

Differentiated Instruction and Assessment in the College Classroom

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Although I have been teaching future educators for over five years in a department that embraces a constructivist teaching philosophy, I never fully taught a course in a constructivist way. Sure, I have modeled these methods and always have my students role play by acting as if they are school children learning in a constructivist classroom. But, these methods were merely contrivances of how an orthodox constructivist classroom would operate.

As an assistant professor in the midst of mid-tenure review, I was afraid that if I did not teach the way I wanted my students to teach, the department chair, the dean, and even the president might find out about it! My cathartic moment came after a discussion I had with a class comprised of early childhood education seniors where they complained that, although the education faculty expected them to teach young children through a constructivist philosophy, few in the department were “teachin’ as they were preachin’.” After much thought about this discussion, I decided to go for it. Not only did I believe that it was critically important to design a class based entirely on constructivist principles, I also chose to showcase the course to my peer-review team and superiors during my mid-tenure review.

Theoretical Framework for the Course

Maybe the most frustrating teacher educator lament is: Why don’t our graduates teach the way they were taught to teach? Infused in most accredited teacher programs is a constructivist philosophy grounded in developmental theory of the child. Yet when we visit our local schools, we are hard pressed to find much, if any, evidence of

child-centered pedagogy. It is quite apparent that there is a great disconnect between the teacher education curriculum and teacher practice in the field. Julie Ranier (1999) makes an important point when she asks how we can expect teachers to teach constructively if they were not taught constructively in their teacher education program. Ranier and Guyton (2001) suggest that teacher educators implement the primary principles of constructivism in teacher preparation to transform their students. When teachers build upon prior knowledge, students begin to build personal understandings. What this means is that teachers need to be learning facilitators rather than dispensers of knowledge (Phillips, 1995).

Learning is mostly an affective, dramatic, and emotional event that requires instruction that consumes the learner’s whole being in the process. As opposed to strategies grounded in behaviorism, this process values creativity by constructing new connections. Fundamental to constructivism, learning that can be transferred to situations outside the classroom is first taught at the conceptual level (Fishman & McCarthy, 1998). This means that for true learning to occur the learner must actively participate in the process. While constructivism is not a prescriptive theory for curriculum, certain of its strategies promote a creation of an active learning environment. What seems to work best are those methods that are cooperative in nature, manifested in the many forms of differentiated instruction throughout the curriculum. One of the primary objectives of

differentiated instruction is that it acknowledges that not all students learn the same way. By being offered instructional choices, students can use the learning style or styles that work best for them. The differentiated instructional process begins with an assessment of the students' prior knowledge and experiences. Following this assessment, differentiated instruction uses strategies such as the project method approach, presentations, reciprocal teaching, discussion, aesthetic experiences, peer-to-peer teaching, cooperative learning and discovery learning. Writing reflections are most certainly key components of instruction as they are occasions for the students to examine their feelings about concepts. Learning in such an environment positions the teacher as a facilitator, rather than as a lecturer, meaning that although the teacher organizes, manages and creates the learning environment, it is the students who are actively involved in the teaching and learning process (Thomlinson, 1999).

There are formidable barriers to teaching constructively in the higher education setting. As Ranier (1999) concedes, constructivist teaching is a complicated affair because the power relationships extant in the academy do not support the above principles. Probably the biggest hurdle to overcome is in the area of content knowledge and assessment. Because there are specific content and assessment requirements associated with every higher education course, the chosen teaching philosophy and strategies must satisfy these specific content and assessment objectives. Seemingly at odds with these desired outcomes, constructivist teaching values the learner's own personal meaning gained from the experience. This was my challenge, to teach through constructivist principles while meeting the objectives set forth by the department and the college.

Rather than begin the process with

questions such as "How do we best cover the topic?" or "What learning experiences should we use?", Wiggins and McTighe (2001) suggest a backwards design where the process begins by determining what the learner must perform to demonstrate understanding. That is, one begins at the end.

Drawing from the work of Wiggins and McTighe (2001), the first step in the process is to determine what goals and standards are desired. Next, determine what evidence would clearly show that the goal and standard has been satisfied. Third, plan learning experiences and instruction that are the most effective. In Wiggins and McTighe's backward curricular design, one must think like an assessor when specific performances are required by the curriculum.

