

Incorporating Writing into Pedagogy across Disciplines: A Personal and Societal Need

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I have never been good with numbers, equations, and the like. Some say that solving a mathematical equation or finding the right formula is like putting pieces of a puzzle together, which can arguably be quite thrilling. One can see the sense of accomplishment after starting, then working through, and finally finishing a particular problem. Although I must confess that when I am able to solve a problem in this context I do smile and feel somewhat joyous, I have always found that formulating words into ideas has produced higher academic sensations. I find it much more thought-provoking to challenge ideas, express something that may be new or different, and compare my perspective to those of others facing a similar challenge. This can all be done through writing. In no way do I want to demean the value of math, science, business, and other fields that traditionally rely on the language arts to incorporate heavily the use of writing into the curriculum. These fields of study are just as important to learn and grow on. Reflecting on my secondary school experience, as a future teacher of writing I have found that incorporating writing into the various disciplines taught at the high school level can only help, not hurt, those programs. Writing can serve as the link that connects the various disciplines together.

Looking back at my high school curriculum, it is interesting to see how close the structure between courses in the same discipline were. For example, I took World History, A.P. U.S. History, A.P. European History, and finally Sociology within the Social Sciences curriculum. These courses were all structured so that students would

attend class and take notes, which would later be memorized for a multiple-choice exam. Homework assignments generally made students find specific points in the textbook and regurgitate what was found on paper. This, along with note taking, was about as close to writing as we got. I use history as my first example of a discipline that can and should incorporate more writing into the curriculum because social sciences have interconnections with English studies. In English classes, students read literature, an art form that has historical contexts attached. Why should it be then that I spent my years in high school memorizing names and dates? I feel as though there might be a flaw in logic, in that members of the educational system mistake rote memorization for knowledge attainment.

It is argued by academic scholars that history textbooks often tell only one perspective out of many. For example, in terms of the Civil War students may only read about the white man's perspective, because textual evidence comes directly from them. This leaves students to not hear the voice of the slave, who may feel completely differently about a given issue discussed in the textbook. An area of study where multiple perspectives can become visible through the diversified cultures that exist both nationally and internationally deserves more in terms of content than names and dates. Students can be asked by teachers to find a source outside the classroom textbook and write a comparative paper or from someone else's point of view. As more and more text is introduced and written, students can come together and share the perspectives they learned about individually through discussion and guided activity by the teacher. There are so many gray areas in terms of history that writing becomes a necessary tool for expansion. Theodore Panitz, an advocate of WAC (Writing Across the Curriculum)

states, “Research is clear that writing causes the author to think critically and deeply about the topic under consideration, often evaluating and rethinking one’s beliefs and values” (Panitz 24). Historical events are perfectly suited for not only multiple perspectives, but also multiplicity of beliefs and values of history. Through writing, students can formulate their own opinions and attitudes towards the history that exists.

Looking at the big picture in terms of my high school’s system of grading, too many tests and quizzes were objective. Depending on the context, objective questions can serve great purpose (and from a teacher’s standpoint are far easier to grade with the invention of the Scantron). Yet it is the subjective test that challenges the students to engage in material extending past the rote memorization and surface knowledge level. The student needs to dig deeper into the content and create an answer with many levels of efficiency. Panitz claims that “The underlying premise is that writing is closely linked with thinking and that in presenting students with significant problems to write about—and in creating an environment that demands their best writing—we can promote their general cognitive and intellectual growth. When we make students struggle with their writing, we are making them struggle with thought itself” (37). Through writing the student has to not only know the material, but also has to come up with the best way to present the material. Rhetorical strategies play into part; one’s *logos* is of most importance, but *ethos* and *pathos* are appeals that can contribute to a more sophisticated response. Looking back at a typical math test (Algebra, Geometry, Statistics, and Trigonometry) answers to questions were in the form of equations. While this type of discipline *needs* such a formation, adding writing can only strengthen it. Because math and science courses, in terms of content, is either “you got it or you don’t” it would seem

wise to have students articulate in writing areas in which they need help or further guidance. This can put direct pressure on the teacher to focus in on individual student concerns and questions. It is all too often that a teacher has a number of students in class that all have the same question, but are just too afraid of looking dumb in front of their peers. The easiest remedy to this problem is through the use of writing. It is not feasible to have students write out descriptions of how they derived to answers for every problem, so perhaps it would be good to have students write out descriptions as to how they attempted to derive an answer for questions they are having troubles with. This way the teacher can tell exactly where the student went wrong, and can guide from there.

