

RR6 – Bransford

Chapter 6, "The Design of the Learning Environment"

A. Remember

Discoveries in learning science from previous three chapters (learning & transfer, how children learn, mind & brain) can inform my decisions as a teacher so that the learning environment aligns with rather than competing with the way people learn. Fundamental to all decisions are the learning goals of the teacher, student, and society. Goals might be both assumed and explicitly stated. A good teacher makes an attempt to be aware of all.

For maximum learning, create a learning environment that aligns with rather than competes against learning goals and how people learn. Such environments integrate all four of the following elements in balance with one another:

- Learner-Centered. This involves paying attention to cultural aspects and being aware of your student's prior knowledge and preconceptions. Take time to identify what the students are thinking, challenge their misconceptions, extend and adjust their thinking to incorporate new knowledge
- Knowledge-Centered. Mastery of content that is well-organized mentally is essential for transfer – so just "thinking skills" by themselves are not enough. Need to include connecting to and extending students' initial understandings to embrace understanding connections between concepts and facts so that students are making sense of what they are learning. .. going beyond collecting mental data & facts
- Assessment-Centered. Formative feedback should be frequent, aligned with the goal of understanding i.e. go beyond memory of procedures and facts---kind and quality of cognitive activity involved is a function of content and process so is a reliable focus for assessment
- Community-Centered. Norms & expectations of community impact learning, so it pays to be aware of what you are communicating and what is understood –
*"Teaching and learning must be viewed from the perspective of the overall culture of the society and its relationship to the norms of the classrooms."*pg 147

B. Connect

Re: changing education goals.

The authors reiterate that the education goals for modern society have developed parallel with our shift from an agrarian society to industrial to information-based. I do think it is important to understand this shift of expectations and I accept that the shift has occurred. But I'm also aware that this

shift in perspective is not widely accepted. There remains a fiercely conservative, tradition-minded sector of our society that is resistant to change. And to be fair, there are some good reasons to resist. Implementation of less “rut-bound” curriculum has not always had stellar results, having failed to provide sufficient alignment within disciplines, between disciplines, and across levels.

Re: being Learner-Centered

Beginning from the student involves having an awareness of who your students are and what they think. This connects with the Piaget concepts of assimilation and accommodation discussed in Session 3.

It also requires deeper understanding of content by teacher so that s/he can recognize student competencies like the African American high school students who exhibit high forms of literacy in their speech. The teacher provided a bridge from their competence and experience to the content they are expected to acquire. This made the content meaningful.

I remember using the concept of cognitive dissonance when my 5 year old son was mystified as to where the water went when he poured it into a hole at the beach. I realized he was experiencing dissonance between his conception of containers that he possibly extended to a hole in the ground and current experience. Rather than just give him an answer to his dilemma, I suggested we do what scientists do when they have a question about something. We created an experiment to see if he could discover the answer. We got a jar, filled it with dry sand, and then poured water in. “Where did the water go?” I asked. He said it was in the jar. “How do you know?” “It didn’t come out,” he noted. “But I don’t see the water. Where did it go?” He couldn’t think of a response that satisfied him. So we tried our experiment again, with small stones. This time he could see that the water went between the stones and he was able to make a transfer of this discovery to what happened with the sand in the jar as well as what happens to the water at the beach...but then, of course, he had a new question: “Why doesn’t all the water in the ocean fall down between the cracks of the sand?”

Re: being Knowledge-Centered

This idea of progressing through the lessons is common among those with whom I consult. Less experienced teachers and parent-teachers both find comfort in the structure and predictability of such curricula. These parents and teachers often voice concerns about the “holes” that thematically organized studies create. But stress on the isolated parts without making connections to how the pieces integrate into the larger picture actually creates holes of a different sort. My reading of this material is leading me to conclude that both the big picture and the parts are important. New material presented only in the context of a case study may not transfer, and too much disconnected drill of isolated skills frequently becomes just so much practice. It’s looking to me like a good teacher makes sure that there is a healthy balance of both.

Parallel with Bradford's book, I've started reading *Five Perspectives on Teaching in Adult and Higher Education*, by Daniel D. Pratt (1998) from the University of British Columbia. He describes five major philosophical and practical orientations to teaching that influence what happens in classrooms and learning situations. One of the great strengths of this book is the cross-cultural perspective that Pratt offers. He acknowledges the whole learning context and argues that teaching decisions are driven by beliefs about the importance given to the relationships between the learner, content, context and ideals. Fundamental to the teaching perspective we choose as teachers is our conception or beliefs about knowledge and learning, argues Pratt.

