

# Meeting the Needs of Visual-Spatial Learners

## Component 13 of the Competencies Collaboration

SEVA Council of Gifted Administrators

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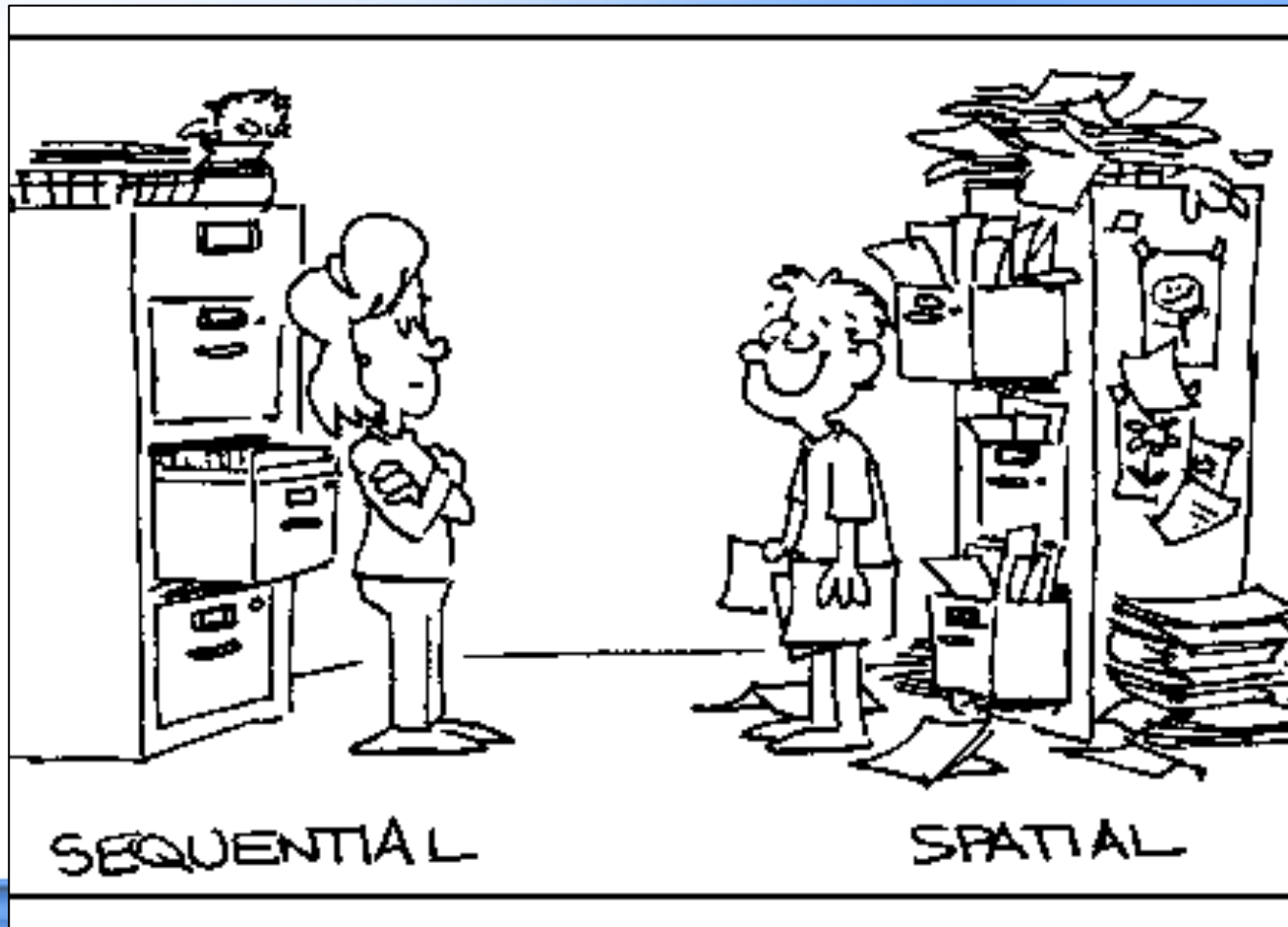
# 1. What are the strengths and characteristics of visual spatial learners?

