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Dialogue in Education

Abstract

Educators strive to design effective and friendly learning environments. When planning such a space, it is often useful to build around four dimensions: content knowledge, the student, community, and assessment. Since the beginning of the twentieth century, classroom focus has been placed primary on only the first and last dimensions. In what follows I will briefly explain just what each of these four areas is and why each is important. Then I will introduce an approach to presenting and interacting with information called *dialogue*, which, we will see, simultaneously accesses the strengths of all four design targets within a single framework for exploratory learning.

1. Designing Learning Environments

The modern conception of the elementary or high school classroom owes, in large, to manufacturing for providing a framework for understanding and design. Students have been likened to raw materials, and their teachers, to factory workers. The aim, then, is to mold the materials until, at last, they emerge from the schools-turned-factories as finished, polished products, capable of performing tasks outlined in state's or other governing body's standards. Modern approaches to learning have harshly critiqued this style of education as churning out calculators who lacking real understanding of materials encountered during their studies. It is tempting to turn the system on its head. But before we do so, it is instructive to search for practices which are worthy of saving. Metaphorically, as educators and instructional designers, it is important not to throw out the baby with the bathwater.

Knowledge-centered Environments

The manufacturing analogy highlights two important aspects of an effective learning environment: *content knowledge* and *assessment.* Content knowledge is what drives the need for formal education in the first place. It is a collection of related information in a meaningful way. In order to operate a car, drivers must first learn to the operating mechanics of an automobile (*e.g.*, what the key is used for, how to signal a left turn, how to stop) and community norms and conventions (*e.g.,* a red light signals drivers to stop, double yellow lines denote a no passing zone). This network of facts and the relationships that connect them comprises the content knowledge required for driving.

Many modern curricula, however, race through an unwieldy amount of information in a very short amount of time. Because of physical constraints, students do not have enough time to interact with the content knowledge. As a result, many recognize and adopt an effective strategy for learning large amounts of data in a short amount of time: rote memorization. Unfortunately, a student who has memorized an isolated fact without understanding its meaning within the context of the larger subject will find it difficult to apply it in unfamiliar situations.

On the other hand, students who learn the subtleties of a discipline without learning the basics (such as arithmetic in mathematics, or facile reading in the

humanities) will find themselves needlessly distracted when trying to make sense of new relationships. We know from basic cognition that each person can concentrate on at most one locus of attention at any given time. (For example, you cannot read this sentence and another at the same time.) In order for a person to perform two or more tasks concurrently, then, all but one must be done automatically. Knowledge-centered environments must balance between tasks that promote understanding and those that foster the automaticity of skills necessary to function effectively without being overwhelmed by attentional requirements.

Student-centered Environments

While students need to draw on foundational knowledge to come to an understanding of the relationships among them, it is important for the instructor to be keenly aware of the knowledge the students bring to the classroom. The manufacturing analogy does not honestly depict the students at all. They are not, as it was once thought, blank slates. Instead, students draws on their own experiences from both inside and outside the classroom during learning. They will form their meanings from new data, beginning with their existing beliefs, understandings, and cultural practices. Student-centered environments bow to the individual. If a classroom does not incorporate the students' personal knowledge, there is tremendous room for misunderstanding that appears to some tests like genuine learning. Here is a common example taken from early elementary education.

In many classrooms in the United States, children 5–7 first learn that the world is round. However, this fact is at odds with common experience. If questioned before hearing otherwise in a formal classroom setting, children will answer that the world is flat. If pressed for evidence, they may cite their surroundings. Indeed, locally the world is essentially flat. After being told by a teacher that the world is round, students can very easily reproduce the correct answer when asked on a test. If the question is changed so that it requires students to produce the same answer using alternative methods, say, by drawing the shape of the world, teachers may be surprised that many students think that the world is round like a pancake rather than like a ball.

This example illustrates how crucial the information students bring to the classroom can be. All new knowledge is built upon old knowledge. Here students successfully (though misguidedly) assimilated a new fact—*i.e.*, the world is round—in a way that accommodates their previous experiences. Gone unchecked, students will build upon faulty inferences in future learning. For this reason, a student-centered approach is essential in effective learning environment design.

Assessment-centered Environments

Assessment gives the student an opportunity for feedback and revision. Moreover, it exposes the students' thinking to both the teacher and to the student. Assessment often helps to clarify to both parties what the student believes. Typically, the classroom model tends to over-emphasize assessment and blindly equate it with understanding. Alas, not all assessment was created equal, and so it is useful to divide it into at least two different kinds: *formative* and *summative assessment.*

Formative assessment involves assessment as a means of feedback. It can be seen as advice. Common examples include teacher comments on the first draft of a paper or informal suggestions during a class discussion. Summative assessment, on the other hand, aims to measure to what extent a student has mastered a collection of material. Chapter tests and standardized tests are examples of summative assessments.

