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Engaging Pre-service Teachers – and Their Professor – in Learning: A Comparison of Two Literacy Methods Courses

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Abstract

This article reports a scholarship of teaching and learning (SoTL) study undertaken to improve pre-service teachers' engagement in learning in two advanced literacy teaching methods courses. Over four semesters' time, data were collected in the form of Instructional Practices Inventory (IPI) codes, anecdotal peer observation notes, the professor's written reflections, and ratings/comments from student course evaluations. Pre-service teachers' engagement in learning increased from the first time to the second time the professor taught each course, but the quantitative analysis comparing the "old" course to the "new" course was deemed inconclusive. The professor's transformative learning process, described as discursive and sometimes tacit, is illustrated through extensive written reflections and characterized by six qualitative themes. The study's findings suggest that the systematic process of data collection, analysis, and reflection can support transformative learning toward improved teaching practice, especially when the process is self-motivated, collaborative, and ongoing.

Teaching is hard. Teaching well is even harder. From kindergarten to college, challenges inherent in today's classrooms include limited resources, not enough time, distracted students, and lack of respect and support (Dean C., 2013). Not only must today's teachers know their content, they must be able to teach it in ways that interest students and keep them actively engaged in learning. But the challenges of effective teaching do not end there. In the United States, increased efforts to ensure substantial learning outcomes for all students, including widespread adoption of the Common Core State Standards and performance-based teaching assessments make teaching in today's classrooms even harder (Darling-Hammond, Amrein-Beardsley, Haertel, & Rothstein, 2012).

For those who teach – and for those who prepare teachers – lifelong learning is a crucial aspect of teacher professionalism (Day, 1999; Livingston, 2012; Tichenor & Tichenor, 2004-2005). Day (1999) distinguishes between *restricted teacher professionalism*, which is "intuitive, classroom-focused, and based on experience rather than theory" (Hoyle, 1980, as cited by Day, 1999, p. 5) and *extended teacher professionalism*, which involves locating teaching practice within a broader educational context, comparing practices through collaboration with other teachers, and systematically evaluating teaching effectiveness. Lifelong learning involves both, but the inquiry-based efforts associated with extended teacher professionalism are more likely to result in improved teaching and increased student learning.

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Some teachers are more likely than others to engage in professional inquiry around teaching and learning. One study found that Canadian teachers chose to participate in a web design project only when they were ready for a new challenge and the goals of the project aligned with their personal and professional goals (Slepkov, 2008). Teachers identified the open-ended nature of the project, opportunities to learn with their students, and ongoing reflection about their teaching as factors that made the project meaningful. Other studies show a correlation between teachers' concern for students and their motivation to participate in professional development (de Vries, van de Grift, & Jansen, 2013; Hunzicker, 2013). A study of teachers in the Netherlands found that willingness to try new teaching approaches and reflect on which ones supported student learning predicted quality instruction more so than professional reading (Thoonen, Sleegers, Oort, Peetsma, & Geijsel, 2011). Additionally, teachers' sense of self-efficacy, or belief in their ability to affect student learning, sways their motivation to engage in professional development as well as to follow through later (Thoonen et. al, 2011; Dingle, Brownell, Leko, Boardman, & Haager, 2011). Dingle and colleagues (2011) found that even when teachers willingly participated in professional development to improve their teaching practice, classroom implementation suffered when they did not recognize their curricular limitations or pedagogical weaknesses, did not understand their students' learning needs, or felt uncomfortable with their students.

Scholarship of Teaching and Learning (SoTL) and Transformative Learning

Action research, an investigative approach used by classroom teachers to improve their teaching (Parsons & Brown, 2002), is frequently practiced by K-12 teachers who demonstrate extended teacher professionalism. In higher education, action research is often referred to as the scholarship of teaching and learning (SoTL). McKinney (2007) defines SoTL as "the systematic reflection/study of teaching and learning made public" (p. 8). One benefit of engaging in SoTL work is the opportunity for transformative learning. Transformative learning involves the process of altering "the structures of assumptions through which we understand our experiences" (Mezirow, 1997, p. 5).

Many examples of transformative learning through SoTL work can be found in the literature. For instance, after reviewing current research on the integration of theory and practice, a Michigan professor teaching a social work course collaborated with a colleague to develop a classroom teaching and learning model that better supported students' practicum experiences (Wrenn & Wrenn, 2009). Comments from end-of-semester student course evaluations indicated that seeing how classroom teaching and learning activities applied to the practice of their profession increased student motivation to learn. In another example, a Missouri professor teaching graduate-level counseling courses collected and analyzed classroom observations, notes, assignments, and student evaluations over four semesters to discover how students learn beginning counseling skills, eventually generating a new theory (Kiener, 2009). The professor reflects, "What started with a desire to better understand the teaching and learning process evolved into an empirically-based emerging theory illustrating how group formation and a safe learning environment can be beneficial to teaching and learning" (p. 26).

Also over four semesters' time, a South Carolina professor teaching an abnormal psychology course used student evaluations and her records and observations to modify the grading and group process requirements for a problem-based service learning project (Connor-

Greene, 2002). Statistical analysis revealed a significant difference between the first version of the project and the third and fourth versions, "indicating that the modifications significantly improved student perceptions of the learning experience" (p. 195). These examples demonstrate that transformative learning through SoTL work is common in the social science disciplines, especially when college faculty are interested in improving their teaching effectiveness or increasing student learning outcomes within a specific course. SoTL work is quite prevalent within the discipline of teacher preparation. One particular topic investigated by teacher education faculty in recent years is college student engagement in learning.

Student Engagement in Learning and Teacher Preparation

Student engagement in learning, or devoting substantial time and effort to the pursuit of academic learning and development (National Survey of Student Engagement [NSSE], 2013), can be evidenced in the college classroom by indicators such as regular class attendance, following directions, and submitting assignments on time (Chapman, 2003), active participation in class discussions and activities (Rocca, 2010), and critical thinking, creativity, and problem-solving related to knowledge and skills learned in class (Jones, Valdez, Nowakowski, & Rasmussen,1994). College students' engagement in learning is fueled by intrinsic motivation to successfully complete course requirements, and ultimately, to learn (Schweinle & Helming, 2011).

In college-level teacher preparation programs, research supports assignments and projects that emphasize sequential, student-centered instruction (Education Digest, 2013), engage pre-service teachers with students in the community (Jurow, Tracy, Hotchkiss, & Kirshner, 2012), and require reflective critique of teaching performance (Etscheidt, Curran, & Sawyer, 2012). Many teacher education faculty engage in SoTL work by designing and implementing such activities and experiences to keep their students engaged as well as to better prepare pre-service teachers for their profession. Several teacher education faculty report that requiring technology-based projects such as wikis, WebQuests, and video-recorded documentation of practice teaching develops pre-service teachers' creativity, critical thinking, and instructional design skills, and deepens their understanding of student needs and how to accommodate them (Ostrosky, Mouzourou, Danner, & Zaghlawan, 2012; Wake & Modia, 2012; Yang, 2011). But the use of technology is not a requirement for high levels of student engagement in teacher preparation courses. A SoTL study of engagement strategies by three professors in different Midwest USA urban teacher education programs revealed that working with dilemmas, following structured discussion protocols, and practicing collaborative inquiry supported pre-service teachers' development of critical reflection more so than traditional class discussion (Berghoff, Blackwell, & Wisehart, 2011).

In Pennsylvania, a SoTL study of early childhood education majors found that a 15-week buddy journal project with first grade students caused pre-service teachers to feel "more positively toward their preparedness and ability to teach children" than pre-service teachers who were simply given opportunities to volunteer (Bernadowski, Perry, & Del Greco, 2013, p. 83). Our own SoTL pilot study, which explored student engagement as a measure of teaching effectiveness in a curriculum adaptations course and a literacy methods course during one semester, identified brisk pacing, instructional variety, and a balance of higher order, student-centered activities and non-higher order, teacher-led activities as factors that effectively engage pre-service teachers in learning (Hunzicker & Lukowiak, 2012). This article extends beyond our initial study to report the

background, progression, results/findings, and implications of our completed SoTL research project, conducted to improve one professor's teaching practices toward the desired outcome of increasing pre-service teachers' engagement in learning. Unbeknownst to us at the time, the project also rendered the serendipitous outcome of transformative learning on the part of the professor.

Background and Progression: Two Literacy Methods Courses

The study was conducted at a Midwest USA private university in one professor's advanced literacy teaching methods course over four semesters' time. Each fall semester from 2009 through 2012, the professor's class met for 75 minutes two times per week. The average class size was 20 students, with class sizes ranging from 17 to 22 students per semester.

