

**Scholarship of Teaching and Learning Project  
Fall, 2008**

**What Do I Know? Where Did It Go?**

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**The Inquiry or SoTL Question**

In the fall 2008 I taught a small senior seminar in Student Teaching and directed the internship experience for 11 weeks. Our program is a secondary or high school program and thus all these students were preparing to teach in area high schools in different disciplines. During this course, I generated and followed up on a SoTL question as part of an overall departmental inquiry on our students' learning. My question for the fall seminar and student teaching (seminar course plus student teaching field experience) was:

*How does a student's ability to reflect on and connect experiences with theory manifest in his written artifacts and thinking? What can I learn about how my students are able to make these connections through my data sources, primarily their writing?*

**Context for the Question**

I noticed when I taught primarily freshmen and a few sophomores last semester in our Human Development class (Spring, 2008) that when students wrote their reflections on their field experience, they were primarily descriptive about what they did. Our evaluation rubric asked them to think about their experience in light of the course readings, but few mentioned the readings in relationship to their descriptions. After discussing some models (using other papers as examples), some students started to incorporate their reading into their writing; sometimes this seemed to help some students while others would learn to "throw in" a quote or two from the text and sometimes this was not very substantial. I wondered if perhaps the ability to think this way in your writing is developmental? Could we, as teacher educators, study this development over time in our program?

Our students go through our program sequentially and in cohorts and a longitudinal study of their development is quite possible; in fact, we have their writings available right now (journals, papers, projects, teaching samples) that will allow us to retrospectively examine the development of the ability to make these connections, to see where and how these connections get made for them. This will be a larger departmental SoTL project for us and will help our entire program.

So my specific inquiry question above I viewed as a piece of a larger programmatic question we seek to study, framed as this question below:

*How do students develop the ability to connect their field experiences or teaching experiences with the theory on teaching and learning that they learn in class? How do students develop this kind of reflection, that is, the ability to tease out the insights from their experience, allowing the reading to inform the insights or challenge them?*

Since I was going to work with seniors during the fall, 2008, I thought I could now explore my specific question with students that were at the end of their teacher education undergraduate learning, our seniors rather than our freshmen and sophomores. What I might find, I reasoned, might be a different kind of connection of theory and practice or at least more overt connections.

### **Literature Search**

I have not conducted a very full literature review, but I did do reading that informed some of my methodology. I have used two influential sources directly: Grant Wiggins' *Understanding by Design* (2005), and Randy Bass's article, "The Scholarship of Teaching and Learning: What's the Problem?" (1998-99). The Bass article shaped some of the course teaching methodology, and the Wiggins provided me ideas for data analysis (see later section). There were several other sources that helped me understand the results I was getting from the data analysis and these are referred to in my analysis section.

### **Methodology**

Overall, I did a qualitative study using five cases and my sources were qualitative in nature. In the next couple of sections, I describe my data sources, management of the data, and the process I used for my analysis.

#### ***Data Sources***

Basically I used a combination of existing and new assignments in the course (papers, journals, interviews, etc.) to see if students developed the kind of reflection that show their connections of experience and theory.

Specifically, I used these data sources for each of the five cases:

- Classroom Management Case Study (before seminar, after the four week seminar, and at the end of student teaching) -- I did a case study of a classroom management and teaching situation loaded with teaching issues on the first day of the seminar. We discussed the issues and solutions, a kind of decision-making or problem-solving discussion, but my key question throughout was "why" this solution, and based on "what" that you know? I culminated this discussion on the first day with "based on what we know about teaching and learning, how would theory you know bolster your confidence in your proposed actions and solutions in this case?" This yielded a written synopsis for each student and

one source of data. At the end of the four week seminar, I reintroduced this case, and the students, having learned more about the classroom management theory, pedagogical tools and the rationale in learning theory behind those, and philosophy in general, wrote another written synopsis for comparison. Finally, after the 11 weeks of teaching, I revisited this management case again, this time making it about their management, and used this writing piece to see if the students were thinking and making connections differently. This was my qualitative pre- and post-test data source.

