

## AGRICULTURE TEACHERS AND STUDENTS: IN CONCERT OR CONFLICT?

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### Abstract

*The purpose of the study was to describe the learning preferences of secondary teachers and students of agricultural education. The Individual Learning Preference Checklist (ILP) was administered to first and second year secondary agriculture teachers (N=37) and their students (n = 1507). A majority of the teachers leaned toward the Extraversion, Intuition, Thinking, and Judgement learning preferences, indicating a preference for active learning and exercises that stimulated thought. A majority of the students preferred the Introversion, Sensation, Feeling, and Judgement learning preferences, indicating a need for a quiet learning environment, structured learning activities, and "real-life" illustrations to better learn the concepts being taught. The learning preferences of the teachers and students differed, indicating a need for teachers to be cognizant of the learning differences between them and their students.*

Educators have recognized that the learning process is critically important and understanding the way individuals learn is the key to educational improvement (Griggs, 1991). Thus, educational improvement initiatives (National Commission on Excellence in Education, 1983; National Commission on Secondary Vocational Education, 1984; Carnegie Foundation for the Advancement of Teaching, 1988) have called for educators to find ways for students to learn more effectively and more efficiently. Toward that end, research (Keefe, 1982; Keefe & Ferrell, 1990) regarding the way individuals prefer to learn, has been conducted to assist educators in developing instructional materials and identifying methods of teaching that were most compatible with students' preferred learning styles.

"If students cannot learn in the way they are taught, then they must be taught the way to learn" (Marshall, 1990, p. 62). Torres and Cano (1994)

supported this ideology by indicating that students should have knowledge of their learning style in an effort to learn more effectively and efficiently. Further findings (Dunn & Dunn, 1979; Claxton & Murell, 1987) have indicated that when teaching methods were governed by student learning styles, the results were higher test scores, improved attitudes toward school and learning, improved student behavior, and greater learning. The challenge for educators is to assess the learning style characteristics of each student and to provide learning opportunities that are compatible with those characteristics. Diagnosing and interpreting learning styles provides data as to how individuals perceive, interact, and respond to the learning environment.

In responding to the learning environment, Cross (1976) stated that people see and make sense of their world in different ways. Dunn and Dunn (1979) contended that "teachers teach the way they

learned” (p. 241). Consequently, because teachers tend to teach the way they learn, they often fail to recognize the different learning styles found within their classrooms. Therefore, having knowledge regarding the learning styles of students can be of assistance to the teacher in selecting instructional materials, teaching methods, and learning activities to be used in the teaching-learning process (Turner, 1985).

Relevant to agricultural education, researchers (Raven, Cano, Garton, & Shelhamer, 1993; Cano & Garton, 1994; Whittington & Raven, 1995; Cano & Metzger, 1995) have studied the learning styles of teachers and preservice teachers of agricultural education. The studies concluded that teachers of agriculture differed in learning styles, personality styles, and preferred ways of teaching. Although studies exist in describing the preferred learning and teaching styles of teachers of agriculture, a paucity of research exists which identifies the learning preferences of secondary agriculture students.

Regarding secondary agriculture students, a limited amount of research (Cox, Sproles, & Sproles, 1988; Rollins, 1990; Rollins & Scanlon, 1991; Dyer & Osborne, 1995) has been conducted that has assessed their learning styles. A conclusion drawn from the previous research is that agriculture students have varied in their preferred ways of learning. Consequently, research regarding the teaching-learning process must be expanded if secondary agriculture teachers are to incorporate the learning differences found within the classroom and make modifications to their teaching methodology, instructional materials, and learning activities to better teach students.

### **Purpose and Research Questions**

The purpose of this study was to describe the learning preferences of secondary teachers and students of agricultural education. To guide the

study, the following research questions were developed:

1. What were the learning preferences of secondary teachers of agriculture as assessed by the Individual Learning Preference Checklist?
2. What were the learning preferences of secondary students of agriculture as assessed by the Individual Learning Preference Checklist?
3. What similarities and differences existed between the learning preferences of secondary agriculture teachers and secondary agriculture students?

