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Regis University
School for Professional Studies Graduate Programs
Final Project/Thesis

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THE MYERS-BRIGGS TYPE INDICATOR AND
LEARNING IN SECONDARY CLASSROOMS

by

Holly Frank

A Research Project Presented in Partial Fulfillment
of the Requirements for the Degree
Master of Education

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ABSTRACT

The Myers Briggs Type Indicator and Learning in Secondary Classrooms

Students and educators have different learning styles based on personality type. Because many of the 16 types identified in the Myers Briggs Type Indicator may be present in any given classroom, it is important for educators be aware of their own personality type and related learning and teaching styles, and also be able to recognize their students' behaviors and learning preferences based on their knowledge of the MBTI and its dichotomous pairs of preferences. In this project, this researcher attempted to create a way to equip educators with information about the implications of individual personality types and learning styles in their classrooms so they can establish a learning environment better suited to all students.

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Chapter 1

INTRODUCTION

The case can be made that everyone has his/her own distinct personality. After all, everyone is genetically unique and has life experiences that shape their personalities. Practically speaking, however, there are characteristics of personality that make it feasible to reduce a staggeringly large number of unique personalities into a manageable number of categories. Within these categories of personality, it is possible to observe commonality of behavior, preference, and motivation. In particular, it is viable to examine similarities and differences in regard to how people in these personality categories learn. Knowledge of personality predilections and the learning styles associated with certain personalities can contribute to the establishment of optimal learning environments. Therefore, through knowledge and recognition of people's personality types and resultant learning styles, students can better understand their classmates, and teachers can establish a learning environment better suited to all students.

Statement of the Problem

Both students and educators have different personality types and learning styles, based on personality. The identification and understanding of individual personalities, differences, and preferences can contribute to an improvement in the overall effectiveness of learning. Therefore, if educators better understood and appreciated the differences in personality types and learning styles, both for themselves and the students in their

classrooms, the delivery of information could be differentiated, and learning could be maximized.

Purpose of the Project

The purpose of this project was to present educators with information about the implications of individual personality types and learning styles in their classrooms. This author will inform educators about the types and temperaments of students in their classrooms, based on the Myers-Briggs Type Indicator (MBTI; Myers & McCaulley, 1985), and explain how educators can increase their students' learning as a result of their knowledge of students' individual types and learning styles. This information will be delivered to educators in the form of a Power Point presentation.

Chapter Summary

It is this researcher's position that, through knowledge about students' types, based on the MBTI (Myers & McCaulley, 1985), educators will be better equipped to maximize student learning. Also, through educator's awareness of their own types, they will be better able to adjust their instruction to meet the preferred learning styles of their students.

In Chapter 2, Review of Literature, this researcher: (a) presents the background of psychological type and the MBTI (Myers & McCaulley, 1985); (b) explains the 16 types of the MBTI; (c) observes the importance of awareness of the 16 personality types; and (d) examines existing research that addresses the relationship between personality type and learning styles. In Chapter 3, Method, this researcher details the target audience, procedures, and goals that were used in order to develop the PowerPoint® presentation.

Chapter 2

REVIEW OF LITERATURE

The purpose of this project was to present educators with information about the implications of individual personality types and learning styles in their classrooms. Every person can be categorized within 1 of the 16 types identified in the Myers Briggs Type Indicator (MBTI; Myers, 1993). Each type describes particular behaviors, motivations, and preferred learning styles. While there is no right or wrong type, each type has strengths and weaknesses which can be better understood and catered to through the use and knowledge of psychological type and the MBTI. The ability of students to learn is particularly compromised by teachers' insensitivity to individual learning styles based on psychological type. When educators are aware of their own type and their students' types, they can find a balance between the appropriate support and challenge for their students' types. In this way, educators are better able to maximize their students' learning.

Background of Psychological Type

Jung (1923, as cited in Isaksen, Lauer, & Wilson, 2003), a Swiss psychiatrist, was interested in individual differences and developed his theory of psychological type over many years. He believed that, although people have the same multitude of instincts, they are different in elemental ways. As Myers and McCaulley (1985) said about Jung's theory, "the essence of the theory is that much seemingly random variation in behavior is

actually quite orderly and consistent, being due to basic differences in the way individuals prefer to use their perception and judgment” (p. 1).

Jung (1923) identified two basic differences in the way that people use their minds. He referred to these as Perceiving (P) and Judging (J). Perceiving is the act of being aware of things, people, ideas, and occurrences through sensation and gathering information. Judging is to make a conclusion about what is perceived. While these two functions were implicit in Jung’s work, Perceiving and Judging were not part of his original theory.

Jung (1923) identified two perceiving functions. These he termed Sensing (S) and Intuition (N). Sensing is awareness of things through the use of the five senses. Intuition is the ability to incorporate ideas or associations that are an unconscious addition to perceptions from the outside, a *sixth sense*.

In addition, Jung (1923) identified two judging functions. These he called Thinking (T) and Feeling (F). Thinking is the logical process focused on an impersonal finding or conclusion. Feeling is the function of being able to appreciate personal, subjective value. To these dimensions, Jung observed that there are two complementary orientations to life. These are Extraversion (E; e.g., outward focus to derive energy from the surrounding world) and Introversion (I; e.g., inward focus to derive energy from the inner world of ideas.)

Background of the MBTI

While Jung (1923) was responsible for the conceptual thinking behind psychological type, it was Briggs and her daughter Briggs Myers (1943, as cited in Myers

& McCaulley, 1985) who developed the indicator to identify type preferences. The tragedies of World War I and the entry of the United States into World War II sparked interest in Briggs and Myers to understand why people behaved how they did. “They were looking for an instrument that would help bridge human misunderstanding and end all war” (Webb, 1990, p. 33).

Through Briggs and Myers research (1923-1941) on Jung’s psychological type, behaviors, and attitudes, the Myers-Briggs Type Indicator (MBTI) was developed. Since its publication in 1956 (Brownfield, 1993), the MBTI has become the most widely used indicator of psychological type and has helped people become more aware of themselves and others. As Myers and McCaulley (1985) wrote:

The MBTI differs from many other personality instruments in these ways:

1. it is designed to implement a theory; therefore the theory must be understood to understand the MBTI.
2. the theory postulates dichotomies; therefore some of the psychometric properties are unusual.
3. based on the theory, there are specific dynamic relationships between the scales, which lead to the descriptions and characteristics of sixteen “types.”
4. the type descriptions and the theory include a model of development that continues throughout life.
5. the scales are concerned with basic functions of perception and judgment that enter into almost every behavior; therefore, the scope of practical applications is very wide. (p. 1)

Explanation of the MBTI

As reported by Myers (1993), the MBTI is used in multiple settings, including counseling, education, and the work place. The theory behind the MBTI is that it allows one to better understand specific differences in people in order to cope and work with people more effectively. The difference in human behavior is a result of different

personal preferences. By learning people's types, one can discover new ways to work and interact with other people. In addition, the MBTI can be used to help individuals identify personal strengths and areas of growth, and it provides useful information to understand personal motivations and unique gifts. As Fleenor (2004) stated about the MBTI:

