Distinct viewpoints of change as a result of study abroad

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Introduction & Literature Review

- Study Abroad programs and global learning are specific examples of high-impact experiences

- Commitment to Global Learning
  – NACTA purpose
  – Texas A&M Vision 2020
  – College and Department missions

Introduction & Literature Review

- Global learning programs are important, increasing and impactful…

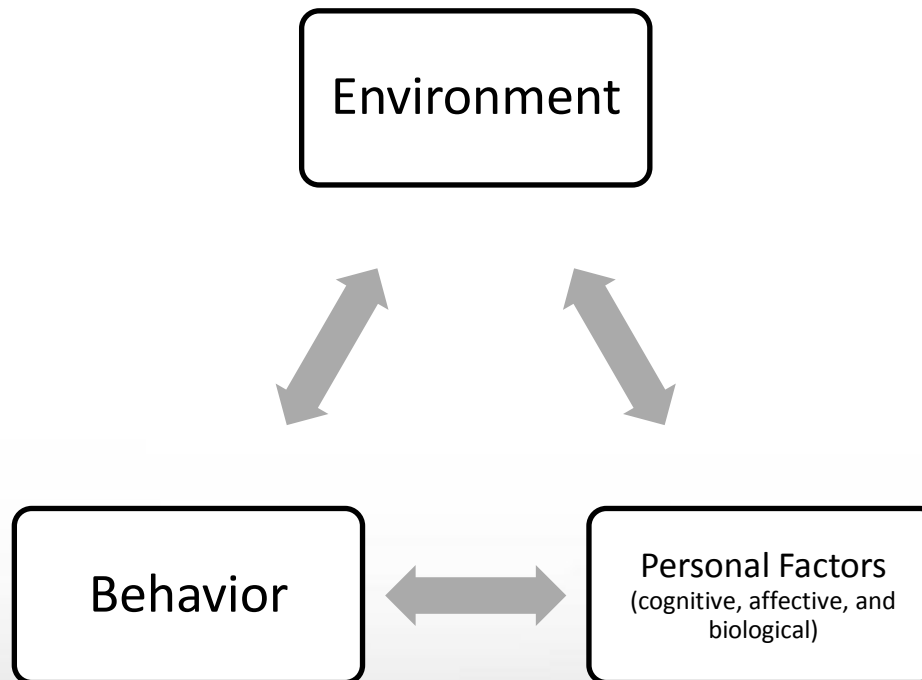- *How* do students who study agriculture in a global setting change?

Literature Review

- Theoretical Framework
  - Kegan's theory of Human Development
  - Bandura's Social Cognitive Theory
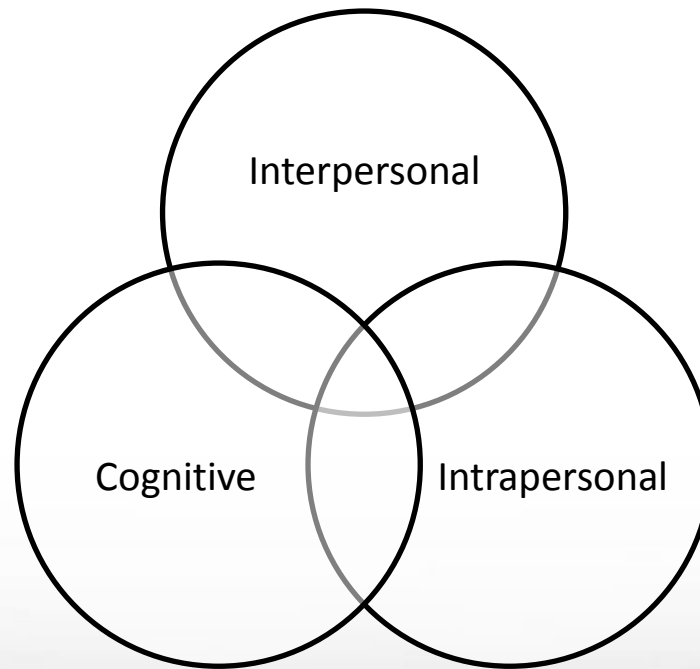
Literature Review

