The Relationship of Learning Strategy Preference and Personality Type

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Abstract: This study investigated the relationship of learning strategy preference to personality type. The findings indicate that while overall personality type is not related to learning strategy preference, three of the four indicators of personality type show a relationship to learning strategy preference.

Introduction

Both practitioners and researchers have sought for decades to determine effective ways to identify individual differences among learners. This has led to explorations in the area of learning styles and more recently in the realm of learning strategies. While "learning styles are cognitive, affective, and physiological traits that serve as relatively stable indicators of how learners perceive, interact with, and respond to the learning environment" (Keefe, 1982, p. 44), learning strategies are the techniques or skills that an individual elects to use in order to accomplish a specific learning task (Fellenz & Conti, 1989). Such strategies vary by individual and by learning objective. Often they are so customary to learners that they are given little thought; at other times much deliberation occurs before a learning strategy is selected for a specific learning task.

Learning strategy research has revealed that adult learners have a distinct preference for the types of learning strategies that they tend to use when approaching a learning task in daily life. Most of the learning strategy research with adults in formal and informal learning situations has been conducted with the Self-Knowledge Inventory of Lifelong Learning Strategies (SKILLS). This instrument conceptualizes learning strategies as being composed of the areas of metacognition, metamotivation, memory, critical thinking, and resource management (Conti & Fellenz, 1991). Research from 15 studies using SKILLS consistently found that adults do not differ in their learning strategy use based on demographic variables but that they do form distinct groups based upon their pattern of learning strategy use. Using the SKILLS database of 3,070 adults from diverse backgrounds, the Assessing The Learning Strategies of AdultS (ATLAS) instrument was developed and validated to quickly identify the learning preference group of adults (Conti & Kolody, 1998a).

ATLAS is a user-friendly instrument that uses multi-colored cards in a flow-chart format to identify learning strategy preference in approximately 2 minutes. With this self-report instrument, respondents are quickly placed into one of three groups: Navigators, Problem Solvers, or Engagers. Navigators are focused learners who prefer a well-planned, structured

learning environment complete with feedback that allows them to monitor their progress and remain on course. Problem Solvers are learners who rely heavily on the critical thinking strategies of generating alternatives, testing assumptions, and practicing conditional acceptance. Problem solvers prefer a learning environment that promotes creativity, trial and error, and hands-on experimentation. Engagers are passionate learners who operate from the affective domain with a love for learning and who learn best when actively engaged in the learning in a meaningful manner. Personal growth, increase in self-esteem, helping others, and working as part of a team

for a worthwhile project are emotionally rewarding to Engagers and will motivate them to embark upon and to sustain a learning experience (Kolody, 1997, p. 117).

Because participants in each of the learning strategies preference groups seemingly share common characteristics, do they also share certain personality traits that can help to predict, describe, and understand the learners in each of the groups? Personality style or type is a widely accepted concept among educators (Noring, 1993). This concept is based upon Jung's writing on personality and has been popularized by the availability of the Myers-Briggs Type Indicator (MBTI). The essence of the theory underpinning the MBTI is that much behavior which seems random is actually very orderly and consistent due to the basic differences in the way people prefer to use their perception and judgment (Myers & McCaulley, 1985, p. 1). "Perception involves all the ways of becoming aware of things, people, happenings, or ideas. Judgment involves all the ways of coming to conclusions about what has been perceived" (p. 1). Is there a relationship between perception, judgment, and learning strategy preference?

The MBTI, which was developed in the 1940's and has been continually updated, contains four separate indices concerning what people attend to in a given situation and how they draw conclusions about what they perceive (Myers & McCaulley, 1985, p. 2). These orthogonal scales measure (a) how a person is energized, (b) what a person pays attention to, (c) how a person decides, and (d) what lifestyle a person prefers (Noring, 1993). Extensive research has been done over the years to establish and confirm the validity and reliability of the MBTI and to keep it current with changing social conditions (Myers & McCaulley, 1985, Chapter 9).

