

## A MICROSTUDY ON STUDENTS TEACHING STUDENTS

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The teacher-as-hero trope appears frequently in our culture. Local news networks solicit nominations for teacher of the year, as do many campuses. Movies ranging from *To Sir, With Love* (1967) to *The Emperor's Club* (2002) show how one teacher changes lives. While it is fitting to show appreciation to an often overlooked profession, the teacher-as-hero creates an uncomfortable and problematic corollary: student-as-victim.<sup>1</sup> Some might say that heroes need antagonists to exist; however, it is the victim that really keeps the hero in business. Without a cat stuck in a tree or a bus full of young children teetering on a precipice, the hero has little to fill the day. Similarly—obviously—the teacher needs students to help, to teach...to save. And many students play their role of victim well. Perched on that cliff's edge, they wait for a teacher to swoop down and save them.

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This image probably feels as uncomfortable to you as it does to me. Most faculty members do not take on this role of hero consciously and cringe at the idea of students as victims, dependent on the teacher for their learning. However, many educational theories—experiential learning, collaborative learning, learner-centered education—imply that this trope is more prevalent than teachers like to admit. For example, I describe my own pedagogy as highly collaborative, and strive to develop assignments/class interactions that empower students to teach/save themselves; yet in the prayers that begin each class, my students consistently ask that “Sister Papworth be able to *present* all that *she* has prepared.” Where is the student in this dynamic?

This article is not another promotion for learner-centered education. Instead it is a look at my own efforts to excise the student-as-victim subtext from my teaching. Each semester I try to knock my “sagely” self off the classroom stage and provide opportunities for students to teach themselves and each other, but do my efforts work? In winter 2007, I conducted a microstudy<sup>2</sup> to evaluate the effectiveness of a specific, learner-centered teaching method. This article presents the theory influencing this teaching method, a discussion of my research methodology and methods, and an analysis of my findings.

### THE ASSIGNMENT: STUDENTS TEACHING STUDENTS

Like many faculty on campus, I rely on experiential and collaborative learning teaching methods to promote students strengthening each other's (and in the process their own) knowledge and solutions. President Clark

has encouraged us in this approach: “We have a teacher; but everyone speaks, and everyone listens. The implication is that each student may learn from every student. All have something of value to offer. And, clearly, students teach one another.”<sup>3</sup> This statement echoes accepted learner-centered theory. Based on a research study on student retention, the National Training Laboratories articulated the learning pyramid (a staple in education theory), which argues that students are 90 percent more likely to retain a concept if they teach it to another person.<sup>4</sup> While I incorporate this pedagogy into the classroom in a variety of ways, in one particular assignment I actually assign students the responsibility of teaching a concept to the class. The following outline illustrates the parameters of this assignment:

- Students work in self-determined groups.
- They select teaching topics from a variety of subjects, based on assigned readings; and, with approval from the instructor, determine the approach they wish to take regarding this material.
- After reviewing the assigned readings, student-teachers research additional material to supplement the reading, considering how this research relates to the course and students’ needs.
- After reading and researching, they work with instructor to clarify the day’s lesson plan/objectives.
- Students then develop a method for teaching the material. They have as much creativity in teaching as they choose. The only requirement is that they must promote class interaction/involvement.

While I use this assignment in a variety of courses, I particularly rely on it in English 250, Introduction to Literature. Students often struggle with this course, seeing literary analysis as a random or completely subjective process that they cannot master. I use this assignment to engage them more fully in the literature and concepts we study. Allowing students to practice their analytical skills verbally frees many students from that additional struggle with and fear of writing. Having students teach the discussion, rather than practice this analysis in small group work, provides greater motivation for research and study. More specific objectives for this assignment include:

- Students will engage more fully in analyzing the literature they teach, developing skills they can apply throughout the remainder of the semester.
- In determining the approach for a specific piece of literature, students will identify those aspects of literature that appeal to them, which in turn will more fully engage their classmates who are more likely to identify with the student perspective.
- Students will gain a greater appreciation for the amount and type of study needed to “understand” a text—teaching provides

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great motivation for careful reading/study of a text. This greater appreciation will lead to improved study for all their assignments and readings.

