

SOME PRINCIPLES OF THEORY INTO PRACTICE

Designing Curriculum and Planning Lessons for Effective Teaching and Learning

Adapted from "A Summary of Principles of Theory Into Practice" by Darrow, Finkel, Peterson, Schwartz;
and from "Conceptual Analysis: Some Principles of Theory Into Practice" by Curtz, Peterson and Walton

The Context for Teaching

PATH I: Pre-determined subjects or objectives:

If you want or need to begin by thinking about what to teach (or if the subject and objectives are already chosen by your school, district, or organization of the textbook to be used):

Go to A, then B1, B3 and B4, then to C, D and E.

PATH II: Emerging curriculum:

If you are interested in developing curriculum around students' interests and needs:

Go to B1, B2 and B4, then to A, then to C, D and E.

Principles of Theory Into Practice

A. Conceptual Analysis

Examine the subject you want to teach. Use your knowledge of the subject to identify key concepts which are essential to understanding the subject. You should also have a sense of how these fit together into a system or network of inter-related ideas. Part of this process may be working through the relevant objectives and textbook guidelines to sort out what is crucial to real understanding of the subject and to develop a sense of how these concepts fit together.

The teacher asks: What are the central concepts I want the students to understand when I am done (with the lesson, with the unit, with the course)?

B. Stimulating Environments

We think you need to pay attention to at least three things here.

1. First, what is there in the students' own lives, in or out of school, which already involves some real interest in learning about the world in which they live? How can you build upon that interest or a version of it in the context of your class? This can range from beginning your unit on poetry with rock/rap lyrics to developing a unit on simple machines based on the differences in the students' bikes, personal tape/CD players, family cars.

2. Second, if you are planning on building a lesson or the whole curriculum out of students' interests, you need to create an environment which draws new interests out of the students and use them for development. Artifacts from the students' homelives such as a favorite book or collection should be considered. Publishing student writing as part of the class will draw out interests in creative writing and in eventually making the spelling and mechanics of pieces perfect; tending a garden will draw out interests in measurement, weather, and insects.
3. Third, if you are working from a pre-selected subject, try to create conditions in the classroom which will lead the students to see the subject as connected with real activities and interests, in ways that are meaningful and relevant to them. Teach them to read poems as if they were overhearing somebody talk in a restaurant booth next to them and trying to figure out who that person was and what she was feeling; teach appropriate formats for different letters by having students actually write to companies, rock stars, children's/adolescents' and other authors, scientists and other real people for real reasons.
4. The teacher asks: How can I create a setting in which the students' interactions with that environment reveal, elicit or create interests in the students which lead to further learning?

C. Assessing Student Conceptions

Regardless of whether your subject matter is already settled or whether you are building curriculum on students' current interests and needs, you have to find out what the students already know about the topic and how they understand it. Try to get a clear idea of what they understand and how they understand it. There are several styles of doing this. You can question a group about the topic you are preparing to plan for, or simply observe an individual's approach and progress in a problem-solving situation. You might directly ask, "How did you get that answer?" then carefully listen to the student's strategies and sequence of solving the problem. You could also carry on brainstorming sessions or use more formal error analysis strategies. A pre- and post-assessment of student understanding aids the teacher in her/his responsibility toward accurate student evaluation.

The teacher asks: How do students understand the key concepts when they come to me, before I begin? They are **NEVER** blank slates. What are the schemes I will be forced to take as my starting place?

[1.] Disequilibration

The teacher arouses disequilibrium by presenting a problem, a wonder, or a puzzling situation, and thus arouses uncertainty and interest. (Naturally, the situation should arise out of your analysis of the students' current conceptions, and its resolution should lead toward greater understanding of the conceptual network which is the teacher's goal.) The problem should reveal to the students some of the inadequacies in their current ways of thinking about the subject; they shouldn't be able to solve it easily when they try to apply their current understanding. However, they should be able to reorganize or build on their current ways of thinking to solve it. The situation should not be so easy for them to think about that it provides no motive for growth. It should not be so difficult that growth is not possible.

The teacher asks: How can I problematize the situation and disequilibrate the student with respect to her present schemes? How can I create a need to understand?

[2.] Elaboration

The teacher shapes a movement toward greater understanding of the goals set by the conceptual analysis, through a set of procedures and guidelines for learning activities. These activities, including interactions with other students and the teacher, are the essential bridge between puzzlement and a more adequate comprehensive way of understanding the subject. Which ones to design or choose depends on the teacher's judgements about the students' conceptions and about the desired new understandings.

The teacher asks: What activities will help the students restore a new and more effective way of making sense out of the subject matter? How can I get them to explore, experiment, invent, make distinctions, make connections?

[3.] Crystallization

The teacher supports the students in firming up their new understanding by: (a) paying attention to students' conversations and activities and helping the students to focus on the moments when they realize and clearly formulate their new understandings; and (b) developing particular reflective experiences that bring the process of moving from puzzlement toward new understandings to culmination and closure.

The teacher asks: How can I get the students to reflect on their experience and crystallize their new concepts so these ideas don't fall apart or evaporate later?

D. Culture, Language, and Ways of Knowing

How successfully you can create an interesting and supportive environment, and how well you can understand the conceptions the students bring to the subject, depends on your awareness of the differences between your culture and that of the schools on the one hand, and the students' cultures and languages on the other.

Churches, peer groups, teen gangs, sports, family obligations or treaty rights may matter more in their worlds than school expectations. Ways with words may differ. Even more deeply, their beliefs and feelings about what counts as meaningful knowledge, how one expects to acquire it, and what it's good for **may differ significantly from yours.** The better your estimates of these realities, the better your chances of creating an environment which interests them. Discovering how they understand and make meaning out of the subject you intend to try to teach them depends on knowing as much as you can learn from them about how they understand and experience the world.

E. Organization of Interests

Once you know what you intend to teach, have found out what your students know, and have created an interesting environment, you will need to consider how to organize the environment for effective teaching and learning. This includes decisions about the physical arrangement of the room and materials, learning activities, opportunities for interactions among students and between them and you. These decisions should lead first to student curiosity, then to elaboration of new understandings, and then to reflection and crystallization (see 1, 2, and 3 below).

The teacher asks: (a) How can I organize my time so I can be a facilitator in the learning environment with the students? (b) How can I organize learning experiences for the students in the environment that help them pursue their interest in such a way that they reach the conceptual goal that I have for them?

Interactions with the environment which are actually educational seem to involve the following three (3) phases. In planning for them, and living through them, emotions of each student and of the group matter as much as cognition. How much confusion and anxiety is tolerable, how much initiative for risk-taking can be found, how much sensitivity to doubt and inferiority exists, how much intimacy is sought -- factors like these are central to the planning and success of teaching and learning. Any sequence of activities should try to draw appropriately on the emotional resources for learning present in the situation. It should not demand more than is currently available. It should try to foster the development of more powerful and flexible ways of coping with inner as well as outer realities and difficulties.