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# Response to Mild Cognitive Impairment: How to Run a Cognitive Rehabilitation Class

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# RESPONSE TO MILD COGNITIVE IMPAIRMENT; HOW TO RUN A COGNITIVE REHABILITATION CLASS

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# Previous Research

- Those with challenging careers and higher levels of education are more resilient to the onset of dementia (Fratiglioni & Wang, 2007).
- There is evidence that cognitive stimulation may improve memory ability in older adults who have normal age-related memory deficits (as cited in Winningham & Dinius, 2010).

# What Is The Point?

- Winningham et al. (2003) found that older adults living in assisted living communities were able to improve their ability to make new memories by about 15% after participating in the cognitive exercise program 2-3 times a week for 3 months (as cited in Winningham & Dinius, 2010).
- Older adults who engage in cognitively stimulating activities may be able to prevent or delay the onset of dementia, including Alzheimer's disease (Winningham et al., 2003).
- These activities are designed to work multiple areas of the brain with the intent to build long lasting results.

# Cognitively Stimulating Activities

- For independent older adults this can range from learning a new hobby, taking a class, and reading a new book.
- Our classes focus on creating and utilizing activities that exercise various aspects of cognition, for example: memory, attention and inhibition.
- WOU's Cognitive Rehab team has been offering various activities.

# Buzz

- Buzz is a group counting game. Participants sit in a circle and begin to count. Each participant says one number, followed by the person next to them saying the next number.
- The people who must say any number with a 7 in it, or a multiple of 7 (7, 14, 17, 21 ...etc.) must say BUZZ and the counting switches directions.

# Buzz

- 7, 14, 17, 21...
- Let's try it...



# Buzz

- Buzz is designed to work attention, inhibition, and working memory.
- Inhibiting the natural process 5 6 7 to say 5 6 BUZZ
- It can be difficult to keep track of when it is your turn, as well as to count ahead.
- Multiples of 7 are particularly difficult when compared to the other single digits.

# Sudoku #1

2		5			7			6
4			9	6			2	
6				8			4	5
9	8			7	4			
5	7		8		2		6	9
1			6	3			5	7
7	5			2				
8	6			5	1			2
3			4			5		8

# Why Sudoku?

- The ability to pay attention decreases with age.
- Attention is the gateway to memory, in order for many memories to be encoded some amount of attention is required.
- Sudoku requires active attention in order to complete the task.
- By enhancing and developing attention it paves the way for creating new memories.

“Darrell suspected someone had once again slipped him a spoon with a concave side reversed” ...



Darrell suspected someone had once again slipped him a spoon with the concave side reversed.

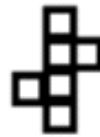
# Mental Rotation

- Participants must mentally rotate the shape and choose which one is the same shape. Mirrored and similar images don't count.

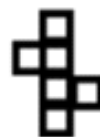
1.



A



B



C

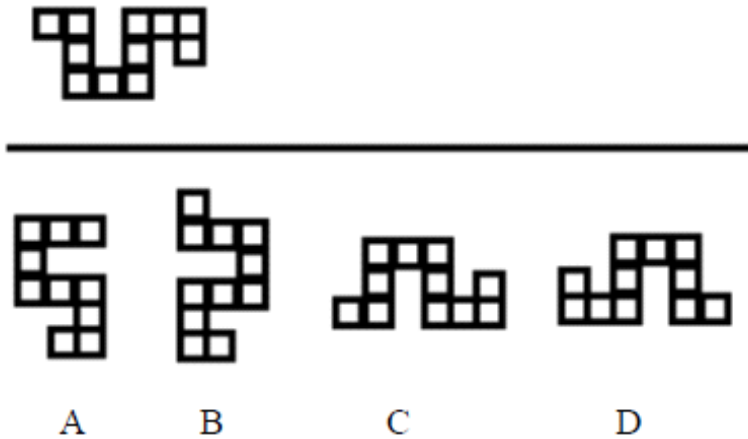


D

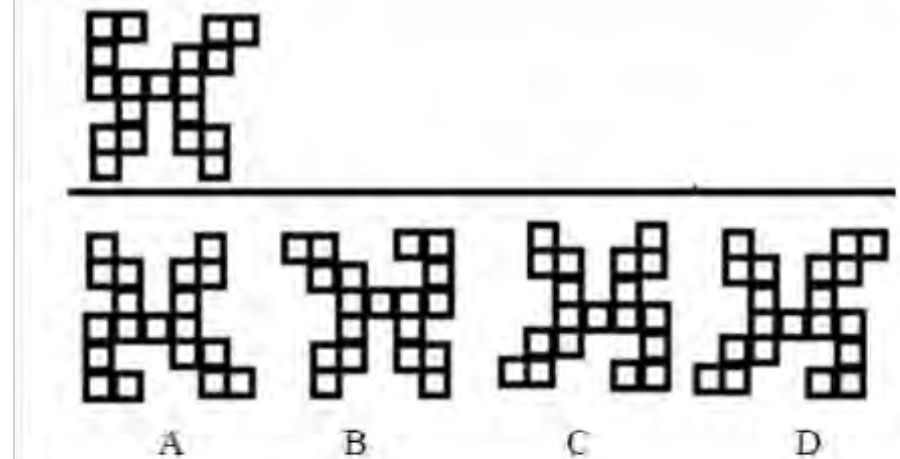
# Mental Rotation

- They start out easy, but on some of the harder difficulties the answer isn't as apparent.