Visual spatial learners may:

- Think primarily in pictures, not in words
- Be very good at reading maps
- Need to visualize words in order to spell them
- Use intuition to solve problems
- Have uneven subject grades in school
- May often be a late-bloomer
- May have strong artistic, mechanic, or technological talents
- May often be highly perfectionistic

- Visual spatial learners may prefer using images, pictures, colors, and maps to organize information and communicate with others. They can easily visualize objects, plans and outcomes in their mind's eye. They may also have a good spatial sense, which gives them a good sense of direction. They can easily find their way around using maps, and they rarely get lost. When they walk out of an elevator, they instinctively know which way to turn.

<http://www.learning-styles-online.com/style/visual-spatial>



Buck Jones

<b>Auditory-Sequential</b>	<b>Visual-Spatial</b>
Thinks primarily in words	Thinks primarily in pictures
Relates well to time	Relates well to space
Step-by-step learner	Whole-part learner
Attends to details	Sees big picture, may miss details
Is well organized	Creates unique methods of organization
Excels at memorization	Learns by seeing relationships
Good short term auditory memory	Good long term visual memory
Comfortable with one right answer	Generates unusual solutions to problems
Progresses from easy to difficult material	Prefers complexity; struggles with easy material
Can show steps of work easily	Arrives at solutions intuitively
May be academically talented	May be creatively, mechanically, or technologically gifted
Analysis; deductive reasoning	Synthesis; inductive reasoning

### 3. Mismatch and Potential

Why is it so important to meet the needs of visual spatial students?

- These students have the potential to become our best engineers, architects, and designers. They may also become great graphic artists, urban planners, movie directors, mechanics, and cartographers. They may have careers in mathematics, computer technology, aeronautics, and fine arts.
- Whatever their interests or future paths, these students are enrolled in our school systems which are usually structured for sequential learners, and spatial learners may struggle with the system. There may be a mismatch between the way the student is taught and the way the student processes information. To be successful in school, they may need to have their strengths recognized and supported.

## Auditory Sequential vs. Visual Spatial



L. K. Silverman



## 4. Is this student a visual spatial learner?

1. Does the student think mainly in pictures instead of in words?
2. Is he/she good at solving puzzles or mazes?
3. Does he/she like to build with LEGO, K'Nex, blocks, etc.?
4. Does he/she often lose track of time?
5. Does he/she know things without being able to tell how or why?
6. Does he/she remember how to get to places visited only once?
7. Can he/she feel what others are feeling?
8. Does he/she remember what is seen and forget what is heard?

(continued on next slide)

## Is this student a visual spatial learner? continued

9. Does he/she solve problems in unusual ways?
10. Does he/she have a wild imagination?
11. Does he/she love music, dance, art or drama?
12. Can he/she see things in the mind's eye from different perspectives?
13. Do others think he/she is unorganized?
14. Does he/she love playing on the computer?
15. Does he/she have trouble spelling words correctly?
16. Does he/she like taking things apart to see how they work?

If you answered **yes** to at least **nine** of the above questions, the student is most likely a visual spatial learner.

**DENNIS THE MENACE** By Hank Ketcham



"NONE OF MY TOYS WORK BECAUSE I TOOK THEM ALL APART TO SEE WHAT *MAKES* THEM WORK."

## 5. Basic Teaching Strategies and Tips

If you find yourself using phrases like these, you are probably already on the right track:

- Let's look at it differently.
- See how this works for you.
- I can't quite picture it.
- Let's draw a diagram or map.
- Think about what this might look like.

Use visual representations of the concepts to be mastered:

- Use Thinking Maps, concept maps, or other graphic organizers
- Let the students take notes in pictures or diagrams rather than in sentences
- Reinforce the “big picture” of the concepts you are teaching

## 6. Strategies for Instruction

The following strategies have been found to be effective in teaching children with visual-spatial strengths:

- Use visual aids such as document cameras, flip charts, and visual imagery in lectures.
- Use manipulative materials to allow hands-on experience.
- Use a sight approach to reading as well as phonics.
- Use a visualization approach to spelling: show the word; have them close their eyes and visualize it; then have them spell it *backwards* (this demonstrates visualization); then spell it forwards; then write it once.
- Have them discover their own methods of problem solving (e.g., in addition to teaching division step-by-step, give them a simple division problem, with a divisor, dividend and quotient. Have them figure out how to get that answer in their own way. When they succeed, give them a harder problem with the solution already worked out and see if their system works).

