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The Learning Styles of Agriculture Preservice Teachers as Assessed by the MBTI

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Teachers are unique in many ways. Teachers have been found to vary from one another with regard to their learning styles, teaching styles, and personality styles (Myers & Myers, 1980; DeNovellis & Lawrence, 1983; Canfield & Canfield, 1976; Dunn & Dunn, 1979). A person's personality style has been most effectively assessed utilizing the Myers-Briggs Type Indicator (MBTI) (Myers & Myers, 1980). The MBTI research literature supports the associations among MBTI personality type profiles, learning styles, and approaches for teaching (Barrett, Sorensen, & Hartung, 1987; Lawrence, 1986; Myers & McCauley, 1985; Meisgeier & Murphy, 1987).

Myers and McCauley (1985) stated that consistent with personality type theory, the personality type profiles were related to three aspects of learning: aptitude, application, and interest. Dunn and Dunn (1979) further asserted that "teachers teach the way they learned" (p. 241). Thus, personality style's association with learning style and teaching style is supported.

Personality styles have been studied (Lawrence, 1984; Sugarman, 1985; Myers & Myers, 1980; Hoffman & Betkouski, 1981; Carlyn, 1976; Duch, 1982; DeNovellis & Lawrence, 1983) in several teacher education disciplines. Of importance to teacher educators in agriculture was the study by Barrett, Sorensen, and Hartung (1987).

Barrett, Sorensen, and Hartung (1987), using the MBTI, found that many college of agriculture students exhibited an "action" learning style which was in direct contrast with the teaching style of many agriculture professors. Barrett, Sorensen, and Hartung (1987) expressed concern that the agriculture professors might not realize the significance of the learning style differences of students and that students might drop out of college because they did not experience academic success.

The issue of learning style raises a related question: What role might other psychological characteristics play in how individuals respond to the environment? Horner and Barrett (Bargar, Bargar, & Clark, 1990) studied personality type profiles of adult farm couples using the MBTI. The findings from Horner and Barrett (Bargar, Bargar, & Clark, 1990) suggested that specific personality type profiles (ESTJ, ISTJ, ESFJ) were most often represented by individuals engaged in production agriculture.

Individuals with the selected personality type profiles (ESTJ, ISTJ, ESFJ) identified by Horner and Barrett (Bargar, Bargar, & Clark, 1990) seemed eminently suited for the demands of established production agriculture practices, but were likely to experience trauma brought about by career change (Barger, Bargar, & Clark, 1990). Is it likely that college-age students who aspire teaching careers in agriculture have personality type profiles similar to the adult farmers?

Despite the amount of related research regarding personality styles, teacher educators in agriculture may be unable to fully utilize the results because preservice teachers of agriculture have not been included in the samples of the previous research. Thus, within agricultural education, a problem exists in that there is a paucity of research which identifies the personality type of preservice agriculture teachers.

Purpose and Research Questions

The purpose of the study was to determine the personality type of preservice teachers enrolled in a methods of teaching agriculture course. To guide the study, the following research questions were investigated.

1. What were the MBTI personality type profiles of preservice teachers enrolled in a methods of teaching agriculture course?

2. How can preservice teachers enrolled in a methods of teaching agriculture course be described in regard to MBTI personality dimensions and functions?

Procedures

Population and Sample

The target population for the descriptive study was preservice teachers majoring in Agricultural Education at a selected university. The accessible sample included 29 female and 53 male (n=82) preservice teachers enrolled in an methods of teaching agriculture course during the academic years 1990, 1991, and 1992. The results of the study were generalizable only to the accessible sample.

Instrumentation

The Myers Briggs Type Indicator (MBTI), Form G (Myers, 1977), was used to assess the personality type profiles of the preservice teachers. The MBTI is primarily concerned with the valuable differences in people that result from where people like to focus their attention, the way they like to take in information, the way they like to make decisions, and the kind of lifestyle they adopt (Myers & Myers, 1980).

The MBTI is based on Jung's theory about perception and judgment, and the attitudes in which perception and judgment are used by different types of people (Myers, 1962). The MBTI scales measure a preference for four dimensions: Extroversion (E) - Introversion (I), Sensing (S) - Intuition (N), Thinking (T) - Feeling (F), and Judging (J) - Perceiving (P). In combination, 16 personality type profiles are possible.

The EI dimension is designed to reflect whether a person is oriented primarily toward the outer world (E) or toward the inner world (I) of ideas. The SN dimension describes an interest in perceiving the objects, events, and details of the present moment (S) or the possibilities imagined in the future (N). The TF dimension describes a preference for making rational judgments by using logical analysis (T) or personal values (F). The JP dimension describes a preference for organizing and controlling events (J) or for observing and understanding such events (P).

