

CHAPTER 13.

FROM DEFICIT TO ASSET: RETHINKING GRADUATE STUDENT NARRATIVES

Nicole Warwick

University of California, Santa Barbara

In “Negotiating T. A. Culture,” Sandra Mano recounts her struggle with teaching a TA preparation course for the first time, describing how graduate students (mostly literature) were resistant to composition theory. Their resistance, however, is not her main focus. Instead, Mano takes a hard look at herself and the assumptions she made about the graduate students she worked with and the course itself. In her eagerness “to share my theoretical and practical perspectives with new teachers,” Mano realized she didn’t look at the bigger picture (159). She did not take into consideration the different cultures and power relations at work in an English department and how these would impact a TA preparation course, and she did not put into practice the student-centered pedagogy she practiced as a writing teacher.

In exploring the challenges she faced in the classroom, Mano resists what Stenberg calls “the teacher as victor” (71), or the image of a polished, trained teacher. We also might say that Mano is able to put on hold what Clandinin and Connelly describe as “sacred stories,” a “theory-driven view of practice shared by *practitioners*, policy makers, and theoreticians” (25; emphasis mine). In doing so, Mano adopts critical distance, which allows her to examine the different elements which may have contributed to conflict in the TA classroom, among them her actions and beliefs and those of the graduate students she worked with. This process of stepping back and adopting critical distance allowed for a larger, more complex narrative to emerge.

Mano’s story represents a concept at the heart of my research: that expanding perspectives through continued critical examination of sacred stories is a valuable endeavor allowing for growth and learning, and it is a philosophy and practice that is as important for teachers as it is for students. However, when I read the literature on TA preparation, beginning with articles from 1913, instead of finding complex representations of TA preparation, I often found they pointed to some kind of shortcoming, deficit, or lack in TAs. These inadequacy stories

then were frequently used to make calls for preparation and/or to talk about a particular approach to preparing TAs.

In response to these inadequacy stories, I conducted a narrative study. Narrative research, according to Clandinin and Connelly, places emphasis on the stories people tell. As such, this methodology allowed me to showcase words, stories, and experiences of graduate students learning to teach writing in a TA program. In this chapter, I begin by discussing the inadequacy stories I found in the literature on TA preparation. I then move to focusing on my study by presenting my research methods and portions of the research text I created from participant narratives followed by discussion of implications and future research. As I will demonstrate in this chapter, stories play important roles in our lives, from shaping our perceptions to helping us learn. Ultimately, I argue that in inviting graduate students to tell their stories about learning, writing, and teaching, we also create a more complex understanding of graduate students, the ways we work with them, and what we accomplish together. In doing so, we better position ourselves to aid graduate students in transferring knowledge from TA programs to other areas of graduate students' lives, inviting them to be partners in learning.

INADEQUACY STORIES

In this section, I will discuss different aspects of inadequacy stories I encountered as I reviewed the literature on TA preparation. This discussion will include examples of these stories, evidence that these patterns persisted over time, and examples of how these stories were used to create exigency for TA programs. Before I begin this discussion, however, I'd like to offer a caveat about my discussion of inadequacy stories. I don't want to seem as though I'm attacking or unfairly criticizing the writings that I highlight in this section. These stories have contributed to our understanding and knowledge about TA preparation. I also don't cover every example of inadequacy stories that I have encountered. I offer inadequacy stories and my research overall in this chapter as a reflective lens for teachers—a means for thinking about the kinds of stories we all tell about our students—whether TAs, graduate students in general, or even undergraduate students. Much as Betty Pytlik and Sarah Dobrin have shown, we can read the literature for content, but we can also read it to examine how the conversation has been framed and carried forward over the years.

Pytlik's "sprinting tour" of historical articles from 1850 to 1970 inspired my examination of historical literature on TAs and TA programs. In her review, Pytlik briefly mentions inadequacy stories and points out that "That graduate students' writing ability was still a concern during the 1920s and 1930s" (9). She

quotes Harry T. Baker who called graduate student writing “commonplace.” He explains that “no spark of animation touches their pages” (qtd. in Pytlik 9). Pytlik, however, does not stop to investigate these inadequacy stories in any depth, noting that they were but a quick detour in her review, but when we do stop to investigate, we see that the perception of graduate students’ inadequate writing skills is more than a detour—it is a recurring pattern.

Chester Noyes Greenough of Harvard wrote one of the first articles about training graduate students to teach writing. We also see the first inadequacy story emerge here. Greenough explains that:

For some time the Department of English at Harvard has felt that the equipment of the men whom it has been sending forth to teach English has been inadequate This inadequacy has been perceptible both in the very moderate skill displayed by most graduate students in writing theses and reports, and in the dismay with which even the best of them have approached the unfamiliar task of teaching Freshmen to write. (109)

Greenough attributes “the dismay . . . [for] teaching Freshmen to write” to graduate students’ poor writing ability, and thus establishes the kinds of inadequacies we will continue to see described: poor writing, poor teaching of writing, and/or a poor attitude about the teaching of writing. The means for changing poor writing, poor teaching, and/or poor attitudes will be preparation for teaching writing.

In his article, J. M. Thomas continues the thread about graduate students’ bad attitudes about teaching writing, bad attitudes which he suggests lead to bad teaching. He begins his story by characterizing writing teachers as having spent their graduate careers studying such things as “Anglo-Saxon verb forms, or in attempting to discover sources or fix the date of some tale of Chaucer” (453). However, spending their graduate careers on such areas of study, according to Thomas, seems to spoil their attitudes about teaching “freshman” writing:

They ask cogently, “Why should I spend three or four years of my time in graduate study in order that I may do this?” They wish to proceed to the teaching of seminar courses for graduate students at once. As they are unable to do this because certain estimable but inefficient old gentlemen, out of sheer obstinacy, refuse to die or to retire, they resign themselves to the task before them with the feeling that a thirteen-inch gun

has been brought into action to kill a sparrow. Work done in such a spirit cannot but be inefficient. (453)

For Thomas, it seems that a negative attitude toward teaching writing is a product of the college system itself:

The fact of the matter is that their whole training, both undergraduate and graduate, has been such as to give them a notion that courses in composition are little more than a necessary evil. As undergraduates they are required to take one course in composition, and in certain colleges they are excused from that, as though there were a possible danger in being able to write too well. In their graduate work the insistence upon the importance of other phases of English study, by implication at least, confirms their opinion of the relative unimportance of the art of writing. As professor Greenough points out in his paper setting the aims of his course, few graduate students in English write with any sense of style, and the majority express themselves crudely, if not inaccurately. (453)

In these two examples I provide lengthy quotes to capture inadequacy narratives in the authors' words, and these stories don't end here. Sometimes the stories are only a line or two, but the pattern persists from historical to contemporary times. For example, M. Lyle Spencer describes the "glaring need of courses for English instructors" (116). George Morey Miller describes "two evils" as "poor individual teaching and poor co-operation between teachers" (120). Franklin T. Baker notes that "The general level of our ability is not high enough" (336) and that the first order of business in "training teachers of English is to find and encourage the promising and to weed out the unfit" (338). A. B. Noble states, "That the teaching of English presents many problems needs no argument," so he "suggest[ed] a course—or possibly courses in the teaching of college English" (666).

