Journal of Agricultural Education, 62(1), 196-211
https://doi.org/10.5032/jae.2021.01196

Commonly Accepted Theories, Models and Philosophies: The Subjective Norms of Our Discipline(s)

Amy Harder[1], T. Grady Roberts[2], James R. Lindner[3]

Abstract

Inconsistent terminology used to describe agricultural education has plagued the profession for years. Colloquial terms such as "big A" or "little a" used to differentiate meaning demonstrate the struggle to clearly identify agricultural education within the academe. We sought to identify the subjective norms of the four specializations commonly considered to comprise agricultural education to determine if a single discipline or multiple disciplines exist. A national Delphi panel was convened consisting of nominated experts representing agricultural communication, agricultural leadership, extension education, and school-based agricultural education. The panels separately identified the commonly accepted theories, models, and philosophies within their respective specializations in the first two rounds. Then, panelists evaluated all consensus items from the second round in the final round to determine commonalities across specializations. Across the specializations, consensus items related to change theories, teaching and learning theories, and shared philosophies. However, enough variation existed within the findings to suggest agricultural education is not a single discipline. We discuss possible consequences for the future of our profession based on this finding, including how our subjective norms may influence publication decisions, engagement with professional associations, and departmental composition.

Keywords: discipline; subjective norm; theories; models; philosophies

***Author Note*:** Amy Harder https://orcid.org/0000-0002-7042-2028
T. Grady Roberts https://orcid.org/0000-0001-7618-7850
James R. Lindner https://orcid.org/0000-0002-1448-3846

Introduction

Agricultural education is an applied field of study that "integrates social and behavioral sciences with the natural and applied science of agriculture, renewable natural resources, and environment" (Shinn et al., 2008, p. 121). Applied fields of study often have challenges in how they define themselves as distinct academic disciplines as they attempt to differentiate themselves from their parent disciplines and other applied disciplines (Biglan, 1973; Swanson, 2007). Swanson (2007) argued that it is essential for applied disciplines to have established theoretical frameworks that show how theory is connected to practice.

It is may also be helpful to consider what is necessary to be a distinguishable academic discipline. Krishnan (2009) proposed six criteria for academic disciplines. These include: (a) there should be a specific objective for the research, (b) there should be an accumulation of specialized

[1] Amy Harder is a Professor of Extension Education in the Department of Agricultural Education and Communication at the University of Florida, 117B Bryant Hall, PO Box 112060, Gainesville, FL 32611-2060, e-mail: amharder@ufl.edu
[2] T. Grady Roberts is a Professor of Agricultural Education in the Department of Agricultural Education and Communication at the University of Florida, 117C Bryant Hall, PO Box 112060, Gainesville, FL 32611-2060, e-mail: groberts@ufl.edu
[3] James R. Lindner is a Professor of Agriscience Education in the Department of Curriculum and Teaching at Auburn University, 5058 Haley Center, Auburn University, AL 36849, e-mail: jrl0039@auburn.edu

knowledge, (c) there should be accepted theories and conceptual models to organize this accumulated knowledge, (d) there should be specific technical terminology, (e) there should be specialized research methods, and (f) there should be academic departments and professional associations.

Nearly 60 years ago, scholars in our field were a

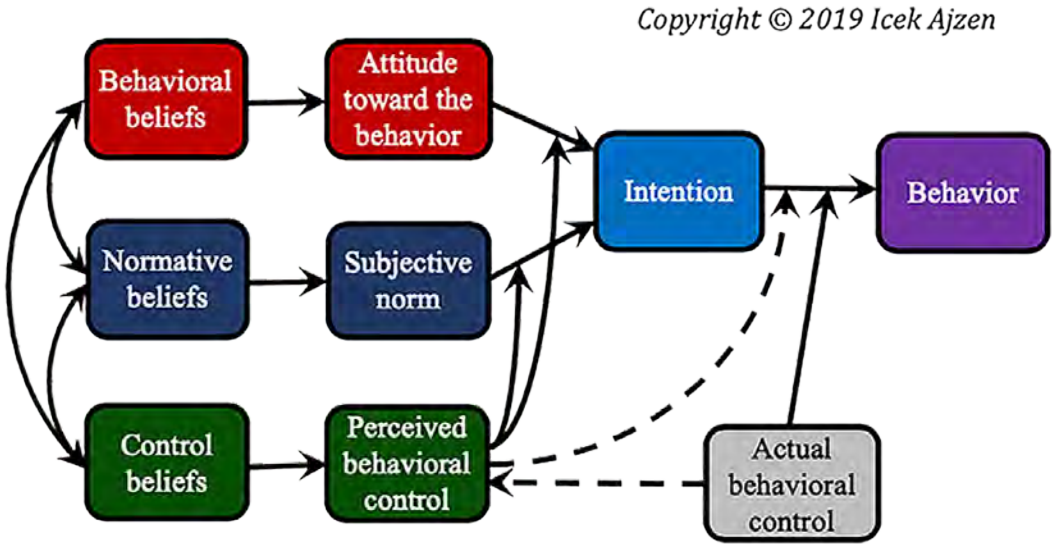
sking if agricultural education had even developed sufficiently to be considered a discipline (Cardozier, 1962). About 50 years ago, scholars in agricultural communication were trying to differentiate themselves from journalism and mass communication (Evans, 1972). Over 30 years ago, Barrick (1989) noted that "[a]gricultural education is not multi-disciplinary . . . but it is multi-faceted" (p. 27). As an applied field, agricultural education is often described through its contextual applications (Shinn et al., 2009). The American Association for Agricultural Education (AAAE, 2020) Bylaws recognize four areas of focus for its active members: agricultural communications, agricultural leadership, extension education, and agricultural education (which we refer to as school-based agricultural education to avoid confusion with the broader agricultural education profession). Interestingly, of the four focal areas, scholars in agricultural communication have regularly sought to see how they fit withing agricultural education departments (Evans, 2006; Tucker, 1996; Tucker et al., 2003).

