Towards a Sense-Making Pedagogy: Writing Activities in an Undergraduate Learning Theories Course

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This article describes a possible praxis for an undergraduate learning theories course. The philosophies of "a language-based theory of learning" (Wells, 1999), writing across the curriculum (Young, 1994), learner-centered education (Lambert & McCombs, 1998), and critical-thinking (Paul, 1995) are interwoven with the rationale and practice of this course. The paper is structured with descriptions of the institutional context, the theoretical frame, the course organization, the writing assignments and criteria used in this course. In addition, samples of student writing are reviewed to demonstrate students' developing sense-making of the content studied. Possible cross-disciplinary applications and the author's self-reflections about the course viewed through "constructivist dilemmas" (Windschitl, 2002) are addressed in the conclusion.

This instructional article demonstrates the possibilities of a "sense-making" course wherein students were challenged to write, speak, and think critically about theoretical and personal aspects of learning. Much like the intriguing model developed by Ball and Wells (2006), this introductory course was created to model a learner-centered, dialogic-based pedagogy that would "introduce students to the different theories of learning that have been drawn on to explain and shape classroom practices but would also challenge students to explore and critique their own learning practices, their role in educational institutions, and their assumptions about how other people learn" (p. 192). Although rich classroom discussions (Brookfield & Preskill, 1990) and questioning (King, 1990; Wolf, 1987) were a focus of regular classroom meetings, this paper focuses on the writing activities used to guide student sense-making as they studied the psychology of learning.

The paper begins with a brief description of the institutional context within which the course was developed, followed by a sketch highlighting the theoretical streams that were blended in constructing this course. Next, the writing activities and assignments are detailed with student samples provided to emphasize students' thinking. To conclude, the author addresses possible cross-disciplinary adaptations and several "constructivist dilemmas" (Windschitl, 2002) in an attempt to self-evaluate the strengths and weakness of a sense-making pedagogy.

Institutional Context and Course Development

This learning theories course was developed several years ago when I was a new assistant professor. Although I have changed academic institutions, the course rationale, content and pedagogical processes were easily adapted to a different institutional culture. Initially, the course was created with the support of the university Writing Across the Curriculum program (McComas & Lloyd, 2003). That WAC program offered the support and initiation to question my own assumptions about learning as I created a course I had never taught. The course development took place within the context of a year and a half process that included several workshops and one-on-one meetings with a WAC mentor. A primary goal was to create "an experimental course" that would become "WAC certified" through a university-based peer-reviewed process. Once a course was certified, it then became a WI ("Writing Intensive") course. Students were required to take three WI classes to graduate from the university. A WI course never had more than 25 students per section. The course described in the university catalogue was *"Applications of learning theories: A study of the psychological principles which are the foundation for learning and teaching."* I had the academic freedom to create a syllabus that met this description. There were, however, some institutional goals established by NCATE (National Council for the Accreditation of Teacher Education), departmental goals, and university Writing Across the Curriculum goals that influenced my decisions. The course was a required undergraduate class taken by all education, journalism, health sciences, and physical training majors at a small mid-Atlantic university.

The reflective discipline and creative processes developed through WAC clarified my scholarship towards teaching and learning. The learner-centered foundation made this course easily transferable to my current academic context in a mid-sized Research I university located in the Northwest. The course serves similar program goals by introducing principles of learning to students entering a teacher education program. The same textbook is used and each class meeting is organized with similar agendas. NCATE and departmental requirements still influence the content and structure. My current institutional course catalogue describes the course as "Reflective inquiry about human learning, development, diversity, and individual

differences, examination of implications for teaching and education reform." The theoretical frame, the course content and the activities of the "experimental course" are still used, yet many of the student samples provided in this paper were gathered from my current practice. The course continues to adapt and develop clearly demonstrating the regenerative possibilities of a sense-making pedagogy.

A Blended Theoretical Framework: The Course Rationale

Although I too am neo-Vygotskian in temperament (see Ball & Wells, 2006), the eclectic theory blending for this course includes several theoretical view points. I hold a philosophical preference that "languages are worldviews" (Gadamer, 1994, p. 443) and that language learning serves as a strong model for all learning (Dewey, 1933; Emig, 1977; Gallagher, 2003; Lee, 1997; Wells, 1999). In addition to this linguistic bias, Writing Across the Curriculum (WAC), The American Psychological Association (APA) learner-center principles, and Richard Paul's perspective of Critical Thinking (CT) can be counterpoised to create mutually supportive perspectives on the kaleidoscopic nature of learning through language. Moreover, these approaches emphasize that, given certain institutional and classroom contexts, students can be authors in their own learning, that *learning to learn* requires a balance between structure and openness, that learning necessarily requires learning "new language," and that self-reflective individual thought can lead to improved interpersonal communication and individual self-reflective activity. All four views here cultivate individual human potential and thus can contribute to a more democratic society.

Learning Through Writing

Writing contributes uniquely to learning. Through writing we can create new possibilities not inherent to speaking and observation (Emig, 1977). When we learn a new discipline we acquire particular ways of talking, thinking and writing (e.g., Bazerman & Prior, 2004; Lee, 1997) that assist in creating new thoughts, emotions, beliefs, values and behaviors. Learning a new disciplinary knowledge is a new worldview. Writing is a "literate act" (Flower, 1994) that is simultaneously an individual cognitive endeavor and a socio-historically embedded "negotiation." When learning a new discipline "we cannot separate form from content, writing from knowledge, action from context" (Young, 1994, p. 61). By writing, we learn.