After the desired goals are determined, Wiggins and McTighe (2001) recommend that these goals and standards be prioritized into three categories: (a) worth being familiar with, (b) important to know and do, and (c) enduring understandings. The category *worth being familiar with* pertains to those things we want our students to hear, read, view and encounter. The *important to know and do* group describes the knowledge and skills that we believe are essential to the course. *Enduring understandings* are big ideas that transcend beyond the classroom, lie at the heart of the course, and are deemed important and interesting by the student.

Among the desired goals, those placed in the *enduring understandings* category are clearly the most important, because when the learning experience is truly transformational, it is personally meaningful, thus rarely forgotten. Yet there are times when it is most effective to transmit *worth being familiar with* knowledge, and there are other times when knowledge and skills that are *important to*

know and do become a process of discovery through a transaction with the teacher.

John Miller (1996) framed these three orientations to teaching as transmission, transaction, and transformational positions. Miller described the transmission position as an orientation where learners acquire information by reading text or listening to a lecture. The transactional position is one where the learner is engaged in an active dialogue with the teacher to discover the answer to the problem posed by the teacher. Through a transformation position, the learner is encouraged to make novel connections that are personally and socially meaningful. It is essential that future teachers are prepared to teach for both individual and social meaning – to teach for transformation (Fishman & McCarthy, 1998).

Linda Nilson (2004) ranked various types of instruction based on the educational objectives desired. Lecture, recitation, and

discussion should be used to transmit knowledge and assess comprehension of content. Writing and speaking exercises, ungraded in-class activities, cooperative learning, peer-to-peer feedback, case method and problem-based learning methods are used to encourage discovery and transactions with others. When a personal or social transformation is desired, Nilson suggests that the teacher choose dialogue, inquiry-based learning, role plays, simulations and games and service learning with reflection to achieve this goal. When Nilson’s taxonomy is blended with Miller’s (1996) teaching positions and Wiggins and McTighe’s (2001) curricular design, a planning template can be formed (see Table 1).

Doll’s (1993) scholarship is particularly instrumental for planning because it helps us negotiate a break from a traditional view of teaching and learning while, at the same time, providing a

Table 1.
Planning Template

Teaching Position	Curricular Priority	Type of Assessment	Type of Instruction
Transmission	Worth being familiar with	Traditional Quizzes and Tests	Lecture, Recitation, Discussion
Transaction	Important to know and do	Traditional Quizzes and Tests or Performance Tasks and Projects	Writing and Speaking Exercises, Ungraded In-class Activities, Cooperative Learning, Peer-to-Peer Feedback, Case Method, Problem-Based Learning
Transformation	Enduring understandings	Performance Tasks and Projects	Dialogue, Inquiry-Based Learning, Role Plays, Simulations and Games, Service Learning with Reflection

traditional view of teaching and learning while, at the same time, providing a framework from which a curriculum that meets our goals and standards can be developed. In Doll's words, "The concept of transformation is central to curriculum—thereby transforming curriculum materials, thoughts, and participants" (Doll, pp. 162-163). As Doll illuminates the messy, indeterminate aspects of learning, he also gives this indeterminable learning process a frame from which we can plan and assess our students' performance. Doll situates the transformational learning process into four general constructs: *richness*, *recursion*, *relations*, and *rigor*.

Doll (1993) defines *richness* in the curriculum as a text that strives for deep, multiple meanings and possibilities. For the learner to be transformed, it is important that the curriculum not be highly structured or rigid with regard to desired outcomes. Of course, we want desired outcomes, but we want the ownership of these outcomes to be the learner's. This is why the curriculum should be somewhat flexible to allow room for the instructor and the learner to negotiate the content, form, and style of the evidence required as proof to demonstrate that the goal has been satisfied.

What Doll (1993) means by *recursion* is an iteration of experiences that interlock with one another. Rather than isolated activities, a recursive curriculum has a holistic quality which allows for reflection. Recursion is closely linked to the concept of *relations* because the interlock developed provides opportunities to connect everything together. When recursion and relations are concomitant processes operating within the curriculum, the learner can begin to see the big picture that the structure is trying to paint.