Just as there are students who enjoy writing and prefer the subjective to the objective, there are also those unlike me who despise the act of writing and find it to be tedious, time consuming, and difficult. My teachers in high school did not do a good job describing the value and purpose of writing even those classes like Expository Writing and Honors Advanced Writing whose course focus was on writing itself. In any circumstance, students need to know not only why they are writing, but also how writing will play a role in learning and growing. A look a physical education can explain this just as well as any other discipline. My experience with P.E. at the high school level consisted of two “fitness days” a week where students were able to choose between running/walking, badminton, volleyball, or basketball. Students had a responsibility to contribute, but progress (which should always be an element of evaluation and assessment) was never documented. By having students monitor their performance week by week through writing (perhaps in the form of a progress log), students can visually see and document physical progression. The written page, then, *makes* the students aware of

what the class is doing for them. It puts a beneficial demand on the students to take responsibility for themselves and their actions inside and outside of class. The same occurs with reading responses and journal entries for more academic courses. Having something visible to monitor progress is important for students continually attaining purpose in their learning.

There are times that when I read something, I find it hard to put what I have learned into words spontaneously. I think this generally happens to everyone; often it is hard to think on the spot what exactly to say to best communicate to other students and the teacher in a classroom setting. Articulating a point most efficiently can be done orally, but is best served through writing. Undoubtedly, there are situations in the real world that requires human beings to “think on their feet” and orally articulate a statement or question to their best ability in words. This requires practice; the teacher should offer students the opportunity to do so. At the same time, there are contexts (also in the real world) where people have to articulate significant thoughts in written form. When someone sits down to write an idea, each word, each phrase can be mapped out and switched around numerous times until the writer feels the point is said best. Speech does not always allow this luxury. Writers can stumble over concepts and words without anyone knowing it happened, and have plenty of time to revise/fine-tune before turning over the piece to the teacher. The written word serves as a good tool for discussion as teacher and student, student and student, can sit down together and have a referent point for said discussion. The written word gives direction of ideas more so than two people talking back and forth. It is, at times, a necessary third party for engagement and continual focus.

“Students aspiring to enter the science or mathematical communities especially need to be able to communicate through writing in the form of papers for refereed journals, presentations at conferences and book publishing. This is how they create new knowledge; by communicating with each other and exposing their ideas to intense scrutiny and evaluation” (45).

It is arguable then, that prospective students under these fields need more exposure to writing in their particular discipline. Science is a discipline that relies heavily on writing. A perfect example of this is the case of Watson and Crick, dubbed the first to discover the double helix. The double helix was a huge area of discovery in the scientific discourse. Many scientists were competing to be accredited for the discovery. It was Watson and Crick who became acclaimed because of their writing process. By relying heavily on their ethos, and humanizing science through their writing, others were quicker to believe them and acknowledge them as the ones who made the discovery. Taking four years of science (biology, chemistry, physics, and advanced biology) I noticed that formal and informal writing was minimal to non-existent. The courses that I took were all college preparatory classes, meaning students prospectively could enter the field if desired. I am sure it would come as somewhat of a shock when students of a high school curriculum with limited writing in the scientific discourse suddenly had to rely heavily on writing skills specific to science. Using the Watson and Crick example, it might be wise for a science teacher to have students explore the credibility of a selected scientist and reflect on what was found through writing. Science is a field where people outside the discourse forget that it is a humanized field, just like sociology and English. Knowledge in science is socially constructed within that

discourse community just like any other discourse. According to Brufee (1993) “Writing is central even to the construction of scientific knowledge. Scientists construct knowledge through conversation, and the most important kind of conversation scientists engage in is indirect, that is, displaced into writing” (76).