During fall 2009, the first semester of the SoTL research project, Dr. Hunzicker (hereafter referred to as Dr. H) selected ETE 353: Methods of Teaching Language Arts K-8 as her classroom research setting. An advanced teacher preparation course required of junior- or senior-level elementary education and special education majors, ETE 353 addressed instructional methods for teaching reading, writing, speaking, and listening in the elementary grades with particular emphasis on writing instruction, curriculum integration, and interdisciplinary teaching. In addition to three multiple choice exams, Dr. H's course requirements included three minor assignments (i.e., an instructional strategy demonstration, a handwriting practice portfolio, and a job search cover letter) and two major projects: creation of a five-day instructional unit focused on a specific writing genre and design of a WebQuest, "an inquiry-oriented lesson format in which most or all the information that learners work with comes from the web" (Dodge, 2007, para. 3).

Along with PowerPoint lectures and class discussion aligned with the course textbook, *Language Arts: Patterns of Practice, Seventh Edition* by Gail Tompkins (2009), class time was devoted to interactive tasks and activities such as a writing workshop simulation, an individualized spelling activity, and evaluating actual student writing samples using the state writing assessment rubric. Toward the end of the semester, five full class sessions were designated for completion of the WebQuest project, in which pre-service teachers used the online resource QuestGarden (www.questgarden.com) to individually or collaboratively design an interdisciplinary, web-based instructional unit that integrated the skills of reading, writing, speaking, and listening with one or more academic content areas. During this final phase of the course, class meetings were held in a computer lab so that pre-service teachers could work autonomously within an environment of support. Upon completion of their WebQuests, each pre-service teacher completed a self-assessment and written reflection; and on the last day of class, they viewed, critiqued, and complimented one another's completed projects.

During the fall 2010 semester, the SoTL research project resumed, again focusing on Dr. H's ETE 353 course. Although Dr. H made no changes to the course exams, minor assignments, or major projects during fall 2010, she made an intentional effort to deliver shorter, more interactive lectures so that more class time could be devoted to student-to-student discussion, activities, and problem-solving. The Fall 2010 semester was the last time Dr. H taught ETE 353, which soon became known as the "old" literacy teaching methods course. Its replacement, ETE 315: Methods of Literacy II: Reading, Writing, and Language Arts Grades 3-8 was designed to focus more on integrated reading and writing instruction in the upper elementary grades with emphasis on planning for individual learners and preparing students for state assessments. ETE

315, the "new" literacy teaching methods course, became the research setting in fall 2011 when the SoTL research project resumed for a third semester. At the time of the transition, Dr. H replaced the WebQuest project with six visits to a fourth-grade classroom at Warren Primary School (a pseudonym). As a result, course requirements during the Fall 2011 semester included two multiple choice exams, two minor assignments (i.e., the handwriting practice portfolio used in ETE 353 and a language arts notebook) and the planning and implementation of three lessons/mini-units for actual students. During class time, in addition to continuing her efforts to deliver shorter, more interactive lectures, Dr. H organized the new course around one- to three-day simulation activities related to Tompkins' (2009) four patterns of practice (i.e., literature focus units, literature circles, reading/writing workshop, thematic units), modeling instructional strategies while pre-service teachers assumed the role of elementary students. During the second half of the semester, large portions of class time were devoted to lesson planning in preparation for the school visits. The instruction planned and delivered by pre-service teachers during the fall 2011 semester included a reading comprehension strategy, an expository or persuasive writing mini-unit, and a content area mini-unit featuring vocabulary instruction. Pre-service teachers self-selected topics and materials for each instructional effort.

During fall 2012, the fourth and final semester of the SoTL research project, Dr. H's ETE 315 course requirements remained the same as fall 2011, except that she reinstated three multiple choice exams instead of two. Again, class time was spent on simulation activities, interactive lectures, discussion, and lesson planning, but the number of school visits was reduced from six to five, and the visits were made to a sixth-grade classroom (instead of fourth grade) at Redfield Middle School (a pseudonym). During the school visits, the instructional requirements also varied slightly from the previous semester. Pre-service teachers taught one or two reading comprehension strategies, a vocabulary strategy, and an expository writing mini-unit, all based on the text *Get Moving: All About Muscles* by Lisa Trumbauer (www.readinga-z.com). Moreover, during each school visit, the pre-service teachers led the sixth graders through a rotation of five-minute fitness stations, each targeting a different area of fitness: strength, flexibility, balance, and aerobics (Hunzicker, et al., 2014).

Research Purpose, Questions, and Hypotheses

The purpose of the study was to improve one professor's (Dr. H's) teaching practices toward the desired outcome of increasing pre-service teachers' engagement in learning. Due to the transition from ETE 353 to ETE 315 halfway through the study, the research was guided by two questions:

1.) Will student engagement in learning increase from the first time to the second time Dr. H teaches each course?
2.) Is there an increase in student engagement in learning from the "old" ETE 353 course to the "new" ETE 315 course?

Based on the research questions, we reasoned that between the first and the second time Dr. H taught each course, higher order, student-to-student discussion and activities would increase, and teacher-led instruction and non-higher order discussion and activities would decrease as a

result of Dr. H's intentional efforts to increase student engagement in learning. Moreover, we reasoned that in comparing the "old" course to the "new" one, higher order, student-to-student discussion and activities would increase, and teacher-led instruction and non-higher order discussion and activities would decrease due to replacing the WebQuest project with lesson planning for actual students.

Research Methods

The study employed a mixed methods research approach, which involved collection and analysis of "both quantitative and qualitative data in a single study" (Creswell, 2003, p. 210). One advantage of a mixed methods approach is the ability to explore a topic through multiple data sources, which strengthens the credibility of the research findings and allows for both exploration and explanation during the interpretation phase (Creswell, 2003; McKinney, 2007; Miles & Huberman, 1994).

Research Participants

Dr. H, the professor teaching the advanced literacy teaching methods courses, was the primary research participant in the study. Secondary research participants were the pre-service teachers enrolled in her courses during fall 2009, 2010, 2011, and 2012 semesters. All secondary research participants were education majors, all held college junior or senior status, and all but four were of traditional college age (i.e., 18-24). Of the 78 secondary research participants, 72 were female, and six were male.

Each semester, the study was explained to pre-service teachers during the second class meeting. The study's co-investigators, Dr. H and fellow teacher educator Dr. Lukowiak, emphasized that secondary research participants would not be required to do anything differently than usual, individuals would never be singled out, and participation in the study would not affect course grades in any way. If fewer than 20% chose not to participate, the study would proceed with non-participants asked to sit behind the observer on observation days. If more than 20% chose not to participate, another course/section would be selected. All four semesters, 100% of the pre-service teachers invited to participate in the study consented to do so.

Data Collection and Analysis

A concurrent transformative strategy was used for data collection and analysis (Creswell, 2003). Guided by the theoretical perspective of SoTL, which makes it transformative, both quantitative and qualitative data were collected concurrently in the form of Instructional Practices Inventory (IPI) codes, anecdotal peer observation notes, the observed professor's written reflections, and ratings/comments from student course evaluations over four semesters' time.

Described in detail previously (Hunzicker & Lukowiak, 2012), IPI is a data collection process designed for use by K-12 teachers interested in measuring student engagement in learning during class time (Instructional Practices Inventory [IPI], 2015). The IPI data collection process, typically used to create a school-wide profile of student engagement in learning, requires trained data collectors who systematically move through a school, observing in classrooms for one to

three minutes. Each classroom observation is coded according to a 6-point rubric indicating the quality of student engagement occurring at that moment: 6-student active engaged learning, 5-student learning conversations, 4-teacher-led instruction, 3-student work with teacher engaged, 2-student work with the teacher not engaged, and 1-complete disengagement. At the time each code is recorded, anecdotal notes are also recorded to place the code in context. Once a minimum of 100 IPI codes are collected, the data are visually displayed in the form of a pie graph for purposes of discussion and interpretation (Instructional Practices Inventory [IPI], 2014).

To accommodate the single classroom research setting, the co-investigators employed a modified IPI data collection process. A peer observation protocol was developed to record an IPI code and anecdotal notes every five minutes so that a minimum of 85 codes could be collected each semester. Dr. Lukowiak served as the peer observer while Dr. H taught. Each semester between September and December, seven classroom observations lasting the entire class period (75 minutes) were conducted. During each observation, 12 to 15 IPI codes and notes were collected for a total of 88 to 97 codes each semester.

