creating educational experiences in which students develop understanding and skills, and by giving them regular feedback on learning (Weimer, chapter 4).

Of course, this focus assumes that instructors have developed a deep conceptual content framework for their field and have honed the necessary skills, but the focus is on building students' competency.
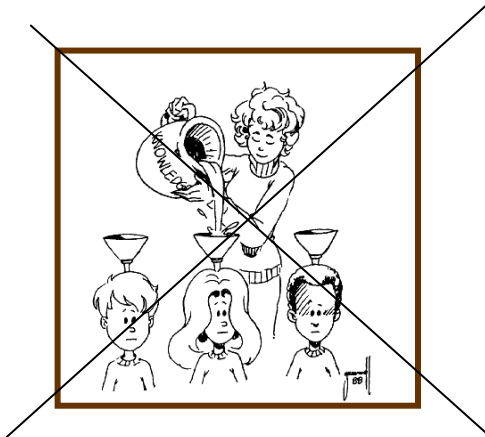
4. The integration of metacognitive skills into the curriculum and the importance of students taking responsibility for their learning

Students need to understand how they as individuals best learn, set personal goals, be able to evaluate the quality of their work, and know when they need to get more information or improve their skills. This promotes life-long learning as well as self-understanding and control over one's own learning (NRC, pp. 18-19). They must learn to be self-directed learners; this doesn't come automatically to most (Weimer, chapter 5).

5. Evaluation purposes and processes

"Evaluation is not just something used to generate grades; it is the most effective tool a teacher has to promote learning" (Weimer, p. 17).

"Assessment promotes learning, but the question is, What kind of learning does it promote?" (Weimer, p. 16).

Is it a bulimic model where learners binge and purge what they think the teacher wants? Is it superficial, temporary, decontextualized memorization?

As you plan a course, there are three aspects of evaluating student learning that call for careful thinking:

   a. providing ongoing, rich feedback as students practice new concepts and skills;
   b. teaching students to assess and take responsibility for the quality of their learning; and
   c. evaluating the quality of student work throughout the course to determine a final grade

Feedback on learning is most effective when it is integrated into the daily activities of the course. It goes beyond a simple numerical or letter grade by describing strengths and areas for improvement in students' work.

Good practice in undergraduate education
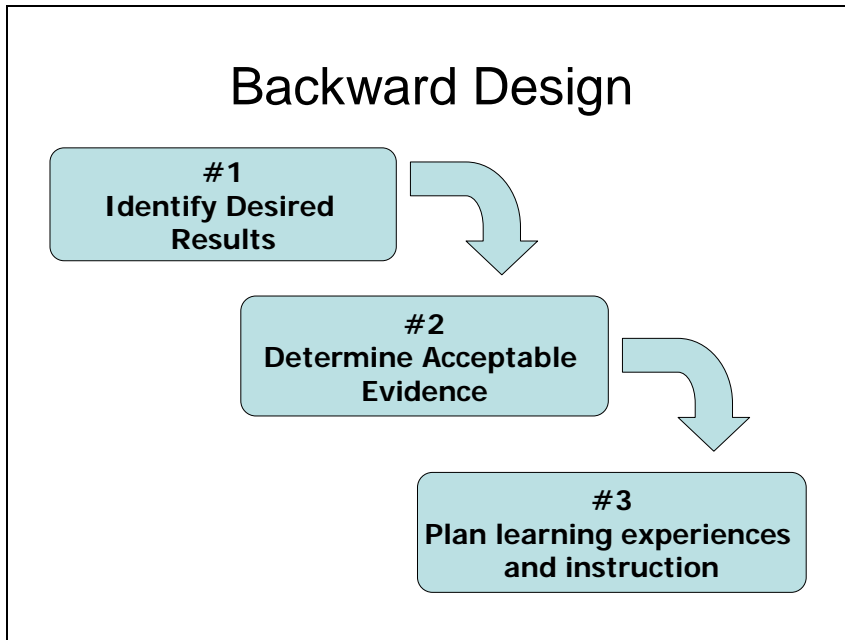(Chickering & Gamson, 1987):

   1. encourages contact between students and faculty,
   2. develops reciprocity and cooperation among students,
   3. encourages active learning,
   4. gives prompt feedback,
   5. emphasizes time on task,
   6. communicates high expectations, and
   7. respects diverse talents and ways of learning.