Further clouding the situation, we have not been consistent in the vernacular we use for labeling our areas of expertise, sometimes using *disciplines*, *sub-disciplines*, *contextual applications*, *focal areas*, or *specializations*. Inconsistent terminology used to describe agricultural education deters from our ability to distinguish our field from others. Foundational disciplines that agricultural education draws on include psychology, sociology, and anthropology. Related applied disciplines include education, journalism, leadership, management, organizational psychology, rural sociology, and others. Differentiating agricultural education from foundational disciplines and related applied disciplines through developing a consensus of the distinguishing theories and models may help us better define agricultural education as a unique discipline. It may also help guide our efforts in developing our graduate students, enculturating new faculty into our departments, and differentiate our work from other departments within colleges of agriculture and life sciences.

Theoretical Framework

This study was guided by the Theory of Planned Behavior (TPB) (Ajzen, 2012). In TPB, people's actions are moderated by their intentions to perform that action. Intention is influenced by: (a) attitude, (b) subjective norm, and (c) perceived behavioral control (see Figure 1). Attitude is influenced by behavioral beliefs. Subjective norm is influenced by normative beliefs. Perceived behavioral control is influenced by control beliefs. Conceptually, attitudes, subjective norms, and perceived behavioral control influence a faculty member's intentions and actions related to their teaching, research, and extension/outreach activities.

Figure 1
Theory of Planned Behavior Diagram



Note. Copyright 2019 by Icek Ajzen.

For the current study, we focused on identifying the normative beliefs, which influence the subjective norms of our four areas of expertise. Our subjective norms include the underlying theoretical frameworks which our discipline recognizes as being appropriate for our research, teaching, and extension/outreach activities. Individually, these norms influence the approaches we take in our professional activities. Consequently, identifying these theoretical frameworks is crucial for defining who we are as a distinct discipline. Creswell and Creswell (2018) defined a theory as proposition about the relationships between a set of interrelated variables (or constructs). A theory is often presented as model.

Purpose

The purpose of our study was to determine if agricultural education has the commonly accepted theories and conceptual models needed to qualify as a distinguishable academic discipline. To do so, we sought identify the commonly accepted theories, conceptual models, and guiding philosophies that serve as the subjective norms for the four agricultural education specializations of agricultural communication, extension education, agricultural leadership, and school-based agricultural education. Our research was guided by two questions:

1. How are our specializations similar?
2. How are our specializations unique?

Methods

The Delphi approach (Dalkey & Helmer, 1963; Linstone & Turoff, 2002) was used to collect the data needed for addressing the research purpose. Nominations for participation on the Delphi panel were sought via the AAAE listserv. The listserv was purposively used to solicit nominations for panelists because AAAE has the broadest membership of the various agricultural education professional associations. AAAE members were advised that ideal panelists were individuals with: (a) five or more years of relevant professional experience beyond the Ph.D./Ed.D.; (b) an established reputation as an expert in agricultural communication, school-based agricultural education, agricultural leadership, or extension education; and (c) experience at the university level, which may include faculty or administrative roles in an academic or Extension unit. Two requests for nominations were sent on

March 31, 2020, and April 5, 2020. In total, 97 nominations were received. The breakdown across specializations was as follows: 19 agricultural communication nominations, 20 agricultural leadership nominations, 31 extension education nominations, and 27 school-based agricultural education nominations.

We made decisions about whom to invite as panelists based on criteria such as length of service, experience in an academic unit (particularly relevant for Extension), research productivity, geographic diversity, and gender representation. Invitations were sent to potential panelists on April 9, 2020, with a goal of having at least 14 panelists per specialization. Four nominees declined (two from school-based agricultural education and two from agricultural communication). Three of the nominees who declined cited increased work responsibilities due to the COVID-19 pandemic, while one nominee felt no longer qualified to represent the specialization since moving to college-level administration. Alternates were invited to replace the nominees who declined, which resulted in 14 panelists for each of the specializations except for school-based agricultural education, which had 15 panelists due to all invited alternates agreeing to participate.

Round 1 invitations were sent on April 10, 2020 to 57 panelists. Panelists were asked to consent to participate in the research and then asked what theories, models, and/or concepts they believed were of fundamental importance for their specialization. Panelists were encouraged to list as many items as they felt necessary to fully answer the question. Reminders were sent when participation lagged, resulting in two reminders being sent on April 15 and April 20, 2020. Round 1 responses were received from 12 agricultural communication, 10 agricultural leadership, 9 extension education, and 14 school-based agricultural education panelists.