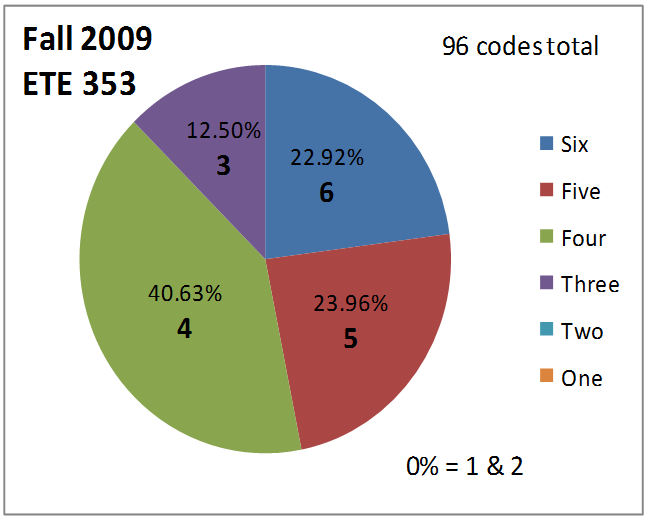
Within hours of each classroom observation, Dr. Lukowiak provided Dr. H with the IPI codes, and anecdotal notes recorded during the observation. After reviewing each data set, Dr. H reflected in writing around three questions: 1) What instructional activities were successful in engaging students? Why? 2) What instructional activities were not successful in engaging students? Why? 3) What can I do to increase students' level of engagement during future class sessions? At the end of each semester, numerical ratings and open-ended comments related to student engagement in learning were collected from student course evaluations to generate multiple sources of data (McKinney, 2007; Morse & Richards, 2002) and ensure that students' voices were heard (Cook-Sather, 2006).

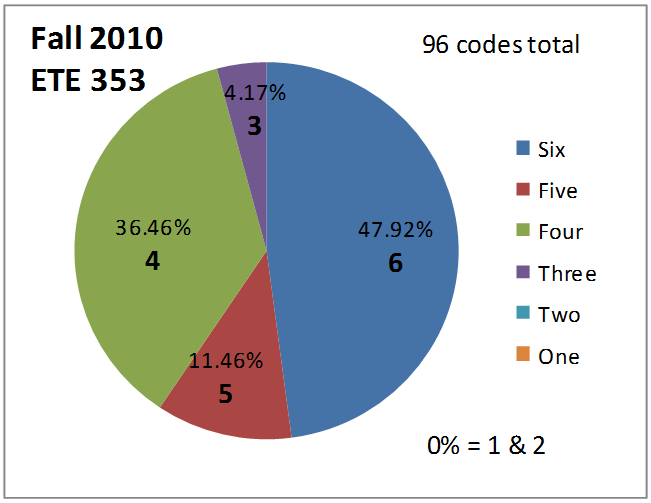
Due to the study's long-term, mixed methods research design, data analysis was conducted in three stages. First, following the final classroom observation each semester, all IPI codes collected were visually displayed in a Microsoft Excel pie graph to provide an overall representation of student engagement in learning. Throughout data collection, the pie graphs were informally analyzed by Dr. H, serving as a basis for ongoing modifications to her teaching practice and course projects. After four semesters of data collection, the qualitative data (i.e., anecdotal notes, Dr. H's written reflections, and ratings/comments from student course evaluations) were analyzed to explain and elaborate the quantitative findings (i.e., the pie graphs). To achieve thorough thematic analysis, the qualitative data were read, coded, and categorized for both confirming and disconfirming evidence (Creswell, 2007; Lietz & Zayas, 2010).

Results/Findings and Discussion

Quantitative results. For the first research question, we reasoned that higher order, student-to-student discussion and activities would increase, and teacher-led instruction and non-higher order discussion and activities would decrease between the first and the second time Dr. H taught each course. The IPI data collected for both courses supports this premise (See Figures 1 & 2). During fall 2009, 47% of ETE 353 class time involved student-centered, higher order discussion and activities (IPI codes 5 or 6) compared to 59% in fall 2010. This reflects a 12% increase in higher order, student-to-student discussion and activities. The IPI data further indicate

that between fall 2009 and fall 2010, teacher-centered activity decreased from almost 41% to 36.5%; and non-higher order discussion and activities related to the course content decreased from 12.5% to 4%. These data suggest that 4.5% to 8.5% less time was spent on teacher-centered and non-higher order activities during the second semester ETE 353 was taught.

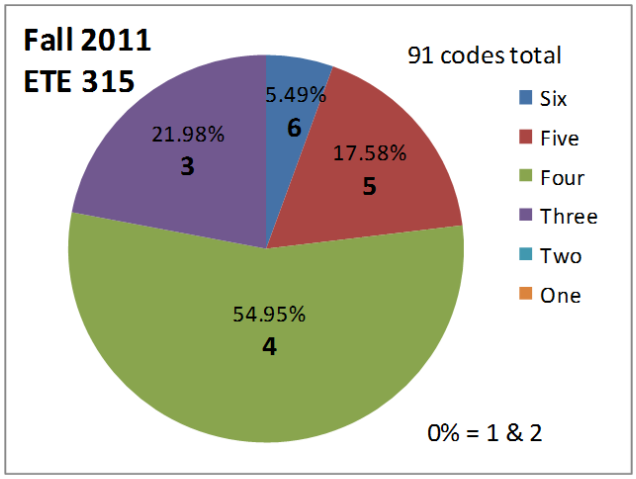


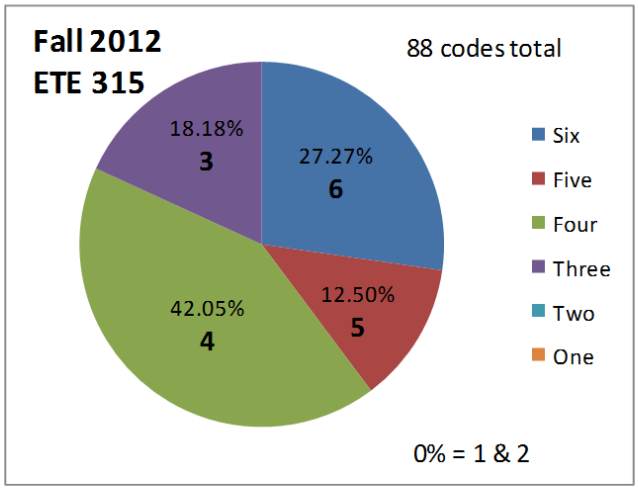


Key: 6 - higher order student activity
5 - higher order student-to-student discussion
4 - teacher-led instruction
3 - non-higher order student activity , related to the course content, with teacher engaged
2 - non-higher order student activity, related to the course content, with teacher not engaged
1 - disengagement

Figure 1: Changes in Student Engagement in Learning from Fall 2009 to Fall 2010 (the "Old" ETE 353)

During fall 2011, 23% of ETE 315 class time involved student-centered, higher order discussion and activities (IPI codes 5 or 6) compared to 40% in fall 2012. This reflects a 17% increase in higher order, student-to-student discussion and activities. Again, the increase replaced time spent on teacher-centered and non-higher order activities. Between fall 2011 and fall 2012, teacher-centered activity decreased from 55% to 42%, and non-higher order discussion and activities related to the course content decreased from 22% to 18%, decreases ranging from 13% to 3%.

