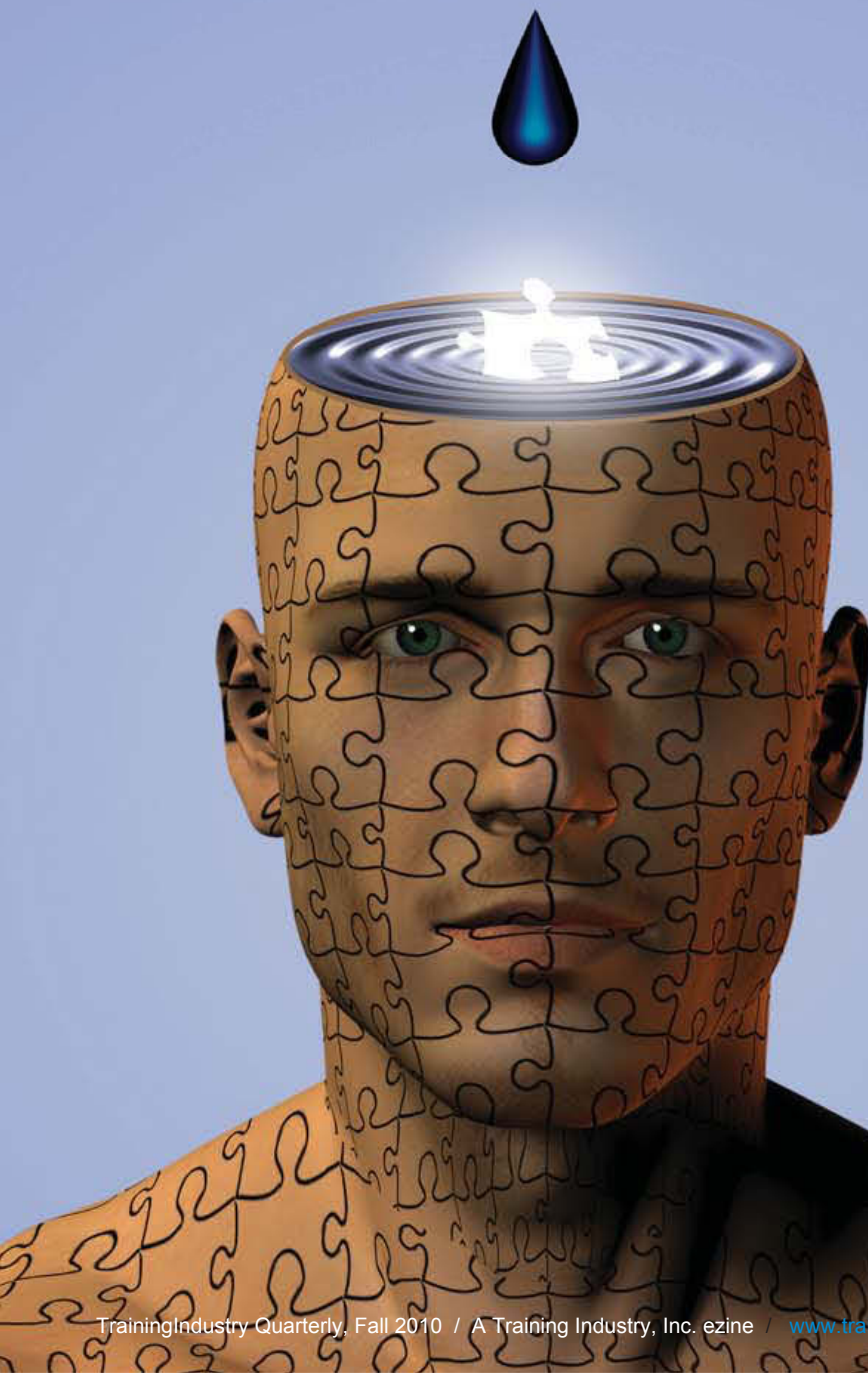


Learning Design for Every Mind

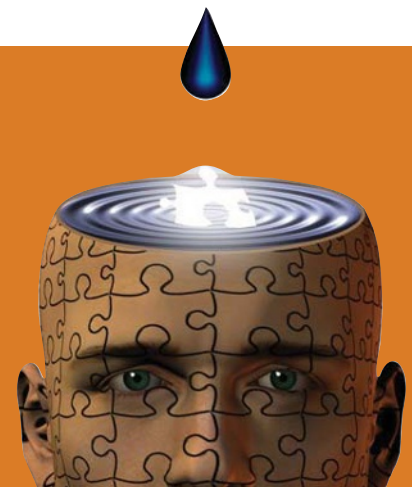
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THOSE WHO DEVELOP
OR DELIVER EFFECTIVE
TRAINING APPRECIATE
— AND ACCOMMODATE
— THE EIGHT
NEURODEVELOPMENTAL
CONSTRUCTS OR
CAPABILITIES THAT ENABLE
OR INHIBIT LEARNING
SUCCESS.

