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Relationship Between Personality Characteristics and Observable Teaching Effectiveness of Selected Beginning Career and Technical Education Teachers

Howard R. D. Gordon
Marshall University

Richard Yocke
West Virginia University Institute of Technology

Abstract

The purpose of this study was to examine the relationship between personality types, as measured by the Myers-Briggs Type Indicator (MBTI) Form G, and teaching effectiveness, as measured by the Classroom Observation Keyed for Effectiveness Research (COKER) of selected beginning industrial and health occupations education teachers. Slightly more than one-fifth of the respondents had completed a bachelor's degree.Nine of the sixteen personality types were represented in this study. A majority of the respondents reported a preference for extraversion-sensing-thinking-judging (ESTJ). Overall, the data indicate that only 41% of the respondents were effective teachers. As a group, beginning industrial and health occupations education teachers scored below the mean on the 18 COKER competency statements. Eight of the 18 teaching effectiveness competency statements had significant and positive relationships with the sensing-intuition temperament type. The sensing-intuition temperament type was the best predictor of teaching effectiveness when compared with extraversion-introversion, thinking-feeling, and judgment-perception temperament types. Selected teacher preparation strategies and inservice programs need to be planned to meet diverse strengths and weaknesses of beginning industrial and health occupations education teachers.

Introduction and Theoretical Framework

It is universally accepted that the teacher is the most important component of education (Sikora, 1997). School improvement efforts and/or educational reform will most likely not happen until effective teachers are regarded as the most important entity. The current emphasis on educational reform in our nation's schools should be forcing us to examine the personality of effective teachers (Sikora, 1997). Personality is defined as all the relatively stable and distinctive styles of thought, behavior, and emotional responses that characterize a person's ability to adapt to surrounding circumstances (Maddis, 1976; Mischel, 1976). For the purpose of the study, personality type is defined as an identifiable pattern in the manner that an individual prefers to perceive and make judgments (McClain, 1987).

Personality Type Theory of Carl Jung

The Swiss psychologist, Carl Jung centered his theory of personality as a complex network of interacting systems that strive toward eventual harmony with oneself and one s environment. He believed that human behaviors, though seemingly random and unorganized, are really quite consistent and orderly, and are a function of different ways in which people prefer to use their perception and judgment (Myers, 1962). Perception was understood to be the ways people become aware of the environment, other people, and occurrences, while judgment was considered the method employed by people to form conclusions about experiences perceived (Jung, 1933a).

According to Jung, both perception and judgment consist of two contrasting functions. The two functions of perception are sensing (S), which reflects the use of five senses to establish what exists, and intuition (N), the use of the unconscious as a way of indirectly perceiving through insight and associations that exists. The two functions are thinking (T), a decision-making process utilizing an analytical, objective consideration of the situation, and feeling (F), a decision-making process including heavy consideration to the personal or social values and merits of the situation.

Jung (1933b) further identified two complementary attitudes or orientations toward life. These he described as extraversion (E) and introversion (I). Extraversion is an attitude in which the person is oriented to the outer world of people and things. Introversion is an attitude in which the person is drawn to the inner world of thoughts and ideas. Jung believed that the attitudes and the functions combine to affect how individuals relate to the world and to other people (McClain, 1987).

Studies have shown that individuals identified as having particular combinations of these functions, (E) or (I); (S) or (N); (T) or (F); exhibit predictable preferences toward certain occupational or academic choices (Kuder, 1968; Campbell & Hansen, 1981; Barrett, Sorensen & Hartung, 1985).

The Work of Myers and Briggs

The implied importance of judgment and perception in the extensive writings of Jung (1921) lead Briggs-Myers and Myers (1962) to add these two preferences in the development of the Myers-Briggs Type Indicator (MBTI).As a fourth index of the MBTI, the two preferences of perception (P) and judgment (J) help to explain certain identifiable behaviors and attitudes toward the surrounding world (Myers & McCaulley, 1985).Individuals possessing a preference for judgment are concerned with making decisions either through logical, objective analysis (thinking-judgment), or through impassioned subjective appraisal (feeling-judgment) (Myers, 1980).