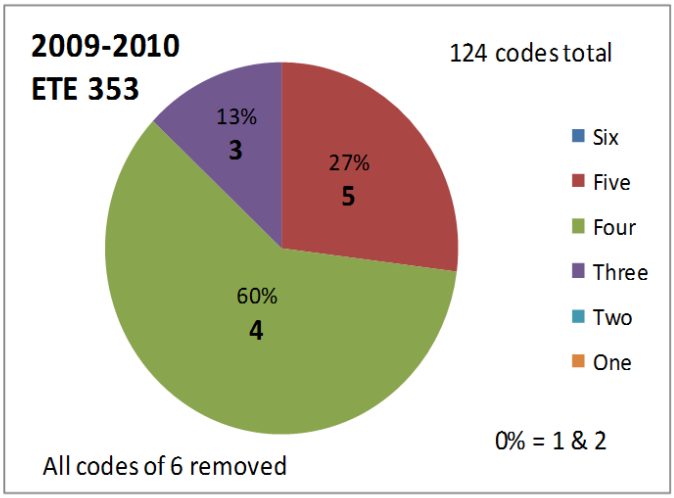


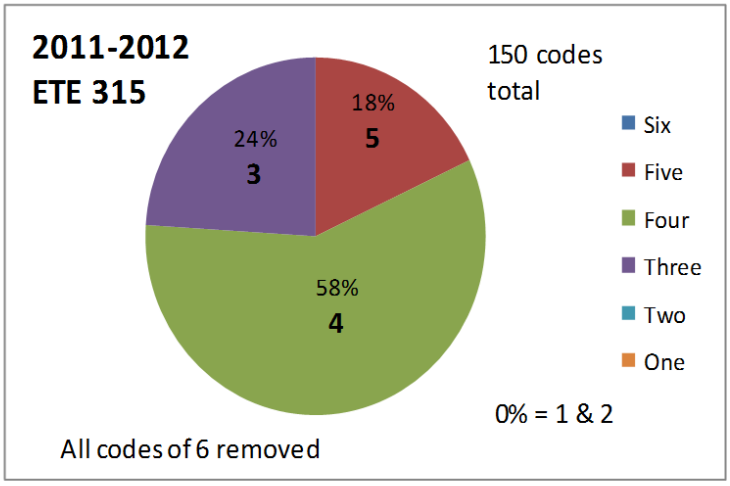


Key: 6 - higher order student activity
5 - higher order student-to-student discussion
4 - teacher-led instruction
3 - non-higher order student activity , related to the course content, with teacher engaged
2 - non-higher order student activity, related to the course content, with teacher not engaged
1 - disengagement

Figure 2: Changes in Student Engagement in Learning from Fall 2011 to Fall 2012 (the "New" ETE 315)

For the second research question, we reasoned that higher order, student-to-student discussion and activities would increase and teacher-led instruction and non-higher order discussion and activities would decrease from the "old" course to the "new" one. However, the data selected for analysis of this comparison did not support our thinking (see Figure 3.) All codes of 6 were removed from this analysis since IPI codes could not be collected on school visit days during the second half of the study. After all codes of 6 were removed, the IPI data showed that 60% of the "old" ETE 353 class time was spent on teacher-centered activity compared to 58%





Key: 6 - higher order student activity
5 - higher order student-to-student discussion
4 - teacher-led instruction
3 - non-higher order student activity , related to the course content, with teacher engaged
2 - non-higher order student activity, related to the course content, with teacher not engaged
1 - disengagement

Figure 3: Changes in Student Engagement in Learning from the "Old" ETE 353 to the "New" ETE 315

of the "new" ETE 315 class time, reflecting very little change. Moreover, student-to-student, higher order discussion actually decreased from 27% of the class time during the "old" ETE 353 to 18% of the class time during the "new" ETE 315. Adding insult to injury, non-higher order discussion and activities related to the course content increased from 13% of the class time during ETE 353 to 24% of the class time during ETE 315. Because removing all IPI codes of 6 rendered such dubious results, the second quantitative comparison was deemed inconclusive. Fortunately, the study's qualitative findings offer rich description to further explore the study's research questions.

Qualitative Findings and Discussion

The qualitative findings of the study revealed six themes: 1) Awareness is supported by data and written reflection, 2) Reconciling instructional values with reality may create internal conflict, 3) Discontent can motivate efforts to improve instruction, 4) Intentional efforts sometimes precede instructional rationale, 5) Overcompensation can inform the process of instructional change, and 6) Intentional efforts can result in professional fatigue. Collectively, the themes illuminate the discursive and sometimes tacit processes that characterized Dr. H's transformative learning experience.

Theme 1: Awareness of higher order discussion and activity. During the first semester of the study, Dr. H's awareness of higher order discussion and activity surfaced as she systematically reviewed the IPI data collected by Dr. Lukowiak and recorded her reflections in writing. One of the first things she noticed was a need for more student-to-student, higher order discussion during class time. In September 2009, following a writing workshop simulation on letter writing, she reflected:

> I realized when I saw that [whole class discussion] had been coded 4 instead of 5 that I had missed an opportunity to have students compare the two cover letters and discuss their strengths and weaknesses in small groups before discussing them as a class.

One month later, reflecting on her students' responses during a small group, introductory WebQuest activity, she distinguished between higher order and non-higher order student engagement in learning when she observed, "The note taking guide was engaging; it just wasn't necessarily engaging them at a higher order level."

During the second semester of the study, Dr. H came to realize that higher order discussion and activity do not always occur consistently. This came to her attention in December 2010 as she reviewed her overall IPI data for the semester. She wrote:

> I am not convinced that these data accurately represent the student engagement that occurred in my classroom this semester. Three of the seven observations took place once students began working on the WebQuest. Hence, the final, overall pie graph showed active, engaged learning occurring in my classroom almost 48% of the time! Earlier in the semester, I was doing much more lecturing and students

> were engaged in more traditional class activities, such as listening and note taking, student-to-student discussion, and student-led strategy demonstrations. I think I will create pie graphs for the first and second halves of the semester and see what these look like.

Soon after, she continued:

> Yep. This makes more sense. During September/October, I spent about 57% of class time engaging students in teacher-led or non-higher order activities, and about 43% of class time on student-to-student higher order conversations or activities. During November/December, this changed dramatically due to the WebQuest. A whopping 73.5% of class time was spent on higher order, engaging student activities, and the remaining 28.5% of the time was spent on teacher-led or non-higher order activities. I don't know why it makes me feel better looking at the data this way, except that it is more representative of what students experienced overall in the course.

As the study continued into its third semester, Dr. H noted that meaningful learning experiences do not always involve higher order activity and discussion. In September 2011, following a simulation activity about differentiated instruction, she reflected:

> The class period was coded 3 and 4. I knew it would be because the tasks and concepts in which students engaged were mostly teacher-directed and not higher order. Here is the interesting thing though: It was an effective class period. Students were actively engaging in what had been described in the textbook. We could have discussed it. I could have done a PowerPoint. But I think engaging actively and then debriefing at the end of the class period was the most effective option. I am beginning to understand that codes of 3 and 4 are okay, and even necessary to effective instruction. I think the key is not having an entire semester of 3s and 4s.

Dr. H's realization that IPI codes of 3 and 4 (i.e., non-higher order activity and teacher-directed instruction) were "okay" resonated further when she recognized two months later that class-related higher order discussion and activity sometimes takes place outside of class time. In December 2011, she wrote:

> Outside of class time, I know that some of my students were highly engaged as they prepared for instruction at Warren. I let them know they could e-mail me with questions or send me drafts for feedback, as long as they focused on specific questions or specific sections. About five students e-mailed me several times prior to each school visit and as a result their final lesson plans were always thoroughly articulated and completed. Some were able to accomplish the same result without my support, which was fine.

During the final semester of the study, Dr. H's awareness that higher order activity can occur outside of class time expanded from a possibility to an expectation. In November 2012, she reflected on how she had designed ETE 315 (the "new" course) to include outside-of-class higher order activity:

> I have organized this course in such a way that students 1) read the textbook outside of class, 2) engage in modeled mini-lessons and simulation activities such as literature circles and writing workshop during class time, 3) plan instruction for actual students during and outside of class time, and then 4) go out and implement what they've planned and reflect on it afterward. So, what we capture in our IPI codes during class time is mostly direct, teacher-centered instruction.

Dr. H's awareness that higher order activity sometimes takes place outside of class was an important revelation during the study. She commented later, in a memo written during the qualitative coding process, "It's not all about me (the teacher) after all!"

Awareness of underlying instructional values. By reflecting in writing about the IPI data as well as her own impressions of the student engagement in learning occurring – or not – in her classroom, Dr. H became more mindful of the values underlying her teaching practices. For example, during the second semester of the study, six of her written reflections expressed growing awareness of the need to provide her students with a balance of academic challenge and support. In October 2010, she noted that her perception of effective and engaging instruction did not always match those of her students. One month later, she expanded her awareness into a theory: "I think the key to keeping students engaged is providing them with a complex, open-ended task paired with support that they can access when needed." In December 2010, she elaborated with a specific example:

> The challenge and urgency of the [WebQuest] project, paired with detailed, step-by-step directions, the availability of the teacher and fellow students, and online support through the QuestGarden website, kept students engaged throughout. Today, they were particularly engaged because of the impending due date.

