Learning Analytics
Team Project

Employing the "ADDIE" model from instructional design and educational methodology, we can outline the phases of development for the Learning Analytics team project. These phases are similar to the phases of development for a technology product. The "S" has been added to the ADDIE model to incorporate a sustainable model into the design and plan for our project.

♦ **A**nalysis – intended audience, desired outcomes, requirements and wish list, determination of what will be measured
♦ **D**esign – user experience, analytics visualization and presentation, and overall system design
♦ **D**evelopment – mock-up and prototype development
♦ **I**mplementation – pilot test
♦ **E**valuation – use learning analytics to evaluate study of student population
♦ **S**ustainability – ongoing sustainable model to reach other student populations

Based on our responses to these questions and others that will arise in our conversations during the Analysis phase, we'll develop a Requirements Document. The Requirements Document will describe the goals, user experience, features, and constraints of our project.

Since we're planning to focus on developing a learning analytics environment to support Nicole's undergraduate biology labs, we'll consider Nicole to be the project's initial customer. Many of these questions will be addressed to Nicole to help us better understand and address the needs of the undergraduate biology students who participate in Nicole's labs.

Questions for Analysis phase –

1. Goals

♦ Overall goals of the undergraduate biology labs
♦ What is the ideal environment to support the undergraduate biology labs?
♦ What goals are critical to the success of the project?
♦ What are the learning outcomes you want to achieve?
♦ Do you want to promote any changes in behavior or attitude among your students?
♦ How will you know if you have achieved the desired outcomes?
♦ Do you want to offer a blended learning environment, with the environment supporting both online and face-to-face interactions?
♦ What aspects of a community do you want to support?
♦ What aspects of a learning environment do you want to offer?

2. Users

♦ Who are the intended users?

- What categories of users do you foresee? What are their larger roles, e.g. pre-med students, TA's, faculty, researchers? Will there be content providers?
- What year are the students in?
- How do you see students progressing through the online lab support program?
- What are the challenges the users are currently facing?
- Size of population you'd like to reach
- Where are the users located?
- How comfortable with technology are the users?
- What other systems/applications will they be using?
- What devices will they be using?
- How often will your users be accessing the system?
- Any other characteristics of the users?

3. User Experience

- How do you envision students participating in the lab support learning environment?
- What are the components of the environment?
- How do you envision people using the lab support learning environment?
- Describe the desired "feel" of the user experience you want
- What kind of image do you want to project?
- What kind of "look and feel" do you think will be critical to success?
- Do you have people who can participate in user focus groups and pilot testing?

4. Analytics and Metrics

- What learning analytics would be useful to support the bio labs?
- What actions will be guided by these learning analytics?
- What are the measurable outcomes for the Learning Analytics project?

5. Sustainability

- What does sustainability mean in the context of our project?
- What possible business models will support sustainability?