The Writing Across the Curriculum movement emerged in the 1970s with the primary interest in helping students to improve their academic and civic abilities to communicate, and to assist students in becoming critically engaged learners. By visiting the WAC Clearing House home page at http://wac.colostate.edu it is clear that there are numerous WAC programs across America, each serving the unique character of their schools yet each abiding by several key premises: (a) writing assists learning and thinking in implicit and explicit ways; (b) writing is an active learning process key to improving communication (both written and oral) and thinking; (c) writing is embedded within social process some formal, others informal and; (d) writing is primarily (although not exclusively) a social activity (Russell, 1997; Young, 1994). These premises grounded the writing activities used in this course.

Learner-Centered Learning

Closely related with the intentions of the WAC principles are the American Psychological Association (APA) *learner-centered principles* (Lambert & McCombs, 1998). Although arising from a different disciplinary history, these principles resonate with the spirit of the WAC movement. The APA principles were established to address current calls for education reform. The principles provide a framework to create learning environments wherein the potentials of each individual learner are emphasized.

The APA model highlights a dialectic relation between the learner and learning. The focus on the learner "emphasizes that learning is a natural process guided by individual learner's goals arising from the activity itself and interactions with others" (p. 11). The learning principles stress that "teaching procedures such as stating goals to students, summarizing prior learning, clearly presenting information, checking for understanding, modeling successful performance, guiding student practice toward fostering independent learners, and providing correctives and feedback on student performance" (p. 11) will provide the optimal context for individuals to reach their highest learning aspirations.

Applicable to all educational contexts, the APA learner-centered perspective is structured by four mutually reciprocal factors that influence learning and learners alike: (a) Each student has a distinct learning history including a unique combination of emotional, cognitive, and social strengths and weaknesses (*the Affective Principles*); (b) students can constructively engage their past experiences in new learning situations if they are meaningful (*the Individual Principles*); (c) learning occurs best in environments where the students are respected and where positive interpersonal interactions are fostered (*the Personal and Social Principles*); and (d) learning is not a fixed procedural

script that all teachers and students follow everywhere at all times. On the contrary, learning is a natural outgrowth, often spontaneous and unplanned, that emerges in contexts where personal relevance and meaning are highlighted (*the Metacognitive and Cognitive principles*).

These four factors provide a framework with which to think through changes and reformulations in classroom teaching. Although writing is not emphasized as centrally as the WAC perspective, clearly the APA perspective would support using writing as a tool for individual and social learning. In the undergraduate learning theories class described in this paper, these principles are implicitly stated in the course goals and serve as backdrop from which the course was constructed.

Critical Thinking, Critical Learning

In resonance with the effective written communication goals of WAC and the emphasis of learners and learning from the APA principles, critical thinking is the final theoretical strand that completes the framing for this course:

> Critical thinking implies a fundamental, overriding goal for education in school and in the work place: always to teach so as to help students improve their own thinking. As students learn to take command of their thinking and continually to improve its quality, they learn to take control of their lives, continually improving the quality of their lives (Paul, 1995, p. 20).

Paul (1995) equates critical thinking to "higher order thinking" (p. 283), a learning goal emphasized by both WAC and APA. Critical thinking is a set of global principles, not a narrowly defined set of scripts and algorithms. Paul's critical conception of pedagogy contrasts with traditional didactic teaching. For example, (a) Classes with much student talk, focused on live issues is a better sign of learning than quiet classes focused on a passive acceptance of what the teacher says; (b) Students gain significant knowledge only when they value it; (c) Information should be presented so as to be understandable from the point of view of the learner, hence continually related to the learners' experiences and point of view; (d) Depth is more important than breadth of coverage; and (e) Students learn best by working together with other students, actively debating and exchanging ideas (Paul, 1995, pp. 276 -277). Many of these ideas can be realized in a writing intensive, learner-centered, sense-making pedagogy.

In my eclectic application of these four perspectives (language-as-worldview, WAC, APA, and CT) they are mutually supportive of one another, albeit with different historical sources, players, language use, and offer a strong interlacing rationale for the creation of an undergraduate course in the psychology of learning. The following course description demonstrates a possible model for teaching and learning that is useful both *epistemically* (in the abstract big picture) and *phronesically* (in the finer details of context).

The Course Organization

The course content is organized using a respected and ubiquitous educational psychology text: *Educational Psychology* (Woolfolk, 2004). The book is organized into four general areas: *students*, *learning and motivation*, *teaching* and *assessment*. We have a 16 week semester within which to study the content of *Educational Psychology*. Rather than blitzing through all of the colorful, information-packed 579 pages of the text book, our focus is on clarifying some of the "big ideas" (a few concepts, theories, ideas and questions distilled from each chapter) from 12 of the 16 chapters. Four of the chapters are not covered because the content is covered in other courses offered in the program. The goals listed in the syllabus are discussed the first day of class and then revisited occasionally throughout the course and once again at the end of the semester. Checking periodically keeps us focused throughout the semester. This process allows us to informally asses our learning, clarify our questions and offer suggestions for future improvement. The writing activities, in-class activities, and the accompanying class discussions are structured with the following *general* and *specific goals* listed in the student syllabus:

General Goals

1. To critically evaluate and make ones' own some of the basic issues presented in the text book.
2. To analyze, synthesize and interpret the readings in your own words.
3. To apply the theoretical and research-based readings into your past, current, and future experiences in education.
4. To become a member of a learning community.
5. To identify, relate, and appreciate the interconnected complexity of learning theory, development, teaching, and educational foundations.

