

## **COURSE DESIGN PROMPTS THAT CENTER ON THE USE OF PAINSTORMING**

The following prompts are those that an instructor wishing to have students utilize the painstorming method may wish to use for their course design projects. Since painstorming is only used to identify a problem to solve, these prompts are meant to frame a project that starts off with painstorming and will then lead nicely into the “normal” design process (ideation/build/test).

1. You work for a large automotive company. This year the company has decided they will focus their primary efforts on a complete redesign and rebranding of their minivan, to be unveiled in 3 years. Your company has decided that the marketing of the new vehicle will focus on how perfect the car is for long-distance family travel, ranging from cross-country vacation adventures to holiday trips to visit family out of state. Because of this focus you have been tasked with making sure the vehicle is a leader in innovative family friendly features. Use the painstorming process to first identify potential problems associated with family travel and/or current minivans that you may wish to solve. Once you have narrowed in on one or more pains that you will seek to solve (likely 1 – 2 weeks of the semester), you will move forward with the design process, ultimately designing a functional, tested prototype of your solution.

2. You work for a small sporting goods design company. The CEO of your company recently heard about a \$500,000 grant that a national advocacy group for individuals with disabilities was willing to give to a company or non-profit that came up with the most valuable product to help individuals living with physical, cognitive, and/or developmental disabilities across America live more physically active lives. Your company currently manufactures a wide range of products but to date has never offered anything specialized for individuals with disabilities. Your company has also not yet included individuals with disabilities in their product user group feedback sessions. Your CEO is eager for this to change and decides to invite all employees at the company to participate in a design challenge to come up with an idea that will win the company the grant and more importantly, change the lives of individuals with disabilities in the process. Since the market for individuals with disabilities has not been a primary one of the company to date, the CEO believes that a solution that is universally designed, appealing to a wide range of individuals – with and without disability, might be most worthwhile for your company to concentrate on. You work specifically on the baseball product line; however, you are welcome to team up with your colleagues in the other departments. In your college engineering courses you had learned the painstorming process. You plan to use this by thinking about the pains all people, and especially those with disabilities, experience within the baseball (or other) sporting goods context. Once you have narrowed in on one or more pains that you will seek to solve (likely 1 – 2 weeks of the semester), you will move forward with the design process, ultimately designing a functional, tested prototype of your solution.

3. You recently became the lead student employee at your university’s cafeteria. Your boss says that all day long all she hears are complaints from the students who eat in the cafeteria and that she is very fed

up by it. She suggests that if you can help her understand and solve some of the problems that are leading to these complaints that she will give you a significant raise. In order to do this, you must (actually) observe students in your (actual) campus cafeteria, watching what they do and what seems to be challenging or difficult. You can also ask (real) students for feedback on what frustrates them about the cafeteria. You should then compile all of the “pains” that you observe and hear, writing up a report for your boss. Your report should then also identify and prioritize which pains you plan to concentrate on solving, while also describing why these ones will be most worthwhile to solve. *Your instructor may ask you to stop there, or you may move on to actually design and test a solution based on their instructions.*