- Bandura's Social Cognitive theory

Literature Review

- Kegan's theory of human development

Purpose

- To explain how students change as a result of an international agricultural education experience

Objective

Explain the viewpoints of change between subjects who participate in a study abroad

- Conduct a Q methodological study, comprising the Q sort collection method and factor analysis

  - Synthesize and analyze data from qualitative study to develop a concourse
  - Administer Q sort to a purposive sample of ALEC Namibia 2014 participants
  - Implement factor extraction utilizing Principal Component Analysis (PCA)
  - Implement factor rotation utilizing Varimax factor rotation technique
  - Implement factor analysis to interpret and explain viewpoints of student change.

Methods

- Q Methodology
  - Items & Persons
  - Operant subjectivity

Methods

- Q Methodology
  - Concourse
    - Collection of possible views about a topic
    - Generated by interviews

Methods

- Q Methodology
  - Q-set
    - Subset of statements
    - Specific outcomes for each domain from previous study
      - Intrapersonal (IA) - 18
      - Interpersonal (IE) - 14
      - Cognitive (C) - 13

Methods

- Q Methodology
  - P-set
    - Purposive Sampling
    - Representative of wide array of perspectives
    - 2014 Namibia Study Abroad Participants

Methods

Demographic characteristic	n
Gender	
Male	1
Female	7
Classification	
Sophomore	2
Junior	2
Senior	4
Major	
Animal Science	3
Agricultural Communications and Journalism	3
Agricultural Leadership and Development	2
Agricultural Economics	1
University	
Texas A&M University	6
Prairie View A&M University	2
Ethnicity	
White	4
Hispanic	2
African American	2

Methods

- Q Methodology
  - Q-sort
    - The instrumental basis of Q methodology is the Q-sort technique, which conventionally involves the rank-ordering of a set of statements from agree to disagree. (Brown, 1996; p. 561)

Methods

-5	-4	-3	-2	-1	0	1	2	3	4	5

Most Unlike Me ... **Most Like Me**

Methods

- ## Q Methodology
  - ### Q-sort
    - P-set sorts Q-set into three piles, then into final distribution
    - Initial piles were recorded as well as complete sorts
    - Also interviewed to aid in interpretation

Methods

- ## Q Methodology
  - ### Factor Analysis
    - Identifying groups or clusters of interrelated variables (Field, 2009)
      - Factor extraction
      - Factor rotation
      - Factor interpretation

Methods

- **Q Methodology**
  - Factor Analysis
    - Factor extraction
      - Principal Component Analysis
      - Unrotated Factor Matrix
        - » Kaiser-Guttman Criterion
        - » Workable, meaningful solution

Methods

- Q Methodology
  - Factor Analysis
    - Factor rotation
      - Magnifies the similarities and differences of each viewpoint
      - Varimax rotation

Methods

- ## Q Methodology
  - ### Factor Analysis
    - #### Factor interpretation
      - Defining sorts flagged for each factor
      - Z-scores calculated for each item in the Q-set
      - Distinguishing statements for each factor constructed

Findings and Conclusions

Initial Categorizations of items in each sort

Sort	Items "definitely like me"	Items "Definitely not like me"	Unsure
Q1	23	7	15
Q2	15	17	13
Q3	17	8	20
Q4	17	8	20
Q5	22	4	19
Q6	18	12	15
Q7	19	1	25
Q8	32	2	11
Total	163	59	138
M	20.37	7.37	17.25

Findings and Conclusions

Unrotated Factor Matrix

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Q1	0.62	0.28	-0.57	-0.10	0.27	-0.16	0.32	-0.02
Q2	0.52	-0.65	-0.37	-0.01	0.25	0.06	-0.26	0.17
Q3	0.53	0.21	-0.19	-0.66	-0.24	0.35	-0.09	-0.09
Q4	0.55	-0.42	0.57	0.05	0.15	0.31	0.28	0.02
Q5	0.81	0.19	0.17	0.08	-0.39	-0.21	0.03	0.25
Q6	0.69	-0.26	-0.15	0.55	-0.22	-0.03	-0.06	-0.27
Q7	0.16	0.73	-0.05	0.52	0.16	0.35	-0.11	0.08
Q8	0.61	0.32	0.51	-0.22	0.32	-0.26	-0.22	-0.11
Eigenvalues	2.78	1.47	1.13	1.07	0.55	0.48	0.32	0.19
% Variance Explained	35	18	14	13	7	6	4	2
% Cumulative Variance	35	53	67	81	88	94	98	100

