Reflection: Masters in Science Education Program

SED 697
Prof. Rivas

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Well, I thought this would be the easy assignment. Now that it is time to write this, I still feel I am in a long dark tunnel peering out to that dim light at the end. This has been, after all, an ordeal. It is not more or less than I expected in that matter, but at the moment, what I feel is exhaustion. What I see is a backlog of papers to grade. I am wondering if there is still time to get to know my students before their rime with me is over. I will push that aside, and put myself in the state of mind I expect will be easier in about a month.

There have been so many changes in the last two years. I am sure I will fail to mention several important factors, but I will try to give some order to my thoughts. A chronological examination will surely break down as I go, but how else do I start?

Semester 1:

It took me a while to settle in to the routine. I was a bit intimidated by this group of young, knowledgeable teachers, as I, the old, (I finish this program as the oldest ‘survivor’ of the cohort) ignorant teacher couldn’t find the right commands on a Macintosh. This probably didn’t help my ability to participate in the ‘getting to know the group’ exercises in SED 625. I am never comfortable with such activities, and this was harder than usual. Things slowly changed. By the third week of the semester, I found I was using something from both courses with my high school students. I found myself being more critical of my own lessons, more interested to pursue options.

In SED 646, I learned a tremendous amount about what resources are available as software and internet sites. There are many of these that are now regularly used in my classes. I developed spreadsheets that my students use in studying mitosis, I found web
simulations that I use in studies of ecology. I use the data found on earthquakes and
weather patterns. There are really a great number of ‘discoveries’ I made in this class that
have become a regular part of my lessons. It is difficult for me now because I do not have
regular access to a class set of computers, so I can’t always use all of the new tricks that I
have found.

The biggest gain from this class was in just learning to be more efficient in using
electronic resources. This was at first, a survival skill, then a powerful tool.

In SED625, I began to rethink many things I thought I knew. The most impressive
to me was my reevaluation of the way I taught the nature of science. The presentation by
McComas was informative and convincing. I realized that, although I used examples all
through my courses of how the scientists work, I began with a too formulaic ‘scientific
method’. This has led to a change in my lessons and a rethinking of the way we teach
science in my department. There is far more emphasis on the whole picture of how
science works. I still feel I need to bring this lesson more completely into the weekly
curriculum.

This class was also the beginning of a continuing process of evaluating my own
lessons. This class as well as SED600, and SED 690 dealt with topics regarding effective
teaching strategy. It became easy for me to be a little too critical at first, but then, lesson
by lesson, I began to look for ways to increase active learning, provide more inquiry
moments, and have students interacting more. I want to change the curriculum of our
freshman class to better facilitate my new philosophy, but need to get the rest of the
department on board to make real improvements. Well, it took only a page to lose my
chronology.
Semester 2:

I have already discussed some of the impact that SED 600 had on my teaching, but there was another side to this class. It was in this class that I found I must pick a topic to study in my action research. I will not say I picked the best topic. I am sure I would pick something different if I was to start over (but no, I am not starting over). But at the same time, the process of searching was interesting. I tried to use the topics of the debates and assignments in the class as a starting point to find something I wanted to explore. Early on, I thought of studying some aspect of inquiry learning, but, when looking into it, had difficulty defining what I wanted to do that was different than my regular style. Certainly, there was something to study, but I just couldn’t narrow the focus. It was at that time, we were discussing literacy. I became stuck on the issues of effective reading practices, which eventually led me to my topic. It was more difficult to find a topic than I thought it would be. Doing a formal study on an aspect of my teaching is not something I have done before. I am sure doing it a second time would be at least a little easier.

SED 619 was an interesting adventure. The last thing I learned should have been the first: Do not switch from Windows to Mac when constructing Dreamweaver files. Bad things happen.

I didn’t know if I would like using a web site with my classes, but after this course, I can see a variety of uses for them. Mine has been ‘dormant’ this semester, as I have not had time to keep it current, but I will be making additions and improvements on it as next year goes on. There was far more presented to us than I would choose to use right away. For instance, I do not need fancy buttons and prefer not to use them. Other
items, like animations, and use of video, I am beginning to want to do more. At its most basic, a web page is another way to communicate with the students. At its most complex, it can provide an interactive learning environment.

Semester 3:

SED 690 completed my adventure in reassessing the way I teach. With much of the literature having to do with case studies, I had more ammunition to use to convince myself and my department to make changes.

With Dr. Foley’s emphasis on research, there were valuable moments discussing issues of action research, and data analysis. In retrospect, I wish there was more here earlier in the semester, so that our research could be refined. Certainly, our exercises in writing and collecting data on surveys were directly useful to my research, as was our short practice with data analysis. As for the topics of the course, I found I was most interested in readings at the very end of the semester having to do with assessment. Although a major assessment in my class is labs, I am not sure I would say they are conducted as truly performance based assessments. I have some projects which would fit in this category, but I am interested in doing more in this area. The effectiveness of this type of assessment is also supported by readings from EDUC 610.

Dr. Herr’s Lab Curriculum Development class was another whirlwind of activity. I am not sure how many of the activities developed I would use in the form they are in now, but the broad spectrum of demonstrations, activities, and field studies was useful in reopening my mind to new ways of teaching. Certainly, it was here that I became fast at making a web page.
Semester 4:

In my mind, this semester was all about the action research. The action research project was the part of this program that I dreaded the most. I found the process excruciatingly painful from beginning to end. I also found it to be the most genuine learning experience of the program. I don’t think it is the topic itself that makes me say this. I think it is more the process. I became a better observer. I treat my lessons as more of experiments, often changing what students are assigned in different classes. Even my experiences at the NSTA conference were influenced by what I had learned about action research.

The process of doing the report in pieces was good in theory. I found the semester went too fast for this to be completely effective, but I was better prepared to produce the final draft at the end because of it. Much of my final paper was revised or completely rewritten at the end.

I need to say that a great deal of what I learned was from my fellow students in the cohort. Their input, opinions, encouragement, and constant support made this program work. I hope I was able to contribute at least a portion of what I gained from each of them. As much as I hate bonding rituals like those we did the first semester, I know that they sped us to being a team. As teachers, we can think of ourselves as isolated in our own classrooms. It is valuable to be reminded how important it is to reach out. I am very glad to have met and worked with all of these people and I hope our contact does not end here.
Overall, I think I am a more informed teacher. I will continue to make decisions based on what was taught in this program. I know it was the intent to build leaders. As with many in this cohort, I have been a department chair for a long time. I dropped that when I began this program. I know I can better be a leader now as someone who helps develop and refine curriculum. We are thinking of making changes in several classes over the next two years. I am sure I will have a hand that process.

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