The MBTI dimensions indicating the preferred style of perception, Sensing (S) or Intuition (N), and the preferred decision making style, Thinking (T) or Feeling (F), are collectively (SF, ST, NF, NT) called a function. The four functions (SF, ST, NF, NT) are associated with the way in which people learn (Myers & Myers, 1980).

The preferred learning mode of the ST function is being sensitive to the needs of those around the learner and prefers useful and applied subject matter which is undergirded in theory with various possibilities for solution. The ST learner can best be described as a passive learner. The SF learner, like the ST learner, is sensitive and prefers useful and applied subject matter. However, the SF learner prefers to have harmony and consensus building in the learning environment and prefers to be given the answers rather than seeking out the answers. The SF learner can best be described as a status-quo learner.

The preferred learning mode of the NF function is that of being logical and analytical of the subject matter. In addition, the NF learner is a consensus builder and enjoys harmony in the classroom. The NF learner can be described as an active learner. The NT learner, also prefers a logical and analytical approach to learning. The NT learner dwells on theory and continually seeks various solutions to problems. The NT learner can best be described as a problem solver.

The MBTI has been described and validated through nearly 40 years of research. Split half reliability coefficients computed on continuous scores run between .80 and .92 across all four dimension for groups aged 15 through 60 plus years (Myers & McCauley, 1985). Test-retest reliability coefficients have been estimated based on the percent of agreement between personality type profiles over time intervals from five weeks to six years. The test-retest coefficients run from .69 to .92 across all personality type profiles (Myers & McCauley, 1985).

Data Collection and Analysis

The MBTI was administered during the academic years 1990, 1991, and 1992. The MBTI

Table 1. Rank Order of Frequency and Percent of MBTI Personality Type Profiles (n = 82)

Profile	f	Percent	Cumulative Percent
ESTJ	19	23.2	23.2
ISTJ	15	18.3	41.5
ESFJ	11	13.4	54.9
ESTP	5	6.1	61.0
ENFP	5	6.1	67.1
ESFP	4	4.9	72.0
ENTJ	4	4.9	76.9
ISTP	3	3.7	80.6
INFP	3	3.7	84.3
INTP	3	3.7	88.0
ISFJ	2	2.4	90.4
ISFP	2	2.4	92.8
INTJ	2	2.4	95.2
ENTP	2	2.4	97.6
INFJ	1	1.2	98.8
ENFJ	1	1.2	100.0
Total	82	100.0	100.0

was administered by one of the researchers during class sessions of a methods of teaching agriculture course. The MBTI was hand scored by one of the researchers. The aggregate data were analyzed by microcomputer utilizing the SPSS/PC+ program.

Results

The preservice teachers in the methods of teaching agriculture course during the academic years 1990, 1991, and 1992, reflected all 16 personality type profiles measured by the MBTI (Table 1). The most common profiles were ESTJ (23.2%), ISTJ (18.3%), and ESFJ (13.4%). Nearly 55 percent of the preservice teachers had a profile of either ESTJ, ISTJ, or ESFJ. the least common profiles were ENFJ (1.2%), INFJ (1.2%), and ISFJ, INTJ, ISFP, and ENTP, which accounted for 2.4 percent each.

In regards to the Extroversion (D) - Introversion (I) dimension, approximately 62.2 percent of the preservice teachers were E, while 37.8 percent were I (Table 2). On the Sensing (S) - Intuition (N) dimension, 74.4 percent of the preservice teachers were S, while the remaining 25.6 percent were N. The Thinking (T) - Feeling (F) dimension was represented by 64.6 percent of the preserivce teachers on the T preference and 35.4 percent on the F preference. On the Judging (J) - Perceiving (P) dimension, 67.1 percent of the preservice teachers were J, while 32.9 percent were P.

The MBTI function indicating preferred style of perception was obtained from the MBTI personality type profiles. The MBTI personality type profiles of the preservice teachers indicated that 51.2 percent preferred ST, 23.3 preferred SF, 13.4 percent preferred NT, and 12.2 preferred an NF style of perception (Table 3).