Our research team specializes in extension education and school-based agricultural education. We reviewed the responses from all specializations and distilled them into discrete items for Round 2, which were categorized as theoretical, conceptual, or philosophical items. Our original intent was not to identify philosophies guiding agricultural education, but we added them based on their inclusion in multiple panelists' responses. We sought feedback from two experts in agricultural communication and agricultural leadership (one per specialization) to ensure we had interpreted the Round 1 responses from their specializations correctly. They also helped identify authors associated with theories suggested in Round 1 in the cases where a panelist had not provided that information. Some theories were determined to have multiple prominent authors associated with them, especially in agricultural leadership, so authorship for these was denoted as various scholars.

Agricultural communication panelists generated 68 unique items in Round 1. Agricultural leadership panelists generated 65 unique items. Extension education panelists generated 25 unique items. School-based agricultural education panelists generated 38 unique items. Some overlap was observed in items generated by each specialization.

Round 2 began on April 30, 2020. Panelists were asked to evaluate the extent to which the theories, models, and philosophies suggested in Round 1 were commonly accepted in their specialization for use education, research, and/or practice. Panelists reviewed *only* items generated by panelists within their own specialization. Response options were based on a semantic differential scale (Osgood, 1964) ranging from strongly disagree to strongly agree (1 = *strongly disagree*, 2 = *somewhat disagree*, 3 = *neither agree/disagree*, 4 = *somewhat agree*, 5 = *strongly agree*). Panelists were provided a chance to suggest additional items, authors, or wording changes. Reminders were sent on May 5 and May 8, 2020. Responses were received from 11 agricultural communication, 12 agricultural leadership, 12 extension education, and 15 school-based agricultural education panelists.

Consensus was defined *a priori* as items with at least 2/3 of the panelists agreeing or strongly agreeing the item was commonly accepted for use in their specialization. Consensus was reached in Round 2 for 56 agricultural communication items, 40 agricultural leadership items, 18 extension education items, and 35 school-based agricultural education items. There was some duplication of items

reaching consensus across specialization. For example, Roger's (2003) diffusion of innovations reached consensus by all the panels. New theories, models, and philosophies were also suggested by several panelists: 5 items from extension education, 6 items from agricultural leadership, 9 items from agricultural communication, and 21 items from school-based agricultural education.

Round 3 began on May 2, 2020. Panelists were asked to review the items achieving consensus in Round 2, *from each specialization*, as well as the new items that had been suggested. This approach resulted in panelists reviewing a considerably longer list of items but was an important step to determine the level to which agreement about the commonly accepted theories, models, and philosophies *within* specializations existed *across* the specializations considered to comprise agricultural education. Reminders were sent on May 28 and June 3, as well as the date of survey closure, June 8, 2020. Responses were received from 46 panelists; one response was removed from data analysis due to many skipped items, leaving 45 responses. Responses were received from 9 agricultural communication, 12 agricultural leadership, 10 extension education, and 14 school-based agricultural education panelists.

The Round 3 data were analyzed to determine items that could be confirmed as having reached consensus *within* each specialization and *across* specialization. The same operational rule of defining consensus as 2/3 of panelists agreeing or strongly agreeing with the item's commonly accepted use was applied. Consensus items shared across specializations and consensus items unique to each specialization are presented in the findings, consistent with the study objectives.

Dalkey (2002) stated participation from 13 panelists is sufficient for achieving acceptable reliability levels (.90) in a Delphi study. We are confident in the reliability of the responses *across* agricultural education in Round 3 as there were 46 panelists. Based on Dalkey's (2002) guideline, the reliability *within* specialization for agricultural communication and extension education may be limited by having fewer than 13 panelists respond. However, Ludwig and Starr (2005) argued the validity of the panel was more dependent on the expertise of the panelists than the number of panelists.

Findings

The findings are categorized according to commonly accepted theories, conceptual models, and philosophies. In all, 152 unique theories, conceptual models, and philosophies were identified across the four specializations. Items shared across two or more specializations are presented first. Then, unique items are then presented according to specialization. In our tables, specializations are abbreviated as follows: agricultural communication (COM), agricultural leadership (LEAD), extension education (EXT), and school-based agricultural education (SBAE).

Theories, Models, and Philosophies Shared Across Specializations

There were 84 items reaching consensus across two or more specializations (see Table 1). Twenty-two items were commonly accepted for use across all specializations. The consensus items tended to be categorizable as change theories and learning theories, as well as the philosophies of constructivism and behaviorism.

Table 1

Consensus Theories, Models, and Philosophies Across Specializations

Theory, Model, or Philosophy	COM	LEAD	EXT	SBAE
Behaviorism (Various scholars)	●	●	●	●
Bloom's Taxonomy (Anderson & Krathwohl)[a]	●	●	●	●
Bloom's Taxonomy (Bloom)[a]	●	●	●	●
Cognitive Dissonance Theory (Festinger)	●	●	●	●
Constructivism (Piaget)	●	●	●	●
Creative Thinking (Various scholars)	●	●	●	●
Critical Thinking (Facione)	●	●	●	●