- I used several existing assignments as data sources, mainly the student teaching journals that are written weekly during the 11 weeks. We had a generic prompt asking students to describe and reflect on their experiences, and I revised some prompts to suggest they reflect on their experience in light of what they have learned.
- I also used their exit interview responses (from oral interviews), and
- Finally, I kept research journal notes throughout the course and especially during the process of reading and coding the materials.

### ***Data Analysis***

#### Management and Analysis Process

I created folders for the work of each student teacher that became a data source. As I read papers and journal entries, I made memo comments and observation comments on the papers, a record of my own thoughts. I also wrote some notes in an electronic reflective journal as the course proceeded.

Most of my analysis occurred after the folders of data were organized by cases. I followed this analysis process:

1. Organized students into case materials
2. Read and “cooked” the materials (much of this process comes from a qualitative analysis approach in Ruth Hubbard and Brenda Power’s book, *The Art of Classroom Inquiry* (2003))
3. Stepped back to see what I had, in light of the framework from Wiggins, *Understanding by Design*
4. Completed the rubric defining knowledge and understanding in six categories
5. Then did a re-reading more intensely, and more analytically, classifying the kinds of ways students showed knowledge as understanding through their documents
6. Thought about what I was seeing and learning
7. Beginning use of literature for interpreting what I was seeing more
8. Determined other questions I had that need to be answered still
9. Determined how I would change the course to address what I’m learning, to experiment further, and to begin to address the larger programmatic questions.

#### **Analysis – Tentative Findings**

As I read and coded the five cases, I found that, with few exceptions, four of the six dimensions of Understanding, according to Wiggins and McTighe, were emerging from these five cases: Explanation, Application, Perspective and Self-Knowledge. Only rarely in the overall writing in these five cases did I find the other two, Interpretation and Empathy (for a definition of these categories, please see the attached analysis rubric; my definitions of each of these dimensions of understanding are briefly stated next to each category). In the case of one student, there was some interpretation of a concept he discussed, and in two cases, there was clear empathy for a student situation that had come to light in the classroom. For example, one student teacher says of a special needs student who approached him after class:

*She felt that she was the only one who couldn't understand what was happening. Wow, it was like a bombshell. She is not my very best student but I did not realize she was having this much trouble. We worked out an extension for her presentation and I gave her the book on CD to try last night.*

I reasoned that because of the fact that I was looking at their pedagogical knowledge base through the lens of their writing (personal and more formal papers) that interpretation might not need to be used since the only audience for these pieces was myself and other supervisors. In addition, having empathy for others requires the ability to focus on their situations rather than your own, something that a great deal of student teaching literature tells us is well nigh impossible when beginning to teach (Stoot, et. al., 1998; Katz, 1972).

What I was really looking for was Wiggins' and McTighe's Explanation dimension of understanding, that is, I was hoping to see our students "using theories to provide knowledgeable accounts of ideas." I wanted to see them give "why and how explanations, support actions and decisions" using their pedagogical knowledge base we had spent years helping them learn. This to me, at least using their writing as a lens, was the definition of connecting theory and the practice they were experiencing as student teachers.

While Explanation is certainly one of the chunks of data that was coded throughout all five cases, it is not the most significant one of the four, at least in much of the writing. Perspective (having insight while detached and objective), Application (using knowledge in new situations), and self-knowledge (wisdom through reflection) were by far the more pervasive ways of making sense of their experience and connecting theory to this overwhelming practice in which they found themselves immersed.