Probably the most important aspect of the curriculum is *rigor*. Rigor is essential

for transformation because it prevents the curriculum from "falling into either rampant relativism or sentimental solipsism" (Doll, 1993, p. 181). To be sure, there are many definitions of rigor. Aristotelean logic states, "quod est demonstratum" (thus, it is demonstrated), while in Descartes's rational mind, rigor is defined as that which "no reasonable person could doubt" (Doll, p. 182). These two ways of thinking are based on observations that can be measured and manipulated with precision. Doll challenges us to think in a different way when he warns that quantitative measurement is often incorrect. Rather than a closed-system approach toward a definition of rigor, Doll suggests that we evaluate our students based on their novel interpretations, connections, combinations, and playfulness with ideas. We want to see to what degree the student has uncovered hidden assumptions and offered new possibilities about the topic.

At first, Doll's (1993) ideas may appear to be too open-ended for freshmen and sophomore students to handle. Then again, perhaps this is the transformational method that can break the "give the teachers what they want" pattern learned so well by most students in most high schools.

Planning the Course

Using Wiggins and McTighe's (2001) backward design, I began the planning process by mapping out the sequence as follows:

Step 1. Determine what my goals as well as the department's desired goals are for the course.

Step 2. Prioritize these desired goals into Wiggins and McTighe's three categories.

Step 3. Create performance assessments and evaluation rubrics.

Step 4. Select instructional methods

Step 1. Determine the Department's and My Desired Goals for the Course

The content and concepts that I had to satisfy through this introductory course were issues germane to the teaching profession. Although I was compelled to cover the essentials mandated by the state, such as professional ethics and standards, there were departmental objectives that were stated in the course catalog in such a way that allowed for much flexibility and experimentation. Exceptionality, diversity, curriculum, accountability, contemporary issues, educational history, and law were among the topics that had to be addressed. While teaching this content was essential, my primary goal was to transform my students to think about teaching in a totally different way.

Step 2. Prioritize These Desired Goals into Wiggins and McTighe's (2001) Three Categories

The enduring understanding that I wanted my students to ink indelibly into their psyche was the theory of constructivist teaching and how to put it into practice. What I thought were important things to know were the professional standards, exceptionality, curriculum, accountability, and the law. I also thought that it was essential to know the importance of celebrating diversity, the effects of the back-to-basics revolution on schools, and their ethical responsibilities as an educator. While

I thought that it was worth being familiar with educational history, I was more concerned about the concepts that transcend educational history rather than yearning for my students to recall the date when Horace Mann became education secretary of Massachusetts. The same for the monikers given to specific constructivist strategies and techniques, worth being familiar with, but not the big idea that I wanted them to come away with from the course (see Table 2).

Step 3. Create Performance Assessments and Evaluation Rubrics

Evolving from an analysis of the prioritized desired goals, I decided that the evidence should be presented in three ways: (a) individually, (b) through permanent cooperative groups, and (c) through flexible cooperative groups. Next, I created a calendar that showed when each assignment was due and how it was to be presented. Although individual accountability was essential, it was also critically important that students learn socially through peer-to-peer and group opportunities. Thus, I assigned learners to permanent cooperative groups, which I named intra-group teams. For specific presentations, they were also required to join with members from other intra-groups to form temporary groups, which I called inter-groups.

I described specific details about how to satisfy the requirements for each assignment in a section of the syllabus

Table 2.
Prioritizing the Course Curriculum

Priority	Desired Goals
Worth being familiar with	Educational history, facts about constructivist teaching
Important to know and do	Professional standards, exceptionality, diversity, contemporary issues, ethics, curriculum, accountability, and law
Enduring understandings	Know the theory of constructivist teaching and how to put it into practice

called Requirements for Assignments. One requirement for every presentation was that it was to be an aesthetic experience where the content was delivered through an art form such as drama, dance, song, visual representations, and/or video. Given its propensity to become a hi-tech lecturing surrogate, PowerPoint was not an option. Another requirement was that the presentations be interactive with many opportunities for other students to actively participate.

While I was the sole evaluator for the individual assignments, the other students in the class and I jointly evaluated the intra-group and inter-group assignments using a pre-prepared rubric. Also, I required students to evaluate their own performance, as well as the others in their teams, using a questionnaire that asked among other things, "How well did your group work together?"