1. The instrument does not measure competencies, it identifies preferences.
2. The preferences identified by the MBTI are not personality traits, but represent a typology in which individuals with opposite preferences are qualitatively different.
3. The interactions among these preferences are critical to understanding the instrument (i.e., the whole is greater than the sum of its parts). (p. 4)

Throughout the past decade, one of the most popular instruments used to measure psychological type has been the Myers-Briggs Type Indicator (Myers & McCaulley, 1985, as cited in Haygood & Iran-Nejad, 1994). The MBTI is an inventory, not a test, which consists of questions with no right or wrong answers. The MBTI has various forms that take approximately 45 minutes or less to complete, and it is written at the seventh grade reading level (Aviles, 2000). The MBTI is most appropriate for individuals in high school through adulthood, and it is not recommended for people below eighth grade (Haygood & Iran-Nejad). Jeffries (1990, as quoted in Denham, 2002) stated that "a personality indicator should be 70% or higher to be considered reliable. Taking all things into consideration, the MBTI is about 85% reliable" (p. 3). According to Type Resources (1998, as cited in Aviles, 2000), more than 12 million people have completed the MBTI, and the MBTI has been translated into more than 30 languages.

MBTI Forms

Currently, there are eight published MBTI forms, and one discontinued form (The Forms of the MBTI, 2005). Form F, the primary research standard form from 1962-1977, has 166 items, 94 scored for type and 72 research items. Form F is scored by hand with use of the Form F template or by a computer, and it results in a four letter type. Form G, the standard form until 1998, has 126 items, 94 scored for type and 32 for items beyond. Form G has different scoring for females and males on the T/F scale, and some items have three response options. Each question is weighted 0, 1, or 2 points, and allows individuals to answer based on personal personality preferences. “Responses that best predict to total type with a prediction ratio of 72% or greater carry a weight of 2; items that predict to type with a prediction ratio of 63% to 71% carry a weight of 1; overpopular responses carry a weight of 0” (Myers & McCaulley, 1985, p. 3). Form G takes approximately 30-40 minutes to complete, is scored by hand with Form G templates, and results in a four letter type. Form G Self-Scorable has 94 items and is used in workshop/group settings.

Form M, the standard Form as of 1998, has 93 items that are all scored for type, and each item has two response options that make the form forced choice (Fleenor, 2004). Form M, with updated words and phrases from Form G, is scored the same for females and males due to the differential item function (DIF) which eliminated items that established notably different gender responses. Form M takes approximately 15-25 minutes to complete, is scored by hand with use of the Form M template, or by computer, and results in a four letter type. When Form M is scored by computer, an item response theory (IRT) scoring method is used which indicates preferences more accurately. Due to

the IRT, it is practically impossible to score in the middle of the preference scale. The reliability of preferences of Form M is generally 90% or higher, an increase of 4-8% from Form G. Also, Form M Self-Scorable has 93 items, takes 15-25 minutes to complete, and it is used in workshop/group settings where time is limited.

According to CPP, Inc. (2002), Form J has 290 items, 94 Form F items for type and 196 for Type Differentiation Indicator. Form J is used to understand type differences and/or for counseling purposes. Form K, developed in 1989, has 131 items, 94 from Form G for type and 37 items for Expanded Analysis Report. The Form G template is used to score Form K, and it is used to understand type differences. Form Q, developed in 2001, has 144 forced choice items, and it is used to help determine why individuals with the same type act differently. Form Q is scored with use of the Form M template.

Form AV, an abbreviated version formerly known as Form H, is a self-scoring 50 item form that uses the first 50 items of Form G (CPP, Inc., 2002). Form AV has since been discontinued due to unreliability (CPP, Inc., 2002). Each of the MBTI forms can be administered by anyone who has received MBTI certification. In order to become a certified practitioner, one must first be a qualified MBTI practitioner for 1 year before being eligible to apply for certified status (MBTI Certification, 2005). A certified MBTI practitioner is one who has advanced skills in the use and interpretation of the MBTI.

Preferences of the MBTI

As Myers and McCaulley (1985) reported, the MBTI is an indicator that consists of four scales that represent four pairs of preferences which help people to understand individual differences and similarities: (a) extraversion/introversion (E/I), (b) sensing/intuition (S/N), (c) thinking/feeling (T/F), and (d) judging/perceiving (J/P). The

preferences E/I relate to attitude, S/N refers to the process of perception, T/F refers to the process of judgment, and J/P refers to the way in which people deal with the outside world. While it is assumed that every person uses both ends of the preference spectrum at one time or another, every person has a clearer preference for one of each of the four areas of psychological type.

In Myers' (1993), *Introduction to Type*, a description of each of the dichotomous pairs in the MBTI was detailed. Much of what follows was adapted from Myers' work. Myers' first dichotomous pair of preferences is E/I. The extravert (E) attitude focuses attention outward to people, things, and actions. Extraverts focus on the outer world, have a broad range of interests, are social beings, and prefer to communicate verbally. The introvert (I) attitude focuses on the inner world of concepts and ideas, and one's energy flows mainly from the environment. Introverts have depth of interest, are reflective and private, and prefer to communicate through writing.

The next pair of preferences described by Myers (1993) is S/I. Sensing (S) perception types focus on the reality of a situation, establish what actually exists, and take in information with use of their senses. Sensing types are observant, factual, detail oriented, present oriented, and trust experience. Intuition (N) perception types focus on possibilities, meanings, and relationships, and prefer to look at the whole picture. Intuitives are abstract, future oriented, see new and different ways of doing things, and can see patterns.

The third pair of preferences, T/F, as described by Myers (1993), refers to judgment. The thinking (T) judgment type uses a logical decision making process. Thinkers are analytical, logical, rational, evenhanded, and think in terms of cause and

effect. The feeling (F) judgment type makes decisions based on subjective, personal values, and takes others' feelings into consideration. Feelers are sympathetic, compassionate, harmonious, and long suffering.

The last dichotomous pair described by Myers (1993) is J/P. The judging (J) attitude focuses on making decisions and closure. Judging types are planned, orderly, methodical, decisive, and tend to regulate and control life. The perceiving (P) attitude focuses on spontaneity and incoming information. Perceiving types tend to live in a world that is flexible, adaptive, open ended, and casual.

Types

According to Myers and McCaulley (1985), everyone has a natural preference for one of the two preferences on the four different MBTI scales. Briggs and Myers (1956, as cited in Myers and McCaulley, 1985) developed the MBTI with item choices that indicate the differences in people. The scores of the inventory determine how consistently an individual chooses one personality preference over another. The higher the score is for a particular preference, the clearer the preference becomes. Within each of the four areas of psychological type, there are two dichotomous choices which result in 16 total types. These types are: (a) ISTJ, (b) ISFJ, (c) ESTP, (d) ESFP, (e) INTJ, (f) INFJ, (g) ENTP, (h) ENFP, (i) ISTP, (j) INTP, (k) ESTJ, (l) ENTJ, (m) ISFP, (n) INFP, (o) ESFJ, and (p) ENFJ (Denham, 2002).

