The University of Georgia

The Impact of Experiential Learning Dimensions for a Study-Abroad Program on Academic Learning in Food Science

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NACTA Hawai'i 2016 Gathering To Cultivate Student Success

There is no single recipe for successful teaching …


UGA COSTA RICA
THE UNIVERSITY OF GEORGIA™

Thanksgiving Break Coffee Program

Coffee … from seed to cup, and all that in between

Objective

The objective of this study was to assess which teaching strategies best addressed the content-specific learning objectives for a food science, 10-day study-abroad course (Thanksgiving break 2015), *Coffee (el Grano de Oro): From Bean to Cup*.

Data Sources

These included …

(i) students' (N=19) reflective journals and answers to a daily academic learning prompt;

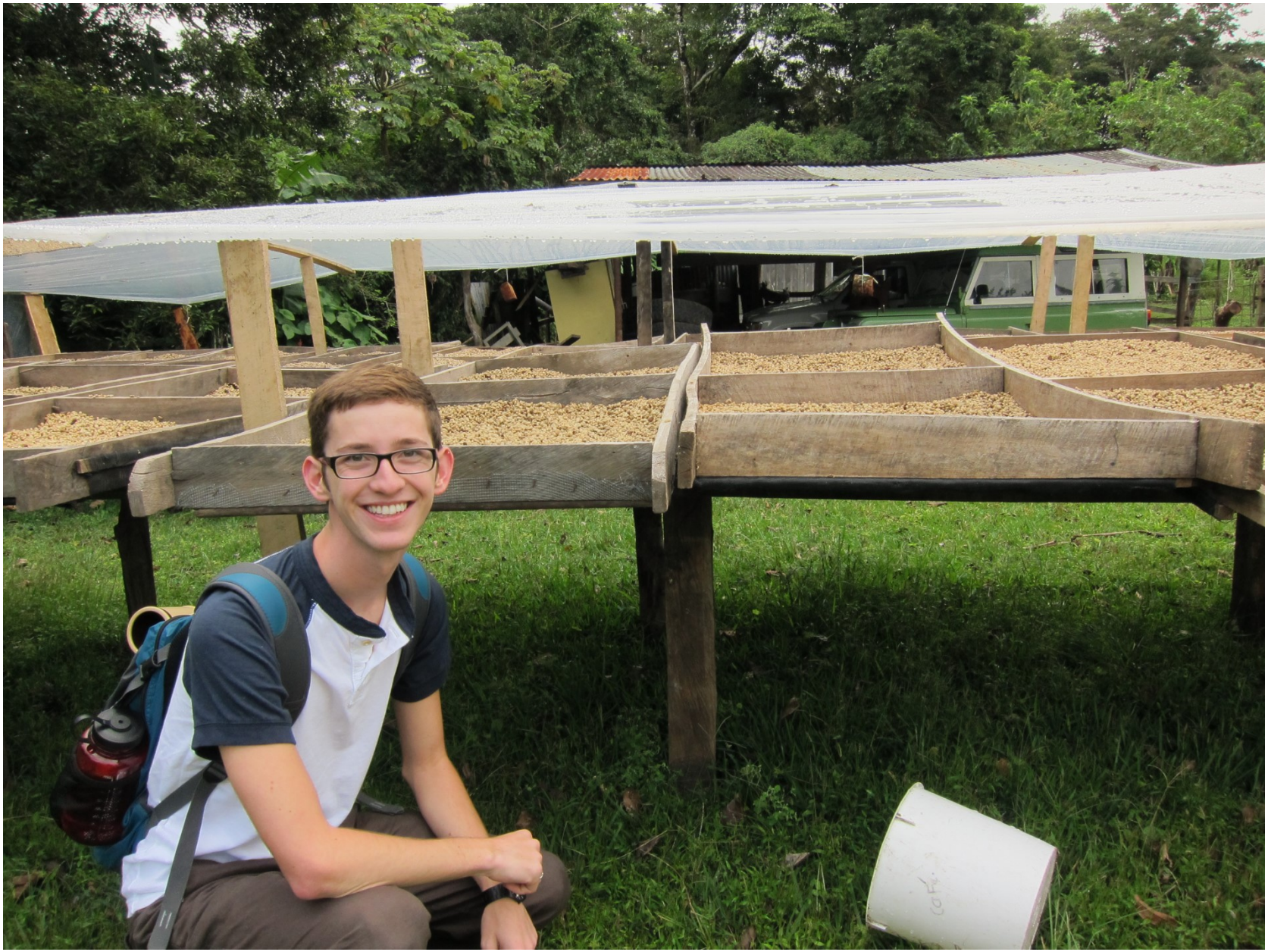
(ii) a qualitative and quantitative questionnaire, where students reported growth in competencies and identified the most effective teaching strategies for each learning objective; and