Specific Goals

6. To improve your confidence, craft, and creativity is using *Writing* as a tool to explore, clarify and reflect on the questions and issues raised in class.
7. To begin clarifying and constructing a personal theory/philosophy of learning, development, teaching and education.
8. To develop a working professional vocabulary that will empower you to critically question and interpret some foundational issues associated with learning theory, development and educational practice.
9. To evaluate, synthesize and reflect how (and whether) to apply specific learning theories as they relate to social, emotional, cognitive and moral development.
10. To speak, write, listen, and think confidently and creatively about the multiple dimensions of learning theory, development and education.

A Typical Daily Agenda

Each class session is held once a week for three and a half hours. The agenda is structured to allow for a predictable sequence of classroom events yet it is flexible enough to accommodate the contingencies that arise in a learner-centered environment. On many occasions, much of our class time can be spent debating and discussing "opening questions." Listed on a power point slide, agenda items look like this:

1. *Clarifications*: Assignments, syllabus, reading schedule, etc.
2. *Review*: Big Ideas from last week, readings, writings, videos.
3. *Opening questions*: Student-generated questions, questions from the text and instructor questions.
4. *A Video*: discussion, observations, connections.
5. *Small group discussions*: Summary and textbook-based discussion, other activities.
6. *In-class writing*: (For example, a "one-minute essay")
7. *Large group discussion*: Explicit clarification and "lecturing" by instructor
8. *Projection:* Where will we be next week?

Writing Assignments and Written Assessments

The writing assignments are created to meet course learning goals. In addition, the assignments meet one of my instructional goals to model a formative assessment process. Students create portfolios whereby they systematically collect their various writing activities,

daily self-assessments, class notes and other material they find suitable. To study how the writing assignments assisted students in reaching course goals, I collected and analyzed various student-writing samples. Part of this process was required by WAC as a way to evidence student learning through writing. Each assignment has a different *purpose*, *process*, and *product*. Consequently, different criteria, goals and assessment processes are used. Table 1 outlines the purpose of the writing assignments, the intended audience, writing timeline, targeted course goals, and the assessment approach used. For some of the writing assignments I have included several student samples to demonstrate how they meet the course goals, and thus, how they demonstrate student sense-making.

Chapter Summaries

Chapter summaries are created by all students for each chapter we read. There is a simple structure students follow (adapted from Palinscar, 1987): (a) one paragraph summarizing the chapter content; (b) a list of 5 key terms of their own choosing including student-generated definitions for each term; (c) three "critical" questions related to the chapter; and (d) a personal connection/response paragraph where students are encouraged to make connections between their own experiences and the reading content. Some students hand write their summaries while others prefer to type them. The summaries are informal, non-graded and the students are primarily their own audience. I collect several students' summaries each week, I quickly peruse the summaries adding "dialogic comments" that note interesting insights or questions, ask for clarification or elaboration, and/or add encouraging remarks. In opening discussions, I frequently use the summaries from previous weeks to make connections with the current and subsequent weeks.

Students include these summaries as one section of their course portfolios. The major goal of summary writing is to provide a non-threatening context within which students can struggle with the new terms and concepts and prepare for small and large group discussions; the summaries serve as a connecting text between students' interpretations and questions, the textbook and classroom discussions. I often observe students adding new ideas that emerge in class, deleting and/or elaborating on other ideas on their summaries as discussion develop in class. (See Appendix A for an example.)

Most students find summarizing a useful endeavor. Many students find the process of reading, summarizing and open class discussions a powerful process for learning the content of the chapters. One

Table 1
Writing Assignments, Purpose, Audience, Timeframe, Goals, and Evaluation Method

Purpose	Audience	Time	Goals	Evaluation
Chapter summaries Prepare for and contribute to class discussions	Self and other students	Weekly On-going	General (all) Specific (all)	Check +/- Evaluated Weekly
Letter home from Nacirema To address cultural assumptions	Friends Close others	Read Nacirema, then write One week	General (2 and 5) Specific (1, 4, 6)	50 point rubric Evaluated once
Learning autobiography To clarify "turning point" and/or critical incident	Self Instructor Possibly professional	Read "Aria" then write 4 weeks	General (5) Specific (1, 2, 5 and 6)	100 point Rubric Evaluated once
Reflection on learning game video or other activity	Instructor	1– 5 minutes	General (1, 3 and5) Specific (6, 7 and 10)	Check +/- Evaluated once
Mid-term learning summary Reflection on class activities, personal learning	Self and instructor	10 – 15 minutes	General (1, 3, 4 and 5) Specific(6, 7 and 10)	Check +/- Evaluated once
Inquiry project To address a specific academic questions/topic; summarize professional literature.	Instructor Other students Other professionals	13-14 weeks	General (all) Specific (all)	Formative Summative

student wrote in a mid-term reflection activity that "Writing chapter summaries encourages us to read each chapter and working in small groups allows us to get other people's perspectives on the new material." In student evaluations, another student commented on the time-consuming nature of writing weekly summaries: "The chapter summaries became a bit too much at times, but were useful" for preparation and class discussion. Writing summaries was one way students struggled in their sense-making of learning theories.