### **Methods/Procedures**

#### Population and Sample

The target population for the study was secondary agriculture teachers who were in their first or second year of teaching (N = 37) and students (grades 9-12) of the teachers (N = 1649) in the state of Missouri. The accessible and responding sample consisted of a census of the first and second year secondary agriculture teachers (N = 37) and the students of the teachers who were present the day the data were collected (n = 1507) during the fall of 1994. Caution should be exercised when generalizing the results of the study beyond the accessible sample.

#### Instrumentation

The Individual Learning Preference Checklist (ILP) developed by Bargar, Bargar, and Cano (1994) was used to identify the learning preferences of the secondary agriculture teachers and students. The ILP is a 56 item checklist consisting of eight sets of questions (one set for each of the eight learning preferences). The ILP is based on the Myers-Briggs Type Indicator (MBTI), which has been used extensively in the assessment of how people learn (Myers & Myers, 1980).

Validity for the ILP was established by the authors (Bargar, Bargar, & Cano, 1994) of the instrument. Reliability coefficients for the ILP ranged from .87 to .99. Correlations between parallel scales of the Myers-Briggs Type Indicator@ and the ILP ranged from .88 to .99. The reliability coefficients indicate that the ILP is highly consistent with the Myers-Briggs Type Indicator@ in measuring learning characteristics.

The ILP measures an individual's learning preference on four dimensions: Extraversion-Introversion; Sensation-Intuition; Thinking-Feeling; and Judgement-Perception. The Extraversion-Introversion dimension describes how individuals orient themselves, either to their external world or inner thoughts. Individuals with an Extraversion orientation prefer doing things with other people, gain energy by taking charge of activities, are interested in application, learn by doing, and have a brief attention span. Individuals preferring Introversion enjoy working individually, prefer a quiet learning environment, are irritated by continual talk around them, and carefully consider questions before speaking.

The Sensation-Intuition dimension describes how individuals perceive events and experiences. Individuals preferring a Sensation orientation pay attention to what is "real" in experiences, need organization and structure in learning, and expect step-by-step instructions. Individuals preferring Intuition are intrigued by new possibilities, work from insights and hunches, and respond to activities that stimulate thought.

The Thinking-Feeling dimension describes how individuals make decisions. Individuals that prefer Thinking use facts to illustrate ideas, focus on achievement, competence, and completion, and may be uncomfortable when presenting ideas. Individuals preferring a Feeling orientation enjoy working with people, cooperative assignments, and avoid competition and confrontation.

The Judgement-Perception dimension describes how individuals approach and adapt to events and happenings. Individuals preferring Judgement make decisions quickly, may restrict options, prefer well-planned activities, and prefer structured assignments with concise instructions. Individuals with a perception orientation have flexible work habits, like new experiences, appreciate spontaneity, and dislike imposed structure and organization.

### Data Collection

The first and second year agriculture teachers were administered the ILP as part of an inservice on the ILP and its administration during a session of a beginning teacher course. At the conclusion of the session, the first and second year teachers were provided with the appropriate number of instruments for the students enrolled in their agricultural education program. The ILP was administered by the teachers during the fall of 1994, with 1507 usable instruments returned. All 37 first and second year teachers participated in the study and returned instruments.

### **Results/Findings**

The ILP was used to gather data on the learning preferences of secondary agriculture teachers and students. The dimensions were dichotomized as either Extraversion or Introversion, Sensation or Intuition, Thinking or Feeling, and Judgement or Perception.

The results indicated that the teachers were comprised of 31 (84%) males and six (16%) females. Regarding the dimensions, 54% of the teachers were Extraversion and 46% were Introversion (Table 1). On a gender breakdown, males were almost equally split between Extraversion and Introversion, while 67% of the females were Extraversion and 33% Introversion. With regard to the Sensation-Intuition dimension, 54% of the teachers preferred Intuition, while 46%

preferred Sensation. Along gender lines, 39% of the males and 83% of the females preferred Sensation, while 61% of the males and 17% of the females preferred Intuition.