## Strategies for Instruction, continued

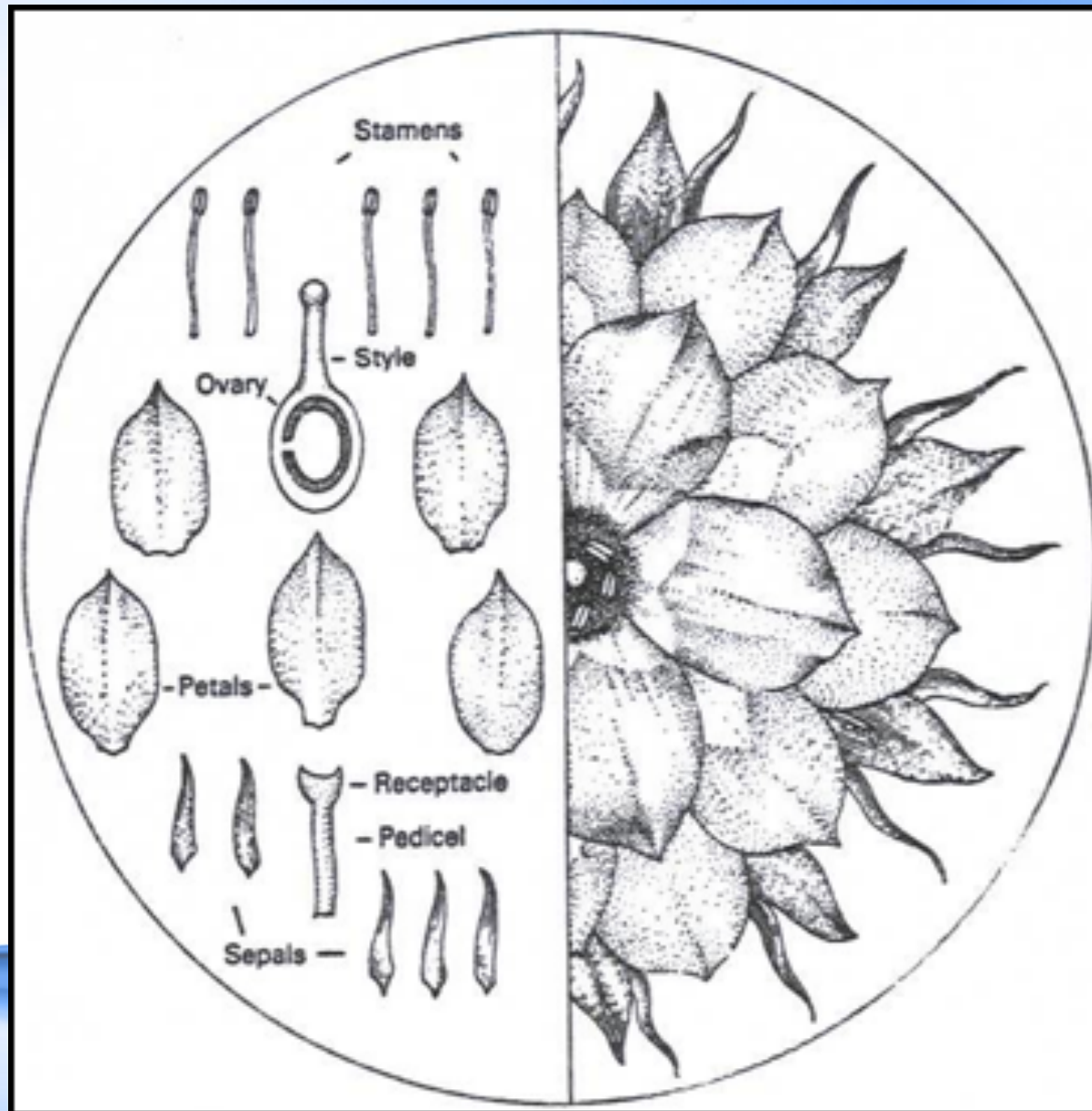
- Avoid rote memorization. Use more conceptual or inductive approaches.
- Avoid excessive drill and repetition. Instead, have them perform the most complex tasks in the unit.
- Find out what they have already mastered before teaching them.
- Give them advanced, abstract, complex material at a faster pace.
- Allow them to accelerate in school, if appropriate.
- Emphasize mastery of higher level concepts rather than perfection of simpler concepts in competition with other students.
- Emphasize creativity, imagination, new insights, new approaches rather than acquisition of knowledge. Creativity should be encouraged in all subject areas.