This assignment strives to give students a significant experience developing and practicing their own readings of a text, a significant objective for this course. As Robert Scholes, professor emeritus at Brown University states, “Our job [as instructors] is not to produce ‘readings’ *for* our students but to give them the tools for producing their own.... Our job is...to show them the codes upon which all textual production depends, and to encourage their own textual practice.”<sup>5</sup> When these students teach each other, they must conduct their own textual practice and help others develop in similar ways.

Previously, when I have given this assignment I felt secure in its pedagogical foundations. However, a field methods research course, in conjunction with my PhD coursework, made me question whether this assignment truly accomplished these objectives. To better assess this teaching method, I designed the following microstudy to measure student perceptions about this teaching assignment. I wanted to study student perception because buy-in is a key element of experiential learning. Additionally, I wanted to know how students perceived the increased responsibility for their education. Do they value this experience, or do some students feel more comfortable in the student-as-victim role? Therefore, my research focused on two questions:

- Does putting students in the position of teacher lead them to take greater ownership of their learning?
- How do student-learners value content taught by other students?

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This second question was particularly interesting to me. While many studies focus on the benefit to the student-teacher, student-learners (those being taught) receive less study.

#### PARTICIPATORY DESIGN THEORY FOR LEARNER-CENTERED PEDAGOGY

I selected participatory design theory as my methodology for this research study because its research methods worked well for the classroom setting and the underlying principles of participatory design (PD) supported the pedagogical theory of the assignment. Danish educator Nikolaj Grundtvig’s model of education, which influenced 20<sup>th</sup> century educational theory throughout Scandinavia, similarly proposes that students learn when they 1) come of their own choice to the educational experience, 2) experience and discuss with culturally important persons and events instead of reading rather detachedly about culture, and 3) have their education rooted in their own experiences and history. Accordingly,

“education must arise out of the users’ everyday experiences, and be in dialog with peers and with the educators.”<sup>6</sup>

If learning occurs through personal experience and interactions with others, then a challenge educators face is finding ways for their students to connect their own experiences to the information presented through the interaction in a classroom. Participatory design (PD) focuses on a very similar goal and argues that users (students in my study) should have opportunities to “assert their own agency, turn to their own problem-solving skills, and individually or cooperatively design practices, tools, and texts to deal with” their education/learning.<sup>7</sup> Considering this goal, PD is the appropriate methodology for my research because of its emphasis on the active roles of the users—which this assignment promotes.

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## METHODS

PD research methods can generally be divided into three stages. Stage 1 focuses on “the initial exploration of work.”<sup>8</sup> During this stage, designers and users orient themselves to the project/knowledge to be evaluated. Stage 1 of this study occurred during January 2007. During this time, I employed what might be called my traditional teaching methods. Although I rely significantly on collaborative techniques (group work, case study, intense class discussions), I retained the title of teacher during this timeframe. The exploration of work occurred in two ways. First, our classes explored literature—fiction, poetry, drama, literary devices (the course *work*). Second, we oriented ourselves to each other. Students learned about my goals for the course, and I learned how they responded to me, the course structure, as well as the course content.

Stage 2 focuses on the discovery process. During this time we explored learning methods and styles, with students evaluating the teaching methods they preferred (small group and large class discussion competed for the preferred methods). During this time period, I gathered data through interviews (four), surveys (104), test/quiz scores, and my own reflections/observations outlined in a research journal.