I used the portfolio assessment method as a comprehensive assessment tool to demonstrate the students' accomplishments holistically in a coherent, organized way. Through a narrative included in the portfolio, the students had the opportunity to weight their individual assignments and group assignments from lowest to highest. As required by my college, a summative final examination, worth 30%, evaluated my students' competencies with regard to the required concepts and content.

Step 4. Select Instructional Methods

The instruction strategies and assessment methods that the students would use were: aesthetic experience, discussion, hands-on learning, peer-to-peer teaching, reciprocal teaching, project method, reflective writing, and discovery learning through research, peer critique, self assessment, and assessment by the professor.

The first individual assignment in the

course was a reflective essay called "The End of Your Life." In this essay, I directed students to write about what accomplishments, both professional and personal, they had achieved at the end of their lives. The idea behind the assignment was to challenge the students to envision themselves as a teacher. There was a field experience component to the course where the students assisted a teacher of elementary or middle-grades children in a local school for 2 hours per week. I also assigned an individual reflection about this field experience to help them decide if a teaching career was in their future.

Because I wanted my students to get a feel for voices that were challenging the dominant discourse in this era of educational reform and accountability, my required texts were: Christensen and Karp's (2003) *Rethinking School Reform*, Swope and Miner's (2000) *Failing Our Kids: Why the Testing Craze Won't Fix Our Schools* and A.S. Neil's (1992) classic free-school book, *Summerhill: A New View of Childhood*. Using *Rethinking School Reform* and *Failing Our Kids: Why the Testing Craze Won't Fix Our Schools*, the students in their intra-groups decided who among them would teach them the texts. Through this peer-to-peer teaching strategy, the student responsible for a particular part of the readings wrote a summary and taught the content to the other group members. In addition to peer-to-peer teaching, there were three individual reflective writing assignments, where the students related the concepts expressed by A. S. Neill in *Summerhill* with their personal feelings about how they view childhood and teaching.

Given that my college draws students who attended mostly traditional public schools, I thought that it was important to get them thinking about

different approaches to schooling. To bring about an awareness that there are other ways to educate children, 10 inter-groups were formed to give presentations about Waldorf, Friends, Montessori, Foxfire, elite, home, Afro-centric, same-sex, gay schools, and free schools.

Because understanding the fundamentals of different curricular orientations is an important aspect of this introductory course in education, I designed assignments, named “Biographical Sound Bites,” that required students to present the main idea of each theory as told by key scholars in the field. The five Biographical Sound Bites were titled: The Essentialists, The Progressives, The Perennialists, The Social Reconstructionists, and Contemporary Curriculum Theorists.

Scheduled along with the 10 alternative schools and the 5 curricular orientation presentations, 6 more inter-groups were formed to address specific topics in education. The Children’s Books group exposed class, race, and gender bias in children’s literature while the Textbook Detective group checked widely used textbooks for historical accuracy. The Pop Culture group showed the influence of popular culture on student learning, whereas the Professional Organizations group and the Ethics, Professionalism, and the Law group presented the pedagogical, ethical, and legal issues that affect education today.

Given these teaching and learning strategies, the students decided what concepts were worth knowing and what performance method would best deliver the content to the rest of the class. This was the scary part for me because I was required to cover certain concepts and content, yet at the same time, I had to respect the students’ judgment about what meant the most to them. Another fear I had was that at the end of the negotiations there would be an unequal work distribution among individuals

in the respective groups. Although I must admit that I was unsure about all of this at the time, my gut kept telling me to trust the students.

Getting the Class Prepared for this Style of Teaching

On the first day of class I made inquiries about how they had been taught in the past. I found out that none of the students participated in a course where peer assessments, differentiated instruction, and evaluation were practiced. Only 3 of my 33 students had ever experienced cooperative group work at the college level. Some expressed concerns that cooperative work has serious drawbacks, particularly when it comes to slackers. After reflecting on the first day, I was dubious that these students could handle what was about to happen in this class. Although I had these misgivings, turning back at this point was surely not an option. The cat was already out of the bag.