Just to give a sense of the persistence of these themes, here is a list of authors dealing with graduate student inadequacy in subtle and not-so-subtle ways: J. V. Denney, James F. Royster, Ernest Bernbaum, George S. Wykoff, Harry T. Baker, Charles Gott, Warner G. Rice, Wykoff, Tom B. Haber, James Fullington, Wykoff, Oscar M. Haugh and James A. Walker, Philip Wikelund, Joseph Schwartz, Wilfred A. Ferrell, John S. Bowman, Maxine Hairston, and the Position Statement on the Preparation and Professional Development of Teachers of Writing.

Many of the articles I read seemed to advance the narrative that we need to end the days when just anyone without proper training can teach writing and

pointing out inadequacies of graduate students was a start in accomplishing this goal. For example, Ronald Shook describes the problem with the inexperience of graduate students:

The drawback is the teacher has to know what he or she is doing. It is no longer possible to walk into a classroom, a B.A. in Victorian Lit with no training in writing, and teach a class by being one-half page ahead of the students. No longer can one blithely assign five pages of exercises, knowing the answers are in the manual appended to the teacher's edition of the text. One has to by jiminy know what writers do when they write. (45)

Shook's narrative frame seems to address the issue that the field of rhetoric and composition continually tries to remedy: the assumption that just anyone can teach writing. At the very end of this passage Shook seems to make a nod towards disciplinary knowledge—writing is something that we can and should have knowledge about.

I think we all agree that teaching writing is valuable and not everyone can or should teach it without preparation, but the problem—as I see it—is that these stories seem to set up a relationship where graduate students are lacking and TA programs become the means to fill that void. Often in the literature I reviewed, discussions of graduate student inadequacy were followed by a call for TA programs as well as a discussion of educational outcomes and how the outcomes would be achieved. For example, Miller et al. open their essay on TA preparation with this narrative:

When first-year graduate teaching assistants in composition arrive on campus in July or August, they often have had little or no formal teaching experience; they also often have had little or no formal preparation to teach at any level. (82)

This frame leads to a discussion of how TA preparation should approach the education of these future teachers:

In particular, the practicum needs to be conceptualized more broadly as an early foundation for lifelong professional development. A crucial goal for the practicum is to encourage teaching assistants—regardless of the focus of their degree program (literature, creative writing, technical writing, rhetoric and composition, theoretical and applied linguistics, English as a second language, English education)—to view all of their work in the academy as scholarly. (82)

The frame of inadequacy and discussion of how things should be is then followed with suggestions for a specific remedy when Miller et al. write, “In the remainder of this chapter, we offer some practical suggestions for designing a composition practicum that encourages teaching assistants to value these perspectives and to employ these perspectives in their work” (84, 86). The above discussion seems to operate on the assumption that graduate students do not already have this mindset, which is then a deficit that TA preparation can rectify.

The goals that Miller et al. specify are worthwhile goals to have for a TA program. They consider the value of the course beyond short-term goals for preparing graduate students to teach one particular course for this particular university. However, weren’t there other ways to frame discussions of this program and its merits? And might other frames have been available to other articles, too? Has framing articles describing TA programs simply with inadequacy stories become habit?

Michelle Navarre Cleary, for example, uses a narrative of inexperience to frame her article on working with adult students: “Most graduate students and new faculty have little, if any preparation for teaching the approximately 40% of college composition students who are 25 years or older” (113). Except for this opening sentence, the entire article focused on discussing adult students in the university and their needs. I question why Cleary would open this article with a frame of graduate student inexperience. It seems to me a much broader frame could be used—a frame of faculty inexperience as opposed to TA inexperience. How often have more experienced faculty worked with adult students? How much pedagogical preparation have they received? For me, Cleary’s choice perhaps suggests that inexperience or other perceived inadequacies may be an engrained framing device.

I am concerned about how inadequacy stories—stories that we tell and stories that we read—may shape our perceptions of TAs and the programs we construct. TAs may not have a theoretical background or experience teaching but, as Bishop and Farris point out, graduate students do have histories they bring with them and they use this knowledge, what Bishop calls personal constructs, to process information on learning to teach writing. For example, Farris notes “. . . that instructors teach writing as a limited function of who they are; what they value; what they have read, taught, and been taught; and whom they teach. In the perceptions of many of them, what affects their teaching the most are unique concerns shaping their personal and scholarly lives” (152). As I will discuss in more detail later in this chapter, accessing this prior knowledge and experience—whether it is rich in composition theory or not—is critical for learning. If we want to help TAs transfer knowledge about teaching writing out of TA programs and into writing classrooms, then we need to engage with their prior

knowledge. Furthermore, acknowledging and working with graduate students' histories invites them to become partners in learning, a point which Mano also makes in her article.

I am also concerned that primarily telling inadequacy stories about TAs may create a narrow view which overlooks the experiences they bring with them to TA programs. A narrow view may also overlook their experiences in TA programs as they learn and begin to teach writing. And this is not to say that there is an absence of positive or, better yet, complex narratives about graduate students. For example, Tina LaVonne Good and Leanne B. Warshauer compiled an edited collection featuring graduate student essays about teaching writing as a TA. The essays show us graduate students grappling with knowledge from the field, their experience, and the challenges of working with students.

Good and Warshauer's TA collection also features brief biographies for each contributor, so we get a sense of the experience they brought with them to the TA program. One contributor, Mary Boland, had her J.D. from Duke University. Others are listed as having prior teaching experience and some had already published in the field. The issue is, however, that when I reviewed the literature, I did not encounter as frequently collections, empirical research, and articles that present more complex views of graduate students. As Dobrin points out "there has been little conversation about the composition practicum beyond discussions of how and what to teach in this course" (4).