I'm connecting Pratt's affirmation about teaching perspectives with Bradford's opening statement that "A fundamental tenet of modern learning theory is that different kinds of learning goals require different approaches to instruction; new goals for education require changes in opportunities to learn." I think it is our conception of knowledge and learning that informs the learning goals that we set. What has changed in American society is our conception of what knowledge and learning are. What Bradford spends the first part of his book establishing, is a new conception of learning and knowledge based on discoveries in brain research and learning science. One thing that is fundamentally different from culture to culture is the culturally defined conception of what constitutes knowledge and what learning is.

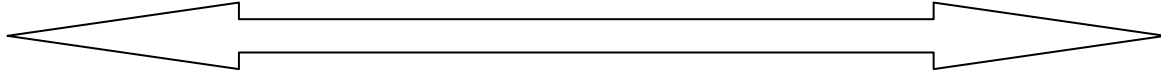
How does this make any difference in the way that I teach? It challenges me to be very aware of exactly what it is that I think and how I should stretch myself. Because what I think will drive what I do and sometimes what I intend to do does not happen because of conflicting hidden beliefs on my part or the part of my students. I will confess to having once been further over into the objective knowledge/quantifiable learning camp myself. It looks like I've experienced some fundamental changes in my thinking. I'm comfortably in the constructivist camp now. And I'm building tools for maintaining separation between theories of teaching and theories of knowing (see Bransford chpt 1, pg 11).

In addition to helping me reflect on my own teaching perspective and how I want to teach, Pratt also helps me to evaluate both what Bradford and other authors are saying so that I can sift out what I think is the good from the bad, the whacky from the practical. Pratt suggests a continuum of beliefs about knowledge (from Objectivity to Subjectivity) that coincides with a continuum of beliefs about learning outcomes (from Quantifiable change to Qualitative change) He identifies five reference points on the continuum, with the middle point being a bridge or transition point between objectivity and subjectivity.

For the most part, I think that the perspective promoted in Bransford fits nicely into the middle, bridging position on the continuum: Learning environments must be both learner-centered and knowledge-centered. Ongoing assessment

provides both summative evaluation and formative feedback that informs further instruction. The students and the content cannot be disconnected from the dynamics of community in the classroom, school, family, wider society.

Notes from Pratt that I am connecting to:



Learning is an increase in knowledge	Learning is memorization, usually for recall or recognition on tests	Learning is the acquisition of information and procedures so they can be used or applied in practice (transfer?)	Learning is the abstraction of meaning	Learning is a complex interpretive process aimed at understanding reality and self as co-determinant
Look toward External world	Bridge of transition between Objective Knowledge and Subjective Knowledge		Look toward Internal world	
Quantitative change			Qualitative change	
Objective Knowledge			Subjective Knowledge	
Content Focus			Process Focus	
Learner in background, receiver of objective knowledge			Learner in foreground,	
Knowledge exists independent of the learner			Knowledge is influenced by purposes, values, and interests of learner within cultural and historical context	
Teaching involves efficiently moving knowledge from outside of learner to inside			Teaching (and learning) involves negotiation of meaning	
Test of learning is ability to reproduce the knowledge of the authorities in more accurate and efficient forms			Test of learning is ability to use knowledge to interpret new meaning in new contexts	
Knowledge resides in authorities (text or teacher)			Content/knowledge is changeable, and adaptable material from which the learner extracts meaning	
Summative assessment predominates?			Formative assessment predominates?	
Novice?	Expert?			

Re: being Assessment-Centered

Bransford discusses theoretical frameworks for assessment that integrate cognition and context so that performance is described in terms of content and process (knowledge and skills) in addition to the quality of thinking engaged. This connects with the matrix for evaluating learning objectives offered at Leslie Owen Willson's curriculum site www.uwsp.edu/education/lwilson/CURRIC/newtaxonomy.htm It is based on Anderson and Krathwohl's adjustment of Bloom's taxonomy of cognition. Kinds of knowledge (factual, conceptual, procedural, and metacognitive) are along left and cognitive activities are listed across the top. Bradford points out that discriminating objectives fuel discriminating assessment. In addition to evaluating objectives, this matrix could be used to form discriminating assessment regarding student competence and content-process performance that engages different levels of cognition.