Characteristics of the 16 Types

The ISTJ types enjoy working alone, but are comfortable working in groups when more people are needed to get the job done (Myers, 1993). They store information which they draw upon to understand the present, and they rely on facts. Often, their information

and memories are kept private. In stressful situations, ISTJs can become overwhelmed and imagine negative possibilities.

The ISFJ types are dependable and energetically see jobs to completion in a timely manner (Myers, 1993). They focus on the needs and wants of other people, especially their family. They remember specifics, are realistic, accommodating, and firm in their values. In stressful situations, ISFJs may become caught up in their stress and are unable to communicate to others in their typical manner.

The ESTP types are active team members who are creative, live in the moment, and love life (Myers, 1993). They are interested in the details of their surroundings, and learn best by doing, and take things as they come. Traditional schools can be challenging for ESTPs unless they are able to experiment and see the relevance of what they learn/do. They dislike theory and written directions. Under stress, ESTPs tend to imagine negatives and distort what they think others may think of them.

The ESFP types love life exuberantly and all its offerings, live in the present, and are creative and collaborative (Myers, 1993). They love people, enjoy new experiences, and learn best by doing rather than reading or writing. Like ESTPs, ESFPs dislike theory and written instruction and would do better in traditional schools if they could see the relevance of what they do and could interact with others. They are aware of others and are good at the mobilization of people in times of crises. When they feel stressed, ESFPs internalize negativity and try to develop universal explanations for their negativity.

The INTJ types have clear vision, enjoy complex challenges, are creative, and value knowledge (Myers, 1993). They have high expectations of themselves and others and detest inefficiency. They are capable of future planning, look at things from an

overall perspective, but would prefer to be private rather than engage in social conversation. Under stress, usually, INTJs tend to overindulge in specific details to which they do not pay attention.

The INFJ types are intuitive, understanding, have faith in their own insight, and seek out meaning in their lives in the internal and external world (Myers, 1993). While it may be difficult to become acquainted with INFJs, because they are private, INFJs are invested in relationships, compassionate, and value authenticity. When stressed, INFJs can overindulge in activities that usually have little meaning to them personally.

The ENTP types rely on the environment for opportunities, are able to see patterns that are not clear to the eye of others, and can understand how systems work (Myers, 1993). They are quick, conversational, insightful and able to create solutions to complex problems. When ENTPs experience stress, they focus on specific details and tend to think that the details are more important than they are.

The ENFP types are creative and see life as an adventure filled with possibilities (Myers, 1993). They are in tune with themselves and others, are aware of the present and the future, and experience a broad range of emotions. People who are ENFPs give others support and also need affirmation. They are harmonious, social, and zestful. They dislike routine, have an abundance of interests, and are verbal communicators. Under stress, the ENFP focuses on distorted details that become the center of his/her universe.

The ISTP types are observant of their surroundings, enjoy solving problems, and are seen as troubleshooters (Myers, 1993). They thrive on variety, have minds that work like a computer, make rational decisions, and are tolerant. They can seem hard to understand because they tend to change their minds if they see a more efficient way to do

something. When they feel stressed, ISTPs may display their emotions visibly, which is uncharacteristic of their usually controlled manner.

The INTP types are independent thinkers who question and challenge themselves and others (Myers, 1993). While, often, they are skeptical, opinionated, and highly value intelligence, INTPs theorize, communicate, and state the truth. They prefer to find solutions rather than take action, and they will raise awareness of issues when they feel it is reasonable. Under stress, INTPs display their emotions and may react to others in a way that goes against their calm character.

The ESTJ types are organizers who communicate and take action (Myers, 1993). They live by their beliefs and expect others to follow. They value competence, efficiency, and focus on what is real. While ESTJs enjoy organizing themselves, and others look to ESTJs to lead and complete the job, ESTJs can appear overpowering to some. The ESTJ types enjoy people, take relationships seriously, and fulfill responsibilities. When stressed, ESTJs tend to feel isolated, and it is more difficult for them to communicate their inner feelings.

The ENTJ types are natural born leaders and organizers (Myers, 1993). They are able to see problems and feel compelled to move in the right direction to correct them. People who are ENTJs value competence, knowledge, clarity, and can be critical. They enjoy people and stimulating conversations and like to challenge people verbally in an attempt to increase learning. Under stress, ENTJs may feel alone and unappreciated and may not be able to express themselves as well to others.

The ISFP types live in the moment and enjoy taking in their experiences (Myers, 1993). They enjoy their freedom and prefer to set their own pace, but are responsible in

fulfilling their obligations to others. People who are ISFPs have strong inner values and try to live their lives according to those values. They want to contribute to the well being of others and want their jobs to be more than just work. They learn best through doing, are observant, and are attuned to the needs and feelings of those around them. However, the enthusiasm and playfulness of ISFP may go unnoticed by others. Under stress, ISFPs can become uncharacteristically critical of themselves and others.

The INFP types live their lives by their inner core values (Myers, 1993). They want their work and contributions to have notable meaning and purpose. People who are INFPs are quick to see connections, are intrigued by opportunities, and are confined by structure. They enjoy reading, discussion, and reflection, and like to explore the complexities of human personality. They value deep relationships and appreciate others who understand their goals, but rarely share their deep feelings. When they feel stressed, INFPs may become overly judgmental and doubt their own personal competence.

The ESFJ types like to organize their surroundings, are timely, and have high expectations of others (Myers, 1993). They value security and like being appreciated. The ESFJ types are social, caring, want to be accepted, and like conflict resolution. They like variety but adapt well to routine, and they value their possessions. People who are ESFJs enjoy people, are genuinely interested in others, and much of an ESFJ's satisfaction comes from the contentment of those around them. They prefer schedules, tradition, and can clearly express themselves. Under stress, often, ESFJs are greatly troubled by their negative thoughts and become uncharacteristically critical of themselves and those around them.

The ENFJ types are highly aware of peoples' needs and feelings, and are there to provide support and encouragement to others (Myers, 1993). The ENFJ types are warm, energetic, harmonious, devoted, and see meaning in things when others do not. They are leaders, facilitators, and good listeners. They value relationships and will put people before work. When stressed, ENFJs may find fault in others but keep their opinions to themselves and be troubled by their negative thoughts.