Teachers and students should be represented in their complexity, the kind of complexity Mano represents in her essay. TA educators are not just victors or heroes, and graduate students are not just deficient. I also believe that TA preparation poses an incredibly complex endeavor rife with difficulty, which Pawlowski and Jacobson (this volume) capture in their discussion of TAs as learning travelers who "have to find their way into and around specific practices, build an image of where these practices are located in the landscape, engage with multiple places in the landscape at once, cross boundaries, and develop identity that is resilient and productive." Furthermore, TA preparation asks TA educators to stand with graduate students at the intersections of different disciplines as well as the intersections of their lives. Because of our past, because of our traditions, because of the important work we do as composition scholars and teachers, we must be mindful of the stories we tell, we must find ways to be critical of these stories, and we must find ways to expand them.

METHODS

As I have been discussing, listening to graduate student perspectives about their experiences as they learn to teach writing helps to create a broader picture of TA

preparation and teaching writing. Such a goal is supported by a growing body of research focusing on student experiences in education (Thiessen and Cook-Sather). However, as I discussed in the previous section, I found that much of the literature on TA preparation is constructed from narratives of TA educators and their meaning and perceptions, narratives which many times focus on graduate student inadequacies. I chose to conduct a narrative study of a TA preparation program as a means of gathering *other* perspectives: graduate student perspectives. My questions were as follows:

- What are the reasons graduate students participate in TA preparation programs?
- What kinds of knowledge do graduate students bring into the TA preparation programs?
- How do graduate students make knowledge together?
- What are graduate students' perspectives of TA preparation?

To answer these questions, I studied the first semester of a two-semester TA program at a California State University, which I will abbreviate to CSU. Through observation and participation and creating field notes (Chan; Connelly and Clandinin; Gubrium and Holstein), I was able to collect narratives, and I was also able to see knowledge being made through storytelling processes (Goodson and Gill; Zull). That is, observation, interviews, and online forum posts allowed me to capture storytelling and thus learning and knowledge-making in process.

TAs in the program I studied teach first-year composition, and as preparation, they take two courses focused on composition theory and practice. The first course takes place during the spring semester (the semester before they begin teaching) and the second course takes place during the fall semester (the semester they begin teaching).

Seventeen students were enrolled in the class I studied, and over the fifteen-week semester of spring 2011, I observed every class meeting, collected participant responses from the course's online discussion forum, conducted two face-to-face interviews, and collected responses to an open-ended survey. Nine individuals participated in the study in its entirety. In addition to the nine participants, three more people joined only the second interview—a large group interview with all participants.

The collection of data in narrative inquiry is called composing field texts “because they are created, neither found nor discovered, by participants and researchers in order to represent aspects of field experience” (Clandinin and Connelly 92). Field texts can take a variety of forms: “. . . journal writing; field notes; letters; conversation; research interviews; family stories; documents;

photographs, memory boxes, and other personal-family-social artifacts; and life experience” (Clandinin and Connelly 92-93).

The final document a narrative researcher constructs is called a research text and it can take a variety of forms, such as letters, poems, and plays. The work of constructing a research text involves figuring out how “to find a way to select and fit together the field texts into an overall narrative text” (Clandinin and Connelly 139). I analyzed other narrative studies to learn different methods for representing narrative data. All the narrative studies I examined composed research texts out of their participants’ words because presenting the voices of their participants was critical to each of their studies. For example, Joy-Ruth Mickelson presented her data by writing letters to her participants. In their narrative studies, Laurie Knis-Matthews’ and Susanna Spaulding constructed profiles using participants’ words.

For my research text, I decided to use profiles, dialogue, and a poem. In this chapter, I present three profiles, an excerpt of dialogue from the large group interview, and a poem. Like the narrative researchers I studied, these forms allowed me to present participants’ words and experiences and how they used that experience in learning about teaching writing. While I focus predominantly on individual experiences, in some instances I am able to show how the classroom community was constructed and shaped by participant stories—stories made up of their experiences and knowledge.

Crafting a research text is considered an interpretation of the data. That is, the profiles, dialogue, and poem are findings. However, I also include analysis after the profiles, dialogue, and poem. While this format may lead to some back and forth between the research text and my analysis, this organizational choice allows me to honor the participants’ stories but also begin thinking about the implications of their stories and what they reveal.

PARTICIPANT PROFILES

In the last section, I discussed both my research methods and my methods for representing my narrative data, and—as I mentioned—I chose profiles as one of my methods of representation. In this section, I include three profiles (a sample from the nine that I created) to provide a sense of the range of purposes graduate students had for participating as well as the range of experiences they had before becoming a TA. To construct the profiles, I transcribed then read and reread the interviews and began copying and pasting any responses that provided information about why participants applied to the TA program and stories about experiences they could draw on as teachers. Again, my goal in my research text is to present graduate student perspectives in their own words. Here are some of their stories:

Aria: I was a journalist for ten years. I actually came here specifically for the teaching. I mean, that was why I went back to school. I definitely wanted to teach at [CSU] and the junior college level. I actually want to go on to get the Ph.D. So eventually, I want to be teaching literature in the classroom but this is a really good way for me to get experience teaching in a classroom. Getting hands-on experience in the classroom is exactly what I need and want and it will lead to being able to teach in the Ph.D. programs as well. Well the SI's. . . I mean, it's such great training ground, it seems to me, because you're actually teaching your own supplementary class. You're in front of the classroom. You're doing your own lesson plans, your own discussions, your own everything, you know? So it's pretty much really good training ground. And then working in the tutoring lab, working one-on-one, you get a really good sense of what prompts work, what prompts don't, what students are confused about, what they're struggling with. All those kind of things which as a teacher, you don't see. . . you don't get the student input, their view. So it's nice to be on the other side of that and kind of get that before we start to teach because it's kind of nice to have all those different perspectives.

