Critically thinking about data

One major component of analysis is critical thinking. You have some data (numbers, or survey responses, or interview responses) but what do you do now? How do you interpret the data effectively?

**Here we are going to think about 6 key components to critical thinking.**

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| **Accuracy** | |
| What is the source of the data? Can we verify the data is true? | |
| **Identify Assumptions** | |
| What assumptions have been made? Does the evidence support the assumptions? | |
| **Challenge Assumptions** | |
| Recognize the existence (or non-existence) of relationships. | |
| **Relevance/Significance** | |
| Does the information answer the proposed questions? Is the information related to the proposed question? | |
| **Conclusions** | |
| What was the outcomes? What judgment can be made about the meaning of the data? | |
| **Reflections** | |
| Is there more information that needs to be collected in the future? Are there changes that need to be made going forward? | |

**How to use this model to think through the Analysis of your data**

Example: A peer mentor program on campus was created to match incoming students to 2nd year students in a similar major. The peer mentor program was designed to help students navigate the college and in turn succeed in their courses.

The program coordinators worked with the research department to identify the students being mentored and looked at course success data in English Courses because all incoming students were advised to take English their first semester.

The course success rates for the peer mentored students in the English courses were lower than expected. What does that mean for the peer mentor program?

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| Accuracy | Relevance/Significance |
| Students were coded and success data was pulled from the student data warehouse on campus. | Course success rates in English may not be the best indicator students navigating the college and success in all of their courses. |
| Assumptions | Conclusions |
| Students met with their peer tutors regularly. All students were enrolled in English courses. | The students in the peer mentor program were not as successful in English as other English students on campus. |
| Open Minded | Reflections |
| The peer mentors and students may have focused on other areas of college life than tutoring. | More information needs to be collected about the activities of the peer mentors and the students. Possibly add in the training for peer mentor students and coordinate with a tutoring program on campus. |