Mechanical Engineering: Disciplinary Literacies Essay

Michigan State University was not my first choice, actually, it was not in my top three universities that I want to get in to. After sending seven applications, including Michigan State University, I was hoping I could get into my top one or at least in my top three. But, unfortunately, it was not as I expected I didn't get accepted from any of my top three. Instead, I got the congratulation letter plus a scholarship from the other four universities. Other from those reasons I told my friends and family which are: I love to see snow and live in a cold environment, I got the scholarship, Michigan offered me their best mechanical engineering program; one personal reason was that I didn't get into Michigan Dearborn (which I hear, it was Michigan State University's nemesis) so I decided to go for their opponent.

After all I didn't regret my choice at all, because it is the best place I have ever been to. The only thing I regretted was why I did not put MSU to my top one and apply for it earlier. My life here is getting better and better: I make friends with the dearest, most friendly and most thoughtful people, my university's life is amazing, and I love every moment I spent in the US. Mechanical Engineering was actually not my first choice, I changed my major at least three times (Business, Apply Science Engineering, Civil Engineering) before I decided to take ME seriously.

I, realistically, chose to become mechanical engineering because it is the second-highest paid job among seven types of engineering (60,000$/ year). With the high salary compared to other jobs and with the rapid development of robots and AI, Me would be one of the most rational choice , compared to those jobs with repeated work, for example farming, mass production, crafting,... that would be easily taken over by nonhuman objects. (1) "A study by the World Economic Forum found that 5 million jobs across 15 developed nations would be lost by the year 2020." Career that requires creativity, innovation, such as engineering, psychiatrist, content creator,... would stand out from the crowd due to the fact that those jobs needed those aspects, requirements that only humans can produce: creativity and human care. Though, I still consider myself as a lucky boy, who knows what he wants to do in the future.

Personally, the reason why I decided to become an engineering is my dad, I have to thank him for that. He is also an engineering but work in electrical field; he is one of the most influential on my career. I had the chance to use my dad tools and played with it throughout my childhood in our small studio/office that we had when I was small. One of my very first toy was an expensive remote-control car that he bought for me. It ended up into pieces after 4 days in my hand. Soon, he realized I the thing I wanted was not an expensive toy car or anything like that but what makes the car move.

The idea of becoming engineering has been planted in me since I was small, and luckily that I am also love the field I study and all the Me related subjects during high school. I grew up with the best engineer that can see the potential from his son. As soon as I get to MSU and take my studies seriously, I realized that the Mechanical Engineering major has a majority of smaller fields such as: Aerospace, Automotive Powertrain, Biomedical, Computational Design, Cryogenics, Energy, Engineering Mechanics, Global Engineering, and Manufacturing Engineering. Choosing one of the special concentrations is currently one of my hardest choice. I

have been able to eliminate some of the fields that might not suitable for me and come down to two fields: Aerospace, Automotive Powertrain. First of all, aerospace concentration is designing, building air crafts, machines that can fly within the Earth's atmosphere (2). This is one of the newest fields compared to all the following specialist concentration, it first experience (powered flight) was in the 19th century.

In the 21st century, aerospace would not only study and design about fly objects but also study about space crafts, rockets. Our goals have reached out over the earth range, humans want to discover the space, soon enough, Moon and Mars will be our next destination. The study about rockets building is now at its most essential needed, to build a faster objects, lighter, quieter and most of all cost the least money to get into space. NASA (the National Aeronautics and Space Administration) or other private industry like SpaceX are now having its best achievements, developments and contributions to get humans reaching the biggest goal closer. For example: SpaceX successfully make the first reusability rocket: the Falcon 9 is launched up to space sending 11 communications satellites to orbit and landed the body of it back on earth at Landzone 1 (3). in order to prepare to work in the Aerospace field, a student/employee first must have an interest in the field itself, next they need to have a good grade at least 3.0 in the scale of 4.0, and the most important aspect is experience. After defining yourself as interesting in aerospace and keeping a good grade, getting hands-on experiences is the final essential requirement an employee needed to work in the field. To get those experiences, the candidate must consider seeking for internship opportunities and co-op with NASA or any private industry. Because the jobs for people who actually go and work in space or astronauts is relatively small, most of the work done are basically needed a strong Earth-based workforce (4). Those positions can be considered like: astronomers, scientists, stochemists, geologists, meteorologists, physicists, oceanographers, biologists, medical doctors, nutritionists, sociologists and mathematicians; other than that they also have specific engineering jobs for aerospace. Automotive Powertrain, can also call as powerplant, is related to vehicle using power generated from a form of fuel and convert to any form of motion that can make the vehicle move. With the high demand in transportation, the use of engineer in the automotive powertrain field is needed more than ever. "This industry, which is currently dominated by vehicles powered by internal combustion engines, adapts rapidly to technological changes and environmental regulation and provides many career opportunities for mechanical engineering graduates." (5)

The progress includes 3 main parts: engine, transmission, and drive shafts. Start with the engine, the engine system (ICE) is commonly known as an internal combustion engine ; this system using the compress when burning the fuel in the combustion chamber and compress it to push the piston to generate direct force. With the force coming from the engine, the power needs to transfer to the motor by going through the transmission. The transmission is simply the gear box, shifting the power to different type of gear to provide speed and torch. The development of the gearbox has been started as early as the first steam engine was created in the 17th century. Driving shaft is a part usually located in the base of the vehicle, this part has the function of converting torque and rotation force to the moving part such as: turbin, wheels.