Beth: Since I originally came in to teach high school, I was working as a substitute teacher for LA Unified. But I got laid off. And it just also became very clear there's just not any jobs for high school teachers and that's when I started thinking more seriously about, "Gee, maybe I should do my master's" and then I have the option to also teach in college level. And that's when I applied to the TA Program. Part of why I chose [CSU], too, was when I was thinking of going to grad school and then also thinking maybe I will go and get a Ph.D. I was looking at what was the track. And a lot of colleges, if you're getting a master's or Ph.D. in English, they just say, "Oh, you have to go teach composition while you're getting your Ph.D. in order to get financial aid or something." And there's no prep, like it's assumed because you're an English major you can teach kids how to read and write. And there's no training. And everybody looks down on it. "Oh, I'm just teaching freshman composition." And it's really not what they want to do. They really want to be teaching Chaucer or something. It's been a pleasant surprise to see how much value [CSU]

puts on composition and on this program because now that I'm a few weeks into it, I'm seeing, "Oh my gosh, this is the foundation of what they're going to be doing the rest of their college career." I have a theater background. I have a theater degree from when I was very young. So one of the nice things that I bring to the table as a TA is I don't have stage fright. I am completely comfortable getting up. . . . And as a substitute teacher, I had to just walk in to a bunch of kids, every day that I didn't know and make them behave and do whatever it was that the teacher had left. And I just don't have any fear about being up in front of a group and presenting material and trying to create community. I had a corporate job for a long time, also, after I got my business degree where I was a corporate trainer. So I'm used to, again, presenting material to a group of people in a way that they can understand it and trying to make it fun and keep it focused. My teaching philosophy is I always say it's collaboration rather than commandment. I'm not a "you must do it because I said so." I really like a workshop environment. And I really try to honor each student wherever they are which is what I try to do in the writing center, too. . . . to have them be proud of wherever they are at. Because if they can be made proud of that, then they are going to go to the next level. But if they have any shame or discouragement about where they're at right now, they don't have any motivation to go forward.

Eric: Well, it certainly looks good on the résumé. Bottom line, that's one thing, but one of the things that was kind of the scary thing when you approach graduation. . . . I mean, I prolonged my stay here, which I'm fine with, but I was pretty close to graduating. And I thought, "Oh, I got all this great information and knowledge but how the heck am I going to spill it out in the classroom?" I only have a tutoring experience right now so I know it's a different approach entirely. So, I mean, now that I'm going to step into this program, really get my feet wet, I think it's really a good start. And not only just actually engaging with students in the classroom and so on but to be with the group that is actively thinking about how to approach teaching, with colleagues, and that we're having these discussions. It's just a unique experience. I can't think of just even walking into the job market and then just

suddenly teaching a course that's at a community college. Would I get that same hand on my shoulder, like, "Hey, how are you doing?" Why wouldn't I want to apply to this? I tutor at [a] public library. And we have books that really focus on writing. It's really the basics—constructing a sentence, reading a selection, answering questions about them with the student.

PROFILE ANALYSIS

Participant stories about why they decided to participate in the TA program as well as the experience they brought with them show us that they all have experiences they could draw from for the TA program, though those experiences varied. Beth seemed to have the most experience because of her involvement with programs directly related to teaching writing (being a supplemental instructor and a writing consultant) as well as her involvement with positions outside of the academy (substitute teaching and being a corporate trainer). Eric had tutoring experience and other participants not included here had tutoring experience, and, like Beth, extensive experience running corporate seminars and having public speaking engagements. They also brought experience from their lives as students and writers, which we will see more of in the next section. Their stories reflect Yancey, Cole, May, and Stark's (this volume) research which illustrates that "TA preparation is, in a word, multiply situated." Like the participants in their study, my participants' teaching preparation includes other related professional experiences; undergraduate tutoring experiences; and not least, the experiences of teaching they have encountered as students.

Participants' descriptions highlight the ways they approached TA preparation with intentionality and deliberate, strategic decision-making. These patterns emerged in the way participants described their career goals and how TA preparation specifically fit with and aided those goals. While deliberate decision making about participating in the program is present in all the profiles, a few profiles are particularly notable. Aria, for example, stated: "I actually came here specifically for the teaching." Likewise Beth mentioned coming to CSU "because I knew they had a teacher training program . . ." Eric's decision to participate stood out to me because it added a year onto his graduate education in order to participate, and the same was true for Roger, though I did not include his profile in this chapter. Their language of "I chose," their clear vision for how the TA experience would benefit their careers, and their awareness of the value of this particular program demonstrates the thoughtfulness and even maturity participants brought to bear in their decision-making processes and how they approached TA preparation.

In fact, their stories provide an interesting response to Dryer's (this volume) question: "How is it that the ability to produce adequate academic writing predicts the ability to teach academic writing?" All of my participants sought out the TA program because they wanted to learn to teach college writing and they saw this program as an avenue to do so. Based on their reasons for participating, I don't think they believed that their ability to produce good writing predicted their ability to teach writing. They saw teaching writing as something they could *learn* how to do. Indeed, Beth demonstrates awareness of this view and critiques it when she discusses people who participate in TA programs for financial aid where there often isn't training and "it's assumed because you're an English major you can teach kids how to read and write And everybody looks down on it. 'Oh, I'm just teaching freshman composition.' And it's not really what they want to do. They really want to be teaching Chaucer or something." But for her, seeing how much CSU values teaching writing has "been a pleasant surprise."

LARGE GROUP INTERVIEW EXCERPT

The profiles provide us a view of the reasons participants applied to become TAs as well as some of the experiences they had before being accepted to the program, but in this chapter I also wanted to provide a snapshot of how participants used and processed prior experience in the TA program. Sharing their stories both helped them process their prior experience and adapt it to this new setting and also helped them learn from each other. In the excerpt below, participants collaborate to reach understanding about what it means to teach collaboratively with students. This section begins with an excerpt from the large group interview, and after the excerpt, I analyze what I see happening during the exchange.

Beth: For me, one of the things I want to do is have my classroom feel like "Yes, I have more experience than you guys but that doesn't mean I'm smarter than you. You know, I just have more experience and a bigger toolkit. And I'm here to share that with you."

Nicole: Where does that come from? The desire to want to set your classroom up like that, do you think?

Aria: Grad school.

Nicole: Graduate school?

Beth: Yeah, I think you're right because grad school is so much more collaborative. Yeah.

Nicole: So it sounds like a juxtaposition, though, of graduate school against prior learning experiences maybe? Like there

had to be something before that wasn't as open? Or was your earlier education open and graduate school built on that?

Beth: Well see, I'm a returning student.

Nicole: Okay.

Beth: My undergraduate years were a long time ago. So they probably had a different flavor than you guys. But I know when I was an undergrad, especially right out of high school, it was still. . . I mean, process writing was there but it was still kind of. . . A lot of it was still that old school traditional, you know, the teacher lectures, you take notes, you turn in your paper, you get a grade back and some comments. That's it.