In all, the MBTI is comprised of 16 type variables, each possessing its own unique qualities of

personality. An individual's basic preferences can be identified by taking the MBTI. Once established, interpretive data could help promote a more constructive use of the differences among individuals (Kroeger & Thuesen, 1989).Each of the 16 types was written by combining the letters that identified the basic preference from each of the four indices (e.g., ESFJ, INTP).

Teaching Effectiveness

Over the last decade there has been excess attention, rhetoric, and research on effective teaching and schools (Berry & Ginsberg, 1990). The findings of many research studies concerned with the effectiveness of teachers are ambiguous, and little is presently known for certain about teacher effectiveness (Barr, 1948; Berliner, 1985). Studies conducted by Marchant (1988) and Streifer and Iwanicki (1985) attempted to discover what competencies were necessary for effective teachers. Marchant's recommendations stated, "educational researchers should be encouraged to continue their study of effective teaching behaviors".

Effective teaching requires that students be offered the best possible chance to learn, regardless of the nature of their individual preferences. Coker and Coker (1982), through extensive research, have identified certain key competencies, which they have determined to be prerequisites to effective teaching, at any level. Topically, they are: "Instructional strategies, techniques and/or methods; communication with learners; and, learner reinforcement-involvement". For the purpose of improving classroom instruction, these competencies can be observed as a behavioral dimension of the teaching process.It has been shown that if these teacher behaviors are exhibited, then learning outcomes will be enhanced.

For the purpose of this study, teaching effectiveness was operationally defined as the eighteen effectiveness scores given to each teacher (subject) and/or the one overall score as determined by the Classroom Observations Keyed for Effectiveness Research (COKER) instrument. Concerning ideas on teacher effectiveness research, Coker and Coker (1982) stated that:

> A basic justification for observation is the belief that the greatest potential for increasing pupil learning may be found in the process that goes on in the classroom: the interaction between teacher and pupils. If we know the behaviors that enhance pupil learning, we can increase the efficiency of teaching.

Much of the discussion on teacher effectiveness behaviors can be summarized by work done by Cruickshank (1990). He organized the research on effective teacher behaviors from ten studies (Rosenshine & Frust, 1971; Dunkin & Biddle, 1982; Cruickshank, 1986; Medley, 1977; Gage, 1978; Borich, 1979; Good, 1979; Emmers & Evertson, 1982; Stallings, 1982; Potter & Brophy, 1988) into seven main clusters. They include: (1) teacher character traits, (2) what the teacher knows, (3) what the teacher teaches, (4) what the teacher expects, (5) how the teacher teaches, (6) how the teacher reacts to pupils, and (7) how the teacher manages the classroom.

To date, there are no studies focusing specifically on the personality and observable teaching effectiveness of beginning industrial and health occupations education teachers. As technology increases, teachers must be effective in preparing students for their future roles. The secondary classroom teacher, and the competencies the teacher exhibits, plays a central role in the education of our youth. This is true for trade and industrial and health occupations education teachers in preparing their students for selected careers. Because the classroom teacher maintains such a central and dominant position in the learning process, educational administrators and teacher educators are continually attempting to better understand that process, with the ultimate goal to improve teaching effectiveness. It was within this context that the present research study was undertaken.

Purpose and Research Questions

The purpose of this study was to examine the relationship between personality types, as measured by the Myers Briggs Type Indicator (MBTI) Form G (Myers & McCaulley, 1985), and teaching effectiveness, as measured by the Classroom Observation Keyed for Effectiveness Research (COKER) (Coker & Coker, 1988) of selected beginning industrial and health occupations education teachers. The specific research questions of the study were as follows:

1. What are the personality profiles and characteristics of selected beginning industrial and health occupations education teachers?

2. What is the level of teaching effectiveness of selected beginning industrial and health occupations education teachers?

3. What is the relationship between teachers' continuous scores on the EI, SN, TF, and JP personality type dimensions and their COKER scores?