Table 1

The 16 Types of the MBTI

ISTJ Serious, loyal, concentrative, practical, assume responsibility, organized	ISFJ Quiet, welcoming, responsible, stable, detailed, considerate	INFJ Original, persevered, conscientious, respected	INTJ Driven, future-looking, independent, critical, determined
ISTP Reserved, observant, curious, interested, logical	ISFP Sensitive, reserved, modest, loyal followers, relaxed, present	INFP Observant, balanced, idealistic, flexible, value oriented	INTP Quiet, reticent, logical, analytical, interested
ESTP Adaptable, tolerant, realistic, active, result oriented	ESFP Outgoing, fun loving, open-minded, go-getter, practical	ENFP Enthusiastic, ingenious, helpful, improvisational, persuasive	ENTP Quick, imaginative, attentive, frank, argumentative, resourceful, skillful
ESTJ Practical, straightforward, organized, decisive, detailed	ESFJ Compassionate, garrulous, popular, cooperative, harmonious, thoughtful	ENFJ Responsive, accountable, considerate, sociable, accepted	ENTJ Forthright, decisive, informed, rational, knowledgeable

Note: Adapted from Myers (1993).

Introverts appear in the top two rows because they are more likely to be pensive, whereas extraverts, in the bottom two rows, tend to be more grounded (Myers, 1993). Sensing and intuition are positioned within the chart in the same way that the dichotomous pair is seen in the MBTI. Thinking and feeling appear in columns with thinking on the outer columns and feeling on the inner columns. Myers designed the type table with thinkers on the outer columns because they are more objective and do not need to be surrounded with people like the feeling types do. Lastly, judgment and perception are placed in rows with judgment on the top and bottom row and perception in the middle two rows. Judgment types are placed on the outer two rows because of their decisiveness, and perception types are placed in the middle rows because of their adaptability.

Use of the MBTI in Education

According to Myers and McCaulley (1985), the MBTI is used in education in the following ways:

1. to develop different teaching methods to meet the needs of different types;
2. to understand type difference in motivation for learning. In reading, in aptitude, and in achievement, to use the understanding of learning motivation to help students gain control over their own learning and to help teachers reach more students;
3. to analyze curricula, methods, media, and materials in the light of the needs of different types;
4. to provide extra curricular activities that will meet the needs of all types; and
5. to help teachers, administrators, and parents to work together more constructively. (p. 4)

When educators understand the value and usefulness of the MBTI in their classrooms, improvements in the effectiveness of their instruction and guidance can be achieved.

Also, through use of the MBTI in education, a climate can be established where similarities and differences are valued.

MBTI and Learning

According to Brownfield (1993), the MBTI can be used to identify students' type as well as help students to understand their learning styles as a result of their type. Also, the MBTI can be used to help educators understand themselves and understand why they are able to reach certain students more effectively than other students. According to Brown (2003), teachers consciously and subconsciously teach the way they themselves learn best and/or they teach in the manner in which they were taught regardless of their students' preferred learning style. Stitt-Gohdes (2003, as cited in Brown, 2003) stated that "much research supports the view that when students' learning preferences match their instructor's teaching styles, student motivation and achievement usually improves" (p. 3). Therefore, because teaching styles do not always match learning styles, it is important for educators to be aware of students' preferred learning styles so learning can be maximized. As Myers and McCaulley (1985) stated:

Type provides a way to make assignments that capitalize on the strengths and minimize the blind spots of each type, to create teams that can bring more to teaching than any one teacher could do alone, and to create learning environments that increase the creativity of teachers in finding ways to motivate and instruct all sixteen types of students. (p. 136)

Lawrence (1979) noted that, typically, the 16 types are not evenly distributed in a given classroom. Lawrence believed this was because the general population consists of people from different occupations, socioeconomic backgrounds, and different educational levels. Myers (1975, as cited in Lawrence, 1979) collected and analyzed data from students and adults and found the following distribution:

1. Extraversion 70%- Introversion 30%,
2. Sensing 70%- Intuition 30%,
3. Thinking (female) 40%- Feeling (female) 60%,
4. Thinking (male) 60%- Feeling (male) 40%, and
5. Judgment 55%- Perception 45%. (p. 39)

Based on these findings, types are unevenly distributed, in particular for the dimensions of E/I and S/N. Therefore, the advantage of type theory and the MBTI is that it provides insight into how to help match learning environments to students' learning styles. Borg and Shapiro (1996) noted that educational psychologists have acknowledged for many years that people learn differently, and that a person's personality type plays a large role in determining how a person learns best.

According to Myers and McCaulley (1985, as cited in Haygood & Iran-Nejad, 1994), there are several implications of the MBTI in regard to learning style which include: (a) I types will do better in academia than E's, (b) N's will do better with academic text than S types, (c) I/N students will have an advantage over E/S students, (d) academic tasks that require logical analysis will favor T types, and (e) J/P is related to decision making and problem solving. As a result, learners learn most effectively through instruction that corresponds to their personality preferences.

Brownfield (1993) acknowledged that E types learn best through action, talking, group work, and trial and error; I types learn best in quiet environments where they can work alone, and they enjoy lectures. Sensing types learn best when they can see and touch concrete items and capture the realism; I types learn best when there is less routine, when assignments are open-ended, and when they can see the overall picture. Thinking types analyze and problem solve, and they learn best when instruction is clear; F types prefer friendly environments where they can work with others and receive individual

encouragement. Also, Brownfield explained that J types prefer a structured environment where expectations and due dates are explicit; whereas P types prefer a flexible learning environment with open ended assignments and class discussions. Brownfield stated:

The environment is a very important part of the learning styles, in that most students have or develop very definite preferences as to where they can learn best. Often, when they are not comfortable with their environment, they will not learn, or will not learn as effectively as possible. (p. 12)

According to Myers and McCaulley (1985), the types are characterized as:

1. extraverts are actively attuned to the changes in their environment;
 2. introverts more quietly process their depth of understanding;
 3. sensing types prefer a hands-on learning approach;
 4. intuitive types prefer learning from books that challenge their imaginations;
 5. feeling types respond when they appreciate what is being learned;
 6. thinking types respond best to clearly presented material;
 7. judging types learn best and thrive on clarity and structure; and
 8. perceiving types learn best when they have freedom in their learning.
- (p. 131)

Schroeder (1993) examined learning patterns and student performance in regard to E/I preferences and the S/I preferences. Schroeder found that approximately 50% of high school seniors are E/S, whereas I/N represents only about 10%. On the other hand, approximately 75% of educators on college campuses are I/N, and less than 10% are E/S.

Schroeder (1993) maintained that S types achieve academic success through practice-to-theory, whereas, N types thrive academically from theory-to-practice.

Sensing types like concrete experiences, structure, and clarity. Intuitive types prefer open ended instruction and diverse learning ideas and options. Schroeder explained:

Studies lead to speculation that there is a very strong link between students who prefer the sensing learning pattern and the learning styles exhibited by new students in schools. The reason is fairly obvious when we consider that approximately 75 percent of the general population has been estimated to prefer the sensing learning pattern. (p. 23)

Also, Hawkins (1998) examined students' types and found that E types prefer to think with their mouths and their hands, and I types prefer to measure ideas with private criteria. Extraverts tend to speak before they think and raise their hands first, while I students engage in reflection and rarely raise their hands. Sensing students are down to earth and thrive in classes that are practical. Intuitive students thrive in classes where theory and ideas are valued. Thinking students are objective and rely on cause and effect, whereas F students are subjective and make judgments based on their personal values. Lastly, J students seek closure and make decisions as soon as they believe they have enough information. Perceiving students keep their options open and delay decision making.