Nicole: And graduate school was different? Or is different for you?

Beth: Graduate school. . . because it's more of a seminar format and that input from the students is encouraged and writing is a process and instructors encouraging to meet with them throughout a seminar paper. . . It just felt different. It just feels different.

Nicole: What happens in that kind of learning environment for you? What's that open, collaborative. . . Why that? Why is that better than a more traditional education that you were describing, like where you lecture and handing back papers and. . .

Collette: Well for me, personally, like I just kind of feel more validated like, you know, my opinions might actually mean something. I don't know if they do. There's kind of that openness that you can just kind of like, talk and explore, things like that. Whereas a lot of times undergrad is just lecture and there is that hierarchy and. . . I'm not saying necessarily that there shouldn't be, especially with age and maturity. But at the same time, it's a little bit more motivating knowing that you have a voice in class and that you're going to be heard and that, you know, your point's going to be taken.

Beth: I know I'm less afraid to ask questions in a more collaborative environment. That's probably the big one for me.

Juliana: Yeah, it fosters risk-taking and. . .

Beth: Yeah.

Melody: It's encouraging and also it feels like you are an active part of it, you are participating, you are part of . . . it is not hierarchy.

Aria: Yeah, it's kind of community-building thing. It's like in here, like all of us, you know, we're going to be in 656 next semester and all that. But I feel like because we're all talking, discussing, we kind of have that collaborative atmosphere here, too. That's a nice thing to have in a classroom where everybody kind of feels like they're a part of something so. . .

Beth: I think it creates even more buy in, like you were saying, not only are you getting something back but you're giving something so there's a real. . .

Melody: It's kind of reciprocal.

Beth: Yeah. But because I feel like I have some agency in the classroom, it makes me feel more responsible about what I'm producing in the classroom, too. I'm not just a passive, you know, feed me knowledge and give me my grade and let me go. . . And that's kind of exciting. I mean, obviously a lot of students, that's what they want. They want to sit there and be fed and, you know. . . But for those that don't, they can really flourish

Melody: Be less afraid to ask questions. I think that's a very, very important point that she touched on, feeling like you are encouraged to ask questions and you are encouraged to know and you're not. . . You're allowed to not know everything. And that's a big, big thing. . . .

Nicole: Where does that come from for you? That desire to create that kind of environment?

Melody: I think also from graduate school, seeing that it's very collaborative, all my classes.

EXCERPT ANALYSIS

With some initial direction from my questions, this excerpt of the group interview focuses on defining collaborative education, with participants joining in to construct a definition through stories that help reveal the nature of collaborative learning or through statements that capture its qualities.

Collette, Beth, and Aria all convey a sense that teachers do not have all the answers and that space needs to be created for students and their perspectives and experiences. Beth articulated that she had more experience than students but was there to share that experience as opposed to being smarter because of the experience. Collette talked about benefits that emerge from her own experiences in such classrooms: "I just kind of feel more validated, like my opinions might

actually mean something There's kind of that openness that you can just kind of talk and explore, things like that." Juliana noted that "Yeah, it fosters risk-taking." Melody added that "It's encouraging and also it feels like you are an active part of it, you are participating, you are part of what it is." Aria referenced her experience in the TA preparation seminar: "Yeah, it's kind of community-building thing. It's like in here, like all of us. We're going to be in 656 next semester and all that. But I feel like because we're all talking, discussing, we kind of have that collaborative atmosphere here, too. That's a nice thing to have in a classroom where everybody kind of feels like they're a part of something."

The momentum for understanding the value of a collaborative classroom grew as Aria and Beth identified graduate school as a source for their desire to set up a collaborative classroom. This topic allowed them to share more stories and gain even more understanding. Beth shared two stories, one about her undergraduate years where "A lot of it was still that old school traditional [approach where] the teacher lectures, you take notes, you turn in your paper, you get a grade back and some comments. That's it." The second story was about graduate school and Beth described this class as "a seminar format and [where] input from the students is encouraged and writing is a process and instructors encouraging to meet with them throughout a seminar paper It just felt different. It just feels different." Each story contributed new definitions about collaborative teaching. With each story new understanding emerged. And this process continued as others joined the conversation—Juliana and Melody—and we heard more from Aria and Beth, as well.

As I read through this part of the interview, the difference between narrative/processing and reaching understandings was so clear to me that I was able to compose a poem from the understandings articulated by Collette, Beth, Aria, Juliana, and Melody. Margot Ely suggests that poetry can be a means of representing narrative data. "Poems," Ely remarks, "spotlight particular events in ways that lift them out of the often overwhelming flood of life so that they can be understood as part of that" (575). Constructing the poem was a means for me both to understand and represent what I saw happening in the data. So now I offer this poem constructed of Collette's, Beth's, Aria's, Juliana's, and Melody's phrases/understandings as evidence of the knowledge they made together through their storytelling.

Play around with it. Discover what works best. Play around
with ideas.

Students want to feel a community in their classes.

The teacher was learning as much from the students as the
students were from the teacher.

Input from the students is encouraged.

It just felt different.
It just feels different.
Feel more validated.
My opinions might actually mean something.
There's a kind of an openness.
You can kind of talk and explore.
It's a little bit more motivating—knowing you have voice in
class and that you're going to be heard
and that your point's going to be taken.
I'm less afraid to ask questions.
It fosters risk-taking.
It's encouraging
And it feels like you are an active part of it. You are participating.
You are a part of what it is.
It's not this hierarchy.
It's kind of a community building thing.
It's like in here,
like all of us.
That's a nice thing to have in a classroom.
Where everybody kind of feels
like they're a part of something.
It creates even more buy in.
Not only are you getting something back but you're giving
something.
It's kind of reciprocal.
I have some agency.
It makes me feel more responsible. I'm not just a passive.
Be less afraid to ask questions.
Feeling like you're encouraged to ask questions. You're allowed
to not know everything.

In the large group interview, the specific knowledge about collaboration was encapsulated in the storytelling. The poem helped me see knowledge-making processes as well as understandings that emerged through the storytelling. What becomes clear in this section and vis-à-vis the poem is that storytelling jointly yielded understanding about the nature of collaboration.