As workplace learning professionals, we've all wondered at times why some learners struggle to pay attention while others are myopically focused. Some love to talk while others keep to themselves. And many pale at the term "role play." These reactions are usually chalked up to learning styles, personality differences or even resistance to change. How about turning to science for some answers?



**LONG A STAPLE IN THE LEARNING
DESIGN LIBRARY, TEAM-BASED CASE
STUDY ACTIVITIES CALL ALL OF THE
NEURODEVELOPMENTAL CONSTRUCTS
INTO ACTION—REQUIRING MUCH MORE OF
PARTICIPANTS THAN ONE MIGHT EXPECT.**



Evolving research indicates that every time we invite a learner to participate in an activity, whether it's watching a video, preparing an action plan, engaging in a role play or case study, we place demands on several neurodevelopmental constructs or capabilities within the brain. When the activity leverages neurodevelopmental strengths, the more likely the experience will be successful and well received. When an activity draws on areas of neurodevelopmental weakness, discomfort, stress and even embarrassment can occur.

Those who develop or deliver effective training appreciate—and accommodate—the eight neurodevelopmental constructs or capabilities that enable or inhibit success learning new information or skills.

1. Training — regardless of its form — requires participants to demonstrate **attention**, which involves maintaining mental energy for learning and work, absorbing and filtering incoming information, and overseeing the quality of output.

2. Many training topics require **higher order cognition**, which

focuses on complex thinking including comprehending concepts, generating original ideas and using logical approaches.

3. It's a rare workshop or module that doesn't require participants to understand or communicate ideas — either orally or in writing. As a result, nearly all training draws on the **language** construct.

4. If your training, like most, asks learners to mentally manipulate, store or retrieve information, you are asking them to work with another construct, **memory**.

5. **Neuromotor functioning** allows muscles to be used in a coordinated manner. Physical activities, and even writing on a chart, tap into this construct.

6. Instructor-led learning relies heavily upon **social cognition**, the ability for participants to work in a cooperative manner, engage in appropriate conversations and nurture positive relationships.

7. Charts, graphs, pictures and other ways to help people think visually are part of the **spatial ordering** construct.

8. Content and learning activities that involve steps and

sequences, and anything that involves keeping track of order or time, require **temporal-sequential ordering**.

The following real-life case in point vividly depicts how these neurodevelopmental constructs play out in the real world.

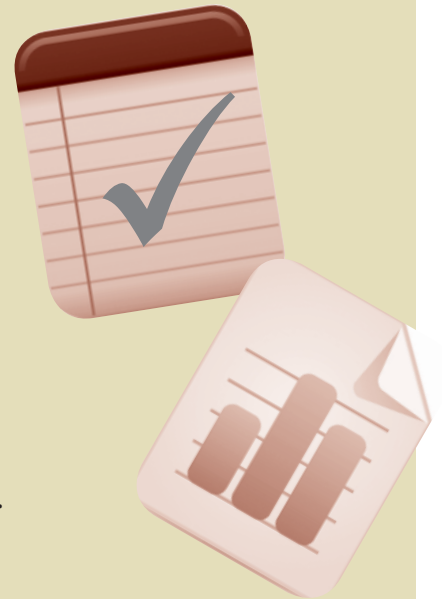
A facilitator excitedly anticipates the unveiling of a multi-part case study — heavily tailored to the work environment. As the small groups begin work, one team seems to take forever to get started — vigorously debating what they are expected to do. Later another group falls behind as they individually write answers to what are intended to be discussion-based prompts, struggling then to transfer content into a charted team summary. Things continue to unravel as another group polarizes over a decision point. A few participants start to check their phones. Disappointment prevails during the lackluster report-outs that fail to demonstrate the expected learning.

What happened? Long a staple in the learning design library, team-based case study activities call all of the neurodevelopmental

Chart your strengths

Complete this quick survey to learn about the neurodevelopmental framework and your own neurodevelopmental strengths and weaknesses. In the box below, note for each statement the number that best represents your candid reaction to each statement below. (Scale = 1-5, Rarely to Often)

1. I stick with demanding work without brain fatigue.
2. I can keep my focus and steer clear of distractions.
3. I routinely control impulses, plan, take my time, and check my work.
4. I remember processes and work well with them.
5. I am comfortable following steps and sequences.
6. I stay on track with numbered lists and sequences.
7. I am drawn toward visual and graphical materials.
8. I easily recall shapes, symbols and images.
9. I work well with diagrams and maps.
10. I juggle mentally lots of information and many ideas.
11. I readily memorize information.
12. I recall important information and events.
13. I gather and understand a lot of information through words and text.
14. I express myself well with words, sentences, and passages.
15. I use language to develop and extend thoughts.
16. I have good control of large body movements, such as for sports or dance.
17. I have good control of hand movements, like for art or playing musical instruments.
18. I write easily by hand.
19. I collaborate effectively in different settings.
20. I nurture positive relationships with others.
21. I am good at reading the mood of people and situations.
22. I usually understand ideas and concepts quickly and easily.
23. I apply logic and reasoning to most challenges.
24. I readily generate innovative ideas.