Table 1

Consensus Theories, Models, and Philosophies Across Specializations, Continued…

Diffusion of Innovation (Rogers)[a]	●	●	●	●
Expectancy Value Theory (Fishbein)	●	●	●	●
Experiential Learning (Rogers)[a,b]	●	●	●	●
Experiential Learning Theory (Kolb)	●	●	●	●
Hierarchy of Needs (Maslow)	●	●	●	●
Learning Styles (Kolb)[a]	●	●	●	●
Logic Model (USDA)	●	●	●	●
Problem-Solving (Various scholars)	●	●	●	●
Reflective Learning (Dewey; Kolb; Schon)	●	●	●	●
Self-Efficacy (Bandura)	●	●	●	●
Social Change Theory (Various scholars)	●	●	●	●
Social Cognitive Theory (Bandura)	●	●	●	●
Social Exchange Theory (Thibaut & Kelley)	●	●	●	●
Systems Thinking (Various scholars)	●	●	●	●
Theory of Planned Behavior (Ajzen)	●	●	●	●
Kellogg Framework	●	●	●	
Social Network Theory (Various scholars)	●	●	●	
Critical Theory (Various scholars)	●	●		●
Social Capital (Putnam)	●	●		●
Project-based Learning (Stimson)	●		●	●
Technology Acceptance Model (Davis)	●		●	●
Theory of Reasoned Action (Ajzen)	●		●	●
Adaptive Leadership (Heifetz)		●	●	●
Andragogy (Knowles)		●	●	●
Authentic Leadership		●	●	●
Behavioral Leadership Theories		●	●	●
Career Development Theory (Lent et al.)		●	●	●
Critical Pedagogy (Friere)		●	●	●
Emotional Intelligence (Mayor & Salovey, Goleman)		●	●	●
Five Dysfunctions of a Team (Lencione)		●	●	●
Followership (e.g., Chaleff, Kelley, Kellerman)		●	●	●
Motivation-Hygiene Theory (Herzberg)		●	●	●
Organizational Change Theories		●	●	●
Organizational Learning Theory (Argrys & Schon)		●	●	●
Power and Influence (French & Raven)		●	●	●
Pragmatism (Dewey, James, Peirce)		●	●	●
Reflective Teaching (Schon)		●	●	●
Servant Leadership (Greenleaf)		●	●	●
Situational Leadership Model (Hersey & Blanchard)		●	●	●
Stages of Cognitive Development (Piaget)		●	●	●
Strengths-based Leadership (Various scholars)		●	●	●
Style Leadership Theory		●	●	●
Theory of Experience (Dewey)		●	●	●
Theory of Needs/Achievement Motivation Theory (McClelland)		●	●	●
Transformational Leadership (Burns)		●	●	●
Transformative Learning Theory (Mezirow)		●	●	●
8-Step Process for Leading Change (Kotter)		●	●	

Table 1

Consensus Theories, Models, and Philosophies Across Specializations, Continued…

Three-Stage Model of Change (Lewin)		●	●	
Gatekeeping Theory (Lewin)	●	●		
Groupthink (Janis)	●	●		
Information Processing (Mayer)	●			●
Persuasive Communication Theory (Ajzen)	●			●
Schema Theory (Various scholars)	●			●
Situational Theory of Problem Solving (Kim & Grunig)	●		●	
Complexity Leadership		●	●	
Leader-Member Exchange Theory (Graen & Uhl-Bien)		●	●	
Leadership Identity Model (Komives et al.)		●	●	
Path-Goal Theory (House)		●	●	
Social Contract Theory (Hobbes)		●	●	
Stages of Group Development (Tuckman-Jensen)		●	●	
Charismatic Leadership (Weber, Burns)		●		●
Critical Thinking Model (Paul & Elder)		●		●
MBTI/Conceptual Theory (Jung)		●		●
Multiple Intelligences (Gardner)		●		●
Scaffolding (Vygotsky)		●		●
Situated Learning (Lave & Wenger)		●		●
Team-Based Learning (Michaelsen)		●		●
Transactional Leadership (Weber, Bass)		●		●
Community-based Learning / Education (Horyna & Decker)			●	●
Competency Based Learning Model (Various scholars)			●	●
Culturally-relevant Pedagogy (Ladson-Billings)			●	●
Culture and Education (Bruner)			●	●
Five-Tiered Approach to Evaluation (Jacobs)			●	●
Logic Model (Taylor-Powell / University of Wisconsin)			●	●
Mindset - Growth (Incremental) vs. Fixed (Entity) (Dweck)			●	●
Self-Determination Motivation Theory (Deci & Ryan)			●	●
Youth Development Theory (Larson)			●	●

Note. COM = agricultural communication. LEAD = agricultural leadership. EXT = extension education. SBAE = school-based agricultural education.

[a]Item reached unanimous consensus as *strongly agree* for extension education. [b]Item reached unanimous consensus as *strongly agree* for school-based agricultural education.

In total, there were 68 items for agricultural communication, 79 items for agricultural leadership, 76 items for extension education, and 88 items for school-based agricultural education (see Table 2). Some specializations had more in common with each other than others. Extension education and school-based agricultural education had the highest number of common items ($n = 58$). Agricultural communication shared the least number of commonly accepted items with the other three specializations ($n = 28$ with agricultural leadership, $n = 28$ with extension education, and $n = 30$ with school-based agricultural education). Agricultural leadership had the same number of items ($n = 56$) in common with extension education and school-based agricultural education. In all, agricultural

communication shared 51.5% (n = 35) items with the other specializations, agricultural leadership shared 86.1% (n = 69) with the other specializations, extension education shared 90.8% (n = 69) with the other specializations, and school-based agricultural education shared 79.5% (n = 71) with the other specializations.

