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Internal Reflection
ENGR 493
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The leadership practicum course played a vital role in instilling a solid understanding of Leadership Principles in me, and allowed me to become introspective to my strengths and weaknesses in a team environment. I made three important connections to the teachings throughout the semester. These include distinguishing between leadership and management, learning to leverage leadership to produce results in a team-based environment, and identifying personal traits and differences between team members.

The first concept that underlined itself early in the semester was the difference between leadership and management. Our project, which was almost by definition very hands-on in nature, moved very slowly as our team used emailing and virtual teaming as a meeting method. We used personal research on the Web of Science database and literature reviews to move our project forward. As the semester progressed, our teams realized (with the input of our TA) that we were managing the process and not taking active leadership to drive the project forward and get the results we kept theorizing about. I personally was disappointed in how obvious it was to pick up an iron and begin experimenting with ironing HDPE-2 bags, as opposed to using pen and paper to come up with “engineering solutions” and scientific conclusions to make a more robust product. This realization brought me to a conclusion: a good engineering leader can determine the correct time to drop the pen, paper, and calculator and get their hands dirty just experimenting to learn. Mapping this onto the talk from Paula Eckert, when an issue arose in her job, she found the basic information and acted quickly to end the problem. The clear problem in our group was a lack of defined action. After the necessary testing at The Center for Sustainability faltered, we strived to make progress through action. In October, an overhaul of our attitudes allowed the group to make

up for lost ground, and plan the project to be on schedule for the deliverable dates. Our team made extra effort to push the project back on schedule, and communicate more effectively and promptly. Our team needed this leadership to guide this project back on course. Our Leadership Principles course readings emphasized that management is guiding a self-driven machine, where leadership is not only guiding but driving. Understanding that this practicum not only needed direction from the members, with the guidance of our TA, but also required drive to produce the deliverables on-time at the quality needed to move the project forward from previous semesters.

During this process, our team learned to leverage strengths of each member to obtain the results we sought to realize. Determining each member's strength and using that to get the project back on track was pivotal during the last half of the semester. I believe my strength in high-level organization, Herschel's detail-oriented personality, Adrienne's focus on practical results, and Mike's focus on tangible results kept the team balanced and focused on the deliverables of our project. The readings focused on understanding our talents at a deeper level, which helped my introspection process, but after this process the best application was the complete failure of the team to produce any real results for half of a semester. Realizing what we needed to accomplish, and our impending poor grades should we have kept on the same track, our team met in Atherton Hall and drew out a road-map for the next few weeks. I used skills innately programmed in my mind of our high-level checkpoints in the process, and went down the list with Herschel. We compromised on multiple portions of my road map to settle between our differences in views for what we felt was best for the team. Navigating the project, with a real outcome and with stakes (our grades) involved allowed the theoretical concepts of "leveraging leadership for results" and put it into a better perspective. Stepping back and understanding my own weak-points, I could manage those points by utilizing the strengths of teammates like Herschel to review details of my work such as the letter to The Center for Sustainability, as well as the project report. I could use the practical focus of Adrienne to make

sure my high-level plans were not over-zealous or unreachable by our team. Also, Mike's focus on tangible results would keep my focus away from only doing literature reviews for answers. I believe I leveraged my high-level organizational skills to manage the team and assign tasks and completion dates as the project ramped up.

Lastly, understanding the differences of our team members the identification of personal traits helped avoid the "storming" aspect of group formation during our ramp-up. With little time to spare, our team could not afford to "storm" and lose any more time. Understanding each other, our goals, missions during this semester's class, and the direction of the project beyond completion gave the team a greater understanding of each other. We discussed in detail each other's thoughts, kept on task in the meeting, and began to feel out our individual roles we would need to encompass for the project to be a success. I learned that an argument in a team can lose time, and taking time to see another's point of view can sometimes expedite the emergence of flaws in my own logic. Many times during the semester, my views of which products we should design and build were challenged by group members that had equally strong arguments, but instead of degrading the fabric of our team these arguments instead helped build credence for our design decisions after compromises were made. I believe understanding the traits of your fellow members, and almost designing a way to communicate most efficiently with each person individually, as well as with the group from techniques I learned in readings in both ENGR 408, as well as ENGR 497C helped me keep out of arguments that would cost the team productivity. These courses provided a background in theory that became a valuable resource in the necessary efficiency of the last half of the semester in our project.

Overall, the experience in this course not only taught the textbook concepts, but drove them home with a hands-on practicum. I not only enjoyed the course, but also enjoyed what I got out of

the course in terms of knowledge and actual physical results in products with my team. The team project, in my opinion, was a strong success and I was grateful for my team's effort.