## Strategies for Instruction, continued

- Group gifted visual-spatial learners together for instruction.
- Engage students in independent studies or group projects which involve problem-finding as well as problem-solving.
- Allow them to construct, draw, or otherwise create visual representations of concepts.
- Use computers so that material is presented visually.
- Have the students discuss the ethical, moral and global implications of their learning and involve them in service-oriented projects.

- [http://www.beelddenken.info/documenten/upside-down\\_brilliance.pdf](http://www.beelddenken.info/documenten/upside-down_brilliance.pdf)

Auditory  
Sequential



Visual  
Spatial



## 7. More Teaching Strategies and Tips

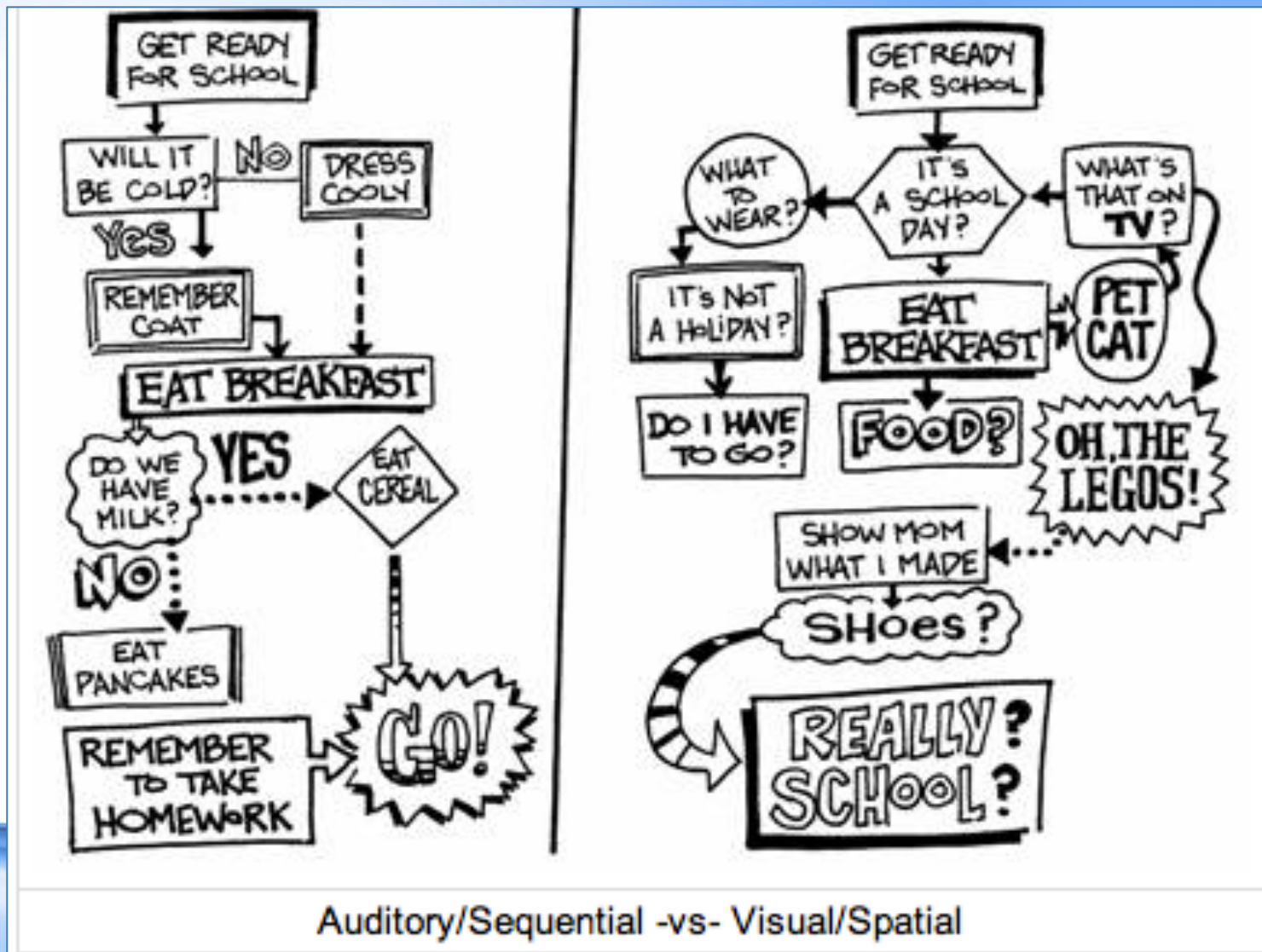
- Allow time after teaching a concept for students to close their eyes and visualize what they have just read or learned (e.g. "picture in your mind's eye how the main character we're studying in this novel might respond to his car breaking down").
- Let students draw pictures of the material they are learning (e.g. making spelling words into pictures, drawing images of their vocabulary words, using pictures to illustrate a project, etc.)
- Use computer software or apps that are highly visual and interactive to teach academic subjects (e.g. let students illustrate their ideas with draw and paint software or study history using *The Oregon Trail* software program).

