Effects of Biosphere 2 Summer Science Academy on Students’ Attitudes about Science
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INTRODUCTION
Biosphere 2 is an Earth systems science research facility owned by the University of Arizona. The mission of Biosphere 2 is to serve as a center for research, outreach, teaching and life-long learning about Earth, its living systems, and its place in the universe. B2 hosts approximately 100,000 visitors per year and 250,000 K-12 students. The B2 Summer Science Academy is a week-long residential summer program for middle school and high school students focused on science research and experiential learning. Research was conducted by participants in each of the Biosphere 2 biomes including: tropical rainforest, ocean, mangrove wetland, coastal fog desert and savannah. Participants collaborated with B2 scientists and Outreach Scholars, undergraduate and graduate students from the University of Arizona. Research teams presented their findings at a symposium poster session.

METHODS
• A pre and post survey was used to evaluate the efficacy of the B2 Summer Science Academy.
• Survey data was coded to protect participant privacy.
• The questionnaire included demographic questions, rating questions, structured questions and open-ended questions.
• Student attitudes were self-reported through use of a Likert scale.
• Survey data was used to assess students’ attitudes toward science, leadership development and overall educational experience.

RESULTS
• A paired samples t-test was conducted to compare results from pre and post survey questionnaires following participation in the Biosphere 2 Summer Science Academy.
• There was a significant difference in pre (M=1.65, SD=0.53) and post (M=1.31, SD=0.57) scores for middle school participants’ rating of the following statement: I am a scientist. t(38)=3.76, p=0.0006.
• There was a significant difference in pre (M=1.78, SD=0.79) and post (M=1.54, SD=0.74) scores for middle school participants’ rating of the following statement: I plan to pursue science in college. t(40)= 2.36, p=0.02
• There was a significant difference in pre (M= 2.04, SD=0.72) and post (M=1.74, SD=0.64) scores for high school participants’ rating of the following statement: I am comfortable working in groups. t(41)= 2.87, p=0.0006.

PARTICIPANTS
• 43 middle school students and 45 high school students.
• Participants included students from 22 different states and 1 international student.

DISCUSSION
• Results showed a significant difference in students’ reported attitudes toward science and leadership following participation in the Biosphere 2 Summer Science Academy.
• Further research is recommended to assess longitudinal effects of the Biosphere 2 Summer Science Academy on students’ pursuit of STEM education and careers.

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