The Learning Autobiography

After studying chapters on personal development and individual differences in learning (Woolfolk, 2004, pp. 22 – 149), each student wrote a Learning Autobiography. In addition to the text book chapters, students read *Aria* (Rodriguez, 1981), a brief autobiographical account of a significant turning point in this author's life that changed the way he thought about himself, his family, and his public and private identity. *Aria* is a story that connects well across several textbook chapters where self-esteem, identity, cultural difference, and emotional and moral development are introduced. In addition, *Aria* is a well written example of a learning autobiography that fueled the debate on bilingual education when it was published in the early 1980's. The main purpose of the learning autobiography in this psychology course was to challenge students to look proleptically (simultaneously viewing the present in terms of the past while anticipating the future) at significant events in their life that may have changed they way they viewed themselves, others and/or life.

The autobiography is similar to the critical incident research technique (Kain, 2004; Tripp, 1993) that emphasizes discovery of significant events unique to an individual. Tripp used critical incident technique as a way to "problematize" teaching, as a way to challenge teachers to become more aware of professional and personal issues that influence their practice:

> Critical incidents are produced by the way we look at a situation: a critical incident is an interpretation of the significance of an event, to take something as a critical incident is a value judgment we make, and the basis of that judgment is the significance we attach to the meaning of the incident. (p. 8)

Other university instructors have detailed their use of the learning autobiography as a self-exploration process in higher education (Karpiak, 2000).

Students were asked to narrate in writing an event or events that had an impact on their personal worldview. There was no restriction on what could be written about. Some students chose specific events, other chose several intertwining events, while others wrote of gradual changes that took place over several years. Although I served as the primary audience for the autobiography, we discussed the possibilities of expanding their stories in sections of their personal portfolio that might be used in job interviews, professional development courses and as a writing sample for the university wide "writing intensive" requirement.

When assigning this writing, many students looked befuddled and perplexed. One student responded, "I have a learning autobiography?" In class discussions,

many students commented that they did not realize the depth of a particular experience nor did they realize the personal importance of an event until they were required to articulate to another person the "significance" of the event. Many students commented that they were pleasantly surprised to discover that the writing was a "disequalibriumizing" (one student's word) learning process and that the experience they choose to focus on gained new significance after reflecting on, describing, and narrating their experiences. "I enjoyed learning from my learning autobiography," was a comment echoed by many students. Another student added in a subsequent writing activity that "It was an assignment that helped me open up and really assess my thoughts and beliefs." Some of the topics that were included in the learning autobiographies included: losing a loved one in a dramatic death; becoming a majorette; epiphanies within conversations; religious conversion; visiting another country; drug rehabilitation; becoming a parent; the influence of a past teacher; working with animals; specific moral dilemmas; abusive relationships and divorce. (See Appendix B for assignment criteria).

A Letter Home from Nacirema

In addition to reading a text book chapter on Culture and Community (Woolfolk, 2004, Chapter 5), students also read a classic anthropology article entitled, "Body Ritual among the Nacirema" (Miner, 1956). The article presents familiar cultural information about various practices like going to the dentist and the doctor, but describes these activities with language that makes them sound foreign, brutal, and strange. For this assignment, students were to imagine that they were world travelers and they were visiting a foreign place named Nacirema. They were to write a letter home to a loved one that described their experiences in this strange land. In the letter, students were asked to compare and contrast the Naciremian rituals with their own daily rituals "back home" by noting three points of commonality between the Nacireman and the American way of life. As you've probably noted by now, the Nacirema is American spelled backwards. Very few students actually realized this until our class discussions. Much of our discussions focused on the dawning recognition that the rituals we take for granted could be seen strange, obscure even unhealthy if presented from another linguistic perspective. One student sent me an email explaining her continued surprise as she walked home after class:

> I feel like an idiot. I am just being honest. I turned my "letter to home," in today and didn't think anything of it. I went out to eat, came back, and decided to read the article, "Body Ritual among the

Nacirema," again. To my horror, I was right. How could I have not seen it. Nacirema was really the word American. This article was about the American society. I was just writing to you to make me feel better about my intelligence level. After reading the article again, it all came together. It is so weird how reading something in a foreign perspective can make people so stupid. I just didn't want you to think I was an idiot when you read my paper. I am just a little slow.

The sentiments of this response were echoed by many students. (The simple evaluation checklist is included in Appendix C and an excerpt from a letter is included in Appendix D).

Informal In-Class Written Assessments

In addition to the summaries, the learning autobiography and the letter, informal written assessments were used throughout the course. Some of these assessments included a "one minute essay," a mid-term "active learning summary," and reflections on a one week "productivity study."