IMPLICATIONS: WORKING WITH TRANSFER THEORY

As I mentioned earlier, Bishop and Farris point out graduate students have life experiences that they draw on to make sense of what they encounter in TA programs and in the writing classroom. Transfer research also supports what Bishop and Farris found in their research. For example, based on their research on learning and transfer, Bransford, Pellegrino, and Donovan note, “All new learning involves transfer based on previous learning” (53). Transfer research also offers concrete and evidence-based approaches to working with student prior knowledge. In this section, I present and discuss three questions for reflection based on Bransford, Pellegrino, and Donovan’s research on learning and transfer:

1. What is the purpose (or are the purposes) for TA preparation?
2. In what ways are graduate students supported as they work to transfer what they’ve learned in the TA program to their teaching?
3. What stories are told about graduate students and how do these stories shape TA education?

TA PREPARATION PURPOSE

A major question facing TA educators, I believe, is: What is the purpose (or what are the purposes) of TA preparation? In what ways might we use TA preparation as a mechanism to deliver cultural capital, as Dobrin has argued? Are we training TAs to teach in a particular program? Are we preparing them for future career goals? My main concern in asking these questions is not pinning down the purpose(s) for TA preparation but encouraging reflection on program goals and whether programs align with those goals. Further, educators might reflect on their goals and what influenced those goals and think about whether those goals need to change.

Based on the literature and my own findings, TA programs with a focus on subject matter knowledge seem to have a goal of deepening graduate students’ information bases and conceptual frameworks. And if a goal is transfer, some knowledge base is important (Bransford, Pellegrino, and Donovan). For example, in my research we could see how the framework of collaborative teaching theory helped participants interpret past experiences and build new knowledge together. However, as I discussed above, Bransford, Pellegrino, and Donovan also stress the importance of accessing student prior knowledge, but in this area, TA programs seem to fall short, at least in how much of the literature describes TA programs. As I demonstrated earlier in this chapter, graduate student perspectives are often overlooked, or graduate students’ lack of knowledge and experience is highlighted. And Dryer (Afterward, this volume) also points out that

“we in WPE still cannot seem to get our heads around the fact that new TAs don’t leave their pasts behind when they take up work in a FYC program.” I understand that what is written about in the scholarship of TA preparation may not reflect what actually happens in programs, but these patterns—I believe—suggest that if our goal for TA preparation is learning and transfer, taking a look at actual practices in programs perhaps is necessary.

In fact, Reid, Estrem, and Belcheir recommend finding ways to help TAs connect prior experience to what they are learning and reference Reid’s caution that “The time we spend covering ‘just a little more’ theoretical or practical information may devour the time we intended to provide for reflection on and discovery of related questions” (16). Bransford, Pellegrino, and Donovan also suggest that if the goal is transfer, it is better to choose a few key concepts versus opting for superficial coverage of all topics.

GRADUATE STUDENT SUPPORT

Bransford, Pellegrino, and Donovan pointed out that students need continued support as they work to transfer their knowledge. In the case of TA preparation, graduate students would need more support as they transferred knowledge to teaching their FYC courses. Reid, Estrem, and Belcheir also suggest that support for TAs should extend beyond the first year, explaining that “a program of regular, formal, directed pedagogy education *must* continue beyond the first year if we hope to have any substantial, lasting effect on how TAs teach and think about teaching writing” (61).

The findings from my study also suggest that graduate students wanted more support. For example, in the large group interview I held, several participants mentioned how they were struggling to make sense of the theory and wondered how they were supposed to apply theory to teaching in the fall. They also were struggling to develop their teaching philosophies. In the final reflection, some participants articulated that they wished they had more concrete guidance with the syllabus and the Stretch curriculum. I now see these moments as situations when participants perhaps could have used more support as they *transferred* knowledge from the preparation seminar into their fall teaching, a finding also supported in Farris’ research.

At least at CSU there seems to be a tradition of reading the theory first and then applying the theory toward the end of the semester and into the second semester. However, based on my findings, more interaction between concrete materials and theoretical knowledge of the field could be created. In some ways, starting with concrete materials, like reading the curriculum and analyzing other instructors’ syllabi and courses, could provide a gateway to more theoretical

discussions as a means of understanding what is happening and answering questions that might emerge.

NARRATIVES ABOUT GRADUATE STUDENTS

When it comes to applying transfer to rhetoric and composition—from what I have read—it seems most of the attention has been given to how it applies to first-year writing, and within that focus, much attention has been paid to the importance of prior knowledge (See for example Adler-Kassner et al.; Yancey, Robertson, and Taczak). However, it also seems that not as much attention has been given to how *teacher* prior knowledge might affect what happens in TA preparation programs.

Narratives, in fact, are a kind of prior knowledge. People use narratives to make meaning out of life events. We might experience a thousand different moments in a day, but we cannot store all of those experiences. Stories help us determine what is meaningful from our events. We keep those experiences that fit within the categories or frameworks in our mind and discard the experiences that don't mesh or aren't meaningful. And we weave these events into our life's narrative(s). James Hillman explains that "stories are 'containers' in the back of the mind for 'organizing events into meaningful experiences'" (qtd. in Rowland-Serdar and Schwartz-Shea 220). Furthermore, these containers "are *always* culturally rooted Thus, the stories we tell are variations on themes which we are supplied by virtue of being born into a certain culture and family" (Rowland-Serdar and Schwartz-Shea 220; emphasis in the original). We might consider, then, the inadequacy stories featured in this chapter as culturally rooted containers passed forward through the years.

Teacher prior knowledge seems like a rich vein for contemplation and reflection. As Adler-Kassner et al. note, "the prior includes a good deal more than knowledge: experience, attitudes, and beliefs—in addition to knowledge—constitute part of a larger construct of the prior" (37). For example, we might consider how the issue of disciplinarity might influence how TA educators perceive and relate to TAs and their knowledge, experience and perceptions since, as Dobrin argues, TA preparation programs function as purveyors of the cultural capital of rhetoric and composition. In fact, we might take the continued presence of inadequacy stories as a call to do this work.

FUTURE RESEARCH

We are seeing more empirical research focused on TA preparation, but we need more, and there are many different directions to consider, from looking more

in depth at TA's backgrounds to looking at the backgrounds and experiences of TA educators.