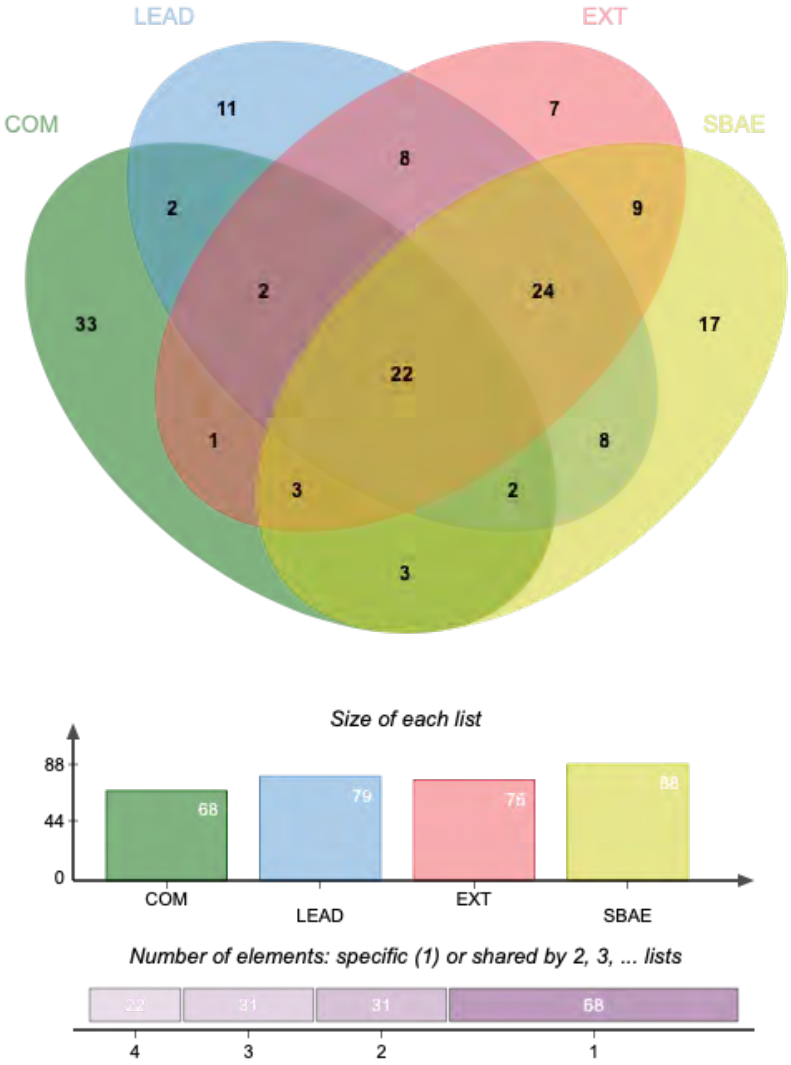
Table 2
Shared Theories, Models, and Philosophies

		Shared Theories, Models, and Philosophies Frequency (%)					
	Total	Shared Between All	Shared with COM[a]	Shared with LEAD[a]	Shared with EXT[a]	Shared with SBAE[a]	Unique
COM	68	22 (32.4%)		28 (41.2%)	28 (41.2%)	30 (44.1%)	33 (48.5%)
LEAD	79	22 (27.8%)	28 (35.4%)		56 (70.9%)	56 (70.9%)	11 (13.9%)
EXT	76	22 (28.9%)	28 (36.8%)	56 (73.7%)		58 (76.3%)	7 (9.2%)
SBAE	88	22 (25.0%)	30 (34.1%)	56 (63.6%)	58 (65.9%)		17 (19.3%)

Note. COM = agricultural communication. LEAD = agricultural leadership. EXT = extension education. SBAE = school-based agricultural education. Percentages calculated based on the total for each respective specialization.
[a]Includes items shared by all specializations.

A visual display for shared theories, models, and philosophies is presented in Figure 2. As depicted in Figure 2, 22 (14.5%) items were shared by all four specializations, 31 (20.4%) items were shared by three specializations, a different 31 (20.4%) items were shared by two specializations, and 68 (44.7%) items were only identified in one panel. There were three times as many unique items as there were shared items (n = 68 as compared to n = 22).

Figure 2
Venn Diagram of Theories, Models, and Philosophies from All Four Specializations



Theories, Models, and Philosophies Unique to Each Specialization

Agricultural Communication

The Delphi panelists (n = 9) responding in Round 3 reached consensus on 33 unique items (see Table 3), which was nearly half (48.5%) of all the items they identified. Most of the items were theories or models commonly used in communication, marketing, and journalism fields. One theoretical concept, heuristics, is strongly influenced by psychology and economics. Scheufele's (2006) framing theory of media effects was the most agreed upon theory or model unique to agricultural communication.

Table 3
Unique Theories and Models of Agricultural Communication

Theory or Model
Agenda Setting Theory (McCombs & Shaw)
Attribution Theory (Heider; Jones & Davis; Kelley)
Community-based Social Marketing (Mohr)
Computer Mediated Communications (Various scholars)
Corporate Social Responsibility (Various scholars)
Cultivations (Gerbner)
Digital Divide (Irving)
Elaboration Likelihood Model (Petty & Cacioppo)
Excellence Theory (Grunig & Grunig)
Expectancy Violations Theory (Burgoon)
Four Theories of Press (Siebert, Peterson, & Schramm)
Framing Theory[a] (Scheufele)
Heuristics (Tversky & Kahneman)
Human Communication (Shannon & Weaver)
Hypodermic Needle Theory (Laswell)
Integrated Marketing Communications [IMC] (Schultz)
Knowledge Gap (Tichenor, Donohue, & Olien)
Media Dependency (Ball-Rokeach & DeFleur)
Media Ecology Theory (McLuhan)
Media Richness Theory (Daft & Lengel)
Model of Communication [SMCR] (Shannon & Weaver)
Priming (Iyengar, Peters, & Kender)
Risk Information-seeking and Processing (Dunwoody & Griffin)
Semantics (Breal)
Semiotics (Various scholars)
Situational Crisis Communication Theory (Coombs, Fearn-Banks)
Situational Theory of Publics (Grunig)
Social Marketing Model (Various scholars)
Source Credibility (Hovland)
Spiral of Silence (Noelle-Neumann)
Two Step Flow Theory (Lazarsfeld, Berelson, & Gaudet)
Uncertainty Reduction Theory (Berger & Bradac; Berger & Calabrese)
Uses and Gratification Theory (Katz, Blumler, & Gurevitch)