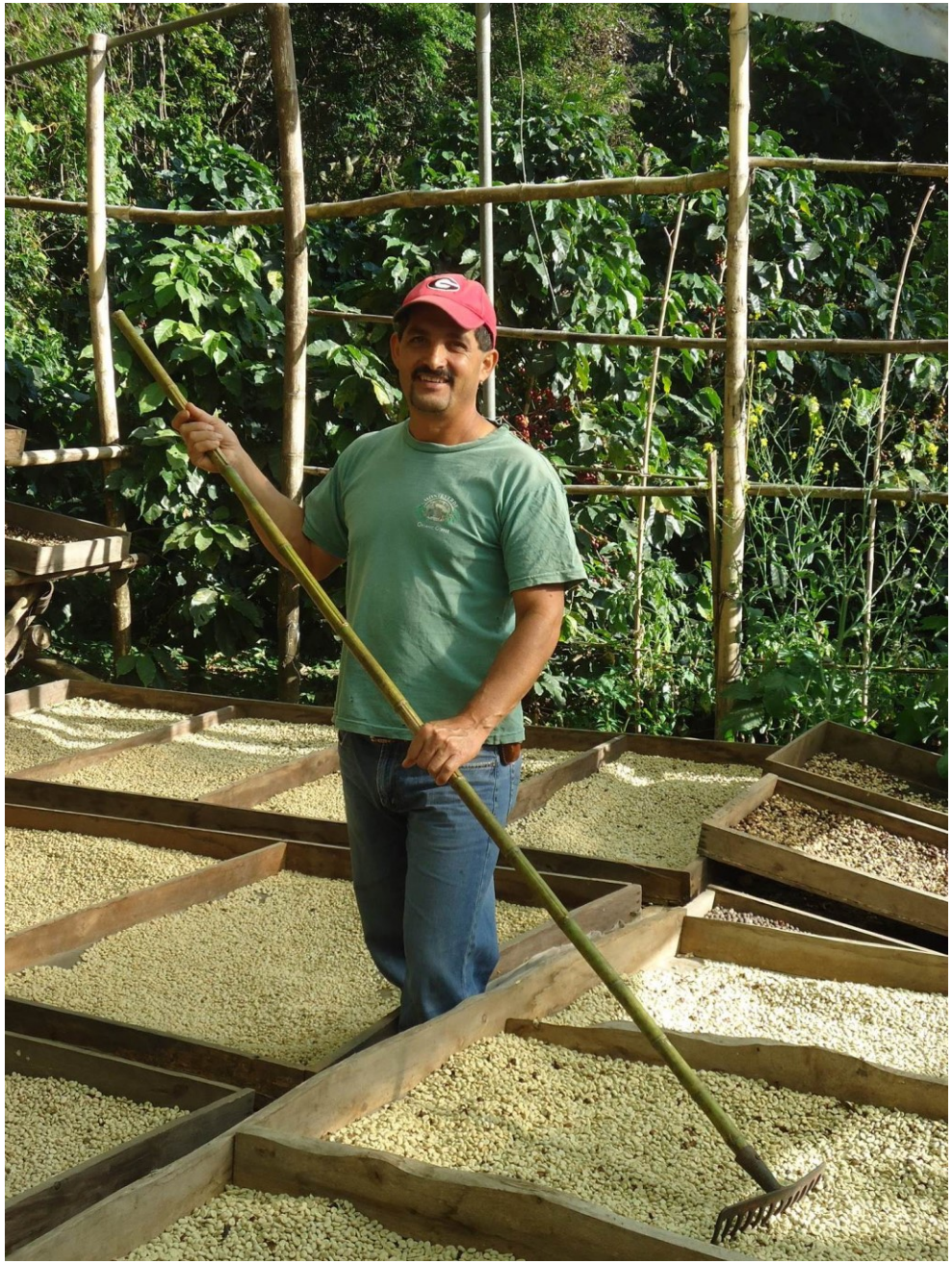
(iii) a group debriefing session once back in the USA on the students' learning experience.


Coffee History
1660
FRANCE
1615
ITALY
SXVI
SAUDI ARABIA
1723
MARTINIQUE
1750
COSTA RICA
S VIII-XV
ETHIOPIA
1727
BRAZIL
Britt
CoffeeTour
www.coffeetour.com
Historia del Café

Each cajuela weighs ~15 lbs when full, and a good worker can fill as many as 12 per day at a cost of ~$3.00 per cajuela picked.