In the spaces below, write the number for each statement. Add up your scores for each column and enter the totals in the box below.

1 2 3	4 5 6	7 8 9	10 11 12
Attention: <input type="text"/>	Temporal Sequential Ordering: <input type="text"/>	Spatial Ordering: <input type="text"/>	Memory: <input type="text"/>
13 14 15	16 17 18	19 20 21	22 23 24
Language: <input type="text"/>	Neuromotor Functions: <input type="text"/>	Social Cognition: <input type="text"/>	Higher Order Cognition: <input type="text"/>

The grid represents a starting point for your own neurodevelopmental profile. Higher scores represent strengths to leverage for your personal learning and performance. Lower scores indicate areas that might not come as easily for you.

IT'S ONLY NATURAL THAT LEARNING PROFESSIONALS WILL GRAVITATE TOWARD LEARNING ACTIVITIES THAT PLAY TO THEIR NEURODEVELOPMENTAL STRENGTHS. IT'S IMPORTANT TO OBJECTIVELY ANALYZE THE NEURODEVELOPMENTAL DEMANDS.



All Kinds of Minds



All Kinds of Minds is a nonprofit organization credited with translating the latest research from

neuroscience and other disciplines about how children learn—and vary in their learning—into a powerful neurodevelopmental framework that educators can use in the classroom. This structure offers strong guidance for workplace educators as well.

This eight construct schema is derived from more than 35 years of study and practical application by pediatricians, psychologists, researchers and educators around the world. It draws from disciplines such as neuropsychology, speech-language pathology, occupational therapy and physical therapy. Since All Kinds of Minds was founded in 1995, more than 50,000 educators around the world have benefitted from this framework.

constructs into action — requiring much more of participants than one might expect. Four constructs are in particularly heavy demand:

- **Higher Order Cognition:**

Individuals must process a large volume of information, connect what they came into the workshop already knowing with new ideas and engage in spontaneous problem-solving while balancing independent thought with group dynamics.

- **Social Cognition:** Effective case study analysis requires that each group member contributes optimally. They must be adept at cooperating, drawing others out and functioning as a team, often charged with making joint decisions.

- **Language:** Learners must be able to understand the instructions and the volume of material supplied as background information, express points of view effectively, and report on their outcomes to the larger group.

- **Attention:** It takes mental energy to stay focused and

present while engaged in team discussion. Attention is further strained when others outside the group speak loudly and thoughts wander to personal priorities not being attended to.

This case study dilemma is just one illustration of how the neurodevelopmental framework can offer new insights into common learner responses. Follow these guidelines to better meet the different neurodevelopmental needs of training participants—case study and beyond:

- **Balance biases.** It's only natural that learning professionals will gravitate toward learning activities that play to their neurodevelopmental strengths. It's important to objectively analyze the neurodevelopmental demands of key activities and push beyond personal favorites. Begin by completing the self-assessment survey provided in the sidebar to identify personal neurodevelopmental strengths.

- **Tamper with the timing.** When possible, allow learn-

**RESULTS MAGNIFY WHEN EACH
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IN THE LEARNING PROCESS.**



ers more time with the materials they will need to use. Providing content in advance (or overnight for multi-day courses) allows those who require more time for higher order cognition to review and consider the materials. This also helps those who struggle with written language to take in the instructions and the information at their own pace.

- **Customize connections.** Encourage learners to form their own groups. This may help those who struggle with social cognition to gravitate toward others with whom they may feel more comfortable.
- **Tailor the to-dos.** Provide participants a menu of suggested questions to answer or steps to take and allow some flexibility to adjust the list based upon the depth and complexity of the group's thinking.
- **Mix the media.** Whenever possible, provide instructions and other information in multiple modalities. Those who may struggle to absorb the written word will likely have better luck with verbal instructions and other material. Consider easy, low-cost audio clips to

supplement printed content and enrich cases and activities.

- **Offer output options.** Groups with expressive oral language strengths can provide eloquent verbal debriefs. Those with other strengths should be encouraged to use them. Charts that summarize key ideas, illustrations, diagrams, pictures or re-enactments may better leverage other neurodevelopmental abilities.

Conclusion

As learning professionals, our organizations are counting on us to deliver not just training, but results. Learners want relevancy, practicality and learning experiences that work for them as individuals. Results magnify when each participant has an opportunity to engage his or her neurodevelopmental strengths in the learning process. Incorporating the neurodevelopmental framework into our design and facilitation practices heightens success. The learning approaches that will deliver the best results are those designed and delivered for every mind.

Takeaways

- Everyone learns differently. Those differences go beyond style to the way the mind works.
- Watch the assumptions that are made when activities aren't well received. Take a fresh look by considering the neurodevelopmental demands of the activities participants are asked to complete.
- Discover and leverage the neurodevelopmental strengths of trainees and meet the needs of more learners than ever before.

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