A second instructional value that Dr. H articulated and developed through her written reflections was the importance of making course content, activities, and assignments relevant for pre-service teachers. Throughout the study, Dr. H emphasized relevance in her written reflections 21 times, 16 of which were recorded during fall 2011, the third semester of the study. Many of these reflections connected relevance to general characteristics and instructional needs of pre-service teachers, such as their eagerness to begin teaching and their desire to do well in her class. Others justified the need for relevance due to her students' limited professional experiences, their tendency to prefer "easy" and "fun" activities and assignments over challenging ones, and their sometimes-very-short attention spans. For example, in November 2011, Dr. H wrote, "They don't have many professional experiences to connect with. That is why I designed the course to engage

them in each pattern of practice throughout the semester – to provide them with at least one connecting experience."

From new insights to verification. Dr. H's awareness peaked in fall 2011, the third semester of the study. During this semester alone, she wrote 7,191 words reflecting on her course, compared to 3,751 words in 2009, 4,313 words in 2010, and 5,149 words in 2012. One reason for her surge of awareness may have been the major course changes implemented for the first time during fall 2011, including chapter discussions and simulation activities in place of lecture and preparing to teach actual students in place of the WebQuest project. Winstanley (2010) explains that novel experiences – teaching a new college course in this case – increase motivation to act. It is also possible that Dr. H's awareness simply took two semesters to surface, a delayed reaction Lustick and Sykes (2006) call deferred learning.

Although no new awareness was recorded in Dr. H's written reflections during the fall 2012 semester, one entry linked her efforts to increase student engagement in learning to research on learning theory and student engagement. In October 2012, she wrote:

> Instructional variety and pacing are two important elements of student engagement. Relevance is another. In addition, I've come to better understand Vygotsky's concept of scaffolding. It is important to challenge students, but as they are being challenged we must also provide appropriate levels of support. Compared to fall 2011, I am providing more support for my students this semester as they plan and implement mini-lessons with actual students.

The fact that, by the fourth and final semester of the study, indicators of new awareness were missing and Dr. H was beginning to consider her teaching practice in light of educational research suggests that her awareness had progressed from new insights to verification. Dr. H had achieved *flexible expertise*, the ability to "moderate and mediate… previously acquired knowledge to problem solution, future knowledge acquisition, and ultimately effective leadership" (Birney, Beckmann, & Wood, 2012, p. 573).

Throughout the study, Dr. H's frequent review of the IPI data paired with her diligence reflecting in writing following each classroom observation supported her developing awareness of factors related to student engagement in learning, especially nuances of higher order activity and discussion and instructional values underlying her teaching practice. Research supports Dr. H's approaches to developing awareness. Collecting and analyzing multiple sources of data at different points in time can inform teacher decision making toward improved teaching practice and increased student achievement (Marsh, Pane, & Hamilton, 2006). Moreover, journaling and reflective memos have been shown to encourage insight and instructional improvement among practicing teachers (Brock, Helman, & Patchen, 2005) and professors (Spatt, Honigsfeld, & Cohan, 2012), especially when accompanied by feedback and discussion with colleagues or mentors. But awareness was only the first step in Dr. H's transformative learning process. Reconciling her instructional values with the IPI data was not always easy, especially when it came to lecture.

Theme 2: Reconciling instructional values with reality may create internal conflict.

Appreciation for structure and teacher-directed instruction. Throughout the study, Dr. H articulated her appreciation for structure and teacher-directed instruction over unstructured, student-centered activities. In September 2010, she wrote that she uses a textbook as the

"backbone" for her course, balancing traditional PowerPoint lectures with interactive activities when possible. Recognizing the merits of lecture as "an efficient way to take in information quickly and present the chapter content in a different mode after students have (supposedly) read it," she concluded, "I just can't envision any of my classes being completely hands on." No reflections about the value of lecture were recorded in fall 2011, but during the last semester of the study, Dr. H commented on the need for lecture and teacher-directed instruction six times. In September 2012, she wrote, "There is still a need to explicitly review and explain information during face-to-face class time."

For the most part, student comments from end-of-semester student course evaluations reinforced Dr. H's preference for structured, teacher-directed instruction. All four semesters, the majority of students offered positive feedback about the course's clarity and organization. However, some students considered the class activities and assignments too structured. In December 2009, one pre-service teacher commented, "The lectures were very boring after a while, but I did learn from them, and it reinforced what I read." In December 2011, a different pre-service teacher wrote, "I would have liked to see more open-ended assignments and templates."

Recognition of the need to increase higher order discussion and activity. Dr. H acknowledged that the IPI codes and anecdotal notes, paired with her own perceptions of her instructional effectiveness, suggested a need to increase higher order discussion and activity during class time. At the end of the Fall 2009 semester, she observed, "Looking at the activities over the course of the semester, it was the project-based work – especially the WebQuest – that truly engaged students in learning." Similarly, following an October 2010 class session, she noted, "Of the two [PowerPoint lecture and student work time], the work time more actively engaged students."

By the end of the study's first semester, Dr. H began reflecting about how she could increase student engagement in learning while still maintaining a structured, teacher-directed instructional approach. This led to a conception that she later labeled *pedagogical balance* "a balance between higher order activity and teacher-directed instruction, particularly lecture" (Hunzicker, personal communication, June 18, 2014). One way Dr. H experimented with pedagogical balance was stopping periodically during lectures to allow for brief student-to-student discussions about specific aspects of the course content. Again, the majority of student comments from end-of-semester student course evaluations reflected positively on Dr. H's efforts to balance higher order activity and teacher-directed instruction. In December 2010, one pre-service teacher stated, "Variety of instruction, very engaging, delivered great lectures and mini lessons."

Pre-service teachers also responded positively to Dr. H's attempts to make the course content relevant and to balance academic challenge and support through alternatives to lecture such as chapter discussions, simulation activities, and instructional planning for actual students. In December 2011, one pre-service teacher wrote, "Good that she explained in class, then had us do it ourselves, then actually do it with a student." Such comments encouraged Dr. H to continue pursuing pedagogical balance, academic challenge and support, and relevance. Even so, she

continued to wrestle with the limitations of both teacher-directed instruction and engaging, student-centered activities. At the end of the Fall 2011 semester, she reflected:

> I believe that modifying my instructional approach from lecturing over the chapter content to engaging students in activities that enable them to experience the chapter content is a step in the right direction, yet engaging students in experiences limits the amount of explicit detail.

Research supports Dr. H's concerns about the limitations of both teacher-directed instruction and engaging student activities (Jones, 2007). Although student-centered, problem-solving activities and discussion provide actively engaging alternatives to lecture, Jones (2000) recommends that these types of activities supplement rather than supplant lecture in the college classroom. For these reasons, the concept of pedagogical balance is not new. Whether tacit or conscious, teachers have pursued a combination of higher order activity and teacher-directed instruction, as well as a balance of academic challenge and support, for years (Al-Bataineh, David, Hamann, & Wiegel, 2000; Harris & Graham, 1996). In their discussion of didactic/direct instruction, coaching, and facilitative/constructivist/reflective instructional approaches, Wiggins and McTighe (1998) explain, "To teach for understanding requires teachers to routinely use all three types of teaching. Far from being a second-class form of teaching, direct instruction is vital for developing enabling skill and knowledge. An education devoted exclusively to guided discovery is inefficient and may be ineffective" (p. 163). Moreover, research shows that while students generally consider higher order activities that involve processes such as analysis, synthesis, and evaluation more relevant than non-higher order, teacher-directed activities, students tend to need more support during higher order activities, especially when such activities are new or unfamiliar (McNulty & Quaglia, 2007).

Dr. H's desire to increase her students' engagement in learning by offering more pedagogical balance, academic challenge and support, and relevance was further motivated by the discontent that grew out of the slow, inconsistent progress of her efforts. Her instructional values, paired with her discontent, intensified her motivation to increase her students' engagement in learning. Thus, her transformative learning process continued.

Theme 3: Discontent can motivate efforts to improve instruction.

From discontent to motivation. Throughout the study, Dr. H's efforts to increase student engagement in learning often rendered mixed results. However, the discontent she felt when she did not achieve her desired outcomes usually motivated her to intensify her efforts. For example, in September 2009, after conducting a three-day writing workshop simulation in which pre-service teachers were required to write a mock cover letter in application for a particular teaching position, she reflected simply, "It was okay." One year later, she reduced the amount of teacher-directed instruction in favor of more student-to-student interaction and experienced a more successful outcome. In September 2010, she wrote:

> Once in their groups, I was pleasantly surprised with the intensity of their interaction. They seemed to listen carefully, ask one another good questions, and offer one another useful suggestions. More than once, I saw

> them working as a group to re-word a sentence. More than once, I overheard one person asking advice of the group, and group members thoughtfully responding. Sometimes, I was consulted, but most of the time the groups worked without my assistance, which was also nice to see.

