

Identifying International Agriculture Concepts for School-Based Agricultural Education Curricula

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Introduction

- Agricultural education needs to adopt a globalized approach when preparing students (National Research Council, 2009)
- Internationalized curriculum prepares high school students for an interdependent world (Bruening & Shao, 2005)



Conceptual Framework

- Taba's (1962) seven steps for curriculum development:
 - Step 1: Diagnosis of needs
 - Step 2: Formulation of objectives
 - Step 3: Selection of content
 - Step 4: Organization of content
 - Step 5: Selection of learning experiences
 - Step 6: Organization of learning experiences
 - Step 7: Determination of what to evaluate and of the ways and means of doing it. (p. 12)



Purpose & Objectives

- To identify international agriculture concepts for secondary agricultural curriculum
- Identify overarching concepts that should be included in the Agriculture, Food and Natural Resources (AFNR) career cluster to internationalize the secondary agricultural curriculum



Methods-Modified Delphi

- Criterion for panel membership
 - a) must have at least three years of classroom experience as a secondary agriculture teacher or extension agent
 - b) be currently employed in Ag Ed
 - c) have experience with international agriculture
 - a) study abroad programs
 - b) international development
 - c) foreign exchange students
 - d) curriculum integration



Methods-Modified Delphi

- Snowball sampling (Goodman, 1961)
 - 24 experts were identified
 - 17 agreed to participate
 - 10 agricultural teacher educators
 - 4 high school agriculture teachers
 - 3 agricultural education curriculum specialists
 - Alabama, Florida, Oklahoma, Pennsylvania, Tennessee, and Texas
- Three rounds of data were collected via Qualtrics



Methods (Round 1)

- One open-ended question
 - “What overarching concepts should be included in the AFNR career cluster to internationalize the secondary agricultural curriculum?”
- Responses were analyzed using a constant comparative method (Glaser & Straus, 1967)
- 47 concepts (82% response rate)
 - 5 categories
 - a) Production, b) Business, c) Culture, d) Environment, and e) Miscellaneous



Methods (Round 2)

- 47–statement questionnaire/five–point rating scale
- Opportunity to suggest rewording of or additional concepts resulted in five new items for rating
- Response rate
 - Concepts (N=14, 82%)
- Advancement
 - 80% agree or strongly agree
 - 34 concepts



Methods (Round 3)

- 34 concepts
- 80% agreement
- N = 14, 82%
- Consensus
 - 24 concepts



Results–Production

1. Challenges of food distribution
2. World agricultural commodity production
3. Land suitability and farming practices around the world
4. Identify the varying degrees of mechanization in production agriculture
5. Global food systems and preferences
6. Global GMO usage
7. Overview of food security in different countries
8. Overview of food production rates in different countries



Results–Business

9. How free trade agreements impact US Agriculture
10. Impact of exports on US Economy
11. Impact of imports on US Economy
12. Agriculture industry's global workforce effects supply and demand
13. The effects of global land use and environmental policies
14. Impact of political conflicts on the world market



Results–Culture

15. International career opportunities in agriculture
16. Cultural effects on trade
17. Cultural effects on marketing
18. Overview of cultures in different countries
19. Differing views on GMOs



Results–Environment

- 20. Global role of water use in agriculture
- 21. Impact of the world food demand on the environment
- 22. How global climates impact food production

Results–Miscellaneous

- 23. Overview of world hunger
- 24. Differences of developed and developing countries



Conclusions

- Agricultural curricular needs are evolving
 - Global curricular needs appear to be driven by current agricultural issues (GMO, water, food security)
- Culture influences the agricultural industry
- Agriculture Ed curriculum specialist should focus on the retained concepts and infuse international ag concepts into the AFNR curriculum



Conclusions

- High school ag teachers should slowly integrate the identified concepts into AFNR courses
- Future Research
 - Investigation of learning pedagogy for an internationalized curriculum
 - Student perception of specific internationalized ag concepts identified in this study





Thank You!