Table 2. Frequency and Percent of MBTI Dimensions (n = 82)

Dimension	f	Percent
Extroversion (E)	51	62.2
Introversion (I)	31	37.8
Sensing (S)	61	74.4
Intuition (N)	21	25.6
Thinking (T)	53	64.6
Feeling (F)	29	35.4
Judging (J)	55	67.1
Perception (P)	27	32.9

Table 3. Frequency and Percent of MBTI Functions Indicating Preferred Style of Perception (n = 82)

Function	f	Percent
Sensing - Thinking (ST)	42	51.2
Sensing - Feeling (SF)	19	23.2
Intuition - Thinking (NT)	11	13.4
Intuition - Feeling (NF)	10	12.2
Total	82	100.0

Conclusions and Recommendations

The most common MBTI personality type profile categories of the preservice teachers enrolled in the methods of teaching agriculture course for the past three years represent categories common to both adult and youth groups in agriculture. In addition, throughout the three years, all 16 MBTI personality type profile categories have been represented by the preservice teachers. The distribution of personality type profiles was consistent with those of agricultural groups in previous studies (Barrett, 1985; Barrett & Horner, 1987; Barrett, Sorensen & Hartung, 1987; McCann, Heird & Roberts, 1989; Bargar, Bargar & Clark, 1990). Although the majority of the students were ESTJ, ISTJ, or ESFJ, smaller numbers of the remaining MBTI personality type profile groups have been represented in the data.

Characteristics of ESTJ include being practical, realistic, matter-of-fact, and with a natural head for business or mechanics. ESTJ individuals are not interested in subjects which they see no use, but can apply themselves when necessary. Individuals with an ESTJ personality type profile like to organize and run activities.

Characteristics of ISTJ include seriousness, quiet, and earn success by concentration and thoroughness. ISTJ individuals are practical, orderly, dependable, matter-of-fact, logical, and realistic. Individuals with an ISTJ personality type profile see to it that everything is well organized and make up their mind as to what should be accomplished and work toward it steadily, regardless of protests or distracters.

Characteristics of ESFJ include being warm-hearted, talkative, popular, conscientious, cooperative, and active committee members. ESFJ individuals need harmony and may be good at creating harmony. Individuals with an ESFJ personality type profile are always doing something nice for someone and work best with encouragement and praise. In addition, ESFJ individuals main interest is in things that directly and visibly affect people's lives.

The dimensions (EI, SN, TF, JP) data indicated that the majority of the preservice teachers were E (62.2%), S (74.4%, T (64.6%), and J (67.1%). The dimension of E indicates that a person is oriented towards the outer world. The S dimension indicates that individuals perceive objects, events, and details of the present moment. The T dimension describes a preference for making rational judgments by using rational analysis. The J dimension indicates a preference for organizing and controlling events.

The MBTI function (SF, ST, NF, NT) data indicated that the majority of the preservice teachers were ST (51.2%). ST people are mainly interested in the realities of a given situation. Reality for ST people is what can be observed, collected, and verified directly by the senses. Because the kind of judgment ST people trust in thinking, ST people make decisions by logical analysis, with a step-by-step process of reasoning from cause to effect, from premise to conclusion.

The preservice teachers of agriculture thus represent one of the present day concerns of agricultural educators, which might be characterized as a need to teach to a predominate population of traditional students as well as successfully responding to nontraditional agriculture students whose learning styles, based on MBTI personality type profiles, may require somewhat different teaching approaches.

The data clearly suggests that teachers working with students will need to use teaching approaches effective with all of the learning preferences. The recommendation does not suggest that the teacher needs to prepare a separate lesson plan for each student, but it does suggest that each lesson could be more effective if each learning preference was considered as the lesson plan was being developed.

Meisgeier and Murphy (1987) stated that students "understand" when their learning style is accommodated, and will be more comfortable in the class that is planned and taught in a manner that clearly incorporates the learning styles of the students, making the efforts of the teacher more effective. Addressing the variety of personality type profiles of the students should provide support for the student's own intrinsic motivation for and enhancement of his/her work (Deci and Ryan, 1990).

Although there has been recognition and support given to the associations between MBTI personality type profiles and learning style

preferences of students, convenient classroom materials for use by teachers have not been developed. It is recommended that a handbook based upon the MBTI personality type profile-related preferences be developed for use by preservice teachers of agriculture.

In addition, a relatively brief individual personality type preference checklist for classroom use should be developed to use with the MBTI preference handbook. The individual personality type preference checklist should be developed in relation to the MBTI dimensions. The items selected by the respondents would further assist in determining the learning style preferences and provide valuable data for modifying teaching approaches, techniques, and methods. The ultimate benefit could be the improvement of learning by individuals or groups of students. At present there are no materials available comparable to the MBTI preference handbook or the individual personality type preference checklist recommended.

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