Development of the Virginia Tech Department of Geosciences MEDL-CMC

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INTRODUCTION

In 2015 the Virginia Tech Department of Geosciences took a leading role in increasing the level of support for Geoscience instructors by securing in the development of the Geoscience Modeling and Educational Demonstrations Laboratory (MEDL) and Curriculum Materials Center (MEDL-CMC).

The MEDL-CMC is an innovative curriculum materials center designed to foster new collaborative teaching and learning environments by providing hands-on physical models combined with education technology for instructors and outreach coordinators.

The MEDL-CMC Mission

The mission of the MEDL-CMC is to provide advanced curriculum materials resources for the purpose of increasing and sustaining high impact instructional capacity in STEM education for both formal and informal learning environments.

This presentation describes the development methods being used to implement the MEDL-CMC. Major development methods include:

1. adopting project management to secure support collaborations with stakeholders;
2. using a diversified funding approach to achieve financial sustainability and the ability to evolve with the educational needs of the community; and
3. establishing a broad collection of systems-based physical analog models and data collection tools to support integrated science such as the geosciences.

barriers to using physical analog models in the science classroom:

- While there has been tremendous growth in online resources, few on-campus resources provide continuous organizational infrastructure for instructors who wish to incorporate hands-on physical analog models in their teaching.
- A sustainable funding source is needed to provide continuous support.
- Funding must cover personnel, facilities, equipment, and materials.
- Acquiring and maintaining elaborate teaching materials can increase an instructor’s workload and reduce the amount of time an instructor has for their students and research.

Currently Funded Projects

- Improving Bladows-Sawgrass: Rainwater: Education at 4-VA Institutions
  - A collaboration between Virginia Tech, James Madison University, Old Dominion University, and George Mason University.
  - Funded by 4-VA Collaborative Zndividual Grant RFP, Virginia Tech [https://tlos.vt.edu/tlosgps/innovation-in-learning-grants/]
- Increasing the Scale and Development of the MEDL-CMC
  - Funder: Virginia Tech’s 100K Fund, an Initiative in Learning Through Virginia Tech’s 100K Fund (100K)
  - [https://tlos.vt.edu/tlosgps/4-va/collab-endeavor-grant-rfp/]

http://medl.geos.vt.edu/