Lawrence (1993) found that, in the classroom, T types prefer order and need to achieve and endure in their commitments. Feeling types need personal acknowledgement and support and want to know that they are helpful to others. Also, F types are motivated by work that has meaning outside of the classroom and where they can work and interact with others. Judging types enjoy completion, closure, and they need structure. They want to know their responsibilities and the criteria by which they will be judged. Perceiving types need variety, freedom, and flexibility within the classroom so they do not feel imprisoned. Lawrence's observations on the learning styles of the 16 types are summarized in Table 2.

Educators and Type

Myers (1985) noted that each educator's type can be categorized within one of the 16 existing types, and it is possible for educators to have students in their classrooms that

Table 2

Learning Preferences of the 16 Types

ISTJ Linear learner Needs order Likes audiovisuals, lectures, independent work	ISFJ Linear learner Needs order Likes lectures, audiovisuals, independent work	INFJ Linear/global learner Likes independent work, open ended instruction, group harmony	INTJ Linear/global learner Likes independent work, open ended instruction, written tests
ISTP Linear learner Likes experiences, lectures, independent work, logical structure	ISFP Linear learner Likes experiences, group harmony but enjoys independent work, Needs sensitive educator	INFP Global learner, Needs options and due dates, Likes seminars, competition, autonomy	INTP Global learner, Needs options and due dates, Likes seminars, autonomy, written tests, open ended instruction
ESTP Linear learner, Needs reasons, Likes group projects and class reports, audiovisuals, competition, lecture	ESFP Linear learner, Likes experiences, audiovisuals, Needs order and specific goals, Needs reason	ENFP Global learner, Needs options and due dates, Likes seminars, group harmony, competition, autonomy	ENTP Global learner, Needs options and due dates, Likes autonomy, seminars, written tests, open ended instruction
ESTJ Linear learner, Needs structure, Needs reasons, Likes experiences, group projects and class reports, audiovisuals, lecture	ESFJ Linear learner, Likes structure, Needs reasons and specific goals, Likes experiences, team competition, class reports, audiovisuals	ENFJ Linear/global learner, Likes listening, written tests, open ended instruction, seminars	ENTJ Linear/global learner, Likes group work, competition, listening, seminars written tests, open ended instruction

Note: Adapted from Lawrence (1993).

represent each of the 16 types. Therefore, if educators are aware of their own type and the types of their students, they can better adjust their teaching styles and activities to meet the learning needs of their students. It is important for educators to recognize the differences between the psychological domains of the MBTI because not all types of students react to teaching instruction in the same way (Miller, 1991).

Lawrence (1979) found that, in elementary and middle school, more educators tend to be S types rather than N types. In high school, educators are about equal in terms of S/N. At the collegiate level, more educators are N types than S types.

Also, Lawrence (1979) determined that E type educators tend to give students more choices in their learning and are more aware of students' attitudes; whereas I type educators tend to provide their students with more structure and are more attuned to the ideas that they, as teachers, are trying to convey. Sensing type educators focus on facts and provide activities with a limited number of choices, and N type educators emphasize concepts and provide more choices and freedom. Thinking educators make more objective comments when they provide student feedback and like their students to focus on what they do. Thinking types address their class as a whole, whereas F types can more easily attend to one student at a time. Feeling type educators praise and criticize their students through words and actions, and they have students spend time on individual work. Judging type educators have orderly, scheduled classrooms, and P type educators allow more movement and socializing.

Chapter Summary

While it would be ideal for every student to be able to learn in their preferred

learning style, circumstances do not always make that possible. However, knowledge of psychological type and use of the MBTI (1956, as cited in Brownfield, 1993) can help educators to provide the kind of learning and environments that students need. Since educators' types may differ from their students, and they have a variety of types of students in their classrooms, they should incorporate a number of different learning strategies into their instruction so that every student has an opportunity to learn in their preferred learning style based on their type. In Chapter 3, Methods, this researcher details the target population, procedures, and goals that were used to develop a PowerPoint® presentation designed to present educators with information about the ways in which they should teach in order to maximize the learning of each of their students.

Chapter 3

METHOD

The purpose of this project was to present educators with information about the background of the MBTI (Myers & McCaulley, 1985) and the ways in which educators can incorporate the MBTI into their classrooms. The main objective of this project was to develop a PowerPoint® presentation designed to provide educators with tools and information about how the MBTI can be used as a way to better meet the learning preferences of their students.

Target Audience

All secondary educators would be interested in the use of the information from this project. Secondary educators could apply this information in their classrooms as a way to more fully understand personality preferences and increase student learning. The reason secondary educators are the target audience for this research project is due to the fact that students below eighth grade may not be able to make sense of the language used in the indicator, and students' preferences are not as clearly developed yet. In addition, through secondary educators' use of this project, high school students may be enabled to better understand themselves, their classmates, and their educator's instruction.

Procedures

The PowerPoint® presentation provides secondary educators with information that logically builds personality theory to type, to learning style, to teaching approach. Educators are given the background of the MBTI (Myers & McCaulley, 1985) in order to

become acquainted with Jung's (1923) psychological type and the MBTI as an indicator to sort people by personality preference. Next, secondary educators are informed of the variety of sources used to identify learning preferences of the 16 types identified in the MBTI. Lastly, this researcher links the various secondary educator teaching approaches (i.e., lecture, seminar, group work, individual work, self-paced learning, audiovisuals, etc.) to the types and temperaments to develop a taxonomy of approach and type.

Goals

The first goal of this project is to have educators understand individual types based on the MBTI (Myers & McCaulley, 1985). The second goal of this project is to teach educators about the four dichotomous preferences that result in 16 types. The third goal of this project is to help educators recognize the importance of incorporating the MBTI into the classroom. The fourth and final goal of this project is to provide educators with tips and advice about how they can adjust their instructional delivery and guidance to maximize student learning.

Peer Assessment

In order to determine the effectiveness of this project, this researcher asked three experienced educators to informally review the PowerPoint® presentation developed for this project and provide feedback. Their feedback is discussed in Chapter 5.