In February and March, I focused on Stage 3, prototyping. During the prototyping stage users and designers work together to “shape” products, resources, and knowledge needed to complete the users’ tasks.<sup>9</sup> Although I was still the designer or consultant, the student-teachers took on the primary responsibility for shaping what would be taught in the specific classes as they prepared to teach their lessons. As stated previously, students researched, designed objectives and teaching methods, and then had thirty minutes in class to teach their material. My role was that of consultant. In conferences, students presented their ideas and problems, and we discussed solutions; but the students had ultimate responsibility

to determine content and make connections between that content and the overall course.

Because I taught three sections of English 250, I used one section as a control group, continuing the teaching methods/assignments established in January, rather than assigning them a teaching experience. For all three sections I gathered the following data: interviews, surveys of student-learners, test/quiz scores, my reflections/observations, and course evaluation comments. In the student surveys, student-learners were asked to summarize what they learned that day, indicate how well they felt they understood the material, explain how they would apply this information in future situations, and how engaged they were during the class.

For the two sections that were given the “teaching” assignment, I also conducted surveys of the student-teachers, gathering 46 pre- and post-teaching surveys. In addition to asking how students selected their subject matter and groups, the pre-teaching questionnaire asked them to explain their understanding of the assignment’s purpose and objectives. In other words, what did they believe they would get from this assignment, and what did they think their classmates (their students) would get from this assignment? Following their teaching experiences, student-teachers submitted a post-teaching assessment. Questions focused on their perspective of the experience (what went well, what didn’t), their level of preparation and view of their skills as a teacher, and their evaluation of the student-learners’ participation and understanding of the content taught.

After I completed coding the data collected for this study, I struggled to organize the sheer quantity of information gathered. By the end of the semester, I had 92 questionnaires from student-teachers and 428 questionnaires from student-learners. Although not traditionally used in qualitative research, I used percentages to track and summarize themes and patterns in the data. My percentages are fairly simplistic: the number of similar responses divided by the total number of respondents in that category. No statistical analysis was performed, and I do not use these figures to make a significant quantitative claim. Instead, these percentages serve to reflect the general attitudes of these students regarding this experience.

#### FINDINGS AND DISCUSSION

Learner-centered and user-centered design theories claim that, as students/users make decisions and participate more actively in the learning/design process, they will have greater ownership of their education and increased understanding of content. This study focused on students’ awareness of these outcomes: did they see that they were taking greater responsibility for their education, value this opportunity

**Did students see that they were taking greater responsibility for their education, value this opportunity, and learn more than they might have otherwise?**

for increased responsibility, and learn more about literature than they might have otherwise?

RESEARCH QUESTION 1: Does putting students in the position of teacher lead them to take greater ownership of their learning?

### *Understanding Content*

Because learner-centered theories claim that as students take greater responsibility/control for their education, their understanding increases, I looked closely at students' perceptions about their learning through this assignment. Data indicates that students understood the objectives of this teaching experience. Over 70 percent of student-teachers indicated that the purpose of this assignment was to help them better understand the course material by teaching. In post-teaching surveys and course evaluations, approximately 40 percent of the students indicated that they liked this assignment because they "really learned the information" that they taught. Additionally, based on end-of the semester course evaluations, students in the test classes indicated a slight increase in time spent preparing for class when compared to the control group. Less than 60 percent of the control group indicated they spent three-five hours per week preparing for this course, whereas approximately 65 percent of both test classes stated they spent three-five hours per week preparing for class. However, it is unclear whether the test classes' increased preparation time indicates that this teaching assignment motivated students to spend more time studying for this course.

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### *Responsibility of Learning*

In their post-teaching evaluations, nearly 40 percent of the student-teachers said this activity would encourage them to participate more in future classes. Additionally, almost half of the student-teachers said this experience would encourage them to prepare more effectively for future classes, while a third of the student-teachers stated that this would have no impact on their preparation/participation. Ironically, nearly 90 percent of the student-teachers wished student-learners would have been better prepared for class.