Purpose and Methodology

The purpose of this study was to measure the relationship between learning strategy preferences and indicators of personality type. Learning strategy preference was determined with ATLAS, and personality type was measured with continuous scores on the MBTI. In this casual-comparative study, the research questions directing the research were (a) what is the relationship of learning strategy preference to overall personality type and (b) what is the relationship of learning strategy preference to the four indices constituting personality type.

Data were collected from 553 volunteers in Alberta, Canada, and in the states of Montana, Nebraska, New Mexico, Oklahoma, and Texas. This group was composed of Adult Basic Education teachers, public school teachers, professionals who teach adults in various agencies, adult students returning to a nontraditional college credit program, fire fighters, students in continuing education classes, community college students, and college students.

Respondents provided information concerning their age, gender, ethnicity, and educational level and then completed both the ATLAS and MBTI. The sample consisted of 321 females (58.2%) and 231 males (41.8%). The average age of the group was 30.8 with a range from 18 to 90. The ethnic make-up of the group was as follows: White--83.9%, Native American--6%, African American--4.9%, Hispanic--4.2%, and Other--1%. The educational level of the respondents varied as follows: Less than a high school diploma--.7%, high school diploma--37%, vocational or educational certificate--11.5%, associates degree--24%, bachelors degree--13.9%, and graduate degree--13.8%. The respondents were distributed across the three learning strategy preference groups as follows: Navigators--199 (36%), Problem Solvers--142 (25.7%), and Engagers--212 (38.3%).

Findings

"The MBTI contains four separate indices...Each index reflects one of four basic preferences which, under Jung's theory, direct the use of perception and judgment" (Myers & McCaully, 1985, p. 2). The Extraversion-Introversion (EI) index measures attitudes concerning whether to direct perception judgement mainly on the outer world or on the inner world of ideas. The Sensing-Intuition (SN) index focuses on the process of perceptions as being either depending on observable facts which can be ascertained by the five senses or on intuition which may be determined beyond the conscious mind. The Thinking-Feeling (TF) index reflects a person's processes of judgement as relying primarily on thinking to decide impersonally through logical thought or as relying on feeling to decide on the basis of personal or social values. The Judgement-Perception (JP) index describes a person's style of dealing with the outside world either by using a judgement process involving thinking or feeling or by using a perceptive process involving either sensing or intuition. "The preference on each index is independent of preferences for the other three indices, so that the four indices yield sixteen possible combinations called 'types'" (p. 2).

Since personality type has been conceptualized as the interaction of the 4 scales on the MBTI which produces 16 different personality types, the data were first analyzed using discriminant analyses (Conti, 1993; Klecka, 1980) to determine the relationship between learning style preferences and personality type. With this multivariant procedure, the respondents were divided into three groups based on their ATLAS scores, and the interaction of the four MBTI indices were examined. The results of this discriminant analysis indicated that learning strategy preferences are not meaningfully related to personality types. The discriminant function which was produced in this analysis was only 46.1% accurate in placing the respondents in their correct learning strategy group; the accuracy for each group was as follows: Navigators--61.3%, Engagers--40.1%, and Problem Solvers--35.8%. Since a random assignment of the responds to groups could expect an accuracy rate of 33.3%, the discriminate function was only a 12.8% improvement over chance. This low accuracy rate was reflected by an eigen value of .14 and a canonical correlation of .35 which indicates that the learning strategy preference groups only accounted for 12.3% of the variance in the analysis. Because of the lack of accuracy in the classification ability of the discriminant function and because of the low amount of variance accounted for by the process, this function, which was based on personality indices, was judged as not being useful for discriminating between the three learning strategy preference groups.

Although a person's overall personality type is not related to learning strategy preferences, three of the four personality indices do have a significant relationship with learning strategy preferences. Using continuous scores which are a linear transformation of the respondent's preference scores (Myers & McCaully, 1985, pp. 9-10), one-way analysis of variance indicated that the SN (F=20.22, df=2/550, p<.0001), TF (F=8.02, df=2/550, p=.0004), and JP (F=34.02, df=2/550, p<.0001) indices are related to learning strategy preferences. The EI index (F=.84, df=2/550, p=.43) showed no significant differences among the groups.