Specifically, to get a rough picture during my analysis of the ways they articulated and used knowledge, I counted up my chunks of coded materials. Initially, I coded even single words in the journal writing that might allude to knowledge of a pedagogical idea or theory, my definition of Explanation. For example, in one case, and this is typical, the student used words and phrases like "higher level question," or "rubric," and "conferencing for grading papers." These short "sound-bites" did suggest a knowledge base connected to application being described, but there was seldom, if ever, any extended discussion of the theory related to practice. In this particular case, and again, this is typical, I counted 14 Explanation codes across the writing data sources (formal writing and informal journal), but 8 of these were one

word or short phrase allusions to specific pedagogical knowledge concepts. Only 6 times were concepts and ideas a bit more expounded upon and these instances showed up in the more formal assigned writing in which students were directly asked to connect the theory with practice or ideas for practice. I considered this finding to show “low incidence” of direct connection of theory and practice in writing. In this same case, coded portions of writing for Perspective, having insight while being detached and objective, showed up 8 times, which was still “low incidence” but these coded writing portions were somewhat more substantial. For example, in this case, the student teacher talks about an adaptation he made in the middle of student teaching:

*Before I flip-flopped the units, there was not a lot of routine. Things were very different almost every day. I like the routine of this week and the students seem to be responding well. It seems that they like to know what is expected of them everyday. They have said they like variety in the classroom, but they perform better with a little routine. I think an even mesh of these two ideas would be perfect.*

Finally, the most coded were the descriptions of Application of knowledge and Self-Knowledge (or reflection), which dominated large chunks of the writing, especially the journal writing, showing up 17 times each in writing samples in this particular case. Note the following example:

*I have developed somewhat loose or flexible lesson plans in case a particular activity goes well or busts. On Wednesday my 7<sup>th</sup> period class came in and immediately began asking questions about last night's chapter. I planned two other things before this, but I obviously jumped right into discussion and we started in the middle at the center of their questions. We didn't even work chronologically through the chapter. This class was a little “disorganized” but it may have been one of the most meaningful...because the students were ... directing the class even if they didn't realize it.*

Again, this case was typical across all five, although there were some individual differences. Some of these differences might go to disciplinary difference, but more likely it seemed that they were due to individual differences among students. For example, of the five cases, three were social studies students, one an English major, and the last a Spanish major. In the three cases I've analyzed most carefully so far (English, Spanish, and one Social Studies), the pattern holds that there initially seems to be a fair number of pedagogical knowledge terms, but analyzed closely, the number shrinks when you look beyond one word or short phrase allusions, and the number divides around the type of writing that the student does: Explanation shows up more evenly in more formal writings while Application and Self-Knowledge (reflection) shows up far more substantially in the informal or weekly journal writing.

This finding, that type of writing may make a difference in showing connections is an interesting finding although not totally unexpected. In the three phases of writing about the classroom management case and in the final exit interview, students were directly asked in the prompt to reflect on how their ideas for or about teaching connected to what they had learned in courses in particular. In these writings, students did bring up names of theorists, significant

developmental ideas, and newer learning on classroom management theories and their workability, although to my mind, seldom more than generally. The following excerpt from one of the formal pieces of writing illustrates what I mean:

*Also, we have discussed in every single education class, in one way or another, that every student brings their personal cultural background and preferred learning style to the classroom. I discovered first hand that it would be a full time job teaching just one student everyday.*

At times they did hit the mark more closely, again, in the prompted more formal writing pieces:

*Many education classes over the years have suggested that setting guidelines for class discussion are essential. Teaching about how to have an efficient discussion is helpful and necessary. Also, teachers should vary the questions and prompts used to facilitate discussion. Gradually pushing students to reach deeper into the root of an issue or controversy makes for good discussion. I believe we recognize Christenbury for a system of categorizing levels of questions like this....*

It was just the opposite in the more informal journal writing in each case I've analyzed. As I mentioned this may not be surprising; Janet Emig's study (1971) of student expressive writing and more formal writing showed important differences in writing in each instance, and students may simply not perceive informal writing as a space to naturally connect theory with practice in meaningful ways.