Chapter Summary

This researcher developed a PowerPoint® presentation designed for secondary educators to explain to them the importance of the incorporation of the MBTI (Myers & McCaulley, 1985) in their classrooms. The PowerPoint® presentation slides are presented in Chapter 4. In Chapter 5, this researcher discusses contributions of this

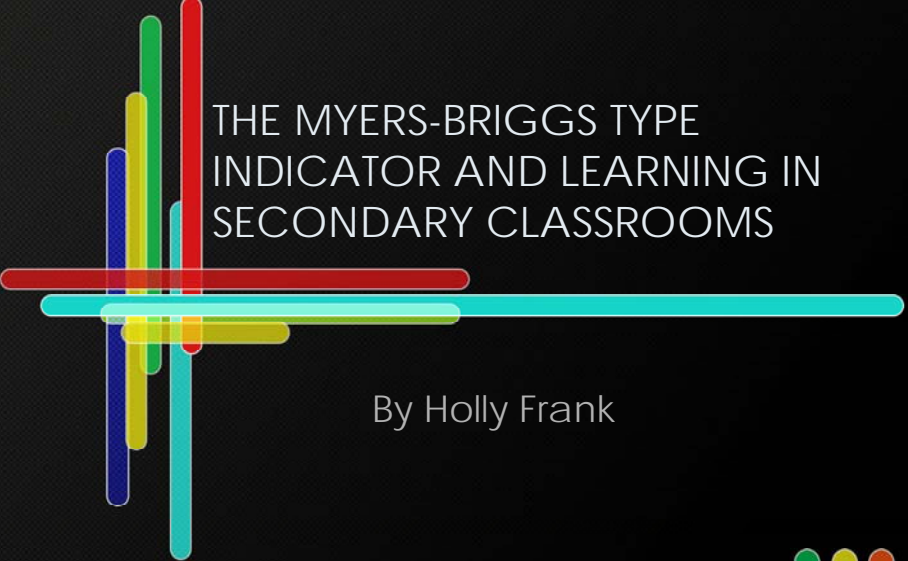
project, limitations of this project, peer assessment, recommendations for further development, and provides a project summary.

Chapter 4

RESULTS

Introduction

The identification and understanding of individual personalities, differences, and preferences can contribute to an improvement in the overall effectiveness of learning. It is this researcher's position that, through knowledge about students' types, based on the MBTI (Myers & McCaulley, 1985), educators may be better equipped to maximize student learning. Also, through educator's awareness of their own types, they may be better able to adjust their instruction to meet the preferred learning styles of their students. This PowerPoint® presentation has been designed for secondary educators to inform them about the importance of incorporating the MBTI (Myers & McCaulley, 1985) into their classrooms. A reference list for this PowerPoint® presentation can be found in Appendix A.



THE MYERS-BRIGGS TYPE INDICATOR AND LEARNING IN SECONDARY CLASSROOMS

By Holly Frank



Introduction

- Jung (1923)- Psychological Type
 - Perceiving (P) and Judging (J)
 - Sensing (S) and Intuition (N)
 - Thinking (T) and Feeling (F)
 - Extraversion (E) and Introversion (I)

- Carl Jung
 - Swiss psychologist
 - Interested in individual differences and developed a theory of psychological type over many years
- Personality types
 - Four dichotomous pairs that result in personality types
- Learning styles are related to personality type because individuals collect and process information differently

Background of the MBTI

- Briggs and Myers (1943)
- C. Jung
- WWII



- Briggs and Myers (1943)
- C. Jung
- WWII
- Myers and McCaulley (1985)-
 - Personality Instrument
 - Designed to implement a theory
 - Dichotomies
 - Dynamic relationship between the dichotomies- 16 types are created
 - Theory relates to development that is continuous throughout life
 - Each dichotomous scale relates to the functions of P and J which made the application very broad because P and J enter into almost every behavior

Explanation of the MBTI

- Used in multiple settings
- Identifies preferences



- Counseling, Work Place, & Education
- Personal differences
 - The MBTI does not measure competencies, but rather identifies personal preferences
- Interacting/Understanding others
- The MBTI is an inventory with questions that have no right or wrong answers
- Recommended for people age 14 and older

MBTI Forms

- Eight published MBTI forms
- Form M
 - **AGE:** 14 yrs+
 - **TIME:** 15-25 min
 - **ITEMS:** 93
 - **READING LEVEL:** 7th Grade
 - **SCORING OPTIONS:** Self-scorable

- Currently, there are eight published forms
- Form M- Standard as of 1998
- 90% or higher reliability

Preferences of the MBTI

- Extraversion/Introversion (E/I)



- Sensing/Intuition (S/N)



- Thinking/Feeling (T/F)



- Judging/Perceiving (J/P)



- E/I relates to attitude
- S/N refers to the process of perception
- T/F refers to the process of judgment
- J/P refers to the way in which people deal with the outside world

Dichotomous Preferences

- E/I
 - Extraverts
 - people, things, and actions
 - Introverts
 - inner world of concepts and ideas



- Extravert
 - social beings, and prefer to communicate verbally
- Introvert
 - reflective and private, and prefer to communicate through writing

Dichotomous Preferences

- S/I

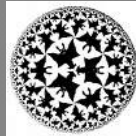
- Sensing

- focus on the reality of a situation, establish what actually exists, and take in information with use of their senses



- INtuition

- focus on possibilities, meanings, and relationships, and prefer to look at the whole picture



- Sensing
 - observant, factual, detail oriented, and ask *who, what, when, where*
- Intuition
 - abstract, future oriented, creative, and ask *why*

Dichotomous Preferences

- T/F

- Thinking

- logical decision making process



- Feeling

- makes decisions based on subjective, personal values, and takes others' feelings into consideration



- Thinking

- analytical, logical, rational, follow their head rather than their heart

- Feeling

- sympathetic, compassionate, harmonious, follow their heart rather than their head

Dichotomous Preferences

- J/P

- Judging

- focuses on making decisions and closure



- Perceiving

- focuses on spontaneity and incoming information



- Judging
 - planned, orderly, methodical, decisive, try to order and control their world
- Perceiving
 - flexible, adaptive, open ended, and casual

Types

- Natural Preferences

- 16 Types

(a) ISTJ	(e) INTJ	(i) ISTP	(m) ISFP
(b) ISFJ	(f) INFJ	(j) INTP	(n) INFP
(c) ESTP	(g) ENTP	(k) ESTJ	(o) ESFJ
(d) ESFP	(h) ENFP	(l) ENTJ	(p) ENFJ

- Table 1

Table 1

The 16 Types of the MBTI

ISTJ Serious, loyal, concentrative, practical, assume responsibility, organized	ISFJ Quiet, welcoming, responsible, stable, detailed, considerate	INFJ Original, persevered, conscientious, respected	INTJ Driven, future- looking, independent, critical, determined
ISTP Reserved, observant, curious, interested, logical	ISFP Sensitive, reserved, modest, loyal followers, relaxed, present	INFP Observant, balanced, idealistic, flexible, value oriented	INTP Quiet, reticent, logical, analytical, interested
ESTP Adaptable, tolerant, realistic, active, result oriented	ESFP Outgoing, fun loving, open- minded, go-getter, practical	ENFP Enthusiastic, ingenious, helpful, improvisational, persuasive	ENTP Quick, imaginative, attentive, frank, argumentative, resourceful, skillful
ESTJ Practical, straightforward, organized, decisive, detailed	ESFJ Compassionate, garrulous, popular, cooperative, harmonious, thoughtful	ENFJ Responsive, accountable, considerate, sociable, accepted	ENTJ Forthright, decisive, informed, rational, knowledgeable