Limitations of the Study

The findings of this study may not be representative of all beginning trade and industrial and health occupations education teachers. Caution should be exercised when generalizing the findings of this study to career and technical education teachers in general.

The sample (n = 22) studied was as large as could be justified in light of geographic and budgetary restrictions. Assessment of personality was limited to Jungian personality theory as measured by the Myers Briggs Type Indicator.The measurement of teaching effectiveness was limited to the 18 competencies identified by Coker (1988).

Methodology

Research Design

A correlational design was used for conducting this study. A low inference observation instrument (COKER) along with a questionnaire (MBTI) was utilized to gather quantitative data.

Population and Sample

The target population for this study consisted of all beginning (N = 34) secondary industrial and health occupations education teachers employed by the West Virginia Department of Education during the 1997-1998 school year. A nonprobability sample (n = 22) of industrial and health occupations education beginning high school teachers were purposefully selected. The primary decision to select 22 instead of 34 subjects was based on accessibility. All 22 teachers agreed to participate in the study.

Instrumentation

Two data-collection instruments were utilized with each teacher. The questionnaire instrument was the MBTI Form G (Myers & McCaulley, 1985), which was administered to each teacher to determine his or her personality type. Teaching effectiveness data were determined by the Classroom Observations Keyed for Effectiveness Research (COKER) instrument (Coker & Coker, 1988).

1. Myers-Briggs Type Indicator

The MBTI is a 126-item forced-choice questionnaire designed to elicit an individual's preference on four dichotomous scales or dimensions which allow separate indices for the four basic preferences of extraversion (E) or introversion (I), sensing (S) or intuition (N), thinking (T) or feeling (F), and judging (J) or perception (P) (Foster & Horner, 1988; Myers & McCauley, 1985; Plessman, 1985; Schultz, 1985; Vogt & Holder, 1988).

Validity. Several researchers have investigated construct validity of the MBTI. Carlyn (1977) reports that numerous correlation studies indicate that "a wealth of circumstantial evidence has been gathered, and results appear to be quite consistent with Jungian Theory".

Reliability. Myers and McCaulley (1985) reported that reliability tends to remain stable up to 25 omissions for Form G. According to Myers and McCaulley (1985), correlations of continuous scores from ten studies with intervals from four to five weeks produced reliability coefficients of .77 to .93 for EI, .78 to .92 for SN, .56 to .91 for TF, and .63 to .89 for JP.

2. Classroom Observations Keyed for Effectiveness Research

Validity. Medley, Coker and Soar (1984) suggest that content validity may be derived from three separate sources: expert consensus, theory, and research. The 18 competencies used to determine teaching effectiveness was an outgrowth of these sources. Using the collective judgment of experts familiar with classroom observation, Coker synthesized a list of teaching competencies from five recognized observation instruments. These were the OSCAR 5V (Medley, 1973); STARS (Spaulding, 1976a); FLAACS (Soar, Soar, and Rogosta, 1971), TPOR (Brown, 1970); and CASES (Spaulding, 1976b). The result of this synthesis was the development of the COKER (Classroom Observations Keyed for Effectiveness Research). By using the COKER, teacher behaviors having a positive effect on student learning can be keyed into selected competencies to give a profile of the teacher's performance. The COKER instrument is intended to be administered only by specifically trained observers. In order to secure and use the COKER instrument one must be trained, then secure copyright permission. The principal researcher attended a two-day private training by Dr. Doris Sikora at Western Kentucky Univeristy.

> Reliability. Standardized items on the COKER are combined into a score based on a predetermined key. An item may contribute positively or negatively in a specific key, and an item may be used in more than one key. These key scores are then standardized across all classes to a distribution with a mean of 50 and a standard deviation of 10, using the scores for all classes being scored. This transformation eliminates negative scores and permits comparisons to be made between individual teachers on a single key, or between groups of teachers on a single key, or between two or more keys for a single teacher or a group of teachers. Reliability coefficients for scoring keys reported by Coker and Coker (1982) ranged from .384 to .834. Medley, Coker, and Soar (1984) cite low reliability coefficients as the most serious drawback to single-item scores.

