10 Questions / Steps to Consider in Developing a Data Analytics Program

1. What are your significant questions / concerns / problems / persistent urban legends that can be addressed by data?
   a. Identify a burning platform.
   b. Formulate questions and hypotheses.
   c. Identify potential independent variables.
   d. Identify potential dependent variables.
   e. Think broadly.

2. Is there an appetite for change? Is there a willingness to accept the implications of the data? Is there support among the faculty and the administration?
   a. Identify champions.
   b. Investigate past efforts.
   c. Enlist support from other parts of the university.

3. What data have you? In what format is it? Who controls it?
   a. Multiple years of data is better than one year.
   b. Seek electronic data (Excel, for instance), rather than hardcopy (PDF).
   c. Look for identifying characteristics that link datasets (e.g., a unique student identifier).
   d. Think broadly – admissions, registrar, financial aid, clinic, academic support, law journals, career services, student services.
   e. Ask for assistance from the BLE equivalent.
   f. Identify systems experts – those who know the nuts and bolts of the reporting systems.

4. Identify a data scientist / analyst.
   a. Look within the university.
   b. Look beyond the university.
5. Run preliminary analyses.
   a. Use these to calibrate and educate the data scientist.
   b. Find gaps in the data and fill them.
   c. Reframe the questions and approach.

   a. Faculty.
   b. Administrators.
   c. Other stakeholders.

7. Refine the approach and analyses.
   a. Develop second-level and third-level questions.
   b. Identify and acquire additional data to answer those questions.

8. Identify conclusions and action items.
   a. Be bold – but realistic.
   b. Identify champions for each action item.
   c. Consider policies, curriculum, standards, etc.

9. As appropriate, develop a predictive model.
   a. Identify who will use the model, and how.
   b. Test the model as appropriate.
   c. Keep accurate records.
   d. Track progress.

10. Lather, rinse, repeat.
    a. Keep refining the data elements.
    b. Keep refining the questions.
    c. Keep updating the information.
    d. Don’t stop – there always are new insights.