Course Design Worksheet

We will use two models:

Backward Design (Wiggins & McTighe)

Significant Learning Goals (Fink) - see Appendix A

Backward Design

#1
Identify Desired Results

#2
Determine Acceptable Evidence

#3
Plan learning experiences and instruction

(Wiggins & McTighe, 2005, p. 18)

A. Identify desired results: *Start with the end in mind*

What would you like the impact of this course to be on students?

What learning results do you hope will last well beyond the end of the course?

Alternative approach: What *overarching questions* do you want students to explore relevant to these "desired results?" (Note, "explore," not fully answer.)

B. Translate your "desired results" into learning goals

Read Fink's model for significant learning goals, Appendix A

Use Fink's six kinds of learning goals to analyze Duquesne examples:

1st year course in Nursing
1. Define service-learning
2. Identify strategies for successful interaction in the community
3. Analyze the significance of service-learning and its effect on your strength as a person and as a nursing student

Organic Chemistry
1. Learn the basic nomenclature and structure of organic compounds. The understanding of structure ultimately leads to the understanding of function.
2. Understand the detailed molecular mechanisms of organic chemical reactions. Such an understanding will provide you with a powerful predictive technique in the analysis of reactions you have not previously encountered.
3. Develop and refine your powers of deductive and inductive reasoning.

Introduction to Psychology
1. Learn the major events, ideas, studies, theories and people who have shaped the field of psychology.
2. Become actively and personally involved in the study of psychology by approaching theories critically and relating them to your own life.

Business ethics/communications course
1. Explain the differences between one's optimal stage of moral reasoning versus one's typically used stage of reasoning.
2. Build a "just community" within the classroom community, with implications for school, work and residence life.
3. Create an ethically defensible position on a controversial current ethical issue
4. Identify the opportunity for personal growth while serving others

Now, use Fink's six kinds of learning goals to analyze the "desired results" you noted above. What kinds of goals do you have?

Use the questions and verb list in Appendix A to translate your desired results into learning goals. Be sure that the goal results in something observable; state what students will know, be able to do, etc.

C. Determine evidence of learning for each goal

For each learning goal, *brainstorm the kinds of evidence* you could collect to indicate students' progress in their learning. (Often, one kind of assignment will provide evidence for several goals. The opposite is also true – a learning goal may pervade student learning throughout the course. There is not a one to one match.)

Think of *key indicators* – e.g., selected tasks that students perform indicating they have developed sufficient knowledge and skills. Examples: written work, tests, debate/discussion, performance of skills, simulations, application to new contexts, guided reflection, synthesis projects, reports, oral presentations, etc. *Be realistic with your time and that of students!*

Questions to consider: What criteria will you use to judge student work? Remember the developmental level of the students. How will your grading capture a full picture of student learning?

D. Select learning experiences and instruction

What learning experiences and instruction will enable students to achieve the end results?   What activities and assignments will build toward the significant, long-lasting learning?

What micro-skills and basic knowledge will students need to develop along the way?

Imagine the kinds of assignments that will help students engage in and take responsibility for deep learning.

In what systematic ways, will you give students regular feedback for improvement (without overburdening yourself)? How will they learn to judge the quality of their work?

Remember the various learning contexts appropriate to your course:
- in class, face-to-face or online
- in a lab, field/forest, museum, studio, recital hall, clinic…
- guest speakers/discussants
- with partners in the community
- students working individually
- students learning in groups

E. Write the syllabus

Simply put, your syllabus communicates to students the design and purpose of your course: the learning goals; the learning experiences, resources, and environments; support available for them in their learning; evidence you plan to gather about student learning; and your criteria for grading the student learning. There are a few other items of importance too. See the checklist in Appendix B.

Be sure to use a tone that sets a high standard and invites learning. Communicate that you believe students will succeed. Have someone else read your syllabus for clarity and tone.

Resources

Most volumes are available for loan from the Center for Teaching Excellence, and some are sold in the Duquesne Barnes & Noble

Anderson, L. W., & Krathwohl, D. (2001). *A taxonomy for learning, teaching, and assessing.* New York: Longman.

Campus Compact. (2003). *Introduction to service-learning toolkit: Readings and resources for faculty (2nd ed.).* Providence, RI: Campus Compact.