Inter-observer reliability for the observers was calculated by obtaining an observer agreement score. This was done by having the two trained observers (the principal researcher and an assistant) practice using the COKER instrument while viewing videotapes of teachers teaching, until reaching an inter-observer agreement rate ranging from 67 to 90%. The trained observers inter-observer agreement was then pilot tested in two schools. The two trained observers observed and recorded six COKER instruments each. The inter-observer reliability coefficient was .62. Dickson and Wiersma (1984) reported that reliability estimation remains a problem when dealing with measurement through observation, not only empirically but also theoretically,

as to which procedures are most applicable.

Data Collection

The MBTI was administered during the 1998 Summer Workshop for Beginning Career Technical Education Teachers. Three regional teacher educators and the department chair in technical education from West Virginia University Institute of Technology were responsible for administration of the MBTI. Results were returned, along with an interpretation of individual participant results provided by a certified MBTI interpreter.

Data collection utilizing the COKER instrument took place during fall of 1998. After securing verbal permission from the regional teacher educators to visit each teacher's classroom, the researchers contacted teachers by phone.Teachers were requested to conduct a normal class period during the observational time. Medley, Coker, and Soar (1984) suggest that "upon entering the classroom, move to a position which will enable you to clearly observe the transactions and/or interactions among the teacher and students, remaining as unobtrusive as possible."

The COKER instrument is divided into Section A and Section B. Section A consists of a matrix of numbered cells designating specific teacher and student transactions and/or interactions. The matrix is designed to accommodate one five-minute observation. Section B is designed to record specific student and/or teacher cognitive and affective behaviors as well as teaching strategies, which occurred during the previous 5 minutes. These behaviors may or may not be interactions. The total observation time per visit is 10 minutes; however, total time in the classroom for one visit should be approximately 20-25 minutes (Medley, Coker, & Soar, 1984).

The researcher/trained observer and the assistant/trained observer made a total of six separate observations each during the two visits, totaling 12 observational records per teacher. For highly reliable scores, Sikora (1997) recommends three or more observations per visit, per observer. Confidentiality was assured and maintained throughout the study. The data were sent to Dr. Leverne Barrett at University of Nebraska for scoring (the only facility with an active scoring program for the COKER instrument).

Data Analysis

Data were analyzed using the Statistical Package for the Social Sciences (SPSS Version 8.0 for Windows). Descriptive statistics were used to describe the distribution of the data. Correlation coefficients were interpreted utilizing Davis (1971) descriptors (negligible = .00 to .09; low =.10 to .29; moderate = .30 to .49; substantial = .50 to .69; very strong = .70 to 1.00). Sax (1989) supports the computations of correlation coefficients for groups usually no fewer than 20 or 30 in number because the stability of r depends on the number of cases.

Results

Demographic Information

The respondents were 50% male and 50% female. Trade and industrial education teachers accounted for 63.6% of the sample. From this sample of trade and industrial and health occupations education teachers, slightly less than one-third (31.8%) had completed a bachelor's degree and higher. Teachers with an associate degree or less represented slightly more than two-thirds (68.2%) of the sample. The mean age of respondents was 38.68 (SD = 6.28) years. Respondents in this study indicated that they had some work experience prior to teaching (M = 14.63 years, SD = 6.87).

Personality Type Profiles of Respondents

Table 1 describes the personality type profiles of respondents. A high percentage (27.3%) of teachers preferring extraversion, sensing, thinking, and judgment (ESTJ) were found in the sample, along with a high percentage of extraversion, sensing, feeling, and judgment (ESFJ) type teachers (18.2%). Over 10% of the sample had a preference for introversion, sensing, feeling, and judgment (ISFJ).

TABLE 1.

Personality Type Profiles of Respondents (N = 22)

MBTI Type	n	%
ESTJ	6	27.3
ESFJ	4	18.2
ISFJ	3	14.0
INTP	2	9.0
ISTJ	2	9.0
ENTP	2	9.0
ENFJ	1	4.5
ENTJ	1	4.5
ISTP	1	4.5

Note. E = Extraversion, I = Introversion, S = Sensing, N = Intuition, T = Thinking, F= Feeling, J = Judgment, P = Perception.