The one minute essay. The one minute essay was used after the completion of a cross culture communication game (Bafa Bafa, Shirts, 1977). This writing serves as a "debriefing" (Patranek, 2000), as a means to begin making sense of a new learning experience. To play the game, the class is randomly divided into two cultures: The Alphans and the Betans. In separate rooms, each group learns a unique language and culture. After they have mastered their new cultural system, they are invited one-by-one into the other culture where they are challenged to communicate with members of the other culture using only their new mode of communication. For example, the Alphans communicated by close approximation to each other and start each conversation with a comment about the men in their lives, whereas the Betans used a simple syllabic language to conduct trade negations for certain color coded cards. After about 15 minutes visiting their foreign country, they returned to their "home" culture. This cross-cultural travel takes about 90 minutes. After the game was completed, the following writing prompt was used:

Explain what just happened here. What were some of the emotions you experienced while playing? What did you observe about the "others"? What did you learn about learning? How does your experience here apply to our class in learning and teaching?

Here are several excerpts from student responses demonstrating their sense-making:

1. It was fun but crazy. Kind of like trying to speak to someone from a foreign country. I

guess that's how it's going to seem when we start teaching. Like we are walking into an entirely different world.

2. My level of comfort was tested greatly when I visited the Beta culture. I was confused about their form of communication and frustrated at my inability to communicate. Why couldn't I understand them and them me? As a complete outsider without any information, I was much more comfortable retreating into a corner to watch. A very lonely feeling that I believe over time would change to anger. I simply did not know how to act and what to do in order to assimilate.

These comments give an immediate insight into student learning within the context of this game. The confusion of learning a new language, the ambiguity of trying to communicate in another cultural system and the connections to possible classroom scenarios are present in many of these "one-minute essays." These debriefings were used in later class discussions to highlight some of the textbook issues we read including culture shock, cultural assumptions, differential treatment, deficit theory, stereotypes, stereotype threat, proxemics, pragmatics, and empathy emerged in subsequent discussions.

The active learning summary. The Active Learning Summary was another informal writing activity that yielded much insight into student perceptions and learning within this introductory psychology of learning course. The writing activity was given as a mid term reflection "quiz." The open-ended prompts included the following:

1. So far this semester I have learned
    _____.
2. As a result of what we have studied in this class, I'm beginning to wonder _____.
3. I was surprised by _____.
4. If there is one thing I would have my professor change in this course, it would be
    _____.

This was a simple but useful in class reflective activity because students gave a brief glimpse of some of the issues they were learning, some of the strengths and weaknesses of the course, and it gave them a chance to summarize up to that point what they had found important in the course. Here are a few of the comments students offered:

1. I have learned various methods of understanding students' thinking (e.g. Vygotsky, Piaget) and teaching skills (e.g.

constructivist, whole-language). Learning to question theories and challenge others ideas has become easier, too.

2. The word "Hermeneutics" and its meaning and how it applies to me.
3. How to annotate articles, a little more about myself (learning autobio), how to work in groups, and cultures and differences (Bafa Bafa).
4. This semester I have learned many new concepts about teaching and the way students learn. I think this class along with the other four I am taking this semester have taught me so many things about the classroom-things I really need to know and that will benefit me in the long run. Most importantly, aside from the text material, I learned a new way of teaching. The "trust" system is great.

Indeed *trust* was a major component of the classroom environment. One student was very clear about what they weren't learning: "So far this semester I have learned a little bit about everything and a whole lot about nothing." Another student realized, "That I am not enjoying my specialization. I do not want to work with young children. If I wasn't so close to graduating, I would change my major."

Yet when another student completed the prompt *I was surprised* by writing, "the revelations my learning autobiography brought about. I never realized how important reading is to my life and how it has affected me. I was able to pinpoint the exact moment my life took me on the path to teaching." Although simple in appearance, the mid-term writing was a powerful clarification for many students' sense-making.

Reflection summary on the personal productivity study. "After this assignment I know that I need to work more on studying." This was a common theme for many students who completed a self-study project during our focus on "Complex Cognitive Processes" (Chapter 8, Woolfolk, 2004). In class we discussed the basic distinction between *strategies* and *tactics* and some basic processes in problem solving. We discussed that *strategies* are general approaches to learning whereas *tactics* are more specific processes involved in learning various tasks. As a group, we agreed that tactics maybe part of a strategic plan. To challenge students to reflect about their own thinking, problem solving, strategy and tactic use, students conducted a one week "productivity study." On a work sheet with labeled columns, they were to keep track of specific "learning tasks," the strategies and tactics they used to accomplish the task, the time they started and

finished the task, and then they were to self-assess their productivity by rating on a scale of one (not productive) to five (very productive). After they completed the self-observation, they were to write a reflective statement about what they learned as they conducted their week-long study. These reflections demonstrate students beginning to question and appreciate their own struggles in sense-making:

1. After doing my productivity study I can see that overall not very much of my time is sent on studying … The way I study it to write notes, read the chapter and then repeat the key points. I'm not sure this works for everything but it's been the way I always study.
2. I learned I tend to be more of a visual learner. I did a variety of different tasks from cooking to writing a paper. It helps if I have a demonstration or watch someone else perform the task.
3. Most of my bad study habits come from a poor studying environment. I also think that I was never taught how to study. Instead I have had to teach myself how to study while in college.
4. From looking at my results I am above average in productivity, I always knew that I worked hard to receive good grades or to get the job done right I did not know, however, that I was this productive … from looking at this study I now know I am more productive than what I thought I was.

From an instructional view point, these informal written assessments (the one minute essay, the active learning summary, the productivity study) were useful in learning more about students' experiences, their concerns, their joys, their struggles and their learning. Likewise, students reported that these writings gave them insight to their developing understanding of learning and teaching, and as importantly, students learned a little more about their own learning.

