2/11 Draft 2

Authors Note

The purpose of this note is to reflect on this essay, in which I wrote about mechanical literacy, which is important to me because it has been a huge part of my life.

What went well for me while writing was being able to freely write about my experiences and knowing that what I write is true as long as it's true to me. What I liked the most about writing about this genre was that there wasn't any research involved.

An insight I got from Deborah Brandt's article that I incorporated was the idea of sponsors, which helped shape my story by making some sections less about my experiences and more about how my sponsors allowed me to have those experiences and helped me grow and develop my mechanical literacy.

I decided on what information I should include based on how relevant it was to mechanical literacy and how much it has influenced my life and my choices, and how much of an impact it has had on me today.

A challenge I faced in fully representing the full complexity of my literary journey was taking my memories, thoughts, and events from my life and being able to put those into words that other people understand and that fully describes what happened and does those memories and events justice on paper, without losing necessary details, but also excluding unnecessary ones.

The easiest step in the writing process for me was brainstorming, because all I had to do was think of things related to mechanical literacy that I've experienced or know about. The hardest step of the writing process was the drafting because I didn't know what direction I wanted to take the story in or even how to put things I've experienced relating to mechanical literacy onto paper.

I received helpful feedback from one of my peers on how to improve on sections of my essay, such as providing more detail, adding imagery words, and giving more examples, all of which I incorporated into my next draft. The most useful one, though, was probably to add more detail as to how mechanical literacy affects people's daily lives and how that way of thinking is relevant to everyone.

TIn conclusion, mechanical literacy is important to me because it has had the most impact on my life and is probably my most developed skill, which made it easy to brainstorm ideas for, but hard to take those ideas and put them into paper effectively. Things I have learned from writing this essay are how to separate ideas into different sections, how to turn free writing into a workable draft, and how to cut down ideas to fit onto paper. I'll use these in the future to write better essays and further develop my writing skills.

Mechanical Literacy

Imagine waking up in a world where no one knows how to make anything. There would be no factories, cars, houses, or even simple tools like hammers and knives. Nothing would get fixed or maintained and tons of useful objects would become completely useless. This is what a world without mechanical literacy would look like, a world with tons of objects that people depend on, but can create, repair, understand, or use them.

Mechanical literacy is defined as the foundational knowledge and skills required to understand, manipulate, and work with physical objects, machinery, and mechanical principles. It’s not just knowing gear ratios, complex math, or even something you need to go to school for, but at a basic level, it’s understanding how things interact with each other, recognizing why something works or didn’t work, and imagining ways it could work better or imagining something new entirely. Mechanical literacy allows

you to read the world like a book, which tells you how to understand motions, forces, materials, and so much more.

In my own life, mechanical literacy didn’t start with school, textbooks, or formulas, but with curiosity, taking things apart, playing around with it and figuring out how it works, and trying to change it or put it back how it was. Mechanical literacy isn't just mechanics, but also a mindset and way of thinking and problem solving, which is something that everybody uses in their everyday life, such as preventative care for a car like checking tire pressure, or understanding the safe way to use an oven.

Mechanical literacy can be traced back to 18th and 19th century Britain, during the height of the industrial revolution, explaining physics, manufacturing, and global trade to children. Mechanical literacy was especially important at this time because it was during a huge transition period from a mainly agricultural society to an industrial one (Heckel, 2024).

I started acquiring mechanical literacy early on when I started playing with old wooden tinker toys, and eventually started making contraptions out of them. Eventually, my parents realized that I liked to make things, and they started buying me Meccano sets, allowing me to further explore my interests. Around 2nd or 3rd grade, my parents signed me up for Camp Invention, a program held during the summer to help kids grow their creative thinking and problem solving skills. In 4th grade, my parents then signed me up for Math, Science, and Computer camp, which was a program meant to grow kids' interest in math, science, computers, and other STEM fields. Both of these camps were very fun and I am glad I got the chance to attend as they both really helped to grow my interest in mechanical engineering and grow my mechanical literacy. In 6th grade, I joined Vex Robotics, which I stayed in up until 11th grade. Vex Robotics really cemented my interest in mechanical engineering and is probably the biggest contributor to my mechanical literacy skills, as it involved designing, building, troubleshooting, and fixing a robot, especially during frustrating times when a robot would break mid match and we would lose, which

would need a quick identification of the problem and fix. Throughout the years, I would also help out on my uncles' farms, part of which involved getting hands-on experience with driving and maintaining farm equipment, which furthered my interest and skills.

One of my biggest literary sponsors is my grandpa. He has a very similar interest in the mechanical world and was always working on some sort of project that he would let me help with. As I got older, I got more involved with some of his projects and even had him help me with some of my own, such as fixing the lift system of my parents' pop up camper, which involved taking apart the entire interior to get to the mechanisms and fixing the steel cables that did the lifting, fixing up an old pump, which involved new fittings, wires, and a fresh coat of pair, or installing an automatic sprinkler system that uses lake water, which involved digging a long trench for the pipe. He truly contributed greatly to my skillset in mechanical literacy and to my interest in being a mechanical engineer. My other two biggest sponsors are my parents. Without them, I would have never gotten the chance to explore my interest and gain mechanical literacy early on, and probably would never have gone for mechanical engineering if I didn't. Without them, I wouldn't even be writing this story.

My literacy journey mainly consisted of hands-on experience, especially early on in life, which is a big reason I'm pursuing a mechanical engineering degree. Mechanical literacy has been a huge part of my life for as long as I can remember and it'll never stop being a huge part of my life for decades to come. I think people can learn from my journey that interest starts early on and fostering that interest is very important, although it is never too late to pursue your interests. As explained in Debora Brandt's article *Sponsors of Literacy*, literacy does not develop in isolation, but through sponsors, people who provide resources, knowledge,opportunity, and guidance, and help shape how that literacy is used (Brandt, 1998). My mechanical literacy grew the same way. They did not just help me grow my interest, but also created the condition for me to learn and develop skills and what I want to use those skills for.

References

Brandt, D. (1998). *Sponsors of Literacy*.

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2/2 Authors Note

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[peer review/feedback]

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1/30 draft 1

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References

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1/26 free writing

Mechanical literacy is meaningful and important to me because I think having an understanding of how the physical world works can be very helpful and I find it very interesting. I have developed it by exploring related topics and related projects. I plan to develop it by going to college for mechanical engineering and continuing to explore the physical world in my free time. I want to tell this story in hopes that more people will become interested and want to explore it as well or even become engineers. Mechanical literacy is important because it is the backbone of much of what we do today,

such as driving or using electronics, and it is important that people continue to be interested in and work to advance people's mechanical literacy. I have had many hands on experiences that have grown my mechanical literacy, and they all stand out to me because they were always fun, even if it was extremely difficult, frustrating, or boring, which I think is an important takeaway because I know a lot of people have had similar experiences and a lot of people could have similar experiences if given the chance, which is why I think others should read my story.

Timeline:

Tinker toys and similar toys

2nd or 3rd grade: Camp Invention

4th Grade: Math, Science, and Computer Camp

Snap Circuits and similar toys

6th Grade: Robotics

Helping with maintenance on farm equipment

Helping my grandpa with his projects

Finding my own projects

Structure:

Introduction

Background

->Story

Conclusion