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Student Learning Styles and Personality Types: Their Implications for Teaching

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Student Learning Styles and Personality Types: Their Implications for Teaching
Or How to Teach to a Dawg Person if You Must!

Dr. Diann Moorman & Krista Clark
University of Georgia
What I hear, I forget.
What I hear and see, I remember a little.
What I hear, see and ask questions about or discuss with someone else, I begin to understand.
What I hear, see, discuss, and do, I acquire knowledge and skill.
What I teach to another, I master.

(Silberman, 1996)
Yankee Professor vs Southern Belle
We wondered....

- Does how I view myself impact my teaching style/strategies in my classrooms (e.g. cat person, dog person, mother, single parent)?
- Does a student’s sense of “self”/personality make a difference in his or her performance in the classroom? (e.g. cat person, dog person, athlete, rebel, geek, class-clown)
- Do these different types of students (“selves”/personalities) utilize different styles/strategies of learning in the classroom?
Cat People vs Dog People

- Recently, Dr. Sam Gosling, at UT, conducted a web-based study in which 4,565 individuals were asked whether they were dog people, cat people, neither, or both.

- The same group was given a 44-item assessment that measured them on the so-called Big Five Personality Dimensions psychologists often use to study personalities.
Dr. Gosling reported that “dog people” tend to exhibit *personality traits* where they are perceived to be more extraverted, more agreeable, and more conscientious.

“Cat people” tend to exhibit *personality traits* that indicate that they are more neurotic and more open to new experiences (hence the curious *kills the cat myth 😊*)
Links between personality types, learning styles and measures of success

- Strelau (1987) contends that one’s “style” is how one’s “traits” manifest themselves as behaviors.
- According to Kolb (1994) a person’s learning style is the result of hereditary factors, life experiences and the demands of the current environment.
- Schmechk (1988) states that personality traits are expressed in learning styles, and that learning styles are reflected in learning strategies, and that these learning strategies are manifest in learning tactics which in turn produce a likely outcome.
Links between personality types, learning styles and measures of success

Busato, V., Prins, F., Elshout, J. & Hamaker, C. (2000) found a positive association between the Big 5 personality trait **conscientiousness** and academic success as measured by GPA.

Furham, A., Jackson, C., & Miller, T. (1999) found that personality variables (**extraversion, neuroticism**) and certain learning styles (**reflector, pragmatist**) were statistically significant predictors of successful work performance.
Additional links between personality types, learning styles and measures of success

- Wolfe & Johnson (1995) lend support to the observation that **conscientiousness** successfully predicts positive college performance.
- Eysenck, H. (1992), and Yates, Yates and Lippett (1995) discovered that successful university students scored low on **extraversion** and low on **neuroticism**.
- Rocklin (1994) argues that **openness to experience** is positively related to school performance.
This study is directed toward an integration of learning style, and personality traits as predictors of academic success in higher education.

This study also questioned if “cat people” or “dog people” are more academically successful.
Survey was administered in the fall of 2011 to 601 undergraduate students enrolled in one of two Housing and Consumer Economic classes for 5 points of extra credit. 585 students successfully completed all instruments and were used in the final analysis.
Sample Descriptives

- Gender: Male (54.9%); Female (45.1%)
- Married: Single (97.3%); Not Single (2.7%)
- Race: White (77.9%); Black (8.5%); Other (13.6%)
- Class Rank: Senior (59.0%); Junior (32.8%); Other (8.2%)
- College: Business (54.1%); Other (25.1%); FCS (20.8%)
- Dog people: 75.2%
- Cat people: 20.0%
- Neither Cat nor Dog: 4.8%
Survey Instrument: The Big Five

Prior research (Gosling, 2011) indicates that The Big Five consists of the following five basic personality traits:

- Extraversion
- Agreeableness
- Conscientiousness
- Neuroticism
- Openness
Survey Instrument: The 10-Item Personality Inventory (TIPI)

- Modified version of *The Big 5 Personality Dimensions Inventory*
  - 10 items
  - 5 point likert scale: where 1 = never; and 5 = always
  - Chronbach’s alpha: .78
  - A higher score for each individual trait indicates a tendency for the participant to exhibit characteristics of that trait.
## The 10-Item Personality Inventory (TIPI)