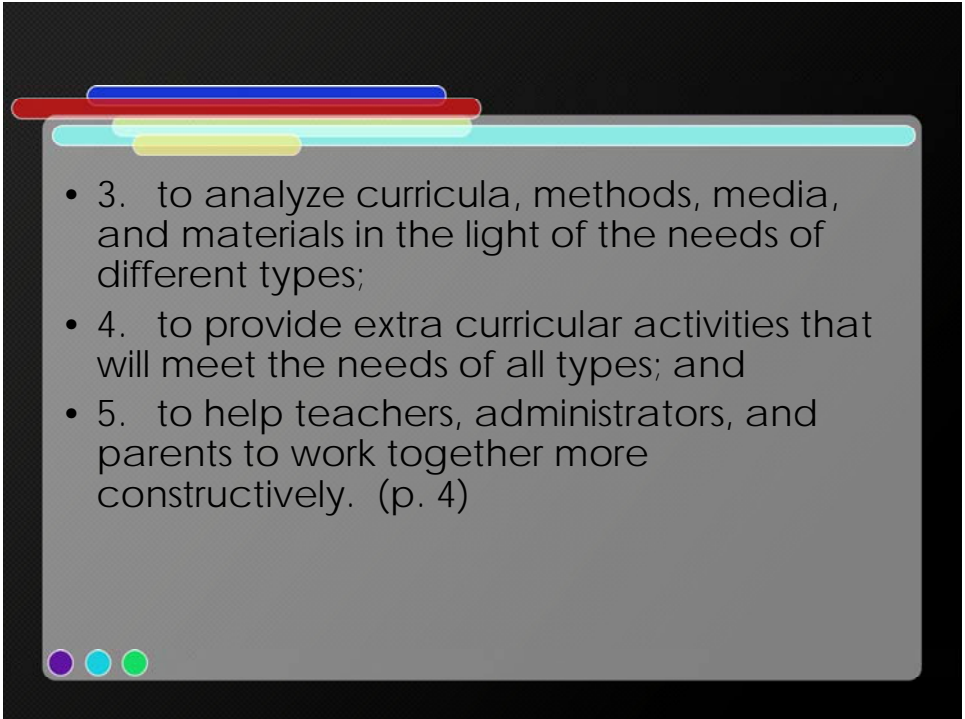
Note: Adapted from Myers (1993).

The MBTI and Education

Myers and McCaulley (1985)-

- 1. To develop different teaching methods to meet the needs of different types;
- 2. to understand type difference in motivation for learning. In reading, in aptitude, and in achievement, to use the understanding of learning motivation to help students gain control over their own learning and to help teachers reach more students;



- 
- 3. to analyze curricula, methods, media, and materials in the light of the needs of different types;
 - 4. to provide extra curricular activities that will meet the needs of all types; and
 - 5. to help teachers, administrators, and parents to work together more constructively. (p. 4)

The MBTI and Learning

- Brown (2003)
- Stitt-Gohdes (2003)
- Borg and Shapiro (1996)
- Brownfield (1993)
- Schroeder (1993)
- Hawkins (1998)



- Brown
 - Teachers consciously and subconsciously teach the way they themselves learn best and/or they teach in the manner in which they were taught regardless of their students' preferred learning style.
- Stitt-Gohdes
 - Because teaching styles do not always match learning styles, it is important for educators to be aware of students' preferred learning styles so learning can be maximized.
- Borg and Shapiro
 - Educational psychologists have acknowledged for many years that people learn differently, and that a person's personality type plays a large role in determining how a person learns best.

- Brownfield
 - The environment is a very important part of the learning styles.
- Schroeder
 - S types achieve academic success through practice-to-theory. S types like concrete experiences, structure, and clarity.
 - N types thrive academically from theory-to-practice. N types prefer open ended instruction and diverse learning ideas and options.
- Hawkins
 - E types prefer to think with their mouths and their hands. E types tend to speak before they think and raise their hands first.
 - I types prefer to measure ideas with private criteria. I students engage in reflection and rarely raise their hands.
 - S students are down to earth and thrive in classes that are practical.
 - INtuitive students thrive in classes where theory and ideas are valued.
 - T students are objective and rely on cause and effect.
 - F students are subjective and make judgments based on their personal values.
 - J students seek closure and make decisions as soon as they believe they have enough information.
 - P students keep their options open and delay decision making.

Myers and McCaulley (1985)

- **E**xtraverts are actively attuned to the changes in their environment;
- **I**ntroverts more quietly process their depth of understanding;
- **S**ensing types prefer a hands-on learning approach;
- **iN**tuitive types prefer learning from books that challenge their imaginations;

Myers and McCaulley (1985)

- **F**eeling types respond when they appreciate what is being learned;
- **T**hinking types respond best to clearly presented material;
- **J**udging types learn best and thrive on clarity and structure; and
- **P**erceiving types learn best when they have freedom in their learning.

- Myers and McCaulley
 - I types will do better in academia than E's
 - N's will do better with academic text than S types
 - I/N students will have an advantage over E/S students
 - academic tasks that require logical analysis will favor T types
 - J/P is related to decision making and problem solving
- Lawrence
 - T types prefer order and need to achieve and endure in their commitments.
 - F types need personal acknowledgement and support and want to know that they are helpful to others. Also, F types are motivated by work that has meaning outside of the classroom and where they can work and interact with others.

- J types enjoy completion, closure, and they need structure. They want to know their responsibilities and the criteria by which they will be judged.
- P types need variety, freedom, and flexibility within the classroom so they do not feel imprisoned.
- Typically, the 16 types are not evenly distributed in a given classroom

To Educators

- What can you do in your classroom?
- Based on your type, what are your preferences and learning styles?
- What behaviors are you observing in your students and what can you infer about their type?
- How might you adjust your teaching style to help meet the learning preferences of your students?

- Lawrence (1979) determined-
 - E type educators tend to give students more choices in their learning and are more aware of students' attitudes.
 - I type educators tend to provide their students with more structure and are more attuned to the ideas that they, as teachers, are trying to convey.
 - S type educators focus on facts and provide activities with a limited number of choices.
 - N type educators emphasize concepts and provide more choices and freedom.
 - T educators make more objective comments when they provide student feedback and like their students to focus on what they do. T types address their class as a whole.

- F types can more easily attend to one student at a time. F type educators praise and criticize their students through words and actions, and they have students spend time on individual work.
 - J type educators have orderly, scheduled classrooms.
 - P type educators allow more movement and socializing.
- By being aware of the dichotomous pairs, educators can become more aware of their preferences and how those preferences are displayed in their teaching style.