Note. Items listed alphabetically.
[a]100% of panelists strongly agreed this item was commonly used.

Agricultural Leadership

Twelve agricultural leadership panelists agreed upon 11 items (see Table 4) unique to agricultural leadership. Personal and interpersonal leadership theories and models were evident, as well as a focus on groups and teams. Two ethics items reached consensus as well. Panelists did not reach unanimous agreement for any of the items rated as strongly agree.

Table 4
Unique Theories and Models of Agricultural Leadership

Theory or Model
Contigency Theory (Fiedler)
Cultural Dimensions (House)
Full Range Leadership Model (Avolio & Bass)
Great Man Theory (Carlyle)
Group Member Roles (Benne & Sheats)
Relational Leadership Theory (Uhl-Bien)
Social Change Model of Leadership Development (Astin & Astin)
Team Roles (Belbin)
Trait Theory
Utilitarianism (Bentham)
Virtue Ethics (Various scholars)

Note. Items listed alphabetically.

Extension Education

The Delphi panelists (n = 10) responding in Round 3 reached consensus on 7 unique items (see Table 5), the lowest number of unique items identified by any specialization. Five items were program development and/or evaluation models. Additionally, Burke and Litwin's (1992) model of organizational performance and change reached consensus, which is commonly used in organizational development. Unanimous consensus was reached with all panelists strongly agreeing with five items (four learning theories and one change theory), but those items were not unique to extension education (see Table 1).

Table 5
Unique Theories and Models of Extension Education

Theory or Model
Conceptual Programming Model (Boone)
Engaged Scholarship Model (Franz)
GEMS Model of Volunteer Administration (Culp et al.)
Hierarchy of Evidence (Bennett)
Logic Model (United Way)
Model of Organizational Performance and Change (Burke & Litwin)
Utilization-Focused Evaluation (Patton)

Note. Items listed alphabetically.

School-based Agricultural Education

Fourteen Delphi panelists responding in Round 3 reached consensus on 17 unique items (see Table 6) for school-based agricultural education. Items tended to cluster into three categories of learning theories, teaching models, and philosophies. The school-based agricultural education panelists were the only panelists to identify progressivism and social reconstructionism as commonly accepted for use in their specialization. Similar to the extension education specialization, the one item which reached unanimous consensus with all panelists strongly agreeing with it – experiential learning by Rogers - was not unique to school-based agricultural education and so was included in the list of items reaching broader consensus (see Table 1).

Table 6
Unique Theories, Models, and Philosophies of School-Based Agricultural Education

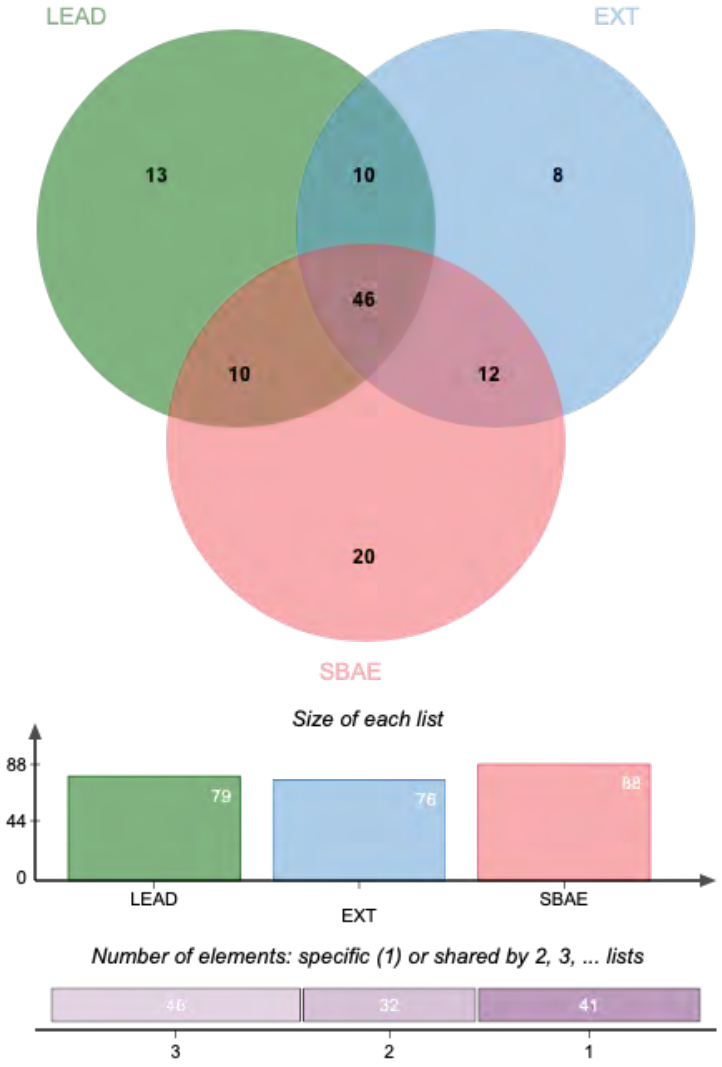
Theory, Model, or Philosophy
3 Circle Model (Unknown)
5E Instructional Model
Authentic Learning (Newman & Wehlage)
Backwards Design Instructional Design/Understanding by Design (Wiggins & McTighe)
Brain-based Learning (Caine & Caine)
Disruptive Innovation, Disrupting Class (Christensen, Horn)
Effective Teaching Practices (Rosenshine & Furst)
Four-step Method of Instructional Delivery (Allen)
Grit Theory (Duckworth, Matthews, Kelly, Peterson)
Model for the Study of Classroom Teaching (Dunkin & Biddle)
Progressivism
Ralph Tyler's Work on Curriculum Development (Tyler)
Social Reconstructionism
System Theory (Berthalanffy; Ashby)
Teacher Knowledge (General, Technical, Pedagogical) (Darling-Hammond)
Theories of Career Development (Super)
Zone of Proximal Development (Vygotsky)