## More Teaching Strategies and Tips, continued

- Allow students to demonstrate their understanding of a concept by building a model of it (e.g. clay figures to illustrate a story they've read, a diorama to show an historical event, pipe cleaners or commercially-made construction materials to show the structure of a molecule etc.).
- Make mathematics visual by using math manipulatives, by letting students create sketches to show their mathematical thinking, and by demonstrating new mathematical concepts through highly visual-spatial demonstrations (e.g. learning the formula  $\text{area} = \text{length} \times \text{width}$  by measuring the classroom).
- Show videos to accompany material being learned (e.g. watching the movie *To Kill a Mockingbird* either before or after reading the book by Harper Lee).
- Schedule brief "visual thinking" breaks for students which might involve solving visual-spatial puzzles, playing visual-spatial games (e.g. *Pictionary*, or doing imagination exercises like imagining what their ideal school would look like).

## More Teaching Strategies and Tips, continued

- Allow students to keep visual-thinking journals where they can record images, visual thoughts, and other spatial inspirations that come to them during the school day.
- Show students how to use the Internet to gain access to highly visual material related to a specific academic skill (e.g. entering vocabulary words into Google Images provides a wide range of pictures that vividly illustrate each word).
- Let students use mind-mapping as a way of taking notes (e.g. *Kidspiration* is a great app for mind-mapping on a computer).
- Use heavily illustrated reading material for academic subjects (e.g. books published by Dorling Kindersley are especially helpful for visual learners).



Auditory/Sequential -vs- Visual/Spatial

## 8. Minimize Visual Spatial Learners' Weaknesses

Although Visual-Spatial Learners have many strengths, they may have trouble with organizational, sequential, and time management skills. VSL kids will benefit from activities that will enhance these abilities, and minimize their weaknesses.

- Play games and do activities that have a sequence of events.
- Help develop organization techniques. Have boxes and binders and label with contents.
- Teach students to use webs and maps to organize ideas to be used in writing assignments.
- Use hands-on science projects to encourage kids to use the step-by-step scientific process. Use other visual projects for students to demonstrate understanding.
- Use colors to differentiate sequential steps that need to be taken.
- When instructions need to be given verbally, use pictures, symbols, stories, humor, emotion, and color as much as possible.
- Provide visual logic games.

## Minimize Visual Spatial Learners' Weaknesses, continued

- Encourage development of auditory skills by having students repeat verbal instructions back to you.
- If they struggle with organization, work with them to develop organizational habits to make sure they will get assignments handed in by due dates.
- Provide a timer and train them to use alarms to develop better time-management and time-awareness habits.
- Teach them how to go back and check their work on tests so errors on simple items are corrected before tests are handed in.
- To help with handwriting difficulties, reduce writing assignments, let students use computers, give oral tests, and teach writing as an art form such as calligraphy.
- Make up acronyms so kids can memorize materials.