Level of Teaching Effectiveness by Personality Types

The ISFJ personality type accounted for 14% of the respondents scoring above the mean (51.98) on the COKER. ESTJ and ESFJ personality types comprised 45.5% of the respondents scoring below the mean (49.21-44.74) on the COKER. The ENTP personality type (9%) had the highest COKER competency score (M = 56.42), as revealed by Table 2.

TABLE 2.

Profiles of Personality Characteristics (MBTI) and COKER Teaching Effectiveness Competency Scores of Respondents (N = 22)

MBTI Type	COKER Competency Score [a]
ENTP	59.64
ESTJ	58.09

ENFJ	56.36
INTP	55.46
ENTJ	53.68
ISFJ	53.48
ENTP	53.20
ISFJ	52.41
INTP	52.40
ISTJ	52.01
ISFJ	50.06
ESTJ	49.58
ESTJ	48.18
ESTJ	47.75
ESTJ	47.17
ISTP	46.25
ESFJ	46.13
ESFJ	45.36
ESFJ	44.74
ESTJ	44.50
ESFJ	42.75
ISTJ	40.84

Note. [a]The fixed mean of the COKER is 50 with a standard deviation of 10.

Total mean COKER teaching effectiveness competency scores of MBTI types: ENTPs = 56.42; ENFJ = 56.36; INTPs = 53.93; ENTJ = 53.68; ISFJs = 51.98; ESTJs = 49.21; ISTJs = 46.42; ISTP = 46.25; ESFJs = 44.74.

Teacher Effectiveness Competencies

Each of the 18 competencies is listed in Table 3. As a group, respondents reported the highest mean score of 49.63 (Mdn = 50.50, SD = 10.24) on competency 5. Teachers had a mean score of 49.59 on competencies, 3, 4, and 16. Competency 9 accounted for the lowest mean score (49.36). Teaching effectiveness of respondents was also below average (49.45) on competencies 12, 15, and 18.

TABLE 3

Profiles of Respondents Across 18 Teaching Effectiveness Competencies (N = 22)

Teaching Effectiveness Competency Statement	Maximum	Minimum	Mode	Mdn	M[a]	SD
1. Uses a variety of instructional strategies.	72	31	(48) (57)	49.50	49.50	10.22
2. Demonstrates patience, empathy and understanding.	71	34	44	45.50	49.50	10.31
3. Monitors student understanding and re-teaches.	84	34	48	49.50	49.59	10.19
4. Provides practice and review for students.	69	32	44	48.50	49.59	10.19
5. Creates positive classroom environment.	66	27	49	50.50	49.63	10.24
6. Assists students in discovering and correcting errors and inaccuracies.	89	39	48	48.00	49.54	10.34
7. Teacher stimulates students interest.	75	31	(48) (51)	49.50	49.54	10.26
8. Uses a variety of sensory materials.	79	36	55	49.50	49.54	10.34
9. Uses a variety of cognitive levels in strategies of questioning	80	35	(39) (40) (43) (46) (48) (55)	47.00	49.36	10.23

10. Provides opportunities for successful experience by students.	69	34	35	51.50	49.50	10.22
11. Uses convergent and divergent inquiry strategies.	81	35	51	48.50	49.54	10.23
12. Demonstrates proper listening skills.	72	33	47	47.00	49.45	10.31
13. Maintains an environment in which students are actively involved.	72	33	47	47.50	49.54	10.24
14. Encourages students to ask questions.	83	36	(43) (45) (47) (48)	47.00	49.54	10.28
15. Provides positive feedback to students on their performance.	67	31	(46) (52)	49.00	49.45	10.12
16. Develops and demonstrates problem-solving skills.	74	33	(40) (46) (48) (51)	48.00	49.59	10.26
17. Gives clear directions and explanations.	70	27	54	52.00	49.54	10.17
18. Implements an effective classroom-management system for positive behaviors.	65	29	(48) (51) (55) (57)	51.00	49.45	10.29

Note. [a]The fixed mean of the COKER is 50 with a standard deviation of 10.