Other studies (Bishop; Farris) have focused on individuals within a program as opposed to how people worked together. As such, my study helped focus attention on the roles graduate students played in helping each other learn. It would be valuable to continue to research how groups learn together. However, focusing on the group in this context kept me from exploring individual participant's narratives more deeply. Looking for patterns in participants' narrative frames, particularly in light of learning and transfer research, would give us more insight into graduate student worldviews, what influenced those worldviews, and how those worldviews influence their interpretation of subject matter knowledge. Focusing on prior experience would also help us examine how prior experience perhaps shapes perceptions of being prepared.

I also only focused on the first semester of this two-semester TA program. I did not follow participants into their teaching. Moving beyond the first semester in future research could provide insight into how their stories influence their perceptions of students and to what extent their stories change based on the first semester of preparation as well as their encounters with students. We could explore to what extent teaching helps them learn. On the other hand, it could also be beneficial to study TA programs taking place only during the summer for a few weeks or less, or study people who teach writing without any preparation at all. Examining their strategies for preparing could give us more insight into how people take charge of their own preparation. What strategies might we see in common between those participating and not participating in a TA program? How do they cope? How do they learn? Such insights may perhaps help us work with people in TA programs, helping educators and TAs see graduate student agency. As Gramer (this volume) notes, "we need learner-centered research devoted to newcomers' deep learning and development both in and over time, in order to contribute new knowledge and perspectives to our established body of program-centered research."

My research along with Yancey, Cole, May, and Stark (this volume) and Gramer (this volume) have also shown the promise of narrative research methods. Focusing on stories revealed the role stories played in participant learning. In my research, participants' stories helped them process new information they were taking in from the course, but stories participants heard from their classmates also promoted learning. Further research would perhaps help us see if stories emerge consistently as a means of processing information and a source of learning for others.

Narrative research seems to hold great promise for researching how people learn and seems like it is a research methodology that would work well for researching transfer and learning. Learning and transfer in TA preparation also stands to be a useful framework for research. A focus on learning and transfer would direct our

attention to graduate students, how they learn, and how they interact with course material. A focus on learning and transfer might also reveal participants' frameworks as well as how those frameworks are impacted by approaches to teaching and exposure to subject matter. A learning and transfer framework would encourage examining how TAs then approach teaching and may help us answer the question: to what extent does subject matter material transfer to the teaching of writing?

Currently the literature on TA preparation seems to be dominated by teacher accounts of various approaches, but more research would give us a more complex understanding of what those approaches are and the impact they have on graduate students. Future research might focus on if those trends also appear in TA programs themselves or if there is perhaps incongruity with TA educators' approaches to TA preparation and the way they write about it. It also would be valuable to understand how TA educators perceive TA programs and graduate students who participate. I pointed out a pattern of framing articles on TA preparation with inadequacy stories. Future research could focus on TA educators' perceptions of graduate students, what informs those perceptions, and how those perceptions influence how they approach TA preparation. In addition to their perceptions of graduate students, it could be worthwhile to study what informs TA educators' approaches to TA preparation. How much research have they read on TA preparation? What other strategies do they use to prepare—talking to colleagues, attending conference sessions, and drawing on their own experiences?

FINAL REFLECTION

I hope that my project illustrates that we can learn about and from people learning to teach writing if we stop and listen and let them teach us for a while about themselves, about what they know, about what they can do, and about what they need. As I have discussed, TA educators may very well already stop and listen, but if that's the case, then we need to write more about those experiences as opposed to focusing on how successful we think our programs are or the problems we have with graduate students. We need to create broader, more complex pictures of TA preparation programs, which can only be achieved by including the voices of TAs themselves.

WORKS CITED

Adler-Kassner, Linda, et al. "Assembling Knowledge: The Role of Threshold Concepts in Facilitating Transfer." *Critical Transitions: Writing and the Question of Transfer*, edited by Jessie L. Moore and Chris M. Anson, The WAC Clearinghouse/UP of Colorado, 2012, pp. 17-47, <https://doi.org/10.37514/PER-B.2016.0797.2.01>.

- Baker, Franklin T. "The Teacher of English." *The English Journal*, vol.2, no.6, 1913, pp. 335-43.
- Baker, Harry T. "English and the Ph.D." *The English Journal*, vol. 17, no. 10, 1928, pp. 820-24.
- Bernbaum, Ernest. "Graduate Study in English Literature." *The English Journal*, vol. 17, no. 1, 1928, pp. 33-43.
- Bishop, Wendy. *Something Old, Something New: College Writing Teachers and Classroom Change*. Southern Illinois UP, 1990.
- Bowman, John S. "At Pennsylvania State University." *College Composition and Communication*, vol. 14, no. 2, 1963, pp. 73-75.
- Bransford, John, James W. Pellegrino, and M. Suzanne Donovan. *How People Learn: Brain, Mind, Experience, and School*. National Academy Press, 2000.
- Chan, Elaine. "Ethnic Identity in Transition: Chinese New Year through the Years." *Journal of Curriculum Studies*, vol. 35, no. 4, 2003, pp. 409-23.
- Clandinin, D. Jean, and F. Michael Connelly. *Narrative Inquiry: Experience and Story in Qualitative Research*. Jossey-Bass Publishers, 2000.
- . "Teachers' Professional Knowledge Landscapes: Teacher Stories—Stories of Teachers—School Stories—Stories of Schools." *Educational Researcher*, vol. 25, no. 3, 1996, pp. 24-30.
- Cleary, Michelle Navarre. "What WPAs Need to Know to Prepare New Teachers to Work with Adult Students." *WPA*, vol. 32, no. 1, 2008, pp.113-28.
- Connelly, F. Michael, and D. Jean Clandinin. "Narrative Inquiry." *Handbook of Complementary Methods in Education Research*, edited by Judith L. Green, Gregory Camilli and Patricia B. Elmore, Lawrence Erlbaum Associates, 2006.
- Denney, J. V. "Preparation of College Teachers of English." *The English Journal*, vol. 7, no. 5, 1918, pp. 322-26.
- Dobrin, Sidney I. "Introduction: Finding Space for the Composition Practicum." *Don't Call It That: The Composition Practicum*, edited by Sidney I. Dobrin, National Council of Teachers of English, 2005, pp. 1-34.
- Ely, Margot. "In-Forming Re-Presentations." *Handbook of Narrative Inquiry*, edited by Jean Clandinin, Sage Publications, 2007, pp. 567-98.
- Estrem, Heidi, and E. Shelley Reid. "What New Writing Teachers Talk About When They Talk About Teaching." *Pedagogy*, vol. 12, no. 3, 2012, pp. 449-80.
- Farris, Christine. *Subject to Change: New Composition Instructors' Theory and Practice*. Hampton Press, 1996.
- Ferrell, Wilfred A. "At Arizona State University." *College Composition and Communication*, vol. 14, no. 2, 1963, pp. 78-80.
- Fullington, James F. "Training for Teaching or Research." *College English*, vol. 10, no. 5, 1949, pp. 259-65.
- Good, Tina LaVonne, and Leanne B. Warshauer. *In Our Own Voice: Graduate Students Teach Writing*. Allyn and Bacon, 2000.
- Goodson, Ivor, and Scherto Gill. *Narrative Pedagogy: Life History and Learning*. Peter Lang, 2011.
- Gott, Charles. "An Experiment in Teacher-Training for College Instruction." *The English Journal*, vol. 18, no. 7, 1929, pp. 589-93.