To Educators

- Table 2
- Teaching style
 - Preparation
 - Delivery
 - Activities
 - Feedback



- Since educators' types may differ from their students, and they have a variety of types of students in their classrooms, they should incorporate a number of different learning strategies into their instruction so that every student has an opportunity to learn in their preferred learning style based on their type.
 - For example- lecture, group work, individual work, self-paced learning, audiovisual, etc.

Table 2

Learning Preferences of the 16 Types

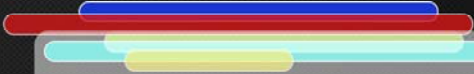
ISTJ Linear learner Needs order Likes audiovisuals, lectures, independent work	ISFJ Linear learner Needs order Likes lectures, audiovisuals, independent work	INFJ Linear/global learner Likes independent work, open ended instruction, group harmony	INTJ Linear/global learner Likes independent work, open ended instruction, written tests
ISTP Linear learner Likes experiences, lectures, independent work, logical structure	ISFP Linear learner Likes experiences, group harmony but enjoys independent work, Needs sensitive educator	INFP Global learner, Needs options and due dates, Likes seminars, competition, autonomy	INTP Global learner, Needs options and due dates, Likes seminars, autonomy, written tests, open ended instruction
ESTP Linear learner, Needs reasons, Likes group projects and class reports, audiovisuals, competition, lecture	ESFP Linear learner, Likes experiences, audiovisuals, Needs order and specific goals, Needs reason	ENFP Global learner, Needs options and due dates, Likes seminars, group harmony, competition, autonomy	ENTP Global learner, Needs options and due dates, Likes autonomy, seminars, written tests, open ended instruction
ESTJ Linear learner, Needs structure, Needs reasons, Likes experiences, group projects and class reports, audiovisuals, lecture	ESFJ Linear learner, Likes structure, Needs reasons and specific goals, Likes experiences, team competition, class reports, audiovisuals	ENFJ Linear/global learner, Likes listening, written tests, open ended instruction, seminars	ENTJ Linear/global learner, Likes group work, competition, listening, seminars written tests, open ended instruction

Note: Adapted from Lawrence (1993).


Teaching Suggestions

- For **E** students- in-class/out-of-class group work
- For **I** students- flowcharts, concept maps
- For **S** students- advance organizers
- For **N** students- provide the *big picture*
- For **T** students- Bloom's taxonomy
- For **F** students- small group exercises
- For **J** students- two column notes/color code
- For **P** students- sub-assignments and deadlines for larger projects

- By being aware of the dichotomous pairs, educators can realize different preferred learning styles, and make conscious decisions about changing/altering/adding-on to their existing teaching style in order to help maximize student learning in their classrooms.



Regardless of whether or not an educator knows an individual student's 4 letter type according to the MBTI, an educator should be able to infer students' preferences of the four dichotomous pairs based on their behavior. Hopefully, with this knowledge, educators will be willing to make some necessary changes in their teaching to increase student learning.



- Questions? Comments?

Chapter Summary

Knowledge of personality predilections and the learning styles associated with certain personalities can contribute to the establishment of optimal learning environments. By informing secondary educators about the MBTI, and the behavior and learning styles associated with the dichotomous preferences of the MBTI, this researcher hopes that educators can adjust their preparation and delivery of content to increase learning opportunities in their classrooms. In Chapter 5, this researcher addresses the contributions and limitations of this project, and also discusses peer assessment feedback and recommendations for further development.

Chapter 5

DISCUSSION

The MBTI (Myers & McCaulley, 1985), and the dichotomous pairs of preferences that comprise the MBTI, offers an explanation about individual personality, preference, and behavior, which can help to explain people's preferred learning styles. Because people have different preferred learning styles based on their personality type, it is important for educators to be aware of this and recognize that, as a result, students will have different preferred learning styles. The MBTI helps educators understand their preferred learning styles and how they approach teaching based on personality, and helps students understand their preferred learning styles as a result of their personality. The intent of this project was to create a PowerPoint® presentation for secondary educators about the importance of incorporating the relationship between personality type (as identified by the MBTI) and learning style in the classroom to ultimately increase student learning. In this chapter, this researcher discusses the project and its objectives.

Contributions of the Project

Research demonstrates that people learn differently, and that a person's personality type plays a large role in determining how a person learns best (Borg & Shapiro, 1996). This researcher believes that, by incorporating the MBTI (Myers & McCaulley, 1985) into the classroom, educators and students alike may be able to better understand individual differences in personality and learning styles. Since personality type is a contributing factor to how people learn, the use of the MBTI and implications of

type for learning in the classroom could be a way to increase the effectiveness of student learning.

Limitations

In many instances, it may be difficult to incorporate the MBTI (Myers & McCaulley, 1985) into secondary classrooms. There are three reasons for this. First, it is reasonable to assume that most schools and school districts would not be able to afford to purchase the instrument for students due to the cost of the indicator. Second, it may be hard for educators to find class time necessary to administer the MBTI and have it reviewed. Third, it may be difficult, expensive, and timely, to contact a certified MBTI technician to review and explain individual results. Despite these difficulties, if educators took the time to become aware of the utility of the MBTI, and used the information given in this researcher's PowerPoint® presentation, this researcher believes that significant payback for the time invested could be achieved. However, while this researcher has shared the ideas of this project and the PowerPoint® presentation with three secondary educators, she has not actually been able to present the information given in this project to a larger audience of secondary educators.

Peer Assessment

Three secondary educators reviewed this PowerPoint® presentation and found it to be thorough, and thought the information was interesting and valuable. The educators believed that all the essential points of the topic had been covered, and they thought the presentation idea was thoughtful and pertinent. Also, these three educators thought the information covered in this presentation would be useful in their classrooms, and that this project would benefit educators and students alike. This researcher is hopeful that, one

day, this research topic and the information presented in this project could actually become incorporated into secondary classrooms.

Recommendations for Future Research

If further research of this author's idea were to be completed, two separate recommendations are offered. First, there is a difference between type, as identified by the MBTI, and temperament, as defined by Keirsey's Keirsey Temperament Sorter II (KTS II, 2003). Keirsey has completed a thorough study and separation of aspects of personality based on behavior. Researching temperament, in addition to type, could be particularly relevant. Second, another recommendation for further research is to examine Kolb's Learning Styles Inventory (LSI, Kolb, 1984), which helps people to better understand how they prefer to learn and process information. Additional research could be completed to determine whether or not the incorporation of either the KTS II (2003) and/or the LSI (1984) into secondary classrooms could increase student learning as a result of personality.

Project Summary

This research has identified an alternative way for secondary educators to be able to increase student learning in their classrooms. The purpose of this project was to explore the benefits of incorporating the MBTI into secondary classrooms. A PowerPoint® presentation was developed to be used as a way to provide secondary educators with applicable information and resources about how to include and make use of the MBTI in secondary classrooms. Through awareness and recognition of differences in individual personality and learning styles, students and educators alike may benefit.

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APPENDIX A

PowerPoint® Presentation References

For Further Reading

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