The annotated inquiry project. This writing activity was the only long-term formal paper required in the course. In addition, this extended writing activity met the larger institutional goals of having students create a "review of research" that was to be included in their graduating portfolio. Students were challenged to focus on a specific topic of their own choosing that was related to the learning, teaching and education. The intention behind this project was for students to explore a topic in some depth that they could begin to study with the aim of revisiting this topic as they developed professionally.

The Inquiry Project proceeds through several phases of writing. We began with brainstorming possible topics during the third week of class. On the seventh week of class, students wrote a project proposal that clarified the focus of the paper. The proposal also included citations for 5 – 7 sources that they would use to draft their final paper. After the proposal has been approved, we wrote on several different class times drafting introduction and review paragraphs. These drafting sessions lasted approximately 30-45 minutes wherein we discussed and revisited the criteria and clarified other issues that individual students might have had. Near the end of the course, students brought a fully drafted paper to class that was exchanged and read/reviewed by another peer in class. Finally, the finished paper include an annotated review of 7 – 9 pages and a "next step" that may lead to constructing a pamphlet, "guidelines," possible research questions, tips for teaching, etc. This writing project is a lengthy project that requires spending time brainstorming, drafting, writing, and revising. The project spanned 13 of the 16 weeks of the semester. The project was comprised of the following phases:

- Phase 1. Brainstorm and clarify several ideas you would like to study in depth.
- Phase 2. Meet in library; participate in "intro to internet research."
- Phase 3. Write a one page proposal with three parts: (a) Your topic and why you chose it; (b) 5 – 7 professional references that will be read and cited; (c) a "next step" describing how you will apply what you learn.
- Phase 4. In class drafting; checking with sample and criteria.
- Phase 5. Peer-edit a draft of another student's annotated project.
- Phase 6. Turn in final paper, give brief oral presentation and discuss your "next step."

Topics that students choose to study included (a) education in Appalachia; (b) components, strategies and benefits of the project approach; (c) interventions for teachers of students with dyslexia in the regular classroom; (d) assessing risk in the inner city and ways you can help; (e) counseling adolescents: Methods and theories; (f) a children's guide to understanding autism; (g) how to successfully detect and instruct children with mathematical difficulties.

All of the above writing activities emphasized the integration of personal and disciplinary language, WAC, APA, and CT skills. The writing served as a tool whereby students could openly explore and elaborate on some of the content we were studying as well as a

tool that would assist in assessing student sense-making in our introductory learning theories course.

Cross-Disciplinary Application

Writing is "one of humankind's most powerful tools" (MacArthur, Graham, & Fitzgerald, 2006). As many of the writing responses demonstrated, students struggle to voice their own definitions, their own questions, their own understanding, and their own learning. In combination with regular reading, daily small group and large class discussions, the writing activities served as a springboard for student learning. Although these activities and dialogic processes are structured within a learning theories course, the theoretical frame and many of the activities are not content restricted. The student-first, language-based theoretical rationale, the daily structuring of purposeful dialogue, and many of the in-class and extended writing activities could be adapted "across the curriculum." For example, summary writing can be used in almost any context where students are expected to contribute and negotiate in class discussions. The questioning that arises from the summaries could lead to discussions of ethical dilemmas in disciplines like business, medicine, and law. The writing of a learning autobiography is adaptable to disciplines like anthropology, history, philosophy, health, economics, and political science that have rich disciplinary language, theories, and stories directly related to human experience. Writing a letter home could also be adapted to a context where students are challenged to explain and describe technical content to a lay audience. One minute essays can be used following the viewing of a video clip or a movie, and after listening to music or a lecture as a way for students to record their immediate thinking. Finally, the extended inquiry project could be adapted to almost any discipline where the goal was to integrate literature, to connect with course content and to assist students in acquiring disciplinary writing structures. I have used a sense-making pedagogy and similar writing activities in an Introduction to Research course, Advanced Educational Psychology, and courses entitled Tests and Measurements and the History of Literacy. In any course where student learning is the primary purpose, writing activities within a sense-making pedagogy can be created and adapted.

Discussion

Constructivism is kaleidoscopic in its meaning and use. Creating a constructivist pedagogy requires wrestling with conceptual, pedagogical, cultural, and political dilemmas simultaneously (Windschitl, 2002). Windshitl's framework offers a useful thought tool that "involves a number of critical questions that can prompt teachers to interrogate their own beliefs, question institutional routines, and understand more deeply the forces that influence their classroom practice" (p. 134). Although the framework was primarily targeted for K-12 teachers, it served as a critical lens for my attempt to create the course described in this paper. As a way to reflect on and discuss the course described here, I will address several of the conceptual and pedagogical dilemmas that I found particularly challenging.

1. Do all activities result in knowledge "construction" by students? No. I can't definitively state that every writing activity for every student resulted in the construction of knowledge. However, by reading the students' writing, some of which I included in this paper, I can be confident students did create personal and professional understandings as a result of the writing and other in-class activities. The writing activities outlined above challenged students to summarize, question, clarify, elaborate, create, argue, reflect back, project forward, describe, and otherwise make their thinking visible by putting their thoughts on paper. That they created new understanding of learning, I think, is evident in their writing samples.