I think the most important finding for me was this: the students in these cases did connect theory and practice at a number of levels according to the Wiggins framework, albeit not in the way I was looking for, that is Explanation. In fact, they sometimes connected knowledge to experience in ways that showed understanding in much more sophisticated ways than I was looking for originally. Without their making direct and explicit statements about what theory they based a choice or an action on, their written artifacts, through the application and reflection pieces, often embodied the pedagogical knowledge we had tried to help them learn. For example, in the quote earlier about flexibility in lesson plans, the student is clearly recalling discussions in methods classes about the nature of planning, that plans are guides for classes and not agendas engraved in stone. As an example, in the following excerpt one student teacher wrestles with the role of development and motivation in his teaching:

*This was a very successful activity (lab activity on artists in Cuba). I couldn't believe how creative and engaged the students were. Perhaps this had to do with the activity itself and its close relation to their interests? Obviously music and entertainment is a relatively common interest in most high school students' lives. I think the fact that they were able to use computers and the Internet to research and create their advertisement also might have contributed to engagement and creativity? I just found this...a bit*

*surprising because earlier...we read an excerpt from our textbook...and there seemed to be very little interest. Maybe because it was from our textbook, and the students had no role in choosing the article?*

And another who, to us, clearly is applying discussion techniques drawn from our constructivist teaching materials:

*The students have been showing some improvement in the department of discussions, especially in psychology. I let the plans this week be dominated by discussion. The students in that class enjoy the freedom to share opinions and usually are respectful of each other and have gotten better at playing off each other's comments rather than mine. I think this is happening from practice.... I have been stressing that they support their decisions with viable reasoning.*

These kinds of examples led me to think that the students are not consciously thinking of Explanations, but they are enacting or applying their knowledge base; in their writing, I thought I could see what Lee Shulman (1987) calls "pedagogical content knowledge." This kind of deep understanding of Explanation comes through the Application coded chunks of their writing. And as I looked at these cases in this light more closely, it appeared that through Self-knowledge (reflection) chunks, they are often verifying formal knowledge, subtly testing out what we have taught them in the crux of reality. In essence, they seem to appropriate on some deeper level Explanations through Application and it becomes owned by them and it is the mechanism of Reflection that provides the avenue for this kind of connection of practice and theory to occur. The two examples above show this as do these excerpts from their informal writings; in each case, the student describes a pedagogical concept that can be identified with concepts and theories taught in different courses prior to this time, but he re-learns it within experience:

*I have found that in my world history classes, connecting the material to their world is key. I found myself going over the material to some pretty bored looks. After some critical reflection, I thought of why I didn't like world history classes in high school—because none of it affected my life. I started making it a point to go out of my way in every lesson to connect some aspect of the material to today. So far, it has turned out great. The students are much more attentive and engaged.*

And,

*I also learned a little bit about grouping students. I let my first period group themselves and choose their own topics. The rest of the classes I grouped and assigned topics. The class that I put together went much smoother than the one I let choose. I think this is because many students that don't work very hard or care very much worked together in 2<sup>nd</sup> period. It is a difficult period.... The rest of the class I grouped lower level students*

*with higher level with much better results.... I think this is because these students are easily influenced by peers...*

What I began to see is that I was interpreting good practice as connection of theory and practice from a cognitive dimension only, but what this study showed me is that to see practice impacted by knowledge (Explanation), we need to view this issue through the lens of the affective dimension as well. What our students were showing us was “lived knowledge.” Their thinking through their writing showed that not only did they “receive” pedagogical knowledge, but they “responded” to it and came to “value” it enough to enact key parts of our core pedagogies in their classrooms. That is pretty sophisticated in the Krathwohl affective domain. In fact, there is probably enough “self-knowledge” or reflective thinking to suggest that these students were “characterized” by reflection as a mode of practicing their crafts (1964).

