Cumulative Reflection

Engineering Preparation

Learning and having ideas and concepts stick in your thoughts come through two avenues. Through experience, and learning from a third party. ISU has had a hand in both. Through classes, I have been taught to design systems, specifically for software, and processes on how they work. In these classes and others, ISU has given me opportunities to have experience with designing systems. This helped prepare me a lot for this sort of task. I don't think ISU has prepared me to formulate and develop problems to solve. I think, at least in software engineering, problems are brought to us from outside sources, so I don't think it's necessary to prepare for it. Solving problems, on the other hand, is what engineers are trained to do in general. This is an aspect I feel very prepared in. In all of my classes, we talk about topics, but more importantly, we use those topics to solve problems posed in class. Whether that's through class time or projects, there are multiple times that I have practiced solving problems. Because of all of this, I feel prepared in this aspect. Where there has been a lot of exposure to certain aspects of engineering, there hasn't been in some areas, including ethics. Personally, I don't think there is a whole lot of need for ethics in the classroom. There has not been a lot of time for ethics in the classroom. On top of that, I have not been taught anything on ethics. We have had to do our own research and formulate our own ideas on what ethics means and how we act ethically in our profession. So in total, I don't think I am well prepared to deal with ethical situations in the real world.

Professional Preparation

Working in teams is a big part of the engineering world. When I was working at my internship, I learned this. When in class, I also learned this fact. Since a lot of people say it and I see it, it seems that working well in teams is a big aspect of what it means to be an engineer. ISU has well prepared me to do this. I have had, in the past, two classes, where working in groups was integrated into the structure of the class. I was able to learn throughout the semester, what it means to work in a team for that long. I've also done projects within classes that were group projects. Those were specific experiences that prepared to work on projects in a team well. Right now, I am on a team for senior design. This is the most team oriented class I have been a part of and requires a lot of communication and working together. This, so far, has been a great learning experience. This has been the biggest thing so far that has prepared me to work in a collaborative team for a project. Working in teams poses issues as well: mainly contemporary issues. I have not been prepared explicitly for this by ISU. There hasn't been any formal teaching

in this matter. I have also not had really any of these type of problems arise in my time here. So I don't have any experience or knowledge on what they are, how to spot them, and how to fix them. Like the previous section, my point still stands on ethics and ethical responsibilities. Professional responsibilities are another topic though. I have had some preparation of this. Through our senior design class, we have to write reflections pertaining to a certain topic. One of them was professional responsibilities. I did research on them, looked at what they are, and how to apply them in my field. So in the end, I am somewhat prepared in that matter, but I am not as knowledgeable as I'd like to be.

Resources Reflection

In class projects posed problems that sometimes had me looking at resources outside of what I had available to me in the moment (e.g. books, class materials, etc.). In classes before this, I used two sets of resources. Peers are a great tool to use. Sometimes I got stuck on a particular problem or part in a project. I went to a couple of friends and classmates and asked for help. We weren't plagiarizing off of each other, but bouncing around ideas and concepts on how to solve the problem. Peers have helped in this regard. The other resource I use is the internet. Most of my problems deal with programming. The best resource I know is the world wide, user knowledge base that is the internet. More specifically, I use Stack Overflow a lot. It is a programming forum that people pose questions, sometimes specific to a problem, or sometimes a concept that they are having trouble with. People from all over the world come and answer that question as best as they can. People then vote on the best answer and the answers are ranked. This makes it extremely useful to get a good answer that is backed by the community for a very wide array of questions that I might have. I use Stack Overflow a lot and will continue to use it in the future.

Extracurricular Reflection

There have been only a couple of instances of participation in extracurricular activities I have been in. The career fair, one club (for only a few meetings), and HackISU. These were fun activities and good learning experiences. The question: how have these helped you to understand the importance of Lifelong Learning is not something that really applies, in my opinion, to these things. I think lifelong learning is something that the person who does it is internally and intrinsically motivated to do. I don't think that extracurricular activities can help you understand the importance of it. On top of that, the importance is relative and not the same for everyone. These activities helped me understand how to apply myself more and look more into the real world applications of my discipline, but my commitment to my interests and to keep learning them lies within myself.

It's not that I don't want to learn throughout my life and develop my craft more. It's quite the opposite. I am motivated to come up with new ideas and to learn more things that interest me. Moreso in college did I start this motivation to keep learning, and it took off from there. I am currently, with senior design, embarking on learning new things. We are working with machine learning. This is a concept I have never touched, but only heard about. Working with this topic and others in it, I have been improving on my knowledge base for this domain. This philosophy and outcome I extend to all of my classes that I have been inherently interested in. Because it is an interesting topic, I am eager to learn more and to use those skills that I learn to help solve problems related to that domain.

What Would I Change?

If I were to be an undergraduate again, I would change a couple of things. The main thing that I made mistakes with, was class choices. Sometimes I was too ambitious for my own good and took classes that I knew would not be good for me (i.e. I wasn't good at the topic or it turned out I wasn't interested in it as much as I thought). This caused me to drop a couple of classes and take on a minor that I think will not be the most useful. If i didn't make these mistakes, I would be on track to graduate sooner. Other than this, I would not change a thing. I think I utilized my time here at ISU very well. My habits for academic success were good and only improved, and I had a lot of fun doing it.