2. If certain ideas are considered correct by experts, should students internalize those ideas instead of constructing their own? It depends. I am unclear who the ultimate authority in learning theories would be. Perhaps my Ph. D. in human development and cognition qualifies me as an expert, yet my own understanding of ideas changes the more I read and study, the more I teach, the more I live. We used Anita Wolfolk's *Educational Psychology* (8th ed.) as our class text. Like any "text," this book represents a certain knowledge bank deemed "correct" by publishers and other educational psychologists alike. Moreover, the text clearly has the majority market share in textbooks on educational psychology demonstrating a certain influence that the book has. Had I chosen another text to use, however, the content, key terms, and presentation would have been subtly different (Holder, 2006). As I tried to demonstrate in this paper, writing played a crucial role in my attempt to guide students in challenging, questioning and, to a certain extent, appropriating some of the "Big Ideas" in the psychology of learning. To the extent that students "internalized" the content (i.e., key terms, concepts, theories) of each chapter with a correct meaning-to-word copy, I am not sure. I am confident, however, that students did demonstrate understanding and insight of key ideas in their various writing tasks. More importantly, their writing demonstrated that they did begin to make sense of the disciplinary ideas by filtering them through their own learning experiences, thus making the ideas personally meaningful. Some students even began challenging "the dominant discourse" of educational psychology (Gallagher, 2003)

and wondered who sets the agendas for an educational psychology text. Most likely, the students in my course will not become educational psychologists or professional learning theorists. However, they will become teachers, counselors, and other social service professionals who will benefit by applying the ideas of the course "text" to their unique personal and professional circumstances.

3. What does it mean for me to become a facilitator of learning? I fancy this paper as an attempt to describe a "liberating praxis" (Gallagher, 2003; hooks, 1994). Throughout the course and on any given day, students were co-constructors and joint interrogators who individually and collectively sought some foothold, a first step in understanding the rich complexities of learning and teaching. A major underlying premise in my own thinking for this course was a belief that "Having to say something is a very different matter from having something to say" (Dewey, 1933, p. 246). Through our writings, discussions, and class activities, students learned from each others' experiences. I encouraged students to make as many connections as they could between our class's content, other classes they were taking and had taken. I encouraged students to challenge the ideas presented in their textbook. Most importantly, I encouraged students to make connections with their past, present, and future life experiences. In this way, I sought to facilitate students' sense making of learning theories.

4. What types of assessment will capture the learning I want to foster? I tried to demonstrate how certain writing activities aligned with a language-as-worldview, learner-centered, critical thinking pedagogy. I also tried to demonstrate here how I saw each writing activity aligning with the course goals. The writing activities spanned a range of informal, in-class writing to formal time-intensive "review of research." Most activities had clear performance criteria and rubrics for successful writing. The writing samples I collected, a few discussed in this paper, demonstrated student involvement, student concerns, student understandings and misunderstandings, students' perspectives, student questions and student doubts about the content we studied. In short, the various writing activities served as key assessment tools in my attempt to foster these students' sense-making.

5. Can I trust students to accept responsibility for their own learning? Yes. Among the many issues I learned was that "writing intensive" for students means "reading intensive" for instructors. Some of my colleagues warned me about the trails and tribulations of collecting student writing. Other colleagues adamantly refused student writing, student voice. It was through reading student writing,

however, that I learned that, given an honest and respectful context, students will make an honest attempt to study, reflect on, connect with, and otherwise learn the content of our course. In short, I learned to trust students' attempts at making sense of learning theories and their own learning. At times, I still struggle with reading student writing. I have learned, however, that the "praxis of charity" (Porter, 2001) is a hermeneutic process that necessitates I too learn to make connections and challenge my own assumptions and weaknesses. Students will be responsible if they see a value in their struggle to learn. Value in learning comes when students are given the space to question the world and voice their experiences.

Making sense of learning theories requires both teacher and student to question, to critique, and to be open to new possibilities. To conclude this course description, one student's unsolicited email demonstrates the possibilities inherent in a writing-intensive, learner-centered, sense-making praxis:

> I'm writing this e-mail on a whim. Yesterday in class, I actually knew the answers to the questions that you were asking. I wasn't looking at notes, and I didn't even need to stop and think about the question. That truly amazed me. I can honestly say that I've NEVER been able to do that, and I only read the material once! I've always had to study and reread everything it seems when it comes to text book material. I guess what I'm trying to say is I actually WANT to read it. It just absolutely befuddles me. I've NEVER ever honestly read a text book except for maybe a chapter here and there or just skimming it, but I'm really truly READING this one! ... I WANT to learn them (referring to ideas presented in the course), I WANT to talk about them, I'm passionate about them!

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Appendix A
An Example of a Student's Chapter Summary

My summary: 3 Big Ideas

1. Some psychologists assume that mental processes exit and that they can be studied scientifically.
2. Knowledge in the cognitive perspective includes both the subject Specific understandings and the general cognitive abilities.
3. Semantic memory is the memory most often used in schools, words, facts, theories, and concepts.

5 Key Terms

1. Automaticity - The ability to perform thoroughly learned tasks without much mental effort.
2. Chunking - Grouping individual bits of data into meaningful larger units.
3. Script - Schema or expected plan for the sequence of steps in a common event such as buying groceries or buying pizza.
4. Retrieval - Process of searching for and finding information in long term memory.
5. Metacognition- Knowledge about your own thinking process.