### *Discussion*

A significant problem in PD research is that users tend to compartmentalize. They rarely transfer knowledge constructed in one design activity to another situation. The challenge for the researcher is to help users realize that "what one does in a project is not only for the project, but should place the [student] in a position where the experiences can be used, by the [student] on [his or her] own, further on in time."<sup>10</sup>

Ideally, student-teachers would have transferred their knowledge acquired/constructed through their particular teaching experience to the larger class: their realization that increased preparation for that specific class period led to increased understanding should have motivated them to prepare more effectively for every class. While the students in the test classes did claim to spend more time preparing for class, the student-teachers' comments about the learners' lack of preparation, coupled with my own observations, indicate student-teachers were not preparing as effectively for class in general as they did for their teaching experience. Test and quiz scores also support this conclusion. There was no significant difference in the mean quiz scores for all three sections.

While comments on questionnaires were generally positive, I noticed another trend in the final interviews with students. Asked for their response to this experience, three of the four students interviewed indicated a negative response to this assignment: "Oh great, another group teaching project;" "I will learn by teaching? Nope!" "I was fine with it, but my life is so hectic. It was just one more thing to do." When asked if they reflected the same attitudes on their pre- and post-teaching questionnaires, these students indicated no. They had been "worried [these comments] would hurt [their] grade." In other words, these student-teachers were worried they would not succeed (get the desired grade) if they didn't indicate value in the assignment. These comments reinforce the opinion that students understand what they are to gain by taking on the role of teacher, but call into question whether taking on this role is perceived as valuable for the students.

RESEARCH QUESTION 2: How do student-learners value content taught by other students?

### *Comprehension and Preparation*

**In the test group, their summaries were not well structured, nor did they reflect the primary focus of the day's objectives.** Student-learners indicated that they did learn from the student-teachers. Eighty percent of the learners could accurately summarize an aspect of content taught in classes. This percentage is similar to the control class, where 85 percent of the learners accurately summarized content taught in classes. However, the difference between the two groups was seen in the structure of the summaries. In the test group, their summaries were not well structured, nor did they reflect the primary focus of the day's objectives, whereas, the control group's summaries reflected a greater understanding of the primary objective for a lesson. Additionally, while 80 percent of the test group could summarize the material presented, only 60 percent of learners actually stated that they understood the material presented, while 70 percent of learners in the control group indicated they understood the concepts presented. When asked how they would

apply the concepts learned in class, there was no discernible pattern to student-learner responses in either group. Most statements offered vague answers: “It will apply to my future viewing & reading of stories.”

### *Valuing Students Teaching*

When asked what student-learners liked most about being taught by other students, the primary response dealt with maintaining student interest. Seventy percent of the learners felt the subject was covered in an interesting manner. Representative comments include, “I liked the activities.” “They kept me awake.” “The game was fun.” Additionally, students indicated that they valued these courses by their attentiveness to the student-teachers. After one day’s class I commented in my observation journal, “I wish students would try as hard to answer questions when I’m teaching as they did today with the teaching group.” However, in the end-of-the-semester course evaluations, over 40 percent of the students stated that, despite the fun of the student-teacher classes, they didn’t learn as much from other students teaching as they did when they taught the class themselves or when I was the “teacher.”

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### *Discussion*

Learner-centered education argues that, “even though time could be saved by offering the same conclusions up front, the learner benefits from the process of deriving those solutions, theories, or conclusions.”<sup>11</sup> In the student-teaching-student dynamic, this quote references the benefit to the student-teacher. While taking more time to reach a point is worthwhile for the student who is learning, can educators fairly ask the rest of the class to give their time to that student’s learning?

Students paradoxically enjoyed and dismissed the entertainment value of the student-teachers’ classes. They liked the interest-catching activities that student-teachers used during classes. (All groups used candy, games, movie clips, music, or some other form of entertainment/enticement for student participation.). However, they disliked the lecture/PowerPoint method of presenting concepts, and they felt that depth of discussion and analysis was, as one respondent described “somewhat shallow.” However, all groups used very similar teaching strategies and covered material at nearly the same level of complexity.

