Sample Journal 1

Year: 2024-2025

Grade: G10

Semester: 2nd Semester

Question 1: After you finished your first term in stem school, explain a motivating situation that influenced you while working on your previous project and how this gave you a push.

Motivation is a great factor for some people as it enhances their productivity and gives them great push for their work. Thus, using motivation in capstone is going to give it a different taste and colors.

While working on my capstone in the first semester I faced a very motivating situation. On a Thursday we were building the truss of the bridge and the whole team was helping each other and talking about the dreams of each one of us. My first friend said that he wanted to be a doctor, the second said that he wanted to be an engineer, but the third one said something that shocked me. This is that he wanted to get a scholarship to MIT. When he said it, we stopped working as it is so hard to get one and explained why he wanted it. This situation really shocked me, and I said in my mind “hey anyone can dream” but after this seeing him working hardly made me change my mind and work harder and harder. As a result, I got motivated that may be I get a scholarship to German and now I am taking a course in A1 level in Germany as I want to be an engineer and this situation also give me a push in working in capstone and studying well because I want to get GPA of 3.7 at least

To conclude, seeing my other friends dreaming and working hardly on their dreams gave me a great push to work on mine. So, I began to work hard in my life and in my education to achieve my dreams

Grade: Green

Feedback:

Strengths:

1- Good word count.
2- The response is well-structured with an introduction, body, and conclusion.
3- It presents a realistic situation and how it affected the student's growth, shown in parts like "As a result, I got motivated … and now I am taking a course in A1 level in Germany".
4- It includes real numbers and examples like "a course in A1 level in Germany" and "I want to get GPA of 3.7 at least".

Weaknesses:

1- The overall English needs improvement. There are some grammar and spelling mistakes such as: "gives them great push" → "gives them *a* great push", "working hardly" → "working hard", "that may be I get" → "that maybe I can get", "also give me a push in working in capstone and studying" → "also gave me a push to work in capstone and study",
2- Clarity and Wordiness can be significantly improved. For example, "whole team was helping each other and talking about the dreams of each one of us." → "whole team was working together and talking about our dreams.", "something that shocked me" → "something shocking", "and I said in my mind "hey anyone can dream"." → "and I thought "anyone can dream" .", "work harder and harder" → "work even harder".
3- Punctuation can be slightly improved. Many sentences are too long and lack commas.
4- "MIT" should be explained, as not all teachers may recognize it. A better phrasing would be: "to MIT, a well-known university in the US."

General Notes:

While most of these points (weaknesses) alone may not affect the grade, their frequency and impact on clarity are major problems. And that's likely the reason the answer got a green.

Question 2: Understanding the problem clearly is the first important step in your project; explain the most important challenge that face you in identifying the problem that you are trying to overcome.

Identifying the problem is the first step in EDP process, and it is the most important step as working on different problems will lead to wrong solutions and wrong scientific-based research.

Unfortunately, some challenges were faced while researching the problem "Un-conventional resources" While hearing this word for the first time I became confused and did not what is this. I began to follow the EDP process to clearly understand the challenge and lately, I found out that the problem is that the world is using non-renewable resources that are going to end someday, and they hurt the environment. This problem is a great challenge for the whole world. After doing deeper research I found the meaning of the world unconventional and asked my capstone teachers. This word was just like a synonym for renewables and something like that. As a result, I could identify the problem clearly and know that the problem is that the conventional resources that the world is using are harmful and will be depletion in the world

To conclude I did not understand the word unconventional but after researching and asking my teachers I knew it was just a synonym for renewable energy this could make me identify that the problem is that the world is using harmful conventional resources like coal and oil.

Grade: Green

Feedback:

Strengths:

1- The response is clear and directly answers the question in the first sentence of the body.
2- It follows an essay structure: introduction, body, and conclusion.
3- It is specific. It identifies a problem, explains how it was solved and reflects on what was learnt.
4- It provides convincing real-life examples like doing research or asking teachers.

Weaknesses:

1- The main issue is that the response always uses "I" and reflected upon the experiences of only the student, not the whole team as an EDP question usually requires. The capstone project is a team project; a stronger answer would describe the biggest problem faced by the entire team.
2- The idea presented is weak. To consider a slight misunderstanding of the meaning of a word as the *biggest* challenge faced in the first step feels like an exaggeration.

3- There's a major misunderstanding or illogical conclusion: the student confused the meaning of *unconventional* with renewable. During that semester, the task was to come up with an unconventional solution using renewable energy. "Unconventional" means *untraditional* or *creative* – not renewable.

General Notes:

The response has some grammar, spelling, and structure issues. While they aren't serious enough to count as a major weakness, they still need improvement. Examples include: "confused and did not what is this" → "confused and did not know what this is.", "they hurt the environment" → "they harm the environment", "I found the meaning of the world unconventional " → "I found the meaning of the word unconventional", "will be depletion in the world" → "will be depleted."

Question 3: In your challenge, you are asked to produce at least 0.04 kw.s in at most 5 minutes, you have studied in (ma.1.07) modeling with functions. Which function you will use to model the relation between the amount of energy produced and the time, then illustrate how modeling with functions helps in your work.

In our math course in lo 1.07, we studied the linear function this function Is written as f(x)= ax + b this function helped us to find the relation between the amount of energy and the time as it is represented on the graph as a line.

Functions are like machines that need input and do a process on them and produce output. We can graph functions and see whether the result is what we are aiming to achieve or not. If we resultant is not what we want we change the input to get better results. While researching we chose the vertical wind axis as a solution for our problem using the EDP process and tried to predict the amount of electricity after researching we found the type of turbine we are going to use can produce 0.01 kw.s in most of 5 minutes and present it on the graph we know that this did not meet our design requirements so we did more research and choose another type this one could achieve the design requirements so using the help of the linear function we could predict that the other type of the turbine will achieve the design requirement.

To conclude, linear function showed us that the previous turbine did not produce enough power so, we did more research and chose another one that produced power that met the design requirements.

Grade: Green

Feedback:

Strengths:

1- A math equation is included in the response.
2- A direct answer — “linear function” — is given immediately, along with an explanation that helps deepen understanding of the concept.
3- The response clearly shows how the concept and subject helped in the capstone project and gives real use cases of the function and how it helped in their choice of the wind turbine. This demonstrates a strong learning transfer between the subject and the project.

Weaknesses:

1- The mathematical formula “f(x)= ax + b” should have been explained, each component should be broken down and connected to its role in the capstone.
2- The second part of the question asked about the use of functions *in general* in the capstone project, not just the linear function.
3- There’s almost no punctuation at all. The sentences are too long and mixed up, making them hard to read.

General Notes:

There are no extra notes.