Math Learning Styles Questionnaire

This questionnaire is designed to help us determine several aspects of your learning style as they relate to learning mathematics. **There are no right or wrong answers.** If both answers seem to fit you, choose the one that happens more often. If neither answer seems to fit you, try to think of experiences where you might have responded in one of the ways. There are areas at the end to add comments if you want to explain an answer.

**Math Learning Styles: An Overview**

**Sequential/Global Learners:** Sequential learners tend to gain understanding in steps, with each step following logically from the previous one. Global learners tend to learn in large jumps, absorbing material almost randomly without “seeing” connections, and then suddenly "getting it." Sequential learners tend to follow logical stepwise paths in solving problems; global learners may skip or worry about several steps ahead of themselves, but once they get the big picture, they solve problems quickly.

**Factual/Abstract Learners:** Factual learners often like to solve problems by well-established methods and dislike variations and surprises; abstract learners like innovation and dislike repetition. Factual learners focus on the procedure, while abstract learners cannot remember the procedure unless it makes sense. *Everybody is factual sometimes and abstract sometimes.* Your preference for one or the other may be strong, moderate, or mild.

**Active/Reflective Learners:** Active learners tend to retain and understand information best by doing something active with it—trying it or writing it or explaining it to others. Reflective learners prefer to think about it – “mull it over” – first. *Everyone is active sometimes and reflective sometimes.* Your preference for one category or the other may be strong, moderate, or mild.

**Accepting/Anxious:** Some students enjoy, accept or struggle with math, and tests are merely a challenge. Others become so anxious that they cannot remember even procedures that they did well right before the test. Students who have difficulty with math may or may not like the subject, but anxious students’ feelings are strongly negative; some even have a psychological “wall” that further blocks their learning once they have difficulty.

**Visual/Verbal Learners:** Visual learners remember best what they see--pictures, diagrams, flow charts, time lines, videos, and demonstrations. Verbal learners get more out of words--written and spoken explanations. Hands-on or kinesthetic learners learn best by doing things more physically, but will need to become more visual or verbal for tests. *Most people have some of each tendency for different activities.* We all learn more when information is presented both visually and verbally, and we can work with it physically.

**Visual Memory/Verbal Memory:** Although some people may learn better with visual presentations or with verbal presentations, how they remember the information may not be the same as how they learned it. This can cause important memory problems. Learners with visual memory strengths tend to remember information the way they saw it, while learners with verbal memory strengths tend to remember information in words, either from talking to themselves, or someone else talking.
Interpretation of Your Mathematics Learning Styles

Interesting Considerations:

Sequential/Global Learning Styles:
The early learning process in algebra is very sequential, with each step needing to be shown. This is going to be challenging for global learners.

- Learning “when it clicks,” and dislike of showing steps are key to this learning style.
- If you have ADHD or math anxiety, you also may worry about several steps ahead. It may or may not reflect your actual learning style. Look at your other responses.
- If you’re an abstract learner (especially needing to understand what you’re doing first) and global (especially learning when it clicks) it likely explains much of your struggle with math. You need to understand the material to do it, but that’s difficult because you don’t understand it until it “clicks.” If you also want to learn it one way (a factual trait) that complicates things even more!

Factual/Abstract Learning Styles:

- Needing to learn a problem one way, repeatedly, may mean you have anxiety and/or a history of failing math. Could it be that you’ve been shown too many ways to solve a problem?
- Whether you need to understand problems first, and how you feel about repetition are key points to this learning style.
- If you have ADHD, you may not like repetition, but that may or may not reflect your actual learning style. Look at your other responses.

Active/Reflective Learning Styles:

- For working with groups, you need to think about your tendency in non-math classes. Because of their difficulties with the subject, some strong group learners avoid math groups.
- Anxious learners tend to be physically active, but that may not be their true learning style here. Compare your answers to what they might be for other classes.
- If you practice as many problems as you can before a test, while your other responses showed you to be a more reflective learner, activity may just be to ease your anxiety.
- Reflective learners are the second most likely group to procrastinate on their homework (anxious learners procrastinate the most or the least).

Visual/Verbal Learning Style:

- How you prefer directions to a friend’s house is a key feature to this learning style.
- Negative self-talk can strongly affect a visual learner because it interferes with visual processing.
- If you would still take notes even with a notetaker is this because you feel uncomfortable not doing it, or because you will really benefit from the visual or kinesthetic input?

Visual Memory/Verbal Memory Style:
If your stronger modality (visual/verbal) in learning is different than your one for memory, then it can be difficult to remember what you’ve learned. How we deal with this depends on your other styles.

- If you’re mostly scolding or complaining when you talk to yourself, try to think about whether you talk through the steps when you’re not stuck on a problem. Negative self-talk blocks the verbal learner’s process and distracts the visual learner.
- Visual learners are more likely to “blank out” during tests, as well as use that term. It’s a visual description of their inability to retrieve images.
- If you are visual and global, you may need to use verbal techniques to help your memory.
- Those who are new at learning to talk their way through a problem often need to do it aloud. They may need an individual testing location so that they will talk, but not distract others.