Activity 2.2.1 Overcoming Obstacles

Purpose

While research and development may seem like a fluid process, there are many considerations for researchers. Morals, ethics, quality, safety, the precautionary principle, and cost-benefit analyses may expose risks and obstacles for researchers.

Even after a product or process has been developed and tested; it may be difficult to convince consumers or the population that it is safe and appropriate for use. The unintended consequences are often the most difficult to mitigate after the release of a product or process. Predicting as many obstacles before beginning your research is helpful in alleviating the problems as they arise.

What are the implications for society? What legal ramifications exist? How do finances affect research, development, and release of a new product or process? How does your research impact the environment?

Materials

Per pair of students:

- Computer with Internet access and word processing software

Per student:

- Pencil
- *Agriscience Notebook*

Procedure

Thoughtfully brainstorm responses to the items posed on the *Activity 2.2.1 Checksheet*. Record your thoughts in your Laboratory Notebook. Use the comments section in the checksheet to record items needing further attention and questions that arise. You may need to conduct research via the Internet, or survey a population regarding beliefs and impressions about the problem you are attempting to solve. There may be obstacles that you have not considered. However, as research and development progresses, you will need to address those obstacles.

Conclusion

1. How do social, legal, financial, and environmental considerations affect the process of finding a solution to a problem?

    a. Any of these areas could prevent you from finding the solution because any of them could stop your research completely.

2. How can obstacles be overcome through the problem-solving process?

    a. Just recognizing the potential problems can help you address them early so they do not hinder research.

3. What is the greatest obstacle you face in your research and development?

    The greatest obstacle is changing consumer beliefs because people resist change.

Name:_____

Criteria	Comments	Completion Target Date	Date Completed, Initials
Social considerations: • How could solving your problem impact a society in terms of food security, family structure, or culture? • What societal obstacles may hinder the development and/or adoption of the problem? • What is the purpose of the research? • What will you do with the research?	1. Solving our problem could help households save money and reduce the amount of food wasted in the U.S. 2. People not believing or wanting to change their habits. 3. To reduce food waste by educating consumers 4. Help consumers understand expiration date labels.		
Legal considerations: • How could your problem impact policy and government (local, state, national, international)? • What legal obstacles exist for the development and/or adoption of the problem? • Is it a replication or extension of previous research? Do you have permissions?	1. It could change the way the government labels food with expiration dates by establishing better terms. 2. It would have to go through legislature to get terminology for labeling changed. 3. There is some research but nothing that is tackling the problem like we plan to.		
Financial considerations: • How could the solution to your problem impact families, communities, and/or commercial businesses financially? • What financial obstacles exist for the development and/or adoption of the problem?	1. It would save families money and may reduce the amount of product bought from companies because families would not be so quick throw everything away. 2. Supplies needed for educational materials.		
Environmental considerations: • How could the problem impact the environment (local, state, national, international)? • What environmental factors might affect the development and/or adoption of the problem?	1. It could help the environment because there would not be as much waste produced.		

Name:_____

Other:			