On the second day, I assigned each student to one of eight intra-group teams. Because there was much out-of-classroom work required, I formed these groups based on where the student resided, thinking that those who lived in the same dormitory could meet more easily. Although there were some questions about what would be required for each assignment, it appeared that all eight groups’ negotiation went very well. As an assignment to be turned in on the third day, I asked each group to give me their contracts for the rest of the semester.

On the third day, groups submitted their contracts with the assurance by everyone that they had all of the assignments covered. When I looked at them over the following weekend, I found the work distribution to be quite fair. Based on their learning styles and personality types, some chose to do more of the readings and teach that content while others jumped at the opportunity to work with others to give

performances to the whole class.

On the fourth day of class, I asked the first inter-group that was scheduled to present a performance to the whole class, called “Biographical Sound Bites, the Essentialists,” to meet with me after class. It was during these after-class meetings that I gave the groups some direction and suggested specific readings for the topic. At these meetings, students decided who among them would research a particular aspect of the topic’s content. Perhaps the most difficult part of these after class meetings was reaching a consensual time when they all could meet to decide how they were going to teach the content through an aesthetic experience. I warned them that the after-class meetings would not adjourn until a commitment was made to meet again and that missing the out-of-class group meeting was equivalent to an absence from a regularly scheduled class meeting time. These after-class meetings became a regular event with groups that were scheduled next to perform on the course calendar.

At the end of each class, I required those in the inter-group who led the performance, or the student who led an intra-group session, to submit a possible test question for the final examination. I shared these questions with everyone in the class with the assurance that I would only choose questions for the final from the ones submitted. The only provision was that the questions had to be conceptual in nature. Finally, if there was a performance given during the class period, the students who gave the performance completed a self-evaluation while non-participants completed peer evaluations.

Student Feedback

I wrestled with how to gather quality data about my students’ perceptions of how the class was taught and how much they thought they learned. What I decided to do was to solicit their comments using a list of the constructivist strategies used during the class. The students were asked to comment on each of the statements listed in Table 3.

Table 3.

Statements to Which Students Were to Write Evaluation Comments

Aesthetic Experience is delivering content through visual arts, drama, electronic media, etc. One requirement for your presentations is for them to be an *Aesthetic Experience*.

Assessing Others, sometimes referred to as *Peer Critique*, is where the students evaluate one another. The intent of this assessment method is to illuminate the perceptions of others.

The guiding philosophy of the Education Department is *Constructivism*, a theory where students are active in the learning process, learning is enjoyable yet rigorous, and the students make their own meaning. By being taught in a constructivist college classroom, are you learning how to teach in this way?

With regards to *Content and Concepts Learned*, how does the teaching and evaluation methods compare to traditional ways of teaching and assessing?

Table 3 (continued).

In *Cooperative Learning*, the student does not compete against any individual student. Because the strategy draws from the strengths of each person in the group, advocates of cooperative learning say that the sum is greater than its parts, meaning that collective effort results in deeper understandings.

Discussion is used after the student has been introduced to a new concept. I choose to use discussion after a reading assignment.

Interactivity, sometimes called *hands-on learning*, has the student active in the learning process. One requirement for your presentations is for them to be interactive.

One of the primary objectives of differentiated instruction is that it acknowledges that not all students learn the same way. By offering instructional choices, students can use the *Learning Style* (s) that works best for them.

The theory behind *Peer-to-Peer Teaching* is that students learn much from each other. Our reading journal assignments are examples of *Peer-to-Peer Teaching*.

Presentation is a technique used in *reciprocal teaching*, where the student becomes the teacher.

The *Project Method* is a teaching strategy that can be either cooperative or individual. Your intra-group and inter-group presentations are group projects while your portfolio is an individual project.

Writing *Reflections* is an occasion for the students to examining their feelings about concepts. Reflections were used in response to the book, *Summerhill*.

Using *Research* as a teaching strategy is a type of *discovery learning*, where the student independently finds and interprets knowledge. When I direct your group to research through specific sources or ask your group to include certain concepts or content, that is *discovery learning*.

An example of reflection as a learning strategy, *Self Assessment* is where you evaluate your own performance.

Teacher Assessment is where the professor evaluates your work based on the assignment and in comparison with the work of others.