Note. Items listed alphabetically.

Discipline or Disciplines?

As presented above, agricultural communication was the most unique of the four specializations, with nearly half (48.5%) of the identified theories, models, and philosophies not shared by any of the other specializations. If this specialization is removed from the analysis, a different picture emerges (see Figure 3). The three remaining specializations share 46 (38.7%) items. An additional 32 (26.9%) items are shared by at least two specializations, and 41 (34.5%) items were unique to one of the specializations. Grouping these three specializations reveals slightly more items shared than items unique to one specialization ($n = 46$ as compared to $n = 41$).

Figure 3
Venn Diagram of Theories, Models, and Philosophies from Agricultural Leadership (LEAD), Extension Education (EXT), and School-Based Agricultural Education (SBAE)



Conclusions, Implications, and Recommendations

The findings present mixed evidence that agricultural education, broadly defined, has enough commonly accepted theories, conceptual models, and philosophies to organize accumulated knowledge to be considered a distinguishable academic discipline with four specializations (Krishnan, 2009). Approximately 14% of the total identified theories, models, and philosophies appeared across all four specializations, while approximately 45% were unique to one of the specializations. Assuming the four specializations of agricultural communication, agricultural leadership, extension education, and school-based agricultural education comprise a single applied discipline with four related specializations, then the 22 theories, models, and philosophies would form our subjective norms (Ajzen, 2012), and be the foundation for the ways we approach our research, teaching, and extension/outreach activities. This degree of commonality, however, is not sufficient to conclude we are a single applied discipline with four specializations based on Krishnan's (2009) definition.

Scholars in agricultural communication have long advocated the uniqueness of their discipline in terms of history and philosophical approaches (J. Evans [Professor Emeritus of agricultural communication, University of Illinois], personal communication, September 29, 2020). According to Evans (1972), thirty years ago scholars in agricultural communication were working to distinguish themselves from journalism and mass communication. Later, in 1996, Tucker examined the theories used in agricultural communication and concluded that the most common theories were shared with "mainstream communication and sociology" (p. 32). When agricultural communication programs were merged into agricultural education departments, scholars discussed the pros and cons of this configuration (Tucker et al., 2003), with some worry that the uniqueness of agricultural communication as a discipline would be lost. Most recently, Evans (2006) presented a summary of 50 years of theories used in agricultural communications and how the theories used have evolved over time, often borrowing from related disciplines. Our results are consistent with both Tucker (1996) and Evans (2006), where agricultural communication did share a portion of their theories with agricultural leadership, extension education, and school-based agricultural education, while also maintaining the largest percentage of unique theories. Agricultural communication likely qualifies as a distinct discipline, while agricultural education consists of the three specializations of agricultural leadership, extension education, and school-based agricultural education. Based on this implication, our subsequent discussion delineates between the two disciplines.

Our conclusions are both congruent and divergent from Barrick's (1989) conclusions over 30 years ago. We are similar in that agricultural education is a discipline with specializations which is contextually bound (Shinn et al., 2009). However, we differ from Barrick (1989) when assuming agricultural communication was also a specialization of agricultural education. Agricultural communication draws on unique theories, models, and philosophies, which makes it a unique discipline (Cardozier, 1962; Krishnan; 2009) with its own subjective norms (Ajzen, 2012). The findings of this study contribute to addressing the challenges of how we define ourselves as unique fields of study which are differentiated from other applied disciplines (Swanson, 2007).

Our conclusions do have implications beyond how we label ourselves. For example, consider where we publish our research. There are at least four journals in which faculty in agricultural education departments often publish their research. The popularity of these journals suggest faculty view some outlets as more appropriate for their work than others. As the reader, consider for a moment how you view the *Journal of Agricultural Education*, the *Journal of Applied Communications*, the *Journal of Extension*, and the *Journal of Leadership Education*? Are your views grounded in empirical evidence, such as impact factors (Lindner et al., 2020), or are they grounded in subjective norms? If we further divide ourselves without understanding and intentionality, we are doing a disservice to our profession.