- Greenough, Chester Noyes. "An Experiment in the Training of Teachers of Composition for Work with College Freshmen." *The English Journal*, vol. 2, no. 2, 1913, pp. 109-15.
- Gubrium, Jaber F., and James A. Holstein. *Analyzing Narrative Reality*. Sage Publications, 2009.
- Haber, Tom B. "The Profession of English-A." *The Journal of Higher Education*, vol. 14, no. 5, 1943, pp. 249-53.
- Hairston, Maxine C. "Training Teaching Assistants in English." *College Composition and Communication*, vol. 25, no. 1, 1974, pp. 52-55.
- Haugh, Oscar M., and James A. Walker. "Programs for Training Teachers of English." *College English*, vol. 13, no. 3, 1951, pp. 153-56.
- Knis-Matthews, Laurie L. "The Destructive Path of Addiction: Experiences of Six Parents Who Are Substance Dependent and in a Year-Long Drug Treatment Program." 2004. New York University, PhD dissertation.
- Mano, Sandra. "Negotiating T.A. Culture." *Self-Assessment and Development in Writing: A Collaborative Inquiry*, edited by Jane Bowman Smith and Kathleen Blake Yancey, Hampton Press, 2000, pp.157-68.
- Mickelson, Joy-Ruth. *Our Sons Were Labeled Behavior Disordered : Here Are the Stories of Our Lives*. Educator's International Press, 2000.
- Miller, George Morey. "An Experiment in the Training of Teachers of Composition for Work with College Freshmen." *The English Journal*, vol. 2, no. 2, 1913, pp. 119-21.
- Miller, Susan Kay, et al. "The Composition Practicum as Professional Development." *Don't Call It That: The Composition Practicum*, edited by Sidney I. Dobrin. National Council of Teachers of English, 2005, pp. 82-97.
- Moore, Jessie L. "Five Essential Principles About Writing Transfer." *Understanding Writing Transfer: Implications for Transformative Student Learning in Higher Education*, edited by Jessie L. Moore and Randall Bass, Stylus, 2017, pp. 1-12.
- Noble, A. B. "The Preparation of College Teachers of English." *The English Journal*, vol. 5, no. 10, 1916, pp. 665-70.
- "Position Statement on the Preparation and Professional Development of Teachers of Writing." *College Composition and Communication*, vol. 33, no. 4, 1982, pp. 446-49.
- Pytlik, Betty P. "How Graduate Students Were Prepared to Teach Writing:1850-1970." *Preparing College Teachers of Writing: Histories, Theories, Programs, Practices*, edited by Betty P. Pytlik and Sarah Liggett, Oxford UP, 2002, pp. 3-16.
- Reid, E. Shelley. "Uncoverage in Composition Pedagogy." *Composition Studies*, vol. 32, no. 1, 2004, pp. 15-34.
- Reid, E. Shelley, Heidi Estrem, with Marcia Belcheir. "The Effects of Writing Pedagogy Education on Graduate Teaching Assistants' Approaches to Teaching Composition." *WPA: Writing Program Administration*, vol. 36, no. 1 pp. 32-73, 2012.
- Rice, Warner G. "Internships for Teachers of English at the University of Michigan." *College English*, vol. 1, no. 2, 1939, pp. 128-34.
- Rowland-Serdar, Barbara, and Peregrine Schwartz-Shea. "Empowering Women: Self, Autonomy, and Responsibility." *Memory, Identity, Community*, edited by Lewis P. Hinchman and Sandra K. Hinchman, SUNY P, 2001, pp. 213-33.

- Royster, James F. "Preparation of the English Composition Teacher." *The English Journal*, vol. 12, no. 6, 1923, pp. 397-404.
- Schwartz, Joseph. "One Method of Training the Composition Teacher." *College Composition and Communication*, vol. 6, no. 4, 1955, pp. 200-04.
- Shook, Ronald. "Stalking the Wild TA." *WPA*, vol. 11, no. 1-2, 1987, pp. 45-50.
- Spaulding, Susanna Belle. "A Bricolage of Narratives About Teaching College in Prison: Interpreting through a Performance Text." 2008. Colorado State University, PhD dissertation.
- Spencer, M. Lyle. "An Experiment in the Training of Teachers of Composition for Work with College Freshmen." *The English Journal*, vol. 2, no. 2, 1913, pp.115-19.
- Stenberg, Shari J. *Professing and Pedagogy: Learning the Teaching of English*. National Council of Teachers of English, 2005.
- Thiessen, D., and Alison Cook-Sather. *International Handbook of Student Experience in Elementary and Secondary School*. Springer, 2007.
- Thomas, J. M. "Training for Teaching Composition in Colleges." *The English Journal*, vol. 5, no. 7, 1916, pp. 447-57.
- Wikelund, Philip R. "The Indiana University Program of Training for Teaching College Composition." *College Composition and Communication*, vol. 4, no. 1, 1953, pp. 14-19.
- Wykoff, George S. "On the Revision of Ph. D. Requirements in English." *The English Journal*, vol. 17, no. 3, 1928, pp. 213-20.
- . "Teaching Composition as a Career." *College English*, vol. 1, no. 5, 1940, pp. 426-37.
- . "Toward Achieving the Objectives of Freshman Composition." *College English*, vol. 10, no. 6, 1949, pp. 319-23.
- Yancey, Kathleen Blake, et al. *Writing across Contexts: Transfer, Composition, and Sites of Writing*. Utah State UP, 2014.
- Zull, James E. *The Art of Changing the Brain: Enriching Teaching by Exploring the Biology of Learning*. Stylus, 2002.