I find Bransford's discussion of assessment frameworks interesting in light of some of my assessment experience for this course. The reading response rubric we are to use includes both content and process elements. The content elements for the reading responses are vague, leading me to conclude that the focus for response is supposed to be on process and higher level thinking. I find it disconcerting on the occasions when negative feedback focuses on supposed omission of specific content. I will try to remember this experience when I'm creating rubrics. I can see that to be most useful, the design and use of rubrics should accurately reflect the learning goals and as a teacher I need to communicate both clearly and consistently.

The rubric states I should note "several valid points" and that those points should be "thoroughly discussed and analyzed". In some instances I have been given only partial credit because I didn't include all of the points that the evaluator thought I should include. Most of the time, the remainder of my responses indicate that I'm thinking deeply. I chose to comment on what interests me and what extends my own thinking. Feedback that notes "omission" of specific content leads me to change my reading the next time, so that I am guessing what the evaluator wants to see recorded rather than reflecting on what I am learning.

I also find it disconcerting when I put time into thoughtful peer responses and the quality of those responses is not acknowledged. I know my personal take away from the reading is heightened because of the kind of thinking I am doing. But I'm not SO intrinsically motivated for that to be sufficient in and of itself. At some point pragmatics come into play and I have to consider, "do I have the TIME it would take to think and respond more deeply?" "is it worth it?"

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Re: Community-Centered environment

Knowing community norms and expectations connects with being learner-centered (knowing expectations of your students and the community from which they come) --- in my work context, this involves understanding the norms and expectations of the families that I work with. Their conception of what school is and what learning is drive the curriculum they choose and the learning tasks they involve their kids in. I'm frequently in the situation of trying to stretch those conceptions...but I MUST begin where they are. I have to understand their perspective and the reasons that their choices make sense to them.

This idea of motivation through competition really needs to be reconsidered when working cross-culturally. I've seen it back-fire far too many times in cultures where group harmony and the collective identity are higher values than self-direction and individual identity. Just this week the issue of competition was brought up as I de-briefed a group of Americans who provided a two week children's program for 150 kids ages 2-16. Their program involved dividing the school-aged kids into teams who competed for points for various activities. At the end of the program the kids (from 10 different countries including several Asian countries) expressed their discomfort with the point system. The Americans were perplexed because they were unfamiliar with cultures where competition is perceived as a negative social factor.

One needn't go outside of the US, however. Big public high schools in Austin, TX are shifting to an academy organization in hopes to build smaller learning communities where students can work together and have more connection to teachers. This is more consistent with values of minority cultures in the U.S.

C. Questions I have...

Re: learning goals

- What is the conception of literacy (and being educated) in today's Asia? How is that the same/different from times past?
- Can it really be possible/valid to compare results of different countries when we all have differing goals? And what are the stated goals of learning for different countries with which we compare ourselves?

Re: being knowledge-centered.

- I'm not clear on why a scope and sequence chart necessarily leads to series of disconnected individual objectives. I have always turned to scope and sequence charts to give me context so that I can better understand how the small pieces of a curriculum fit into the whole. I can get lost in the minutia of a particular curriculum until I finally discover the scope and sequence chart. Seeing the scope and sequence design also gives me confidence about what I might leave out, re-organize, or add.
- For those who find comfort in the more traditional kinds of curriculum with their organized series of exercises – how might I build awareness of the need for both the teacher and the student to be making connections

between the parts? It is assumed that “going through the steps” is sufficient. It’s like the assumption is that we just must “do school”. Whether or not learning is happening and what kind of learning is transpiring are out of focus for many.

Re: being assessment-centered.

- I wonder about the quality of the feedback that I give to my students. In what ways am I acknowledging their thinking processes? In what ways do I minimize the importance of that thinking? Do I become so content driven that I lose sight of the fruitful thinking that is happening? I wonder if adding more formative assessment that gives feedback on cognitive activity will yield higher summative assessment results in regard to understanding of content.
- Is it necessary to make a choice between deep but narrow understanding and wider but shallow recall? Can’t we achieve BOTH depth and breadth? How?