

This excerpt is from the project entitled “Posture Corrective Apparatus”

Element K: Reflection on the design project

This entry would be likely to receive a **score of 0**, based on the EDPPSR. The project designer reflects on one of the major steps in the design process, prototype testing. Although there is some specific detail to support reflection on this step, the entry is for the most part superficial and overly general (“useful in future life projects,” “wrought with difficulties”). Sometimes, emotional language used to describe the experience appears in lieu of more substantive summary of lessons learned (“plagued with the idea of construction”).

The project designer’s reflection demonstrates an attempt to reflect on and form value judgments—but the entry is, for the most part, more of a self-reflection than a backwards looking examination of the specific design process engaged in for the portfolio project.

Engineering Design Process Portfolio Scoring Rubric Component and Element Titles

Component I: Presenting and Justifying a Problem and Solution Requirements

- Element A: Presentation and justification of the problem
- Element B: Documentation and analysis of prior solution attempts
- Element C: Presentation and justification of solution design requirements

Component II: Generating and Defending an Original Solution

- Element D: Design concept generation, analysis, and selection
- Element E: Application of STEM principles and practices
- Element F: Consideration of design viability

Component III: Constructing and Testing a Prototype

- Element G: Construction of a testable prototype
- Element H: Prototype testing and data collection plan
- Element I: Testing, data collection and analysis

Component IV: Evaluation, Reflection, and Recommendations

- Element J: Documentation of external evaluation
- **Element K: Reflection on the design project**
- Element L: Presentation of designer’s recommendations

Component V: Documenting and Presenting the Project

- Element M: Presentation of the project portfolio
- Element N: Writing like an Engineer

Please Note: Elements M and N require no submission from the portfolio author(s) and are intended to be scored based on the portfolio work as a whole from what has been submitted from Elements A through L

Element K: Reflection on the design project

5 The project designer provides a consistently clear, insightful, and comprehensive reflection on, and value judgment of, each major step in the project; the reflection includes a substantive summary of lessons learned that would be clearly useful to others attempting the same or similar project.

4 The project designer provides a clear, insightful and well-developed reflection on, and value judgment of, each major step in the project; the reflection includes a summary of lessons learned that would be clearly useful to others attempting the same or similar project.

3 The project designer provides a generally clear and insightful, adequately-developed reflection on, and value judgment of, major steps in the project, although one or two steps may be addressed in a more cursory manner; the reflection includes a summary of lessons learned, at least most of which would be useful to others attempting the same or similar project.

2 The project designer provides a generally clear, at least somewhat insightful, and partially developed reflection on, and value judgment of, most if not all of the major steps in the project; the reflection includes some lessons learned which would be useful to others attempting the same or similar project.

1 The project designer provides a reflection on, and value judgment of, at least some of the major steps in the project, although the reflection may be partial, overly-general and/or superficial; the reflection includes a few lessons learned of which at least one would be useful to others attempting the same or similar project.

0 The project designer attempts a reflection on, and value judgment of, at least one or two of the major steps in the project, although the reflection may be minimal, unclear, and/or extremely superficial; any lessons learned are unclear and/or of no likely use to others attempting the same or similar project; OR there is no evidence of a reflection and/or lessons learned.

Reflective Questions for Element K;

- If I/we were going to do this project over, what should be done differently during the design process to improve the project and how would those recommendations make the project better overall?



A

B

C

D

E

F

G

H

I

J

K

L

M

N

The Design and Creation of a Modified Posture Corrective Apparatus for Adolescent Females

REFLECTION ON THE DESIGN
PROJECT K

The process was a long one that encompassed the whole of our senior year but through the hardwork and dedication required of the curriculum, I was able to pull through with my very own Engineering Design and Development project. The beginning was wrought with difficulties in deciding a topic to work on but later, I was plagued with the idea of construction. Finding justifications for my topic and creating a problem statement will prove to be useful in future plife rojects such as the college thesis.

After the inital investment of time into this endeavor, the construction aspect of this project was fruitful. I was able to familiarize myself with the many tools I would have never had an opportunity to work with. I came out of the experience as a more knowledgeable person who was not afraid to get in touch with her "inner man."

Out of the four tests that were completed by the prototype, a total of three were successful. On the last experimentation, there was a passing rate of 60% because three of the five trials were successful. Unfortunately the prototype was worn by the creator and tested with a blunt instrumental tool downloaded off of the Internet, I conclude that these test results cannot be 100% validated for reliability. However, the results do show that there was an improvement in posture nonetheless.