Teacher as Facilitator, *rather than as a lecturer*, means that *although the professor organizes, manages and creates the learning environment, it is the students who are actively involved in the teaching and learning process.*

Overall

Please make any comments about how *satisfied* you are with the class.

The ultimate basis for this decision was that I wanted to use student evaluations as a heuristic to teach the labels given to the overarching concepts that I thought were worth knowing.

Data Analysis

I broke the data gathered from the students' feedback into recurrent themes to illuminate similarities and differences (Strauss & Corbin, 1990). To paint a picture of how my students felt about the course, I selected representative responses to make connections among the recurrent themes.

Overwhelmingly, the responses about the aesthetic experiences described them as fun and creative. The aesthetic experiences made learning more entertaining, interesting, and interactive, holding the attention of the students. Comments such as: "I will remember things better"; "Good form of showing what you know"; "Delivered the material in real life, not boring books"; "Addressed our learning styles"; "Gave us a better understanding of the topic and it really got the class involved" were representative selections, which suggest that the students perceived aesthetic performances as useful strategies. There were, however, two comments that gave me pause to think: "I'm not sure if the class is sure about which is more important – the creativity of the project or the detailed information" and "Students paid too much attention to the art and not enough on the content." Although only 2 students out of 33 expressed this feeling, I believe that it is important to listen to this particular critique because the first priority for the performances is that they must meet their conceptual and content objectives.

Those who found the peer-to-peer assessments useful made comments such as "you learn about others and can see different work styles," "showed us what everyone else thinks of us," and "helps the other students to understand their own progress

and where they need to improve." Others said that the peer critique made them work harder, knowing that their classmates would be part of the evaluation. This sentiment was summed up best through this frank comment: "I like this because your friends won't lie to you. If you sucked, they would tell you." Along with 25 positive comments such as these, 8 responses expressed feelings that the peer critiques were personal attacks, too harsh and emotionally difficult to do; and one student felt unqualified to evaluate others.

Aside from 2 students who were unsure if such a chaotic style would work, the remaining 31 students found that constructivism changed their view about teaching and affected how they would teach in the future. There were also comments about how much behind-the-scenes work is necessary to teach constructively. Most said that the methods were enjoyable, rigorous strategies that promoted higher-order thinking.

With regards to the content and concepts learned, there was just one negative comment that came from a student who was still smarting from a less-than-glowing peer critique. This student would prefer traditional evaluations done by the professor. The other 32 students praised the hands-on activities because they encouraged student opinions, increased learning, and kept them awake, and gave students a sense of collective pride through their group activities.

Thirty students enjoyed the cooperative group work evidenced by responses such as: "Gave me a great base of support and an open environment for learning"; "Learned from other people's input"; "Each person brought something unique to the project"; "There was no competition among us"; "Was not embarrassed to ask questions; and "The weakness in the group is worked on by

everybody to improve.” Of the three who disagreed, one student stated that cooperative learning doesn’t always result in a deeper understanding. The other two apparently felt that they were doing most of the work in their groups. From the outset, I feared that slackers would cause the hard working students to feel as if they had to do most of the work, yet I am pleased that only two students found this to be a problem.

Unanimously, the students thought that our discussions were very important for expanding thinking and affirming personal opinions. Representative responses include: “Discussions give me the choice to pick which point of view I like”; “Helps me understand what going on”; “Allows each student to express his/her opinions”; and “It opens up new thoughts about the subject.”

The comment “another great way to learn, but difficult to plan” was the only critique of hands-on learning. All thought that hands-on learning was an effective learning strategy. Many students expressed that they learn better and more thoroughly through hands-on learning. One student remarked that “I’m learning stuff sometimes not realizing it.” Another wrote, “Just sitting and reading does not teach me, but interaction and hands-on is how I learn.”

Here, too, all of the students agreed unanimously that offering instructional choices based on different learning styles was very important. One student remarked that, “everyone learns in different ways. It is important to vary the teaching style so that each student can learn effectively.” Another noted that offering instructional choices “helps the student not to get discouraged and gives them the capability to learn in their own way.” Many added that this class gave them to chance to excel by giving them the opportunity to, as explained in one student’s words: “choose the style that works best and will help us actually learn the material.”