The Thinking-Feeling results indicated that 65% of the teachers were Thinking and 35% were Feeling. The gender breakdown revealed that 58% of the males were Thinking and 42% were Feeling, while 100% of the females were Thinking. On the Judgement-Perception dimension, 62% of the teachers preferred Judgement and 38% preferred Perception. An examination of gender differences revealed that 55% of the males and 100% of the females were Judgement while 45% of the males were Perception.

An analysis of the ILP Checklist scores for the secondary agriculture students indicated that 55% of the students preferred the Introversion and 45% preferred the Extraversion learning preference (Table 2). While females were equally divided between Introversion and Extraversion, males leaned more toward the Introversion (57%) learning preference. With regard to the Sensation-Intuition dimension, 57% of the students preferred Sensation

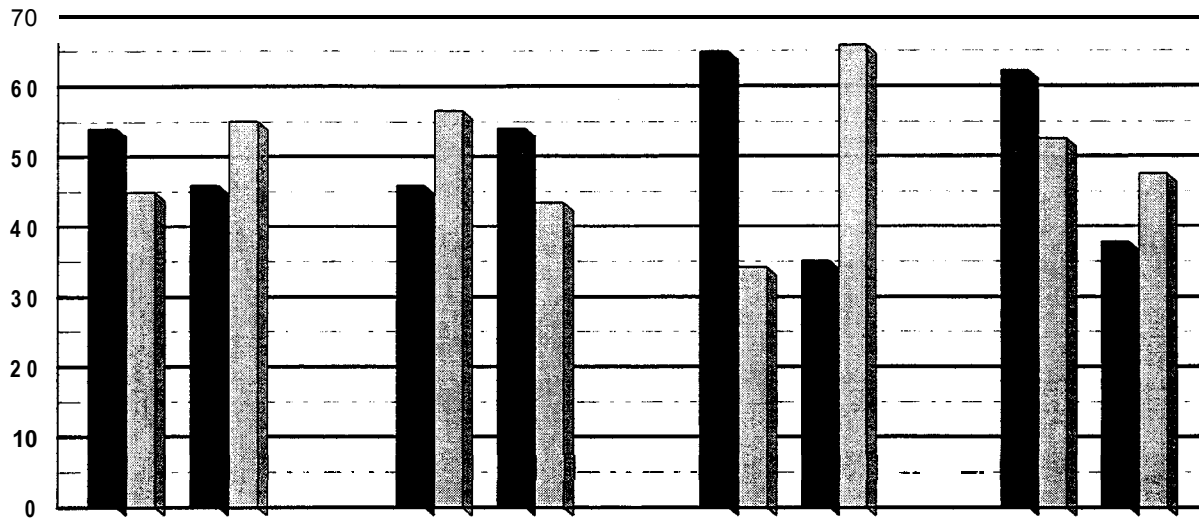
and 43% preferred Intuition. Males and females did not differ on their preference toward Sensation (males = 56% and females = 57%) and Intuition (males = 44% and females = 43%).

The dimension which exhibited the greatest difference was the Thinking-Feeling dimension. A majority (66%) of the students preferred Feeling and 34% preferred the Thinking learning preference. In addition, the dimension possessed the greatest difference within the genders, with 70% of the females and 64% of the males preferring the Feeling learning preference. In regards to the Judgement-Perception dimension, 52% of the students preferred Judgement and 48% preferred Perception. Females leaned more toward Judgement (53%) over Perception (47%) as well as males (52% Judgement and 48% Perception).

The final research question sought to determine what similarities and differences existed between the learning preferences of secondary agriculture teachers and students. The secondary agriculture teachers and students differed with regard to three of the four learning dimensions (Figure 1). The greatest difference between teachers and students

Table 1. Learning Preferences of First and Second Year Agriculture Teachers (N = 37)

	<u>Male (N=31)</u>		<u>Female (N = 6)</u>		<u>Total (N = 37)</u>	
	f	%	f	%	f	%
Extraversion	16	51.6	4	66.7	20	54.1
Introversion	15	48.4	2	33.3	17	45.9
Sensation	12	38.7	5	83.3	17	45.9
Intuition	19	61.3	1	16.7	20	54.1
Thinking	18	58.1	6	100.0	24	64.9
Feeling	13	41.9	0	0.0	13	35.1
Judgement	17	54.8	6	100.0	23	62.2
Perception	14	45.2	0	0.0	14	37.8