Chickering, A. W., & Gamson, Z. F. (March, 1987). Seven principles for good practice in undergraduate education. *American Association for Higher Education Bulletin.* *http://honolulu.hawaii.edu/intranet/committees/FacDevCom/guidebk/teachtip/7princip.htm*

Fink, L. D. (2005a). A self-directed guide to designing courses for significant learning. http://www.deefinkandassociates.com/GuidetoCourseDesignAug05.pdf

Fink, L. D. (2005b). Integrated course design. *Idea Paper #42.* *http://www.theideacenter.org/sites/default/files/Idea_Paper_42.pdf*

Fink, L. D. (2003). *Creating significant learning experiences: An integrated approach to designing college courses.* San Francisco: Jossey-Bass.

Grunert, J. O., Millis, B., & Cohen, M. (2008). *The course syllabus: A Learning-centered approach (2nd Ed).* San Francisco: Jossey-Bass.

Huba, M. E., & Freed, J. E. (2000). *Learner-centered assessment on college campuses: Shifting the focus from teaching to learning.* Needham Heights, MA: Allyn & Bacon.

Millis, B. J., & Cottell, P G. (1998). *Cooperative learning for higher education faculty.* Phoenix, AZ: American Council on Education and Oryx.

Morey, A. I., & Kitano, M. K. (Eds.). (1997). *Multicultural course transformation in higher education: A broader truth.* Needham Heights, MA: Allyn & Bacon.

National Research Council. (2000). *How people learn: Brain, mind, experience and school.* Washington, DC: National Academy Press.

Nilson, L. B. (2007). *The graphic syllabus and the outcomes map: Communicating your course.* San Francisco: Jossey-Bass.

Nilson, L. B. (2010) *Teaching at its best: A research-based resource for college instructors (3rd Ed.).* San Francisco: Jossey-Bass.

Weimer, M. (2002). *Learner-centered teaching: Five key changes to practice.* San Francisco: Jossey-Bass.

Wiggins, G, & McTighe, J. (2005). *Understanding by design.* Association for Supervision and Curriculum Development.

Zull, J. E. (2002). *The art of changing the brain: Enriching the practice of teaching by exploring the biology of learning.* Sterling, VA: Stylus.

Appendix A

From: Fink, L. D. (2005a). A self-directed guide to designing courses for
significant learning.
http://www.deefinkandassociates.com/GuidetoCourseDesignAug05.pdf, pp.
8-12.

A Taxonomy of Significant Learning

FOUNDATIONAL KNOWLEDGE
Understanding and remembering:
- Information
- Ideas

APPLICATION
- Skills
- Thinking:
  Critical, creative, & practical thinking
- Managing projects

LEARNING HOW TO LEARN
- Becoming a better student
- Inquiring about a subject
- Self-directing learners

CARING
Developing new
- Feelings
- Interests
- Values

HUMAN DIMENSION
Learning about:
- Oneself
- Others

INTEGRATION
Connecting:
- Ideas
- People
- Realms of life

One important feature of this particular taxonomy is that each kind of learning is **interactive**,
as illustrated in Figure 2 (next page). This means that each kind of learning can stimulate
other kinds of learning. This has major implications for the selection of learning goals for your
course. It may seem intimidating to include all six kinds of significant learning. But the more
you can realistically include, the more the goals will support each other—and the more
valuable will be your students' learning.