Another successful attempt occurred in November 2009 when Dr. H made a last-minute decision to integrate higher order activity into a lecture about teaching grammar. She reflected:

> Right before class, I decided that rather than simply tell [students] about [the instructional] strategies, I would have them try out a few. I chose sentence imitation, sentence unscrambling, and sentence combining. I used sentences from the book *Holes* by Louis Sachar. Students did the first two individually, under my direction, but I asked them to work with a partner on the third one, to encourage more student-to-student, higher order conversation. It was an effective strategy for engaging students because it allowed me to skip several PowerPoint slides in favor of having students experience them. To apply this strategy to other lectures, it might be as simple as having students stop and summarize with a partner, or generate examples, or think of an experience that relates to the concept. It could be making a list, creating a diagram, or completing a rating scale. I think that adding in little "windows" of student engagement several times throughout a PowerPoint presentation can increase the student-centeredness of my lectures to [IPI codes of] 5 or maybe even 6. This seems like a meaningful instructional goal for me to pursue.

Delay of desired outcomes. Such successful attempts to increase student engagement in learning encouraged Dr. H, led her to generate new ideas, and helped her to more clearly envision desired instructional outcomes. But her desired outcomes were not always immediate. At the end of the study's first semester, Dr. H's discontent with the overall IPI percentages led her to reiterate and quantify her instructional goal:

> About 40% of the IPI codes were teacher-led instruction. That is probably too much. I would like to reduce that to 30%, especially by engaging students in student-to-student conversation more frequently during lectures rather than leading the discussions myself.

Critical student feedback added to Dr. H's discontent. In October 2010, when students described her lectures as "excessive," "boring," "redundant," "a waste of class time," and "dull but informative," she reflected, "Doing PowerPoint lectures is so tricky for me. I know students perceive them as boring, yet if I don't do them, someone always comments that I should have more explicitly covered the course content." One month later, she expressed similar frustration after introducing a major assignment: "Even though I feel it is important to explicitly point out what is required for the full number of points, I can always see some students' eyes glazing over as they wait for me to finish talking."

At the end of the Fall 2011 semester, reflecting on her failed attempt to engage students in interactive chapter discussions instead of listening to her lecture, she wrote in exasperation, "Clearly, many of them don't bother reading the text at all!" By the fourth and final semester of

the study, she returned to lectures but made sure to integrate higher order discussion and activity every ten or 15 minutes. In September 2012, she wrote:

> In addition to spontaneous discussion that came up as a result of student Questions during the lecture, I integrated three small group activities. The first simply required students to preview the book they would be using
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> to teach the reading comprehension strategy and identify the genre and text structure of the book.
>
> This was quick and simple; students were highly engaged because they were very interested in previewing the text. Because I had just lectured on genre and text structure, it was also fairly easy for them to identify these two features of the book. The second activity required each group to consider how they could use a specific instructional strategy to activate and assess students' prior knowledge related to the book. I assigned a different strategy to each group and gave them about five minutes to discuss it. Then, a representative of each group shared. I did the same thing with the third activity. This time, I assigned an instructional strategy for developing prior knowledge to each group and asked them to discuss instructional options and share with the class.

Despite Dr. H's satisfaction, on the end-of-semester student course evaluations, one pre-service teacher commented, "[The lectures] did not coordinate to exam questions. They were too organized and very unnatural, almost seeming 'fake.'"

Throughout the study, Dr. H's feelings of discontent in response to her slow, inconsistent progress often motivated her to intensify her efforts to increase student engagement in learning. One performance coach explains, "A motivation born out of discontent is one of the best stimuli to change" (Dorff, 2014, para. 4). Moreover, Twigg (2010) identifies high personal expectations, approaching the change process as a learner, taking the time to reflect, seeking challenges, and staying positive as dispositional characteristics that support changes in teaching practice. Indeed, during the process of transformative learning, changes in behavior are activated when something that one experiences "exposes a discrepancy between what a person has always assumed to be true and what has just been experienced, heard, or read" (Cranton, 2002, p. 66). This suggests that Dr. H's emotions and dispositions, paired with her instructional successes during the first two semesters of the study, encouraged and motivated her to continue pursuing pedagogical balance, academic challenge and support, and relevance as she prepared to teach the "new" ETE 315 course. Thus, the duration of the study was extended for two more semesters. But just as Dr. H's awareness reached a peak in fall 2011, so did her efforts to increase student engagement in learning. Moreover, just as her awareness was sometimes slow to surface, so was the rationale behind her instructional decision-making.

Theme 4: Intentional efforts sometimes precede instructional rationale.

Action first, reasoning later. Examining Dr. H's written reflections during the qualitative coding and analysis phases of the study revealed that her instructional rationales were usually consistent

with her underlying instructional values. However, she almost always took action first and articulated her reasoning later. This became apparent during the second half of the study, especially in fall 2011 when both her awareness and her efforts to increase student engagement in learning reached a peak.

Frequently throughout the study, Dr. H articulated instructional rationales for creating relevance, which she often referred to as "meaningful and memorable experiences" or "a take away." For example, in November 2010, she articulated the reasoning behind her decision to engage students in interactive grammar activities like sentence unscrambling when she wrote, "There are already too many worksheets and paper/pencil assignments. I don't want to reinforce that type of grammar instruction in my classes!" In September 2011, reflecting on a simulation activity that rotated groups of pre-service teachers through three different literacy tasks, she reflected, "I wanted students to leave with an understanding of how to design learning experiences that integrate several different skills and relate directly to larger reading and writing tasks." Although she began incorporating higher order discussion and activity and academic challenge and support into her classes as early as the first semester of the study, Dr. H's instructional rationales for both practices occurred in her written reflections most often during the second half of the study. In November 2011, she articulated the rationale behind her decision to teach vocabulary strategies using learning stations:

> I didn't want to lecture or simply ask students to discuss the chapter. Instead, I wanted them to engage in using some of the strategies. In planning, I was also aware that I had not yet covered the genre of poetry or learning centers/stations. So, I organized the activity to incorporate both.

In the same entry, reflecting on her students' difficulty distinguishing between the words *hypothesis* and *inference* at one of the vocabulary stations, she further articulated why she had intentionally selected these two words for comparison:

> My point in requiring students to analyze two very similar words was to help them prepare for their content area mini-unit. If teachers themselves can't tell the difference between the two words, how will they be able to help their students distinguish the difference?

One year later, reflecting again about the vocabulary stations, revised slightly from 2011, Dr. H explicitly stated her intentional effort to balance academic challenge through nuanced vocabulary words, and support through the simulation activity itself:

> I deliberately selected words that could not be re-used when students teach their vocabulary mini-lessons…their vocabulary word (or words) will focus on muscles or exercise, which is the theme of the mini-unit we are teaching to sixth grade students in a nearby school.

In this reflection, Dr. H also articulated her rationale for the relevance of the vocabulary stations: authentic instructional planning using one of the vocabulary strategies learned.

From action to articulation. By the last semester of the study, Dr. H's instructional rationales were expressed more often as goals. In October 2012, she articulated two specific goals for one class period that incorporated higher order activity and discussion, academic challenge and support, and relevance:

> I tried to make this class period highly interactive. I had two goals: 1) to introduce and engage [students] in the process of individualized spelling so that they would be more likely to consider it as an alternative to
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> traditional spelling books (or lists) in their future classrooms, and 2) to introduce and engage them in deeply exploring a few vocabulary words using three specific vocabulary strategies so that they could "hit the ground running" in planning their vocabulary mini-lesson.

It seems notable that Dr. H's instructional rationales emerged and developed primarily in 2011 and 2012, during the second half of the study. One explanation may have been her growing awareness of pre-service teachers' need for higher order discussion and activity, academic challenge and support, and relevance. It is also possible that, through her intentional efforts to increase student engagement in learning, Dr. H became better able to articulate the reasoning behind her instructional decisions. If so, the major course overhaul that occurred as she re-designed ETE 353 into ETE 315 likely served as a critical turning point.

Dr. H spent the summer months of 2011 preparing to teach the "new" literacy methods course. During this time, she conducted a complete overhaul of the "old" course. In September 2011, shortly after the start of the study's third semester, she wrote, "At the encouragement of a colleague, I've decided to partner my ETE 315 class with a fourth grade class in nearby elementary school. Six days this semester, my students will actually teach mini-lessons to 'real' fourth grade students." Instead of listening to lectures, pre-service teachers engaged in small group chapter discussions. To supplement the textbook readings, Dr. H led one- to three-day simulations of student-centered literacy practices including literature focus units, literature circles, reading workshop, writing workshop, and thematic units. Each simulation activity engaged pre-service teachers as elementary or middle school students while Dr. H demonstrated the role of elementary or middle school teacher. The remainder of the class time was spent on instructional planning.