	Extraversion	Introversion	Sensation	Intuition	Thinking	Feeling	Judgement	Perception
Teachers	54.1	45.9	45.9	54.1	64.9	35.1	62.2	37.8
Students	44.9	55.1	56.6	43.4	34.2	65.8	52.5	47.5

**Figure 1.** Similarities and Differences Between the Learning Preferences of Secondary Agriculture Teachers and Students

**Table 2.** Learning Preferences of Secondary Agriculture Students (n = 1507)

Preference	Male (n = 1078)		Female (n = 429)		Total (n = 1507)	
	f	%	f	%	f	%
Extraversion	464	43.0	213	49.7	677	44.9
Introversion	614	57.0	216	50.3	830	55.1
Sensation	609	56.5	244	56.9	853	56.6
Intuition	469	43.5	185	43.1	654	43.4
Thinking	388	36.0	127	29.6	515	34.2
Feeling	690	64.0	302	70.4	992	65.8
Judgement	563	52.2	228	53.1	791	52.5
Perception	515	47.8	201	46.9	716	47.5

was on the Thinking-Feeling dimension. A majority (65%) of the teachers leaned toward the Thinking preference while the greatest percentage

(66%) of students leaned toward the Feeling learning preference.

The teachers and students also differed on the Sensation-Intuition and Extraversion-Introversion dimensions. The one dimension that teachers and students possessed similar learning preferences was the Judgement-Perception dimension. A majority (62%) of the teachers preferred Judgement, as did a majority (53%) of the students.

### **Conclusions/Recommendations/Implications**

Clearly, one must conclude that, for the current study, the teachers and students were not in concert, but in conflict. A majority of the teachers leaned toward the Extraversion, Intuition, Thinking, and Judgement learning preferences. These learning preferences indicated that the secondary agriculture teachers preferred active learning (learning by doing), responded to activities that stimulated thought, and were intrigued by new possibilities. In addition, they preferred that facts and figures be used when illustrating a new concept, expected logical and well-planned assignments, and enjoyed being recognized for their accomplishments.

A majority of the students preferred the Introversion, Sensation, Feeling, and Judgement learning preferences. A preference for these dimensions indicated that the secondary agriculture students preferred to learn in a quiet learning environment, carefully considered questions before speaking, needed the teacher to provide organization and structure to the learning activities, and preferred "real-life" illustrations to better grasp the concept. Furthermore, a majority of the students were extrinsically motivated, needing constant praise and encouragement, and preferred well-planned assignments with concise instructions.

Consequently, a variety of learning preferences are being brought to the teaching-learning process in secondary agriculture programs. These varied learning preferences demand that teachers of agriculture incorporate a variety of teaching strategies into the teaching-learning process. When teachers account for students' varied learning

preferences, students become more motivated to learn and student achievement increases (Cross, 1976; Claxton & Murell, 1987; Griggs, 1991).

In this study, the greatest difference between teachers and students was regarding the Thinking-Feeling dimension. While a majority of the teachers preferred Thinking, students were just the opposite, with the majority preferring the Feeling learning preference. The secondary agriculture teachers should be cognizant of the learning differences between students and the learning differences between teachers and students.

The teachers preferred to focus on achievement and competition. Conversely, many of their students preferred to avoid competition. Could this be a reason why some students choose not to participate in contests or leadership positions in the FFA? Teachers should employ caution when using competition in the teaching-learning process. Furthermore, teachers should utilize a variety of techniques for praising and encouraging students.

Because students had a preference for Feeling, they enjoyed learning activities that allowed them to work with others in a cooperative learning environment. Therefore, teachers should develop skills in using cooperative learning activities. Are teacher education programs teaching prospective teachers instructional methodologies which incorporate cooperative learning activities? Since teachers seem to teach the way they were taught, not the way they were taught to teach, teacher educators should be encouraged to model cooperative learning activities in their teaching.

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