<table>
<thead>
<tr>
<th>TRAIT</th>
<th>NEVER</th>
<th>SELDOM</th>
<th>SOMETIMES</th>
<th>OFTEN</th>
<th>ALWAYS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extraverted, enthusiastic</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Critical, quarrelsome</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Anxious, easily upset</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Dependable, self-disciplined</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Reserved, quiet</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Learning Styles Inventory

The LSI consists of the following three basic learning styles:

- Visual Learning Style
- Auditory Learning Style
- Tactile Learning Style
Survey Instrument: Learning Styles Inventory

- Researchers used a modified version of the Learning Styles Inventory (Instructor Magazine, 8-89).
  - 39 items
  - 5 point likert scale: where 1 = never; and 5 = always
  - Chronbach’s alpha: .82
  - A higher score in each individual learning style indicates that that style is the method of information intake or leaning strategy that is preferred by the student.
Question Examples:

1. When studying, I copy my notes over to help me remember material.
2. I benefit from illustrations and presentations that use color.
3. I acquire knowledge by reading aloud.
4. I need to be active and take frequent breaks.
5. I outline the chapters in my book to help me study.
In this study, students’ academic success was measured by self reported Grade Point Average (GPA). For ease of analysis GPA was recoded into quintiles.
To measure whether people self-identified as a dog or a cat person, participants were given a single-item measure with which they indicated whether they saw themselves as a cat person, a dog person, both or neither.
Data Analysis

- Correlations were used to establish relationships between independent variables and dependent variable.
- Linear regression was applied to establish the amount of variability in GPA that could be explained due to learning styles or personality traits.

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### Correlation Results: Personality Traits with Learning Style

<table>
<thead>
<tr>
<th>Personality Trait</th>
<th>Auditory</th>
<th>Tactile</th>
<th>Visual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurotic</td>
<td>-.131 (p&lt;.001)**</td>
<td>-.130 (p&lt;.002)**</td>
<td>.076 (p&lt;.065)</td>
</tr>
<tr>
<td>Conscientious</td>
<td>.139 (p&lt;.001)**</td>
<td>-.317 (p&lt;.000)**</td>
<td>.247 (p&lt;.000)**</td>
</tr>
<tr>
<td>Extraverted</td>
<td>.125 (p&lt;.002)**</td>
<td>.003 (p&lt;.952)</td>
<td>.099 (p&lt;.016)*</td>
</tr>
<tr>
<td>Agreeable</td>
<td>.188 (p&lt;.000)**</td>
<td>-.127 (p&lt;.002)**</td>
<td>.143 (p&lt;.001)**</td>
</tr>
<tr>
<td>Open to experiences</td>
<td>.212 (p&lt;.000)**</td>
<td>-.043 (p&lt;.295)</td>
<td>.126 (p&lt;.002)**</td>
</tr>
</tbody>
</table>
## Correlation Results: Personality Traits with GPA and cat/dog person

<table>
<thead>
<tr>
<th></th>
<th>Grade Point Average</th>
<th>Cat Person</th>
<th>Dog Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurotic</td>
<td>-.006 (p&lt;.893)</td>
<td>-.020 (p&lt;.624)</td>
<td>.014 (p&lt;.742)</td>
</tr>
<tr>
<td>Conscientious</td>
<td>.188 (p&lt;.000)*****</td>
<td>-.051 (p&lt;.220)</td>
<td>.061 (p&lt;.138)</td>
</tr>
<tr>
<td>Extraverted</td>
<td>.046 (p&lt;.267)</td>
<td>.022 (p&lt;.602)</td>
<td>.010 (p&lt;.804)</td>
</tr>
<tr>
<td>Agreeable</td>
<td>.010 (p&lt;.805)</td>
<td>-.106 (p&lt;.011)*</td>
<td>.114 (p&lt;.006)**</td>
</tr>
<tr>
<td>Open to experiences</td>
<td>.142 (p&lt;.001)**</td>
<td>.022 (p&lt;.597)</td>
<td>-.019 (p&lt;.645)</td>
</tr>
</tbody>
</table>
## Correlation Results: Learning Style with GPA and cat/dog person

