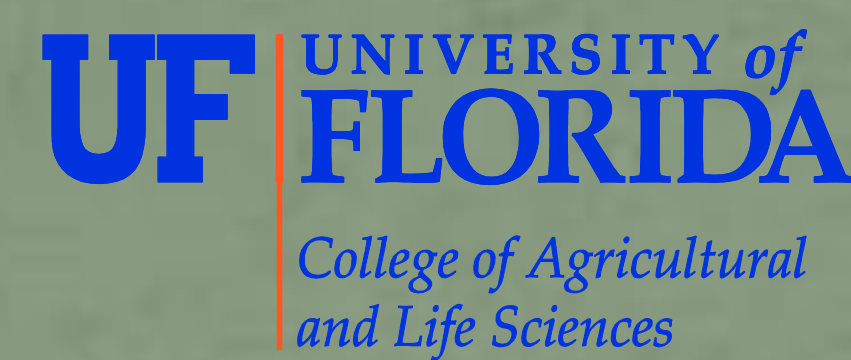


A True Delphi Approach: Developing a Tailored Curriculum in Response to a Local Agriscience Need



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Introduction

- Need for educational programs in a traditional agriculturally-based community (Capece & Hanlon, 2009)
- Environmentally conscious practices are needed to restore environmental integrity (Capece & Hanlon, 2009)
- Multi-disciplinary approach is needed to solve sustainability problems facing the agricultural industry (Williams & Dollisso, 1998)

Conceptual Framework

- Roberts and Ball (2009)'s content-based model for teaching agriculture
 - Guided the development process for the secondary and post-secondary curriculum
 - Agricultural education curriculum needs to incorporate industry skills

Methodology

- Delphi Method
 - Delphi is effective for collecting data from industry stakeholders and experts (Okoli & Pawlowski, 2004)
 - Secondary and post-secondary groups established
 - Three Rounds
 - 1st Round – Participants generated a list of knowledge, skills, and competencies followed
 - 2nd Round – Panelists rated each item
 - 3rd panelists were given the opportunity to combine and add additional items
- Participants
 - Purposively Sampled
 - Industry, Education, Extension



Example Results – Secondary School Delphi

Work ethic
Teamwork/cooperation with others
Accountability to your work
Required supplemental experiences-internships
Lab and field safety procedures
Task Oriented
Farm tours-educational levels (middle school/high school)

Responsibility
Follow instruction
Dedication
Communication skills
Time Management
Writing skills

Example Results – Post–Secondary Delphi

Water Management
Critical Think & Analytical skills
Ag production
Biological Sciences
Ecology
Sustainability
Use of crops for energy

Soil science
Basic Skills
Scientific Method
Physical Science
Environmental Sciences
Botany

Implications

- Need for content-based curriculum for post- secondary graduates
- Future curriculum development research should utilize the true-Delphi technique
- Further examination of students that complete secondary and post-secondary programs in biofuels/sustainable agriculture

Findings

- Secondary School Delphi Panel
 - *a priori* mean score of 3.5
 - 113 of 123 items (92%)
 - Six received a score of 5
 - work ethics and life skills,
 - responsibility,
 - teamwork/cooperation with others,
 - follow instruction,
 - accountability to your work, and
 - required supplemental experiences-internships
- Post-Secondary Delphi Panel
 - *a priori* mean score of 3.5
 - 76 of 132 items (58%)
 - Six items received a mean score ≥ 4.78
 - water management,
 - critical thinking and analytical skills,
 - soil science,
 - basic skills (reading, writing, and arithmetic skills),
 - agriculture production (basic horticulture and plant production courses), and scientific method

Conclusions

- Top six items from groups were not found similar
- Secondary panelists centralized around employment skills
- Post-secondary panelists focused on content areas