My attempts, as consultant, to direct students away from this pattern failed. When meeting with student-teachers regarding their lesson plans, I offered specific recommendations for additional research, observations that we were seeing the same type of activities, and entreaties that students apply their own creativity to their teaching. However, the pattern persisted. I hypothesize two reasons for this occurrence. First, just as students failed to apply what they learned about preparation as teachers to their need

for preparation as learners, students may have compartmentalized their views regarding effective teaching methods. When preparing for their own teaching experiences, students might not have reflected on what they liked and disliked in previous teaching experiences. Instead, they may have defaulted to a pattern that had already been established.

A second hypothesis contradicts the previous theory that students aren't applying what they learn when they evaluate other student-teachers. In fact, students might perpetuate this pattern because they saw previous students use it. If this hypothesis is true, then it partially validates the argument that students learn more effectively from other students. Despite the variety of teaching methods I employed (students were not the teachers every day of the study), they gravitated to those methods employed by previous students. This raises a concern frequently voiced when discussing students teaching students. What happens when the students, who are not experts in the specific field and who are not expert teachers, present poorly developed or incorrect material? This question falls outside the scope of this research study; however, it is something that I struggled with throughout the semester and it requires further research.<sup>12</sup>

Other factors indicate that student-learners did not value the content presented by student-teachers. As previously noted, student-teachers felt that the learners were not as prepared on the days students taught when compared to the days I taught. My own observations indicated the same pattern. The questionnaires had not been designed to evaluate the cause for this occurrence, but in closing interviews, students indicated there was less fear of quizzes or being called on by the student-teachers; therefore, motivation to prepared decreased, despite the fact that I did give preparation quizzes over the material presented by student-teachers and exams included content covered during the student-teachers' lessons.

## CONCLUSIONS

Overall, this teaching method, like many, has strengths and weaknesses. Student-learners want the student-teachers to succeed. As a result they participate in group activities and class discussion. However, some students see this teaching method as a gimmick, overly employed and generally leading to busy work. Additionally, student-teachers learn about a specific literary element or text but fail to extend that knowledge beyond that specific piece of information. Reflecting on these findings, I wonder if this teaching method is less learner-centered than I'd originally envisioned. Based on the teaching methods employed by my students, it appears that this assignment offers a perception of collaborative learning (students teaching students) that is contradicted by reality. In some ways, I may be marketing the same faulty method of teacher-centered, lecture-oriented education under the guise of learner-centered education.<sup>13</sup>

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As the previous statement indicates, at some point my research study shifted from a strict participatory design approach to include principles of participatory action research, which “means that individuals conduct studies ‘on’ themselves. During this process, people examine how their own understandings, skills, values, and present knowledge both frame and constrain their actions”<sup>14</sup> Throughout this study, I realized that my original commitment to learner-centered education has not diminished, and I’m not ready to discard this assignment. However, more research must be conducted, and the next phase should look at the level of scaffolding necessary for student success. A common suggestion in the students’ course evaluations was that more structure be given for this teaching activity. I have struggled with the amount of scaffolding needed for this assignment. If I offer too much scaffolding, will I negate the students’ opportunities to “assert their own agency, turn to their own problem-solving skills, and individually or cooperatively design practices, tools, and texts to deal with” their education/learning?<sup>15</sup> Participatory design theory offers some suggestions for addressing this concern. First, the users/students have given their feedback regarding this design, and I have an ethical responsibility to incorporate this response into the design.<sup>16</sup> Also, I can reconsider my definitions of scaffolding. Scaffolding does not have to come through tightly structured checklists for completion. This returns us to the student-as-victim trope: “only by following my instructions perfectly you will succeed.” Instead, scaffolding might result in the iterative process of participatory design. By incorporating time in the semester for students to design, teach, reflect, discuss, respond, and then re-design (re-teach), perhaps student-teachers and student-learners can both benefit. ☺