Braves
Twinlink





The Multiple Layers of Coffee

Chemex Method of Brewing

Coffee Cupping


COOPESANTA ELENA R.L.
BENEFICIO SAN LUIS

	Frequencies						
I am able to … (rating 1 thru 6)	**2**	**3**	**4**	**5**	**6**	**Mean**	**Stdv**
List the basic operations/steps involved in farming coffee in Costa Rica			2	7	10	5.42	0.69
Describe the horticultural practices for growing coffee in Costa Rica		2	2	10	5	4.95	0.91
Identify the challenges and limitations faced by coffee farmers in raising their crop		1	2	10	6	5.11	0.81
Describe the impact of roasting as it relates to the generation of color and flavor in coffee		1	1	8	9	5.32	0.82
Recognize the desirable sensory attributes of quality coffee	1	1	5	6	6	4.79	1.13
Explain the staling of brewed coffee flavor as a consequence of storage	1	4	7	3	4	4.26	1.19
Demonstrate an understanding of the complexity of the production, processing, and distribution pattern of coffee from the Costa Rican processing plant to the consumer	1		3	7	8	5.11	1.05
Debate the positive and negative health consequences of coffee consumption based on recent scientific reports		2	4	9	4	4.79	0.92
Appraise the sustainability of small privately-owned coffee operations in Costa Rica in the coming years	1	1	7	6	4	4.58	1.07

- Total number of students is 19
- Number of items in the construct is 9
- The mean is 4.923
- The variance is 0.132
- The Cronbach's α, which is a reliability score, is 0.915

Cronbach's alpha	Internal consistency
α ≥ 0.9	Excellent
0.9 ≥ α ≥ 0.8	Good
0.8 ≥ α ≥ 0.7	Acceptable
0.7 ≥ α ≥ 0.6	Questionable
0.6 ≥ α ≥ 0.5	Poor
0.5 ≥ α	Unacceptable

$$\alpha = \frac{n}{n-1}\left(1 - \frac{\Sigma Vi}{Vtest}\right)$$

- n = number of questions
- Vi = variance of scores on each question
- Vtest = total variance of overall scores (not %'s) on the entire test

Summary of the Findings

(i) The most effective teaching strategies were "*experiential learning opportunities*" such as visiting coffee farms, talking directly to the farmers, and integrating the laboratory experiments with the field visits.

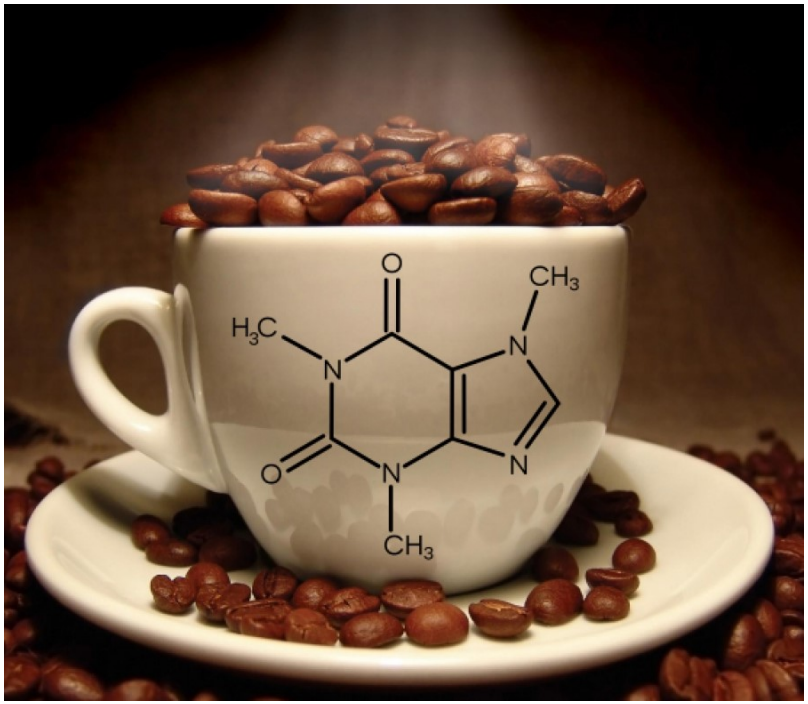
(ii) Most students noted that the laboratory curriculum was more effective than the "labs" they usually have in the United States.

Summary of the Findings

(iii) Students argued that they used the same materials they had collected, processed, and discussed with Costa Rican producers, allowing them to link the experiment with the reality of the farmers, consider the whole process, understand the value and application of the experiments and impact of the results, and apply them to real-world situations.

Summary of the Findings

(iv) We can conclude that these results support the argument that "*experiential learning opportunities increase the depth and breadth of a student's content knowledge acquisition*", and that study abroad can add value to science content-specific learning objectives in addition to cultural and personal growth.



Thank you for your attention.