3 Questions

1. What would you say is the main factor in learning?
2. What is the main reason that we forget things?
3. Are mnemonics used extensively in the school systems?

Personal reflective response

This was a very interesting chapter. I am interested in the way that memory is retained and forgotten. I think that this information can be very valuable in the school setting. I also like how that word "Metacognition" came up again. I think that is a word that I'll hold onto for a long time.

Appendix B
Learning Autobiography Assignment Sheet

Read *Aria* written by Richard Rodriguez (I will give you a copy of this chapter). When you finish, consider the four sets of questions at the end of the chapter. We will discuss some of them during our class discussion.

For the purpose of your learning autobiography, reflect back on your life as a learner. Was there a time, a place, a certain situation that you remember well that really influenced your thinking, your attitudes, and your dreams? Is there a "critical incident" that changed your life? Was there a teacher that really changed your way of thinking? Was there an episode of events that really made you think? Was there a "turning point" one day in your life that changed your worldview? This is an open writing assignment. I have but a few expectations.

1. I expect that you use will use standard written English grammar.
2. I expect that hat you will edit and spell check your paper.
3. I expect that you spend several "sessions" putting this paper together.
4. I expect that this will be frustrating for some of you, painful for a few of you, enlightening for most of you.
5. I expect that you will learn a little more about your self as a learner and possibly why you chose to enter the teacher education program here at Marshall University.
6. I expect that you will be PROLEPTIC: That is, I except that you will carefully reflect back while in the present while looking towards the future!
7. I expect the paper to be from 3 – 5 pages long. If you want to write longer, go for it!
8. This paper is completely confidential. I am the only reader

To accomplish an exceptional paper, you will need to consider and include at least the following.

1. Is your paper coherent? Does your story hang together? Have you spent time describing the situation, the people, time and the place? Does the story have some sort of "movement" a direction?

2. Does your paper contain some of the following? Names: people, places, objects, etc. Visual details of the scene, the objects, the people (i.e., sizes, colors, shapes, features, textures.) Sounds, smells, unconscious impressions. Dialogue; Interior monologue; Expressions of remembered emotions, thoughts insights Suspense, tension, catharsis;Surprise connections with past, present, future; i.e. Prolepsis. Comparisons and contrasts.

3. Have you provided the reader with a context? Is your narrative situated in a specific time, place, scene, etc? Have you carefully chosen details that highlight relevant aspects? Do you have sufficient description and action?

4. Can your reader hear your voice, your attitude and/or your emotional response to the event?

5. Have you spent enough time telling why the event/events were important to you?

6. Does your paper have: Well-chosen details? Well-chosen words? Well -chosen sentence variety? Word play, imagery?

Appendix C
Grading Checklist for the Letter Home

Use this simple checklist to help you structure your "letter home."

1) Did you include a date and opening salutation?
        Yes = 2.5 points. No = 0 points.

2) Does your letter include a paragraph that orients your reader to the place, time and people?
        Yes = 5 points. No = 0 points.

3) Have you discussed at least four specific rituals unique with the Nacirema?
        Yes = 10 points. No = 0 points.

4) Did you compare and contrast the Nacireman way with at least two of your own cultural rituals?
        Yes = 10 points. No = 0 points.

5) Does your letter include your personal feelings and reflections?
        Yes = 10 points. No = 0 points.

6) Does your letter "speak" as if you were really talking to your reader?
        Yes = 10 points. No = 0 points.

7) Did you end your letter with an appropriate closing?
        Yes = 2.5 points. No = 0 points.

Appendix D
An excerpt from one Sample of the Letter Home from Nacirema

Dear Ramon,

I know you are aware about long-term existing "machismo" in Mexican society.

Now, I want to tell you about the Nacirema people. They are a North American group that live between the Canadian Cree and Tarahumare of Mexico. This cultured existed 20 years ago, in 1985. The Nacirema people spend their time in economic pursuits and also spend part of the day in a body ritual activity. They believe that the human body is gruesome and man can only aid this with body ritual activity.

Every home has a shrine or many shrines, wealthy and powerful people have many shrines, but poorer people have fewer shrines. These shrines are found in boxes inside the interior walls of homes. They contain charms and potions that these people use. The most powerful of these are the men known as medicine men. The Nacirema people go to these medicine men, and of course for their assistance the Nacirema must pay with gifts. Then the medicine men write ingredients in a secret language for the herbalists to read. Then the Nacirema people give the herbalists another gift in exchange for a charm. After this, the Nacirema people go home and put their charm in their household shrine. …

Anyway, two similar rituals that my bi-culture has with the Nacirema culture are: the medicine men and the Holy water in the font. In my Mexican culture people pay money (a gift) to the "curaderos" (medicine men) in hopes that their health, body, and mind will become better. Sometimes people get better on their own, but they believe otherwise and go back to the. "curaderos." In my American culture, people use water in the sink (holy water in the font) to brush their teeth and wash their face.

Wow, I just realized that the Nacirema and my two cultures have a lot in common. Rolando, Medicine men exist here in American and also in Mexico. I guess from place to place, civilization change becomes more appropriate to the culture, right? For instance, the (holy water) at Mexico does not come from the sink or at home. Year after year the Nacirema people visit these "holy mouth-men." If the Nacirema people attract more friends, then I, too, would go to these "holy mouth-men."