The post hoc comparisons of the three significant analyses using the Tukey test revealed that the learning strategy preference groups associated with each other differently on each index. Scores on the continuous scale for each index can range from 33 to 167. The midpoint for each index is 100. Scores below 100 are associated with the first term in the name of the index while those above 100 are associated with the second term in the name. On the Sensing-Intuition index, the Navigators (81.9) were strong on the Sensing side of the scale while the Problem Solvers (98.1) and the Engagers (95.2) were near the midpoint but also on the Sensing side of the scale. On the Thinking-Feeling index, the Navigators (92.7) and Problem Solvers (94.4) were on the Thinking side of the scale while the Engagers (101.7) were slightly on the Feeling side. The largest differences between the groups were on the Judgment-Perception index. Here the Navigators (85) were strongly on the Judgment side of the scale while the Engagers (105.6) and Problem Solvers (106.7) were on the Perception side of the scale. In all three analyses, the Navigators and Engagers were in different groups. However, the Problem Solvers align with each of these groups on the various scales; on the SN scale, the Problem Solvers are like the Navigators while they are like the Engagers on the TF and JP scales.

As with the past research related to learning strategies (Conti & Kolody, 1998a), the use of learning strategies was not associated with demographic variables. No differences existed among the learning strategy groups on the demographic variables of gender (F=.90, df=2/549, p=.41), age (F=.61, df=2/527, p=.54), or level of education (F=.55, df=2/546, p=.55).

Discussion

Although the characteristics of the learning strategy preference groups can easily lead one to speculate that certain types of learning patterns can be linked with specific personality types, no significant relationship was found between overall personality type and learning strategy preference; that is, personality type is not a predictor for discriminating among learning strategy preference groups. Thus, stereotypes cannot be made to link approaches to learning with overall personality types. It cannot be assumed that people will have a certain type of personality just because they approach learning in a certain way. Instead, the various personality types can be expected to exist within all three types of learning preference groups.

While the interaction of the various personality type indicators failed to show a relationship to learning strategy preference, three of the four indicators did show an individual relationship to learning strategy preference. While no differences were found on the Extraversion-Introversion scale, the Navigators were more Sensing and more Judging than the Problem Solvers and the Engagers. The Engagers were more Feeling than the Navigators and the Problem Solvers. Thus, those in the various learning strategy preference groups have differing degrees of support for the

various personality type indices which is not related to the comprehensive personality types theorized by the MBTI.

However, certain personality traits can be indicators of how one might be approaching learning tasks. The developers of the MBTI argue that overall personality type is a combination of the four indices which makeup the measure. This combination cannot be associated with the learning strategy preference groups because the Problem Solvers share personality traits in common with both the Navigators and the Engagers. Nevertheless, the individual traits that make up this combination can be associated with the groups. Of these, the traits of the Navigators are the strongest. Navigators have the strongest scores on Sensing, Thinking, and Judgement. These all indicate a preference for dealing with concrete items in a realist way. They favor making logical connections, planning operations, and organizing activities; they are not afraid to make a decision and to move toward closure on things (Myers & McCaulley, 1985, pp. 11-14). Engagers tend to rely more heavily than Navigators on subjective feelings and upon adapting incoming information to address immediate realities. The Problem Solvers are similar to the Engagers on Intuition and Perception, but they tend to rely more on making logical connections like the Navigators than on subjective feelings like the Engagers.

Thus, as with any concepts that have the potential of labeling people, care must be taken in how they are used. Learners cannot be labeled in their personality type because of the way they go about the learning process. However, certain traits that are associated with personality can be useful in providing insights about how people learn. Such a knowledge could help learners better understand how they go about the learning process. For the teacher, types of information such as this "can be beneficial to the selection of appropriate methods and techniques when they are used to focus understanding, discussion, and reflective thought about the learner; however, they can be detrimental if they are used to avoid critical thinking about the learners" (Conti & Kolody, 1998b, p. 137). By providing instructors with additional tools for better identifying ways to help adults learn effectively, this knowledge can be an important element in addressing individual differences in the learning process.

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