Findings and Conclusions

- Reliability of factor solution
  - Factor 1: .88
  - Factor 2: .92
  - Factor 3: .92

Findings and Conclusions

Rotated Factor Solution

Sort	Factor 1 Loading	Factor 2 Loading	Factor 3 Loading
Q1	0.88X	0.10	-0.01
Q2	0.299	0.86X	0.03
Q3	0.56X	0.03	0.21
Q4	-0.15	0.42	0.77X
Q5	0.52	0.06	0.67X
Q6	0.44	0.51X	0.32
Q7	0.44	-0.59X	0.09
Q8	0.23	-0.20	0.79X
No. of Defining sorts	2	3	3

Findings & Conclusions

- Distinguishing statements
  - Statements with Z-scores that are significantly different on each factor
  - Derived from defining sorts

Findings and Conclusions

Distinguishing statements for Factor 1- Confidence

Statement number	Q-sort value	Z	Statement
IA3	5	1.83*	I am more confident in my skills and experiences
IE3	4	1.77	I am more comfortable interacting with people I don't know
IA10	3	1.17	I understand my strengths and abilities better
IA9	3	1.16*	I solidified/ clarified my career goals and interests
IE14	0	.15*	I listen more now
C2	0	.15*	I became more patient
C12	-1	-.37	I no longer jump to conclusions
IE11	-2	-.60*	I have a deeper appreciation for my family
C11	-2	-.89	I learned to prioritize activities now
IA13	-2	-1.04	I enjoy being outdoors more
IE4	-2	-1.1*	I communicate better with people I am close to
IA4	-4	-1.54*	I handle tension better
C3	-4	-1.69*	I reaffirmed an interest in international development as a passion/career
IE6	-4	-1.69*	I appreciate being alone more

Findings and Conclusions

Distinguishing statements for Factor 2- Contextualization

Statement number	Q-sort value	Z	Statement
C7	5	2.22*	I relate everyday experiences to my international experienc make sense of them
IE10	3	1.37*	I seek others with international experiences
IA17	3	1.05*	I realized how small I am
C6	-1	-.36*	I look at decisions differently
C10	-1	-.56*	I am a more adaptable learner
IA18	-3	-1.09*	I am more fearless now
IE14	-3	-1.13*	I listen more now
C12	-4	-1.36	I no longer jump to conclusions
C2	-5	-1.86*	I became more patient

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Findings and Conclusions

Distinguishing statements for Factor 3- Collaboration

Statement number	Q-sort value	Z	Statement
C2	5	1.95*	I became more patient now
IE14	4	1.49*	I listen more now
IE8	2	1.07*	I am more tolerant of others
C12	2	.95*	I no longer jump to conclusions
C1	-1	-.42	I understand international issues more
IA7	-1	-.63*	I feel more privileged now
IE5	-2	-.79	I can forge friendships quickly
IE7	-2	-.95*	People see me differently
IA12	-4	-1.59*	I try not to be too introspective
IE9	-4	-1.86*	I am less tolerant of certain traits
C13	-5	-2.0	I experienced depression when I got home

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Recommendations

- Recognize that three different viewpoints exist
    - Plan and implement activities accordingly
        - Confidence
            - Public showcase or recaps, oral summaries
        - Contextualization
            - Deep reflection, both individual and group
            - Q-Sort as a tool for reflection
        - Collaboration
            - Group assignments, diverse collaborations (and recruitment)

Recommendations

- Investigate a potential fourth factor
  - Three factor solution was ideal for this data, what about others?

- Apply and test these viewpoints
  - Study abroad programs
  - Other High-Impact experiences

Recommendations

- Avoid limiting the measure of impact to traditional methods

- Continue to facilitate global learning

Renewed vigor

Purposeful approaches

Confidence, Perspective, & Teamwork