Assessment should be used as an instrument for learning and not a ends in itself. Continuous, unobtrusive assessment can help a classroom instructor with valuable knowledge about how the students are managing the content knowledge and can provide clues to potential misunderstanding. Done correctly, assessment should reinforce and encourage understanding rather than memorization of facts. Formative methods can be more easily internalized. They inspire dynamic revision when students are most pliable—during the learning process. Too often, priority has been given to summative assessment, which, by definition, occurs after the time for learning has already passed.

Community-centered Environments

All groups whose members interact necessarily have rules, whether implicit or explicit, which govern acceptable behavior. Such groups are known as communities. According to definition, all learning environments are indeed communities and should be treated as such. The rules of a community carry with them a value judgment through which they single out forms of behavior that the community prizes and, correspondingly, despises.

Many contemporary classrooms esteem so-called error-free learning. Mistakes are frowned upon. Best practices commend high test scores and other behaviors which make the teacher's job easier.

Compartmentalization of knowledge into discrete subjects (*e.g.*, history) and subsubjects (*e.g.*, American history, European history) thwarts the stundents' attempts to synthesize an full, working understanding of a corpus of knowledge. Summative assessment-heavy classrooms silently teach students that knowledge is a laundry list of facts which need to be reproduced exactly during formal testing. An overly constraining classroom culture can easily render knowledge dead, making students little better than a static, published fact book.

In short, the structure of a community provides a way by which designers may implement the aims of knowledge, student, and assessment-centered environments. The operational structure of the classroom guides the students' focus of attention and forms a basis for their personal educational philosophies and practices.

2. Dialogue

Dialogue is a framework for communication among people in groups. While in practice it may take any of several varied forms, each is founded upon a shared collection of directives known as the *container* of the dialogue. Briefly, the container requires its constituents to adhere to the following ten points:

1. Be aware of individual assumptions.
2. Listen with an open mind.
3. Seek a collective meaning.
4. Speak the truth as you see it.
5. Share your thinking process.
6. Nurture emerging ideas.
7. Balance advocacy with inquiry.
8. Suspend judgment.
9. Find your own voice.
10. Reflect and find meaning.

As it is stated, the container addresses all learning environment centers all at once. Dialogue, which employs the container as its foundation, establishes what I like to call the coffee mug model for the classroom.

In this metaphor, one coffee cup represents one student. Upon entering the classroom, the cup is full, in the same way that a student brings with her outside
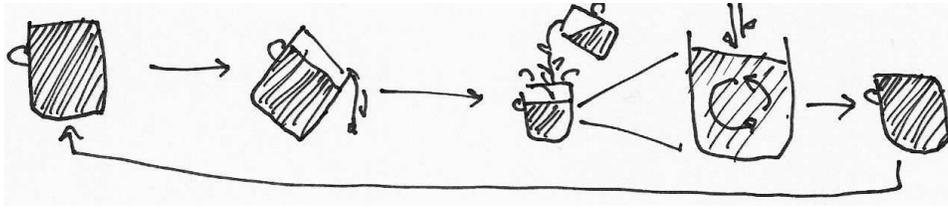
FIGURE 1. The coffee mug model begins with a cup full with existing befiefs, which are then shared (poured) with others. The ideas then mix and form a new substance. The process then repeats.

and previous beliefs. Throughout listening and sharing—directives (2) and(4)—, the student makes room for additional information. Reflection gives the student an opportunity to form the connections between the facts that she has heard during the dialogue. This is analogous to stirring the liquird in the coffee cup. During this time, the student may nurture new ideas, ask for clarification, and revise her thoughts. In this model, knowledge is seen as a fluid substance which can change its form and adapt according to new information. This model values the incorporation of many resources (4), questioning and checking facts [(1),(7)], and seeking out new insight and understanding.

The container provides a built-in mechanism for continuous monitoring and assessment. In this model, students lead the discussion as much as the instructor. Because students are constantly explaining their reasoning (5), the teacher can get an in-depth view of the students' savvy of the material in a way that looks very different from conventional assessment. In this way, the container automatically surfaces student assumptions, understandings and misunderstandings [(1), (5)].

The tenets of the container place a high premium on respect, which can be defined as the willingness to learn from another. Students learn to think critically without being critical of each other. Dialogue takes place in an environment which promotes empathy [(2), (6), (8)] and individuality (9). The focus in a coffee mug classroom is not on objective rights and wrongs. Indeed, a class may not resolve the problems it set out to solve. The shift from product to process takes the onus of success and failure off the students and recasts understanding as a journey rather than a destination. Because of the empathic environment set up by the container, students can more easily venture guesses and cope better with uncertainty.

Dialogue nicely balances knowledge-, student-, assessment-centered learning environment designs by careful consideration of the community component. The coffee mug model can be easily adapted for classes in the humanities or sciences. (See, for example, my lesson plans which use dialogic principles to teach mathematics.) Like anything else, dialogue requires practice to do well. If proper work is put in it, the resulting atmosphere will lay the groundwork for an effective learning environment.