This is not to say we did not see pedagogical misconception in spite of our best intentions as teachers of teachers, but more often we did not. They sometimes did not base their practice on sound knowledge bases, and sometimes those Explanation coded pieces of writing alluded to their peers as teacher educators of note. For example, another observation based on these data is that often students will turn to Explanation when there is a problem in the classroom that they cannot readily solve. However, Explanation, or theory, is not where they automatically and consistently turn to for solutions. As often, they call up advice peers or other teachers have given them, or what they themselves have seen as teachers, whether it was deemed effective in more thoughtful moments or not! There is always some “it worked for me as a student.” As sophisticated as some of their connections between theory and practice might seem, they ultimately are novices existing in transition from student to professional teacher.

And yet, although I now think that things are not so disconnected between theory and practice as I once thought, I am not willing to not push on this connection I wish for them to make. In a final synthesis reflection over the whole experience, one student wrote:

*I cannot honestly tell you a theory or theories that I would link myself directly to. Mostly because there were so many I can't keep them straight. I am going to teach how I teach. If something I do doesn't seem to work, I will think about why it didn't work and what I could do differently. I don't need set "theories" to label myself with to be an effective teacher. I am a Constructivist type teacher I think you could say. I believe in a student-centered approach, with the students being responsible for their education and behavior. I like to use Vygotsky's "scaffolding" principle because it relates to coaching easily and I think teachers should be coaches in the classroom. I do have to draw my teaching style from somewhere I guess.... It's a conglomeration of what I have observed in our fieldwork, talked about in classes, and experienced in my education.*

The passage reads like a person having a revelation that indeed, knowledge, even from more formal sources (Explanation), does shape one's teaching identity, and this student can say what knowledge has been important and why.

As I continue to look at this study, I wonder if perhaps my study methods need to be improved, or perhaps I need different data sources, or I need to spend more time in analysis or I need more cases. Perhaps I will discover that what I hope to see is a matter of development or maturity as a teacher. In spite of these questions, these data suggest several next steps for my teaching in this seminar and practicum experience:

### **Next Steps or Implications for my Course and Teaching**

Obviously, I need to continue to review methodology and these cases, completing the last two with a more thorough analysis and seeing if these tentative findings are modified. However, I still think I have learned enough to change some of the teaching in the seminar and practicum for the next course.

Students come into this seminar and internship having read and studied the Wiggins and McTighe framework for understanding as part of their earlier methods courses. One of the first things I will do in the seminar is review this framework with them as part of asking them to help me look at their knowledge gains and the applications of and reflections on their knowledge.

The second activity I want to engage them in is doing an individual, then group produced concept map of the core educational theories, ideas and concepts that they have learned up to this culminating point in their undergraduate experience. Together, with both of these activities beginning the course, I want to plan to reintroduce them consistently across seminars in discussions to frame better their experience around their formal knowledge. By then looking at the students through their writing, I would hope to see the connection more pronounced.

Finally, I think we can make much better use of teaching case studies in these classes. If we begin to weave these “simulated experiences” into the courses, perhaps these will help students develop the habit of making theory/practice connections long before it becomes a necessary professional act.

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## Six Facets of Understanding (Wiggins and McTighe)

**Understanding** – “Conceptual clarity so that you hold an internalized flexible idea and not just a borrowed expert opinion” (p. 49).

### Six Facets

**Explanation** – using theories and illustrations to provide knowledgeable accounts of ideas (facts, and why and how explanations, supporting actions, decisions, etc. with this kind of knowledge)

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Low Incidence

High Incidence

**Interpretation** – translations, story-wise, to show you have the meaning of an idea or concept

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Low Incidence

High Incidence

**Application** – use of knowledge, effectively, in new, diverse, and realistic contexts

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Low Incidence

High Incidence

**Perspective** – critical thinking, coming up with new ways of seeing things, or having insight while being detached and objective

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Low Incidence

High Incidence

**Empathy** – feeling as others do, seeing as others do

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Low Incidence

High Incidence

**Self-knowledge** – wisdom through reflection

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Low Incidence

High Incidence