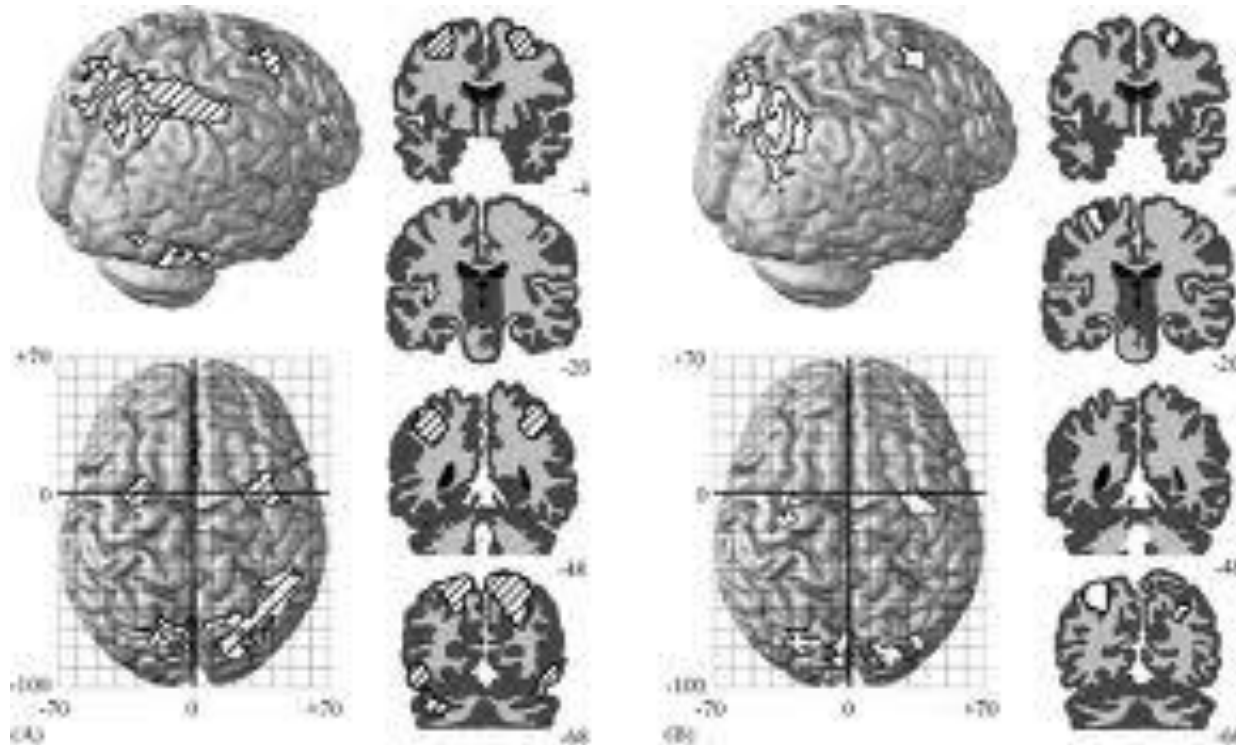
2.



5.



# Brain Activity During Mental Rotation



# Verb Generation

- Difficulty in generating verbs has been shown to be a sign of Alzheimer's, so generating verbs might slow the loss of this verbal ability.
- Generating verbs is a challenging linguistic activity that also exercises attention, executive functioning, and word fluency (all of which decline with age).



# Verb Generation

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- List the things that athletes do:

# A-Z Names

- Participants must come up with a name that starts with every letter of the alphabet.
- This activity is a great activity because it has nearly unlimited possibilities.

U	_____
V	_____
W	_____
X	_____

# Sentence Inhibition

- Participants are supposed to verbally state an answer to the sentence that is different from the typical response.
- This works inhibition and attention.

# Sentence Inhibition

- It's raining cats and \_\_\_\_\_
- Wow, she got there in the nick of \_\_\_\_\_
- Could you please pass the salt and \_\_\_\_\_?
- Three strikes and you are \_\_\_\_\_

# Challenges

- People forget to come to class or to do their homework.
- Motivating people to continue getting cognitive stimulation (e.g., outside of class or after the class is complete).
- Emotional states (mood problems, anxiety) and inhibitory deficits.
- Developing activities that will work for people of varying cognitive abilities.
- Sensory deficits (e.g., hearing and visual impairments).

# Benefits

- Social interaction.
- Many people claim that this experience improves their quality of life.
  - Hope
  - Increased self-efficacy
- Benefits for the instructor:
  - Giving back to the community
  - Practicum and hands on experience
  - Meeting a real need in the community

# The Future

- Continue running classes in the community.
- Continue making new activities.
- Continue researching the latest studies in this area to create new activities from.
- Ask Dr. Winningham if you are interested in learning more about the Cognitive Rehab Team.

# References

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