

Developing your Idea into a Research Topic

To develop a strong research question from your ideas, you should ask yourself these things:

1. What are the important research questions in my field? What areas need further exploration?
2. Has this study been done before? If so, is there room for improvement?
3. Can my idea be measured? (not always necessary, but there should be a way to show change)
4. Does the study require a protocol?
5. Does the study cost money? If so, is any available?
6. Do I have access to the resources that I need?
7. Is my topic too broad? If so, how can I break it down into smaller pieces?
8. How much time will I need? Will it be during work?
9. Do I have my supervisor's permission?

Developing your idea into a research question or hypothesis

What Is a Real Hypothesis?

A hypothesis is a tentative statement that proposes a possible explanation to some phenomenon or event. A useful hypothesis is a **testable** statement which may include a prediction

When Are Hypotheses Used?

The key word is **testable**. That is, you will perform a test of how two variables might be related. This is when you are doing a real experiment. You are testing variables. Usually, a hypothesis is based on some previous observation such as noticing that in November many trees undergo color changes in their leaves and the average daily temperatures are dropping. Are these two events connected? How?

How Are Hypotheses Written?

1. Plant growth **may** be affected by the color of the light.

Using the word may does not suggest how you would go about proving it. For example, if we say "Trees will change color when it gets cold." we are making a prediction. Or if we write, "Ultraviolet light causes skin cancer." could be a conclusion. One way to prevent making such easy mistakes is to formalize the form of the hypothesis.

Formalized Hypotheses example: **If** skin cancer is **related** to ultraviolet light , **then** *people with a high exposure to uv light will have a higher frequency of skin cancer.*

If leaf color change is **related** to temperature , **then** *exposing plants to low temperatures will result in changes in leaf color.*

Notice that these statements contain the words , **if** and **then**. They are necessary in a formalized hypothesis.

TRBAALAS POSTER DEVELOPMENT PROJECT

1. Identify a team and topic and submit your idea!
 - a. Go to: <http://www.trbaalas.org/announcements.html>
 - b. Complete a poster topic form
 - c. Email your form to: mcdonalk@pitt.edu

Be sure to submit your idea by June 1, 2015!!

2. **Attend a lunch and learn in July** to develop your idea further and plan for data collection. The time and location will be announced in the future, both via email distribution to current TRBAALAS members, and on the TRBAALAS website's announcements page.
3. **July-September:** collect the information needed to create your project
4. **October-** Create your poster
5. **November-** show your poster at the TRBAALAS meeting. A poster will be selected for a \$100 gift card.!

Questions? Contact one of us!

Kathleen McDonald

mcdonalk@pitt.edu

Amanda Fisher

fishera@pitt.edu