Questions for Formulating Significant Learning Goals

"After this course is over, I want and hope that students will _____.":

- Retain their foundational understanding of addition and subtraction, applying these skills in various real-life situations.
- Recall their experience of collaboratively creating the 'Math Town', using it as a model for future problem-solving and critical thinking tasks.
- Maintain a continued interest and confidence in math, recognizing its relevance in daily life and other subjects.

My Big Harry Audacious Goal (BHAG) for the course is: Learners will go beyond traditional math learning by applying their skills in addition and subtraction to build and manage a detailed 'Math Town', using their knowledge in practical, real-world scenarios that enhance their overall learning experience.

Foundational Knowledge

- **What key information (e.g., facts, terms, formulae, concepts, principles, relationships, etc.) is/are important for students to understand and remember in the future?**

  Basic addition and subtraction facts, principles, and the ability to apply these in various scenarios are crucial.

- **What key ideas (or perspectives) are important for students to understand in this course?**

  Understanding the practical application of math in everyday life and recognizing its role in broader contexts, like town planning or budgeting.

Application Goals

- **What kinds of thinking are important for students to learn?**
  - **Critical thinking, in which students analyze and evaluate.**
  - **Creative thinking, in which students imagine and create.**
  - **Practical thinking, in which students solve problems and make decisions.**

  Critical Thinking: Students learn to look at information, ask questions, and think deeply about what they're learning. They don't simply accept information as it is presented; instead, they examine and assess it to gain a deeper understanding.

Worksheet questions adopted from: L. Dee Fink, (2003) *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses*. San Francisco: Jossey-Bass

Creative Thinking: They use their imagination to come up with new ideas and create something unique. In the context of this course, creative thinking will be important when they design their 'Math Town'. They'll have the freedom to be inventive with how they apply math concepts to the layout, design, and function of their town.

Practical Thinking: Students will learn how to apply what they know to solve real-world problems and make decisions. It's not just about knowing the math but using it to make choices that make sense for their 'Math Town'.

- **What important skills do students need to gain?**
  Effective collaboration, project management, and the ability to apply theoretical knowledge practically.
- **Do students need to learn how to manage complex projects?**
  Not at this point.

Integration Goals

- **What connections (similarities and interactions) should students recognize and make…:**
  - **Among ideas *within* this course?**
  - **Among the information, ideas, and perspectives in this course and those in other courses or areas?**
  - **Among material in this course and the students' own personal, social, and/or work life?**

  Recognizing the interplay between math and other subjects like art (in town design), understanding how math skills learned in the course apply to other academic areas and real-world contexts, and relating mathematical concepts to personal experiences.

Human Dimensions Goals

- **What could or should students learn about themselves?**

  Students should learn about their own learning preferences, strengths and weaknesses in problem-solving, and collaborative working.
- **What could or should students learn about understanding others and/or interacting with them?**

  Gain insights into teamwork, respect for diverse perspectives, and effective communication skills.

Caring Goals

- **What changes/values do you hope students will adopt?**

  Feelings?
  Interests?
  Values?

  Developing a positive attitude towards math, sparking curiosity and interest in the subject, and fostering values like perseverance and collaboration.

"Learning-How-to-Learn" Goals

- **What would you like for students to learn about:**
  - **<u>How to be good students</u> in a course like this?**
  - **<u>How to learn about this particular subject</u>?**
  - **<u>How to become a self-directed learner</u> of this subject, i.e., having a learning agenda of what they need/want to learn, and a *plan* for learning it?**

  Students should learn strategies to be effective learners in math, understand how to approach new topics in the subject, and develop plans for continued learning and curiosity beyond the classroom setting.

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