2012 Climate Camp at Iowa State University:
Design, Approach, and Lessons Learned

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INTRODUCTION

In an effort to train future scientists and raise awareness regarding climate change adaptation and mitigation, the CSCAP's Education Team hosted a climate camp at Iowa State University in June of 2012. A total of 18 high school and college students spent nine days learning about the methods, purposes, and initial findings of the diverse studies which are part of the CSCAP. Activities included classroom presentations, field and laboratory demonstrations, and hands-on experiences. Participants also developed and recorded presentations that expanded on camp topics of particular interest to them. Initial formative evaluations focused on ways to improve future camp planning and execution, and found potential improvements regarding recruitment, recreation, and presenter characteristics.

OBJECTIVES

1. Introduce participants to general agricultural production practices.
2. Familiarize participants with past, current, and future methods for mitigating production agriculture's impact on the environment and climate change.
3. Familiarize participants with current research regarding production agriculture's adaptation to climate change.

TOPIC

Each camp topic was selected to support a minimum of one camp objective. Topics included the following:

- Introduction to Climate Change
- Introduction to Greenhouse Gases
- Climate Computer Modeling
- Effects of Cover Crops
- Efficiency through GPS/GIS Technology
- Water Quality Assessment
- Environmental Modeling
- Greenhouse Gas Measurement Techniques
- Water Recycling
- Perceptions of Climate Change
- Risk Assessment Models
- Entomology
- Plant Pathology
- Overview of Climatology

CONCEPT REINFORCEMENT

Most camp activities utilized the Preflection, Experience, Reflection, and Transfer (PERT) Model with the following general approach:

1. PREFLECTION – Participants were asked to respond to pre-developed questions, either verbally or in writing prior to given activities. These questions were designed to help students frame their thoughts, opinions, questions, and knowledge regarding the upcoming topic.
2. EXPERIENCE – Participants were challenged to enter each experience with an attitude of inquiry, and were encouraged to relate the material to that of previous camp activities. One student wrote, "because I was always having to think of questions I always had to pay attention and really think about what I was learning."
3. REFLECTION – Following each designated experience, a variety of individual and group activities were utilized to clarify, reinforce, and expand on the new content; including discussions, debates, case studies, mini-presentations, and oral defenses.
4. TRANSFER – Participants were given the opportunity to apply new knowledge to different real-world situations through scenario-development and problem-solving activities which stressed the complex inter-relationships among the various topics.

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SUGGESTIONS

Post-camp evaluations, as well as anecdotal observations generated the following recommendations for future camp coordinators:

1. LENGTH – The camp should be shorter in length; perhaps 5-6 days would be optimal.
2. RECRUITMENT – A smaller-scaled, more focused recruitment and application process should be used in lieu of a "blanket" approach.
3. PERT MODEL – This approach should be considered for replication, with increased emphasis placed on the preflection component.
4. RECREATION - Recreational time should be sustained in the schedule, but activities should be less structured and left up to participants.
5. PRESENTERS – Presenters should be encouraged to develop interactive hands-on demonstrations, rather than passive presentations.
6. CONTENT – More general agriculture content should be included to provide a broader foundation for scaffolding other camp material.
7. SEQUENCE – Climatology and weather-related content should be front-loaded to provide a more consistent context for understanding subsequent camp material.

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