Figure 2 **Interactive Nature of Significant Learning**

LEARNING HOW TO LEARN

FOUNDATIONAL KNOWLEDGE

CARING

SIGNIFICANT LEARNING

APPLICATION

HUMAN DIMENSION

INTEGRATION
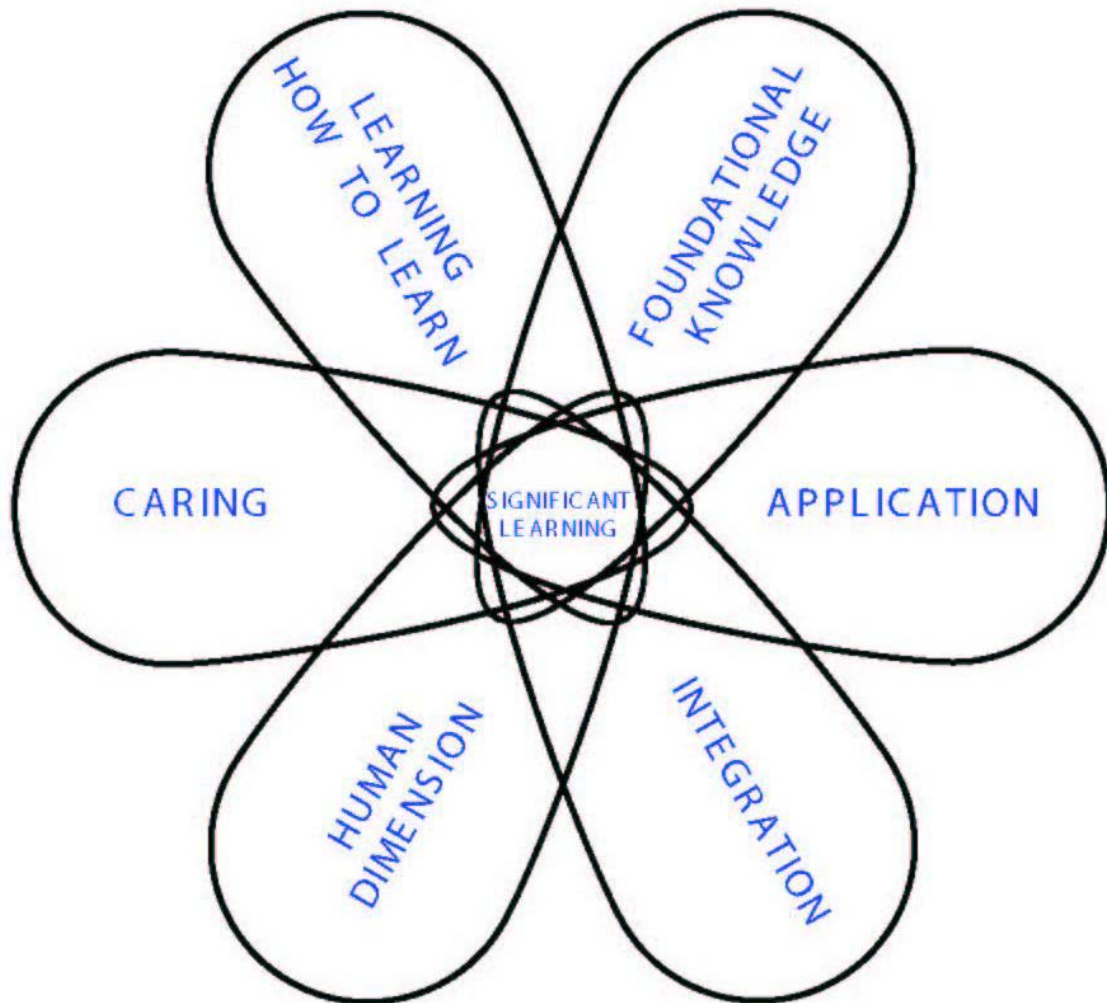
Questions for Formulating Significant Learning Goals

"A year (or more) after this course is over, I want and hope that students will
_____ ."

Foundational Knowledge
- What key information (e.g., facts, terms, formulae, concepts, principles, relationships, etc.) is/are important for students to understand and remember in the future?

- What key ideas (or perspectives) are important for students to understand in this course?

Application Goals
- What kinds of thinking are important for students to learn?
    - 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
- What important skills do students need to gain?
- Do students need to learn how to manage complex projects?

Integration Goals
- What connections (similarities and interactions) should students recognize and make...:

    - Among ideas within this course?

    - Among the information, ideas, and perspectives in this course and those in other courses or areas?

    - Among material in this course and the students' own personal, social, and/or work life?

Human Dimensions Goals
- What could or should students learn about <u>themselves</u>?
- What could or should students learn about <u>understanding others</u> and/or <u>interacting with them</u>?

Caring Goals
- What changes/values do you hope students will adopt?

    - Feelings?
    - Interests?
    - Ideas?

"Learning-How-to-Learn" Goals
- What would you like for students to learn about:
    - <u>how to be good students</u> in a course like this?
    - <u>how to learn about this particular subject</u>?
    - <u>how to become a self-directed learner</u> of this subject, i.e., having a learning agenda of what they need/want to learn, and a plan for learning it?