Multiple modes exist.

Relationships Between Teaching Effectiveness COKER Scores and MBTI Continuous Scores

The relationships between teaching effectiveness COKER score and MBTI continuous scores are illustrated in Table 4. It was found that selected teaching effectiveness competencies (1, 5, 6, 7, 8, 10, 13, and 16) were positively and significantly related to scores on the SN type. Competency

13 accounted for the strongest correlation coefficient on the SN type ($\underline{r}$ = .65, $\underline{r}$ = .4225). Competency 3 accounted for a positive and significant relationship on the JP type ($\underline{r}$ = .46, $\underline{r^2}$ = .2116).

TABLE 4.

Correlation Coefficients Between Teaching Effectiveness COKER Scores and MBTI Continuous Scores of Respondents (N = 22)

Teaching Effectiveness Competency Statement	MBTI Temperament Type EI	SN	TF	JP
1. Uses a variety of instructional strategies.	.03	.57*	.11	.37
2. Demonstrates patience, empathy and understanding.	.10	-.04	-.01	.07
3. Monitors student understanding and re-teaches.	.05	.35	-.16	.46*
4. Provides practice and review for students.	.01	.36	-.25	.29
5. Creates positive classroom environment.	-.18	.52*	-.24	.22
6. Assists students in discovering and correcting errors and inaccuracies.	-.01	.43*	-.10	.31
7. Teacher stimulates students interest.	-.03	.50*	.39	.08
8. Uses a variety of sensory materials.	-.15	.54*	.06	.33
9. Uses a variety of cognitive levels in strategies of questioning.	.05	.27	.01	.31
10. Provides opportunities for successful experience by students.	.06	.57*	.01	.39
11. Uses a variety of cognitive levels in strategies of questioning.	.16	.30	.25	.13
12. Demonstrates proper listening skills.	.03	-.01	-.01	.14
13. Maintains an environment in which students are actively involved.	.10	.65*	.19	.29

14. Encourages students to ask questions.	.35	-.23	.01	-.01
15. Provides positive feedback to students on their performance.	-.02	-.16	-.30	.21
16. Develops and demonstrates problem-solving skills.	-.04	.57*	-.04	.38
17. Gives clear directions and explanations.	.01	.37	.10	.19
18. Implements an effective classroom-management system for positive behaviors.	-.04	.23	-.14	.08

[a]Components of MBTI temperament type: EI = Extraversion, Introversion; SN = Sensing, Intuition; TF = Thinking, Feeling; JP = Judgment, Perception.

Discussion and Conclusions

From this sample of trade and industrial and health occupations education teachers, slightly more than one-fifth (22.7%) had completed a bachelor's degree. This finding suggests that a majority of the respondents in this study lacked a four-year college preparation. The fact that trade and industrial teachers, in particular, have less formal education and more occupational experience than others has been at issue for some time. There is controversy about whether trade and industrial teachers, or any teachers should be able to teach in public schools without a college degree (NAVE, 1994).

Nine of the sixteen personality types were represented in this study. The three dominant MBTI personality types in this study: ESTJ, ESFJ, and ISFJ accounted for 59.5% of the respondents. Preference for ENFJ, ENTJ, and ISTP was low. A majority of the respondents reported a preference for ESTJ. Myers (1962) cites the following estimates of type in the general population: Seventy-five percent of the general population prefers an extraverted orientation. Three-fourths (75%) of the general population report a sensing preference; the general population is divided evenly between a preference for thinking and feeling. About 55-60% of the general population report a preference for judging.

As type theory would suggest, it seems that ESTJ type teachers are attracted to the practical skills (Keirsey & Bates, 1984; Myers & McCaulley, 1985). This finding is consistent with previous studies (Barrett, 1991, McClain & Horner, 1988). Overall, the MBTI components judgment (J), extraversion (E), sensing (S), and thinking (T) were the most predominant characteristics within the sample.