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NOTES

1 This premise stems from Clay Spinuzzi’s *Tracing Genres through Organizations*. Spinuzzi’s expertise is research in technical communication; however, this text has implications for educators as well. This text argues that technology and its subsequent artifacts must be designed with the end user in mind (termed “user-centered design”), just as the artifacts in teaching (lesson plans, assignments, class discussions, even knowledge that is constructed) are designed for the end user/student. Ironically, in both disciplines, the user/student can be neglected in the design/teaching process. Spinuzzi states that, as well meaning as user-centered design is, it can actually add to the conflict it is trying to prevent. User-centered design can set up the paradigm of “the worker-as-victim: the everyday Joe or Jane who is oppressed by an unjust tyranny and in need of rescue” (1; see n. 7). While designers consider the end user, and often consult users throughout the design process, there can be a tendency to “assume that design solutions must spring from, or at least be ratified and promoted by, decision makers with specialized knowledge” (3). Replacing “user” with “student” and “designer” with “teacher” offer some interesting insights about the

- relationship between students and instructors and how this same problem might occur in the classroom. Do I subconsciously view my students as the workers Spinuzzi describes: the “victim...needing to be rescued by a heroic figure” (2). Do I promote the student-as-victim trope and present the teacher as that heroic information designer, a specialist necessary to validate and ratify student knowledge and solutions?
- 2 By microstudy, I imply that this research study has a very narrow focus and a limited time frame. It served more as a pilot study, outlining where further research should be conducted.
  - 3 Kim B. Clark, “Teach One Another” (lecture, BYU-Idaho College of Education, Rexburg, ID, November 10, 2005).
  - 4 Center for Excellence in Teaching, “Interactive Classroom Techniques,” Boston University, <http://www.bu.edu/cet/class/interactive.html>.
  - 5 Robert Scholes, *Textual Power: Literary Theory and the Teaching of English* (New Haven: Yale UP, 1985), 24-5 (emphasis added).
  - 6 Qtd. in Susanne Bødker, “Creating Conditions for Participation: Conflicts and Resources in Systems Development,” *Human-Computer Interaction* 11 (1996): 230-231.
  - 7 Clay Spinuzzi, *Tracing Genres Through Organizations: A Sociocultural Approach to Information Design* (Cambridge: The MIT Press, 2003), 3.
  - 8 Clay Spinuzzi, “The Methodology of Participatory Design,” *Technical Communication* 52.2 (2005): 167.
  - 9 Ibid.
  - 10 Susanne Bødker, “Creating Conditions for Participation: Conflicts and Resources in Systems Development,” *Human-Computer Interaction* 11 (1996): 220.
  - 11 “Discussions: Leading and Building, But Not Controlling,” *The Teaching Professor* 6.8 (1992): 1.
  - 12 A third hypothesis, one I’m reluctant to consider, is that students are modeling teaching methods utilized by their instructors (myself included). If this is the case, one might wonder why students wouldn’t break free of this model when they are given the opportunity. Several respondents suggested that I encourage student-teachers to employ more creativity in their teaching methods. However, students may not feel comfortable breaking from this pattern because they fear they might be wrong: if my teachers teach this way, this must be a good method for learning. There may be many other factors that influence students’ decision for teaching methods, and this too should be considered for further research.
  - 13 Michael J. Salvo, “Ethics of Engagement: User-Centered Design and Rhetorical Methodology,” *Technical Communication Quarterly* 10.3 (2001): 278.
  - 14 John W. Creswell, *Educational Research: Planning Conducting, and Evaluating Quantitative and Qualitative Research* (Ohio: Merrill Prentice Hall, 2002), 610.
  - 15 Spinuzzi, *Tracing Genres*, 3.
  - 16 Salvo, “Ethics of Engagement,” 278.