Another example to consider, do the professional development organizations we belong seek to serve all the faculty in our departments? Currently, agricultural communication appears to be more isolated, both in their theories, concepts, and models and in behavior (e.g. holding separate annual meeting for agricultural communication within the annual Southern Association of Agricultural Scientists Conference instead of meeting with the Southern Region AAAE Conference). We recognize the unique needs of each discipline and specialization cannot be met by a single professional society, but also recommend more be done to ensure inclusivity and representation if there is a desire for our academic departments to include agricultural communication, extension education, agricultural leadership, and school-based agricultural education.

Recommendations for additional study include researching more closely how Krishnan's (2009) other five criteria for academic disciplines apply to agricultural education and agricultural communication, such as specific research objectives, specialized research methods, and composition of academic departments and professional associations. Additional research is also warranted to determine the extent to which faculty and doctoral students are aware of the theories, models, and philosophies embraced across agricultural education and agricultural communication. What are the intended and

unintended consequences of the unique views identified in our study on the future well-being of the profession? How do we honor individuality and academic freedom while continually trying to establish our place as social scientists in within agricultural and life sciences colleges? Critical conversations about our future need to occur within departments and professional associations plan to carefully consider how our commonalities and differences will shape the path forward.

Keeping agricultural education and agricultural communication together, as a profession, is better than splitting apart. The profession needs to build awareness of the elements that bring us together and likely contribute to the colocation with academic departments. The profession needs to embrace all the theories, models, and philosophies which are shared between us, as well as those that are unique. Even though agricultural communication was distinct from agricultural education, there were still shared theories, models, and philosophies. One way of acting upon this recommendation is for department faculty to review the inclusion of the major theories, models, and philosophies in their curriculum. Academics is not a zero-sum game where the success of one discipline or specialization is an indication of failure in another. Rather we should all stand together and celebrate the similarity and the diversity in our profession.

References

Ajzen, I. (2012). Theory of planned behavior. In P. A. M. Lange, A. W. Kruglanski & E. T. Higgins (Eds.), *Handbook of theories of social psych*ology (pp. 438-459). Sage.

American Association for Agricultural Education. (2020). *American Association for Agricultural Education Bylaws*. http://aaaeonline.org/Constitutions

Barrick, R. K. (1989). Agricultural education: Building upon our roots. *Journal of Agricultural Education, 30*(4), 24-29. https://doi.org/10.5032/jae.1989.04024

Biglan, A. (1973). The characteristics of subject matters in different academic areas. *Journal of Applied* Psychology, *57*(3), 195-203.

Cardozier, V. R. (1962). Is agricultural education a discipline? *Journal of the American Association of Teacher Educators in Agriculture, 3*(1), 5-6. https://doi.org/10.5032/jaatea.1962.01005

Cresswell, J. W., & Creswell, J. D., *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.

Dalkey, N., & Helmer, O. (1963). An Experimental application of the Delphi method to the use of experts. *Management Science, 9*(3), 458-467. https://doi.org/10.1287/mnsc.9.3.458

Evans, J. F. (1972). Broadening the academic base in agricultural communications. *Journal of Applied Communications, 55*(4), 30-40. https://doi.org/10.4148/1051-0834.2043

Evans, J. F. (2006). Roaming the changing theoretical landscape of agricultural communications. *Journal of Applied Communications, 90*(1), 15-32. https://doi.org/10.4148/1051-0834.1288

Krishnan, A. (2009). *What are academic disciplines?* National Centre for Research Methods. http://eprints.ncrm.ac.uk/783/1/what_are_academic_disciplines.pdf

Linstone, H., & Turoff, M. H. (2002). *The Delphi method: Techniques and applications*. http://www.is.njit.edu/pubs/delphibook/

Osgood, C. E. (1964). Semantic differential technique in the comparative study of cultures. *American Anthropologist, 66*(3), 171-200. https://doi.org/10.1525/aa.1964.66.3.02a00880

Scheufele, D. A. (2006). Framing as a theory of media effects. *Journal of Communication, 49*(1), 103-122. https://doi.org/10.1111/j.1460-2466.1999.tb02784.x

Shinn, G. C., Briers, G., & Baker, M. (2008). Forecasting doctoral-level content in agricultural education: Viewpoints of engaged scholars in the United States. *Journal of Agricultural Education, 49*(1), 121-131. https://doi.org/10.5032/jae.2008.01121

Shinn, G. C., Wingenbach, G. J., Lindner, J. R., Briers, G. E., & Baker, M. (2009). Redefining agricultural and extension education as a field of study: Consensus of engaged international scholars. *Journal for International Agricultural and Extension Education, 16*(1), 73-88. https://doi.org/10.5191/jiaee.2009.16106

Swanson, R. A. (2007). Theory framework for applied disciplines: Boundaries, contributing, core, useful, novel, and irrelevant components**.** *Human Resource Development Review, 6*(3), 321-339. https://doi.org/10.1177/1534484307303770

Tucker, M. (1996). Ferment in our field: Viewing agricultural communication research from a social science perspective. *Journal of Applied Communications, 80*(4), 25-41. https://doi.org/10.4148/1051-0834.1332

Tucker, M., Whaley, S. R., & Cano, J. (2003). Agricultural education and agricultural communications: Striking a proper balance in the academy. *Journal of Agricultural Education, 44*(1), 22-30. https://doi.org/10.5032/jae.2003.01022