ISFJ type teachers scored above the mean on the COKER. ISFJ type accounted for over 33% of the effective teachers in this study. This finding supports the theory that ISFJs focus on what people need and want, and that they work with steady energy to complete jobs fully and on time. ISFJs respect established procedures and authority, believing that these have persisted because they function well. Therefore, they will support change only when new data show it will be of practical benefit to people (Myers & McCaulley, 1985).

ESTJs and ESFJs respondents scored below the mean on the COKER. This finding indicates that these teachers accounted for over three-quarters (76.92%) of the less-effective teachers in the study. According to Myers and McCaulley (1985), if ESTJs and ESFJs do not find a place where

they can use their gifts and be appreciated for their contributions, they usually feel frustrated and may become rigid and dogmatic, worry and feel guilty; become intrusive, 'know-it-all' experts, overpowering others and refusing to listen.

ISTP and ISTJs respondents also scored below the mean on the COKER. Myers and McCaully (1985) suggested that: "Sometimes life circumstances have not supported ISTPs and ISTJs in the development and expression of their Sensing and Thinking preferences". If they've not developed their Sensing, ISTPs may have no reliable way of getting accurate data about the external world or of translating their thoughts into action. If they (ISTPs) have not developed their Thinking, they may get caught up in the realities around them and not take time to do the internal logical processing they need to make good decisions. On the other hand, if ISTJs have not developed their Sensing, they may rush into premature judgments and actions without considering new information. If they have not developed their Thinking, ISTJs may not have reliable ways for dealing with the world and, instead, may be preoccupied with their internal memories (Myers & McCaulley, 1985).

Overall, the data indicate that 41% of the respondents in this study were effective teachers, as revealed by their scores on the COKER. As a group, the respondents scored below the mean on the 18 COKER competency statements. This finding suggests that these teachers have not mastered a variety of essential teaching competencies necessary for learning to take place effectively. The low scores on the COKER were probably attributed to lack of state certification, and not having a degree in education/teaching.

Eight of the eighteen teaching effectiveness competency statements had significant and positive relationships with the SN temperament type. The data indicate that 42.25% of the variance of competency 13 could be predicted from the SN temperament type. In summary, the SN temperament type was the best predictor of teaching effectiveness when compared with EI, TF, and JP temperament types. Consistent with research on observable teacher effectiveness, Sikora (1997) reported a significant correlation for competency 7 on the SN temperament type. The study consisted of 20 family and consumer sciences secondary teachers. The analysis also showed that there was a significant relationship with the sensing vs. intuitive (SN) personality type dimension on the total teaching effectiveness scores. The data also suggest that 21.16% of the variance of competency 3 could be predicted from the JP temperament type.

Implications

This research should not be interpreted to exclude any personality type from pursuing a career as a secondary trade and industrial or health occupations education teacher, rather it should provide some understanding and realization that each type contributes in its own unique way. The challenge for teacher educators, career and technical education administrators, and teachers is to better understand and appreciate the implications of personality theory and to translate that understanding into practice.

This study showed that systematic observations could have an important role to play in further research on teacher effectiveness. An outcome of this study was an individual profile for each teacher. This profile, hopefully, will be used by teachers to plan school-based inservice programs, which address the needs identified through the observations.

Recommendations

1. Career and technical education administrators need to recruit and encourage more qualified individuals to enter the profession.

2. West Virginia Department of Education personnel should assess the credentials of beginning career and technical education teachers on an ongoing basis.

3. Inservice and preservice providers should structure workshops to address diverse strengths and weaknesses of beginning industrial and health occupations education teachers. Emphasis on the following teaching effectiveness competency statements should be included:

   - uses a variety of cognitive levels in strategies of questioning;
   - demonstrates proper listening skills;
   - provides positive feedback to students on their performance; and
   - implements an effective classroom management system for positive behaviors.

4. Replication of this study should be conducted to include all content areas of career and technical education. This should include a larger sample size with observations made over a longer period of time.

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