## 9. Study Strategies for Visual Spatial Students

### ***Using technology***

- Take advantage of the visual elements of the computer in studying or locating information
- Take advantage of stop/start/replay in mediated programs
- Produce your own mediated programs in place of written reports
- Develop and apply graphical and/or three dimensional models to understand new material

### ***Reading text books***

- Look through titles, charts, graphs, and pictures to get an overall idea of the content before reading a chapter
- Use color highlighters to emphasize important material
- Write or illustrate in the margins (or on sticky notes) to emphasize important material

## Study Strategies for Visual Spatial Students, continued

### ***For lectures***

- Avoid visual distractions in classroom seating (windows, open doorways, etc.)
- Look for opportunities to break up lectures with reflective though active exercises (question-write-pair-share) and brain-storming sessions
- Illustrate your notes with images and graphs
- Review and organize your notes after class with concept maps
- Keep and organize a file of handouts and summary documents after lectures for review
- Request “guided notes” or blanks in handouts that provide you with cues for completion



## Study Strategies for Visual Spatial Students, continued

### ***Study habits***

- Always have the "big picture" before you especially when studying its parts or details
- When trying to remember things, close your eyes to get a picture or image of the information to facilitate recall, or use flash cards with limited information so that you can picture details and concepts
- Use mind or concept maps rather than outlines to organize writing assignments so you can visualize ideas, their connections, sequences, and conclusions. Brainstorm using illustrations, mind maps, and models.
- Once a concept is grasped, practice applying the information to new situations or progressive stepped learning in place of routine drill and practice that will challenge your attention span
- Look for alternative sources of visual material when you study. Try videos, flipcharts, PowerPoint demonstrations, graphs, maps, and media programs.

# Study Strategies for Visual Spatial Students, continued

## ***Test taking and assessments***

- Write out/illustrate steps in a sequence as a checklist to keep yourself on task
- Think of visual cues and associations in remembering information (You may also see the location of an answer rather than the answer itself!)
- If you are challenged by standardized and/or timed tests, meet with your teacher to discuss alternatives for assessment
- Essay and/or short answer tests, or class presentations/demonstrations may be optional assessment techniques
- <http://www.studygs.net/visual.htm>



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## 10. Summary of Tips for Visual Spatial Learners

- If you are a visual learner, use images, pictures, color and other visual media to help you learn. Incorporate much imagery into your visualizations.
- You may find that visualization comes easily to you. This also means that you may have to make your visualizations stand out more, making sure new material is obvious among all the other visual images you have floating around inside your head.
- Use mind maps. Use color and pictures in place of text, wherever possible. If you don't use the computer, make sure you have at least four different color pens.
- Systems diagrams can help you visualize the links between parts of a system, for example major engine parts or the principle of sailing in equilibrium. Replace words with pictures, and use color to highlight major and minor links.
- The visual journey or story technique helps you memorize content that isn't easy to 'see.' The visual story approach for memorizing procedures is a good example of this.
- Peg words and events come easily to you, however you need to spend some time learning at least the first ten peg words. Afterwards, your ability to visualize helps you peg content quickly.

## 11. References and Resources

- [https://www.gifteddevelopment.com/Visual\\_Spatial\\_Learner/vsl.htm](https://www.gifteddevelopment.com/Visual_Spatial_Learner/vsl.htm)
- <http://www.dyslexia.com/library/silver1.htm>
- <http://www.visual-learners.com/>
- [http://www.brightkidsworld.com/Visual\\_Spatial\\_Learners\\_by\\_Lauri\\_Robins\\_s/743.htm](http://www.brightkidsworld.com/Visual_Spatial_Learners_by_Lauri_Robins_s/743.htm)
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- <http://www.studygs.net/visual.htm>
- <http://www.docstoc.com/docs/91002539/Gifted-Visual-Spatial-Learners-Strengths-of-Visual-Spatial-Learners>

## 12. Post-Assessment Reflection Questions

- What are three things you learned about visual spatial learners?
- What are two ways you can connect these ideas and strategies to your existing instructional ideas and strategies?
- What is one burning question or need that you have?