<table>
<thead>
<tr>
<th></th>
<th>Grade Point Average</th>
<th>Cat Person</th>
<th>Dog Person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual</td>
<td>.102 (p&lt;.014)*</td>
<td>.038 (p&lt;.353)</td>
<td>-.031 (p&lt;.455)</td>
</tr>
<tr>
<td>Auditory</td>
<td>-.078 (p&lt;.061)</td>
<td>-.051 (p&lt;.220)</td>
<td>-.031 (p&lt;.460)</td>
</tr>
<tr>
<td>Tactile</td>
<td>-.164 (p&lt;.000)***</td>
<td>-.049 (p&lt;.237)</td>
<td>.063 (p&lt;.125)</td>
</tr>
</tbody>
</table>
Our Results and Previous Literature.

- Students with the highest GPAs tended to have *Visual Learning Styles*, and have *Conscientious* Personality Types (Busato, 2000; Wolf, 1995) and *Open to New Experiences* Personality types (Rocklyn, 1994).

- *Tactile Learners* and those with *Neurotic* Personality Types (Eysenck, 1992) had lower GPAs.
A question.....

- Are Tactile Learners struggling in the classroom because we do not offer them enough opportunities to achieve success?
  - Do our teaching styles put them at a disadvantage?

- Are Visual Learners more successful because of our PowerPoint presentations, and the movies that we show?

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Instructor Leaning Styles.....

- Please take a couple of minutes to complete the survey handed out.
- Select your top 3 techniques for how YOU learn students’ names in the classroom.
Instructor Learning Styles.....

- If you answered yes to (3,4,6) you are more likely a Tactile learner.
- If you answered yes to (1,7,9) you are more likely a Visual learner.
- If you answered yes to (2,5,8) you are more likely an Auditory learner.
If you did not self select into one of the three groups.....

- This is good news!
  - Teachers tend to teach best the way that they learn best rather than teaching to all 3 learning styles.

- In college, students try to adapt to their professors’ teaching style.
  - Even if it is not their preferred learning style.
Visual Learners...

- Use visual objects such as graphs, charts, and pictures
- Tend to remember things that are written down
- Able to memorize and recall various information
- Can read body language well and have a good perception of aesthetics
Auditory Learners…

- Often have talents in music
- Retain information through hearing and speaking
- Notice different aspects of speaking
- Often prefer to be told how to do things and then summarize the main points out loud to help with memorization
Tactile Learners…

- Prefer group work
- Generally good in math and science
- Like to use the hands-on approach to learn new material
- Would rather demonstrate how to do something than verbally explain it
In the classroom...

- “[...] in a typical 50-minute lecture class, students retain 70% of what is conveyed in the first 10 minutes but only 20% from the last 10 minutes.” (McKeachie, 1994)

- “A change of pace at least every seven to ten minutes can give participants the chance to refocus and renew their interest in the topic.” (Jones, Peters, & Shields, 2007)
Teaching is More Rewarding

- When students are taught in a way that they can understand, academic success is higher, and teaching is more rewarding.

- Teaching satisfaction is also increased by being innovative with their teaching methods.
Tips for Teaching Visual Learners

- Paint mental pictures
- Include demonstrations and visually pleasing materials
- Incorporate visual aids such as drawings, maps, graphs, and charts into lecture
- Encourage visual learners to sit near the front of the classroom
Tips for Teaching Auditory Learners

- Lecture should be in the form of an organized conversation
- Allow students to tape class lectures
- Suggest that students meet with classmates before and/or after class to discuss material
- Assign group work in class
Tips for Teaching Tactile Learners

- Include hands-on demonstrations
- Incorporate case examples to be discussed and solved
- When teaching, use a multi-sensory approach (hearing, seeing, touching, and doing) as much as possible
- Offer opportunities for service learning projects

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In General.....

- Be flexible and meet each learner’s needs
- Utilize a variety of teaching modalities, such as small group process, lecture, and experiential activities
- Provide information that will overlap with information learners already have
- Reiterate and reinforce information throughout the session
Thank you for your time and consideration!