Appendix B
<p align="center">SYLLABUS GUIDELINES
Center for Teaching Excellence, Duquesne University</p>

The Center for Teaching Excellence provides resources for designing courses and syllabi. Except for the excerpts from the *Faculty Handbook* below, the following guidelines are *not* University policy, but are intended as a helpful resource.

Be sure to check with your department or school on policies of what must be included, and your departmental culture of what's considered good practice in writing syllabi.

BASIC INFORMATION: INSTRUCTOR & COURSE
- Course title, department, catalogue number, section number, Duquesne University (see http://www.duq.edu/registrar/)
- Date (term and year)
- Course meeting days and times, room and building
- Instructor's name, e-mail address, office location & phone number, office hours
- Indication of web support such as Blackboard learning software
- Space for names and contact information of two classmates

Course Description & Goals
- Description of the course (give broad overview and a word about how the course fits the larger curriculum; engage students by showing your enthusiasm and the course's relevance to real life; avoid technical language where possible)
- Student learning outcomes (also called learning goals or objectives; specific *observable* outcomes you expect students to achieve, e.g., what students will know and be able to do; a grade is based on the quality of learning you can observe)
- Prerequisites for the course

INSTRUCTIONAL ACTIVITIES & MATERIALS
- Methods of instruction & learning (e.g., interactive lecture, discussion, group work, service-learning, projects, practicum, problem based, case based)
- Calendar: class dates, topics, learning goals, readings, assignments, exams (watch for changes in days toward the end of the semester – see academic calendar at http://www.duq.edu/registrar/)
- Special features (e.g., excursions, guest speakers, online chats with experts)
- Textbooks, readings and brief description of these and how they will be used (central text? for reference only?)
- Where texts are available (e.g., campus bookstore, library reserve, online)
- Other required materials (e.g., lab supplies, computer CDs, calculator)

ASSESSMENT OF LEARNING
- Brief description of each requirement (it helps to explain how it fits the learning outcomes)
- Expectations for in-class participation and group work
- Due dates for assignments and projects
- Quiz and exam description and dates; Place, date, and time of final exam

- Grade breakdown for the final grade (# of points possible per assignment/test and total # of points for a final grade of "A," "B," etc.); indicate whether or not you will use plusses and minuses in grades

COURSE POLICIES
USE POSITIVE LANGUAGE TO SET EXPECTATIONS AND PROVIDE SUPPORT
- Duquesne policy regarding academic integrity, available online http://www.duq.edu/academic-affairs/policies.cfm
- Your own policy regarding attendance & tardiness
- Your own policy regarding late assignments & make-up exams
- Information for Students with Disabilities: Duquesne University is committed to providing all students with equal access to learning. If you think you have a disability requiring accommodations, you must register with the Office of Freshman Development and Special Student Services in 309 Duquesne Union (412-396-6657) in order to receive reasonable accommodations in this course. Once a disability is officially documented at Duquesne by this office, and with your permission, instructors will receive letters outlining the reasonable accommodations they are required to make. Once I have received this letter, you and I should meet to coordinate the way these will be implemented in this course. For more information, go to http://www.duq.edu/special-students/. (statement recommended by Academic Affairs and Special Student Services, 2008)

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Official policy: The Duquesne University *Faculty Handbook* stipulates the components of a syllabus in its section entitled "Responsibilities of the Faculty:"

Faculty members must distribute at the first meeting of each class a course syllabus which includes at least the following information: course requirements, course assignments and expectations, types of examinations (when possible), evaluation process for grading (including +/- grading), and policy regarding class attendance. If major changes in the above categories of the syllabus are necessary, they must be given to the students in writing (page 14).

Additionally, faculty responsibilities include fair assessment of learning:

The faculty member is responsible for assigning grades in a fair manner, consistent with policies stated in the syllabus, or subsequently modified in a written adjustment of the syllabus (page 15).

Available online at http://www.duq.edu/academic-affairs/policies.cfm

A syllabus worksheet and sample Duquesne syllabi are available upon request from the Center for Teaching Excellence: cte@duq.edu, 412-396-5177, 20 Chatham Square. http://www.duq.edu/cte/.

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