Peer-to-peer teaching drew the most

negative comments from the students. Nine of the 33 said that some students who were teaching did not know the material very well, many times important parts were omitted from the teaching, not learning much, did not trust the peer teacher, and some were nervous that the professor did not tell the class what was important and what was not. On the positive side, the rest of the students are on record saying that “Everyone can learn a lot from the people around them”; “Helps keep the work load down”; “It helps us become better teachers”; “You get someone else’s thoughts on an issue.” There was one thread that expressed how effective peer-to-peer teaching was because “when the students teach each other, they can put it on their level” and the strategy works given that “we have a lot of things in common.”

Most of the accolades directed toward reciprocal teaching were about how important it is for teachers to be effective public speakers. Another main thread was the recognition that you learn the best when you must teach something to someone else. On the negative side, there were five comments that fell into three categories: (a) not enough time to prepare, (b) unsure if what they chose to teach is what the professor wanted, and (c) fear of speaking in front of the class.

A unique critique elicited about the project method was that this sort of assignment was very stressful to complete. Others said that there was an unequal work distribution in their group, it was too chaotic, and a few students would simply prefer to work on their own. Aside from seven negative reactions to the project method, the rest of the class thought that a mixture of group and individual project work was important, and many expressed how creative they became during the process. One student wrote that the project method was an “excellent strategy because

you learn how to work as a team. On the other hand, a portfolio is good because you can see the specific work and effort that an individual has put in. Also, in a portfolio, you see the progress that the individual has made throughout the semester.”

The students found the reflective writing process to be personally worthwhile. Most expressed that they enjoyed writing about how they felt about a particular reading assignment. It was also mentioned that reflective writing required a substantiation of opinion by backing it up with references to the assigned readings. Also, the strategy worked because it compelled the students to read the selections. One student expressed, “what concerns me about the strategy is that reflective writing is an easy grade.” True, if the professor wants to encourage a personal voice, a thoughtful, well-written reflection is difficult to excoriate. The only other criticisms were two comments that were not germane to the reflective process, as one objected to the number of assignments, and another wrote that I should have held a discussion after each assignment was submitted.

Using research as a teaching strategy for discovery learning elicited many responses such as, “I don’t like it, but I know that it is necessary to learn new things” and “this is a great way to learn, but as almost every student, I don’t like it.” One student remarked that some students seemed to be simply reading directly from photocopied text rather than learning the material before they presented it. All students, including the aforementioned students, said that doing research was essential to their learning. “When you find it and see it for yourself, it always sticks better” was one comment which represented the majority of students’ feelings about using research as a type of discovery learning.

Except for three comments pointing out that self-assessment was difficult because one tends to be harder on oneself; the remaining 30 students noted that it was a great way to express how they wanted to be evaluated, to point out strengths that may have been overlooked, and a good way to see what improvements were needed. The power to have some influence on their grades was also a dominant theme. One student wrote, “If you put a lot of hard work and effort into an assignment, then your grade should reflect that, and you are the only person who knows if you deserve the grade,” while another said, “I like this because it feels as if I am in control of my grades.”

The comments about my role as a facilitator, rather than a lecturer, were unanimously favorable. Students seemed to feel that this strategy empowered them to take control of learning in a more autonomous environment. There were so many varied accolades for this teaching position that it was hard to capture the essence expressed throughout the selected responses. Hopefully, these comments adequately illuminate their feelings toward it: “We can work on our own ideas instead of having a teacher tell us what to do”; “I like the idea that the teacher does not teach and the students do”; “This should be activated in every classroom”; “The class is more relaxed and you don’t feel pressured to do so much when you are really doing a lot”; and “This helps prepare us for teaching—we are getting to see how to teach a class, and it certainly makes the student do the work to learn the material.”

When responding to the statement, “Teacher assessment is where the professor evaluates your work based on the assignment and in comparison with the work of others,” there were six responses that strongly took issue to the latter part of the phrase, “and in comparison with the work of

others.” One student curtly summed up the others’ objections, “I do not think that any student’s work should be compared based on others’ work. Each person is an individual who has their own learning style.” Interestingly, the remaining 27 responses expressed a yearning to have an evaluation by the professor because “You just can’t trust grading to other students’ opinions, I trust my teacher’s opinion”; “This is a must because you are the teacher and the ultimate grade giver”; “Should be used more in this class”; and “I like this because it offers an educated, experienced opinion on performance.”