In November 2011, Dr. H reflected, "This semester, instead of just planning the units and submitting them for grading, students planned them, implemented them with actual students, and then had an opportunity to reflect and revise the plans before submitting them." Because the majority of class time was allocated for simulation activities and preparing for authentic instruction, pre-service teachers' perceptions of the "new" course's relevance increased significantly over previous semesters. In particular, the 2011 end-of-semester student course evaluations were very positive in regard to the authenticity of working with actual students. One pre-service teacher commented:

> The real life application of going to Warren provided me with the opportunity to have my lessons come to life and evaluate how effective

> they were. I also enjoyed the activities in class that allowed us to try out the strategies and methods.

It seems that Dr. H's awareness of her pre-service teachers' instructional needs increased when her course requirements became more rigorous. One particular example of this concerned curriculum alignment during lesson planning. In December 2011, she reflected:

> As with previous classes, students did not understand how to align state standards, instructional objectives, assessments, and instructional activities. So, I created a planning template that they could use to align their standards and objectives with their ideas for instruction and assessment before working
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> out the details of their plans. Even though we did a brief in-class activity using a similar template earlier in the semester, I realized that they needed more instruction and guided practice. Next time I teach the course, this is one concept that I will spend more time on in class, probably by having them select their standards, write their objectives, and identify their assessment criteria using the alignment template before sending them off to continue planning on their own.

Critical reflection is extremely valuable to the process of transformative learning because it requires one to "work through beliefs and assumptions, assessing their validity in the light of new experiences or knowledge, considering their sources, and examining underlying premises" (Cranton, 2002, p. 65). The depth of Dr. H's written reflections during 2011 suggest that observing her students engaging in higher order activity and discussion, challenging yet supportive tasks, and authentic learning activities over time transformed her ability to articulate the rationale behind her instructional decisions. Sternberg and Horvath (1999) describe tacit knowledge as "know-how" or a "knack" for doing something, without full awareness or the ability to articulate it. Implicit learning is the process of acquiring tacit knowledge – also without full awareness or the ability to articulate it (Sternberg & Horvath, 1999). It is possible that, due to her intentional efforts over time, Dr. H's tacit knowledge and implicit learning became known to her, allowing her to articulate the rationale behind her changes in teaching practice. But Dr. H's intentional efforts were not always successful. Twice during the study, she overcompensated in her attempts to decrease structured, teacher-directed instruction in favor of higher order, student-to-student interaction and later had to readjust.

Theme 5: Overcompensation can inform the process of instructional change.

From lecture to chapter discussions…and back. Sometimes, Dr. H overcompensated in her attempts to decrease structured, teacher-directed instruction in favor of higher order, student-to-student interaction. Corresponding with her peak in awareness and intentional efforts during fall 2011, Dr. H's overcompensation showed itself primarily during the second half of the study. On a few key assignments and activities, she went to an instructional extreme in her attempt to find pedagogical balance. Most notable was her decision to eliminate lectures completely in favor of

small group and whole class chapter discussions and simulation activities. In September 2011, she reflected:

> I am not lecturing much at all this semester…I haven't lectured yet, and we've been in class for four weeks now. Rather, I am either reviewing/ reinforcing the main concepts through a combination of small group and whole class discussion or I am engaging students in learning experiences that review/reinforce the main concepts.

While it seemed like a good idea at the time, eliminating lectures altogether did not result in effective instruction. At the end of the Fall 2011 semester, Dr. H wrote:

> Hands down, the chapter discussions were anticlimactic…Even with the guiding questions I provided, they were surface-level and brief. Never did they last more than ten minutes, and when I followed up with whole class discussion, it was often like pulling teeth!

Later in the same entry, she concluded, "I don't seem to have it completely right yet." The following semester, Dr. H abandoned the chapter discussions in favor of reinstating some lecture. Her revised lecture format typically consisted of about six PowerPoint slides followed by brief student-to-student discussion, another six slides, followed by another brief student-to-student discussion or decision-making task, and so on. Most lectures lasted 20 to 40 minutes and concluded with a transition into instructional planning for actual students. Following one such interactive lecture in October 2012, Dr. H reflected:

> I reviewed key ideas from the previous class period and then stopped talking so students could engage in planning and preparation time. I circulated. Many worked independently, some discussed ideas with others at their tables. Many worked on their computers. Others reviewed the assignment directions or the text they would be using to model their reading comprehension strategy. A handful approached me with questions, but for the most part I was pleasantly surprised that they seemed to know how to move forward. Before we knew it, the class period was over!

Although Dr. H's revised lecture format seemed highly effective when she reflected about it in October, her students' test scores suffered. On the end-of-semester student course evaluation, one pre-service teacher wrote, "Her lectures were fine, but they did not match her assessments at all. The assessments were very book based and this course didn't seem to be focused on the book. It was more practical." In December 2012, Dr. H wrote:

> I am beginning to think that if I don't lecture over the chapter, students perceive it as unimportant. I wonder if lecturing over the chapters motivates students to read them? Or if they just take more in – and remember it later, for the exams – when I lecture, slide-by-slide, over each chapter? It's a tough call.

From structure to even more structure…and back. A second example of overcompensation occurred as Dr. H worked to create an appropriate balance of academic challenge and support as pre-service teachers planned instruction for actual students. During fall 2011, the first semester of the school visits, Dr. H provided a required lesson plan template, but everything else – selecting materials, state learning standards, instructional strategies, etc. – was left to student choice. Dr. H allowed a minimal amount of class time for students to begin planning and consulted with students as needed via e-mail outside of class time. This process seemed to work well. However, two factors influenced Dr. H's decision to add more structure the following semester. First, the new host school requested that pre-service teachers focus their literacy mini-lessons on a topic related to physical education and health. Second, Dr. H felt that a closely guided and supervised planning process would better support pre-service teachers' efforts to align state learning standards, learning objectives, instruction, and assessment, a skill many had failed to master the previous semester. In October 2012, Dr. H reflected:

> This semester, I've given [pre-service teachers] the materials and even the learning standard and a "sentence starter" for the instructional objective. They still have plenty of decision-making to do, but hopefully they feel a clearer direction since some of the decisions have been made for them. Some may argue that this limits their creativity, but in reality, they are likely to be given specific materials, learning standards, strategies, etc. that they are obligated to teach [once they are hired].

One month later, noticing that some students were confused about some stages of the required lesson plan template, Dr. H designed an interactive class activity to further support their instructional planning. In November 2012, she wrote:

> My plan for the day was to model a mini-lesson on a grammar or punctuation skill, since students will be expected to plan and implement such a mini-lesson with their sixth grade students. After grading their most recent lesson plans, I realized that some of them are still getting confused about the reflection stages of the lesson. The template that we are using calls for reflection in two different places: first, after teacher modeling and student modeling/guided practice and again at the end of the instructional sequence, to bring closure and suggest future applications. I also have a few students who are still confused about the differences between teacher modeling, student modeling and guided practice, independent practice, and application. So, as I planned my model mini-lesson, I was sure to include all of the stages. Then, I created a small sign for each stage and printed them on colored paper. Before beginning the lesson, I gave every two or three students a sign and told them that when they noticed that stage of the lesson beginning, they should stand up and announce it, even if it seemed like an interruption.

According to Dr. H's reflections, the activity was fun and, sometimes with prompting, pre-service teachers were able to recognize the various stages of the mini-lesson as she modeled them.

To Dr. H, both the added structure and the interactive class activity seemed like valuable instructional improvements. However, the quality of pre-service teachers' lesson plans did not improve as much as she had expected. Shortly following the mini-lesson modeling activity, Dr. H reflected:

> I was disappointed in about a third of them. Several students breezed through the details of both the lesson plan and the reflection, even though I have provided clear directions and this is the second of three very similar assignments. My expectation is that they grow more sophisticated with each pass.