Why do I feel so strongly about incorporating writing into the disciplines mentioned above? As I look back on my high school days, and even my present educational situation at Illinois State University, I see that there are so many differences between individual students; the way they look, feel, study, take tests, learn, view life...there is a difference in every entity. There are few universal truths in this world; most of what we view as true is socially constructed. Protagoras, a Sophistic thinker from Ancient Greece, developed the concept of *dissoi logoi*, which basically says that there are two, equally arguable truths to everything. For example, a room can be both hot and cold at the same time depending on the individual that perceives it. The importance of writing, though, I feel is one of the few things that is indisputable. Logically, it makes sense cross-culturally to have students progress as learners by incorporating writing. The call to write is a call to action, both physically and mentally. It is through action that progression takes its form. In no way does it hinder or take away from learning. It serves many purposes: students can reflect on what they learned, communicate ideas that need time to be articulated, visually see progression occur. It can be argued that writing links students with content just as, if not more so than the teacher. During a lecture or discussion, individual students take out of it what they get. What they get is usually taken down on paper and processed for personal engagement or for exams. There is no way for any student to walk into a classroom and absorb every concept, every idea that is

spoken of. In a way we pick and choose what we want to learn in this setting and generally speaking. The so-called choice is what is written down, processed not only at the same time but also later after further review.

There are many articles that emphasize the importance of WAC. Panitz's article is best suited for this essay because it aides in articulating not only the importance of it, but also specific ways to carry it out. There are hundreds of suggestions as to how teachers of all disciplines can incorporate writing in their classrooms. I have chosen to give an overview of some that I feel could have benefited my personal experience with secondary education.

“Students often report that they do better in classed and feel more motivated when they feel the teacher is taking a personal interest in their performance. Opening a two-way line of communication between teacher and student personalizes courses and this enables teachers to build a rapport with their students” (67). Several writing activities can be used to do so. The “One Minute Paper,” where students take the final minute of class to report to the teacher questions, comments, and concerns, can be replied to by the teacher. The Mid-Semester and End-Semester personal evaluations force the student to explore areas of strength and weakness, and offer them the chance to reflect on what they've accomplished. It also can let the teacher know the individual students feelings towards their teaching process. This would have been beneficial to me because I would have had a better perception of the overall scheme of the course and its individual components. Too often was I left not being able to connect what I previously learned the unit before to what I was presently learning. This has a tremendous effect on what I eventually get out of the course and bring to future courses.

In every course, students are in a position where they will have to study the material so as to perform optimally during times of evaluation and assessment. Answering the question (in written form) “How am I going to study?” may help students organize the content that they have been taught, while also clueing the teacher in as to how the students’ mind operates. This is in reference to Gardner’s Multiple Intelligences; as said before, students are different and learn differently. This writing activity can contribute to student assessment, as it lets the students know that knowledge attainment and critical thinking happens in multiple contexts, not just during a test setting.

A student autobiography, similar to the progress log previously discussed, can be a great aide in helping students recall relevant background information pertaining to the particular discipline. It also serves as a great tool for the teacher, allowing him or her to be exposed to the depth of understanding students have going into particular units. This will help dictate the pact of the unit, as well as how much in-depth the teacher must go for objectives to be met. I never had to write out any background information I had pertaining to a subject, and feel I would have been better able to apply that information if I had a clearer sense of it. The best way to get a clear sense is inevitably through writing.

Teachers continually need to find ways to connect course content to the real world, so as to make it relevant to the student. Besides simply stating to the students, “This is important because...” it may be more efficient to do an activity along the lines of having students find examples of math, science, history, etc. in the media (a prevalent real-world source). Students can write about what they viewed and present the relevant information to the class. As long as it pertains to the discourse, it will show that what is learned is then relevant to the real world. Media as a source of writing can take multiple

forms. Not only can students simply analyze ways disciplines are seen in media, but they can also, for example, write a formal or informal letter to a media station pertaining to a particular topic. There are endless writing assignments that can be invoked into all disciplines, which can reflect the media and the real world.

What I feel is most important about writing across the curriculum is how it promotes student-centered learning. Writing calls for student engagement into the content being presented. It is no longer enough for teachers to lecture to students and have them regurgitate what they heard once test date arrives. This is not learning. Learning happens when students are active participants in the classroom. Oral discussion needs to be accompanied with multiple forms of writing. It serves not only as a means of communication between agent and audience, but it sets up context, allows students to identify strategies and successes rhetorically, and also serves as a tool for critical thinking and thought process. Writing adds variety to the structure of any course, which is key to student-centered learning. Reflecting on my high school years and comparing them to national and state standards, I feel as though I received a quality education. However, I do see areas in which it could have been improved. Incorporating more writing under different contexts would have dramatically enhanced my academic experience. As a future secondary teacher, I can not only develop writing schematics in my classroom, but share with colleagues the importance I see in writing across disciplines.