Overall, the students were extremely pleased with how the class was taught and the amount of content that was being learned. Words and phrases such as “enjoyable,” “learning a lot,” “very satisfied,” “it has challenged me to think more on my own than any other class I have taken thus far,” “I love the class!” “I would gladly go into a classroom with methods such as these,” “the class is a pleasure and joy to come to,” and “I look forward to attending every Monday, Wednesday and Friday” were found throughout. While much exuberance was found in the data, there were four comments that suggested that a few students, although satisfied overall, were less than satisfied with particular aspects of the course. Specifically, these students were critical of the time requirement to perform numerous in-class presentations, the extensive out-of-class time requirements, testy group dynamics, and a lack of confidence in the method as sufficient preparation for the final examination.

Hooray for Diffendoofer Day!

There are some great books in the literature about mustering the courage to teach as a constructivist, but the Dr. Seuss book, *Hooray for Diffendoofer Day*

(Prelustsky & Smith, 1998), is my recommendation for anyone who is unsure if this pleasurable and creative way of teaching and learning will prepare students to pass a high-stakes test. The student in my class who was concerned that s/he would not be prepared for the final examination reminded me of the same angst that Mr. Lowe, the principal of Diffendoofer Elementary School, had about constructivist teaching. You see, the teachers at Diffendoofer Elementary School were teaching creatively in a fun and pleasurable way, whereas the students at dreary Flobbertown Elementary School, the school where the Diffendoofer children would go if they didn’t pass the big test, did everything the same way.

Principal Lowe was sweating bullets about how his students would perform on the big test throughout the book.

We also have a principal,

His name is Mr. Lowe.

He is the very saddest man

That any of us know.

He mumbles, “Are they learning

This and that and such and such?”

His face is wrinkled as a prune

From worrying so much

(Prelustsky & Smith, p. 9).

Although incessantly worried, he steadfastly held the trust that his faculty understood how children learn and allowed them to teach accordingly. Assuredly, a favorite teacher, Miss Bonkers, rose to say:

Don’t fret! She said. You’ve learned the things you need

To pass that test and many more-

I’m certain you’ll succeed.

We’ve taught you that the earth is round,

That red and white make pink,

And something else that matters more-

We’ve taught you how to think

(Prelustsky & Smith, p. 25).

If you haven't read the book, I am truly sorry that I must tell you the ending, consequently ruining your delightful surprise, for the Diffendoofer School got the very highest score!

Reading this book to my students as we approached the final examination period hardly assuaged any fears of failure. Yet, the end result was the same as the Diffendoofer School's success. The comprehensive examination was based on the test questions that the students submitted throughout the semester. While a sufficient amount of factual information was necessary to support their answers, the questions required the students to analyze, synthesize, and evaluate the concepts presented during the semester.

Most of the students' final examination grades positively correlated with their portfolio grades. That is, the higher the test score, the better the portfolio was in terms of rigor and presentation. There were not any students who did poorly on their portfolio but well on the final examination. Aside from two young men who failed the course because they were too busy pursuing non-academic interests, the final semester grades consisted of a few A's, mostly B's, and some C's, a distribution conforming with my department's grading pattern. I was particularly pleased that except for leading a short, whole group discussion after each reading assignment, the amount of time that I dominated the conversation and the students were passively listening was minimal.

So, do I exclaim hooray? Not as of yet. This course was an introductory course in education, one in which I could take some risks. I also teach Early Childhood Curriculum, a senior-level course where the stakes are at their highest. In the state where I teach, a future teacher must pass the Praxis II examination, an Educational Testing Service examination that is the gatekeeper to a career in teaching. The Praxis II is an

assessment of how well the future teacher understands the concepts, supported by content knowledge, necessary to teach young children. From my experiences teaching this Foundation of Education class, I have become convinced that constructivist teaching strategies will satisfy both conceptual and content objectives required by most college courses. So what am I afraid of, Principal Lowe?

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