Moreover, pre-service teacher comments on the end-of-semester student course evaluations were mixed. Many students expressed their appreciation for the consistent and clear expectations communicated during class time through assignment directions and the lesson planning template, some enthusiastically and others grudgingly. In December 2012, one pre-service teacher wrote: "The mini-lessons were time-consuming, but I think it was important to reflect on what we taught." A few students, however, felt restricted by the added structure and limited choices during fall 2012. One pre-service teacher commented, "Her instructions were too organized. It felt very unnatural." After reading the end-of-semester student course evaluations, Dr. H agreed that perhaps she had structured the lesson planning process too much.

During the second half of the study, Dr. H sometimes overcompensated in her attempts to decrease structured, teacher-directed instruction in favor of higher order, student-to-student interaction. Overcompensation occurs when a learner feels inadequate and overzealously applies new behaviors or strategies to remunerate (Cherry, 2015). Following overcompensation, learners continue to adjust their new behaviors or strategies until they "get it right." Dr. H did this during fall 2011 when she used the outcomes that resulted from her overcompensation to readjust her intentional efforts back to a middle ground. Mezirow (1996) explains the process of transformative learning as "using a prior interpretation to construe a new or revised interpretation," which in turn "guide[s] future action" (p. 162). Dr. H engaged in this process repeatedly during the course of the study, and numerous changes were made as she attempted to engage her students in learning. Importantly, Cranton (1994) reminds us that "if basic assumptions are not challenged, change will not take place" (p. 739). However, by the fall 2012 semester, Dr. H began to grow tired, a condition that morphed into professional fatigue by the conclusion of the study.

Theme 6: Intentional efforts over an extended period of time can result in professional fatigue.

From motivation to disappointment. Confirmed by the study's quantitative analysis, Dr. H's intentional efforts toward pedagogical balance, academic challenge and support, and relevance significantly increased pre-service teachers' engagement in learning over four semesters' time. Despite sometimes-disappointing student outcomes and occasional critical comments on end-of-semester student course evaluations, her successes motivated her to continue seeking increased student engagement in learning throughout the study. However, as the study's end grew near, Dr. H's motivation was progressively dampened by disappointing student responses. For example, in November 2011, after spending several hours designing interactive vocabulary stations for her students, she observed:

> They rushed to complete the technicalities of the assigned task and didn't make much effort to be thoughtful or thorough. I noticed one group just sitting there, staring at the floor, waiting for the signal to rotate. They weren't even chatting with each other! When I noticed this waste of class time, I suggested that maybe they toss around ideas for their upcoming content area mini-unit, which they did half-heartedly until it was time to rotate to the next station.

In September 2012, Dr. H reflected with frustration about her pre-service teachers' disinterest in thoughtfully analyzing a two-day literature circles simulation:

> Students were packing up and looking at the clock. Heaven forbid I keep them a minute after class to finish the discussion! This kind of debriefing discussion is always challenging for me. Even pre-service teachers don't seem to value the processes of reflecting and analyzing learning experiences. Perhaps I need to explicitly talk about the importance of taking the time to do this. Sure, engaging in the literature circles was fun, but a college-level literacy methods class – and an elementary language arts class for that matter – must be more than just fun. Perhaps such an explanation would entice more students to take the debriefing portion of the lesson more seriously?

From disappointment to fatigue. Dr. H's documentation of disappointing student responses increased dramatically during the final semester of the study. Moreover, no new areas of awareness were noted in her written reflections during fall 2012. The discontent that had motivated her previously now left her feeling tired and only moderately successful. In October 2012, she wrote, "I don't feel like I'm coming up with too many new ideas this semester. I'd like to think this is due to the fact that students are already engaged satisfactorily, but I'm not convinced."

It is possible that Dr. H's professional fatigue was due to the significant amount of time she had devoted to increasing her students' engagement in learning. Another factor was likely the stressful conditions of the study's final semester. In December 2012, she reflected:

> It was a rough semester. Even though it was my second time teaching ETE 315 and partnering with an elementary classroom, it seemed harder this semester. Part of it was the fact that the textbook was updated this summer. I started off the fall with the "old" edition, while all of my students had the knew one. That was just enough to throw me off a bit. In addition, Redfield was a more difficult school to work with. There were many more student absences than we experienced last year. [Pre-service teachers] would sometimes begin a lesson with one student and then return two days later and have to work with someone else. We got through it, but it was not ideal.

In her last written reflection for the study, Dr. H communicated her professional fatigue explicitly when she questioned whether she would even continue with the school visits and planning instruction for actual students. In December 2012, she wrote:

> I worked my tail off again this semester, trying to create a methods class that was more relevant in the here-and-now and better preparation for novice and student teaching than simply doing in-class activities. If I teach ETE 315 again, I am not sure if I will stick with this approach or return to something more traditional.

Dr. H has not taught ETE 315 since the fall 2012 semester. Regardless of whether she chooses, sometime in the future, to continue with school visits and lesson planning for actual students or return to an in-class culminating project such as the WebQuest, two comments written during the last semester of the study articulate insights about student engagement in learning that Dr. H gained as a result of participating in this study. In September 2012, she reflected, "My approach, which has adapted significantly since I began teaching at the college level five years ago, is to lecture only when it is the most appropriate way to cover material." One month later, she concluded, "It seems to me that it is not realistic to expect student engagement to be higher order 100% of the time."

Limitations

Whether undertaken as SoTL projects or action research, collaborative self-studies such as this one are increasingly recognized in the literature as authentic approaches to understanding and improving teaching practice (Brock et al., 2005; Kiener, 2009; Spatt et al., 2012). Even so, this study has three limitations. First, data collected through peer observations is often tainted by subjectivity (Cherry, 2010). For example, the IPI data collected during this study may have been inflated due to the observer's desire to provide positive feedback or because those observed exhibited their "best behavior" on observation days. Strategies employed to reduce subjectivity included becoming authorized IPI data collectors, structuring the observations with the IPI rubric, adhering to the established IPI protocols, and collecting data from multiple sources over time. Second, the decision to exclude all IPI codes of 6 from the quantitative analysis of the second research question significantly limited the study's quantitative analysis. In hindsight, we should have pursued Institutional Review Board (IRB) approval allowing us to collect IPI data during the school visits.

Third, while the qualitative findings of the study helped to explain and elaborate the quantitative results, Dr. H's dual role as co-investigator and research participant rendered her vulnerable to researcher bias (Grbich, 2007). From a transformative learning perspective, Mezirow (1990) explains, "Because we are all trapped by our own meaning perspectives, we can never really make interpretations of our experience free of bias." He continues, "Consequently, our greatest assurance of objectivity comes from exposing an expressed idea to rational and reflective discourse" (p. 10). Dr. H did her best to approach each aspect of the study objectively, including discussing the ups and downs of her experiences with Dr. Lukowiak as the study progressed. Now, as we make the IPI pie graphs, comments from student course evaluations, professor's written reflections, and our own interpretations public, we leave the question of the study's credibility to our readers.

Conclusion

Although the quantitative analysis comparing Dr. H's "old" ETE 353 course to her "new" ETE 315 course was deemed inconclusive, the IPI data collected revealed that pre-service teachers' engagement in learning increased from the first time to the second time Dr. H taught each course. The study's greatest contribution, however, is the detailed record of her transformative learning process as it occurred over four semesters' time. Illustrated through her extensive written reflections, Dr. H's SoTL efforts were discursive and sometimes tacit, suggesting that the systematic process of data collection, analysis, and reflection can support a professor's transformative learning toward improved teaching practice, especially when the process is self-motivated, collaborative, and ongoing.

Mezirow states, "By far the most significant learning experiences in adulthood involve critical self-reflection---reassessing the way we have posed problems and reassessing our own orientation to perceiving, knowing, believing, feeling, and acting" (1990, p. 13). We believe that Dr. H's persistence in reflecting critically was a key factor in the transformative learning that she experienced during the study.

Dr. H's transformative learning experience was not always easy or comfortable, yet teacher-scholars have a responsibility to share their knowledge and experiences with others for the benefit of all who teach and learn (Day, 1999; McKinney, 2007). In this spirit, we offer the following insights for others who wish to experience transformative learning through engagement in SoTL work: 1) Use data and written reflection to support awareness, 2) Expect internal conflict when reconciling instructional values with reality, 3) Recognize that discontent can motivate efforts to improve instruction, 4) Be patient when instructional rationale takes time to articulate, 5) View overcompensation as a learning opportunity, not failure, and 6) To avoid professional fatigue, pace or limit intentional efforts as needed.

Taylor emphasizes that the process of transformative learning is rigorous; it demands "a great deal of work, skill, and courage" (2006, p. 92). The transformative learning that Dr. H experienced through this SoTL research project is one example. After all, teaching is hard…and teaching well is even harder.

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