

# Adult Learning Lesson Plan: Cognitive Overload

---

<b>Title:</b>	Cognitive Overload
<b>Author(s) – (Submitted by)</b>	Jennifer Herrod
<b>Email:</b>	<a href="mailto:Jennifer@jchconsulting.com">Jennifer@jchconsulting.com</a>
<b>School / University Affiliation:</b>	University of Colorado at Denver
<b>Endorsed By:</b>	Dr. May Lowry
<b>Date:</b>	September 2000
<b>Targeted Audience:</b>	Instructional Designers and Trainers
<b>Duration:</b>	One Hour
<b>Instructional Strategy Used:</b>	Various
<b>Suggested Numbers of Learners:</b>	10-20
<b>Prior Knowledge Needed Of Learners:</b>	<ul style="list-style-type: none"><li>• Knowledge of instructional strategies</li><li>• Basic knowledge of instructional design</li></ul>
<b>Description:</b>	This course provides a general understanding of what cognitive overload is, how to identify cognitive overload and how to avoid cognitive overload through the use of various instructional strategies.
<b>Objectives:</b>	By the end of this session, participants will: <ul style="list-style-type: none"><li>• <b>Knowledge:</b> Understand the concept of cognitive overload.</li></ul>

# Adult Learning Lesson Plan: Cognitive Overload

---

- **Skills:** Identify instructional strategies that reduce cognitive load.
- **Attitude:** Recognize the importance of managing cognitive load.

**Materials Needed:**

- Downloaded Slide Show
- Downloaded Trigram Retention Activity
- Downloaded Bibliography
- Flip Charts
- Markers
- Computer with Power Point
- Projector
- Screen

**Class Outline:**

**Section 1 – Introduction**  
**5 Minutes**

**Materials**

**Directions**

**Notes**

# Adult Learning Lesson Plan: Cognitive Overload

---

PowerPoint Presentation  
Attention grabber story  
Slide #1

- Start off with a quick story about a time when you were in a class and felt totally overwhelmed.
- Introduce topic.
- The idea behind the story is to have the learners identify with cognitive overload, each adult learner has more than likely experienced this, but didn't have a name for it.

## **Section 2 – Memory, Information and Cognitive Overload** **15 Minutes**

### **Materials**

PowerPoint Presentation  
Slide 2-9

### **Directions**

- Slide #2-3, Describe how the human memory takes in new information.
- Slide #4-5, Describe how humans process new information.
- Slide #6-7, Discuss how cognitive overload fits in with the human memory and human information processing.
- Slide #8-9, Grammar/language example of cognitive overload

### **Notes**

- Use analogies such as RAM for the working memory and a filing cabinet for long-term memory and desk for the working memory.
- This is a content intensive section, but is necessary to understand cognitive load.
- Slide #8, is one example of cognitive overload, trying to have the learners process and retain a large amount of information.

## **Section 3 – Experience Cognitive Overload** **20 Minutes**

### **Materials**

### **Directions**

### **Notes**

# Adult Learning Lesson Plan: Cognitive Overload

---

- Trigram Retention Activity-handout
  - PowerPoint Presentation
  - Slide #10-12
  - Flipchart
  - Markers
- Break participants into pairs and complete the Trigram Retention Activity.
  - Slide #9, debrief and discuss graph.
  - Ask participants how they felt during the activity.
  - Ask what strategies they used to try and remember the trigram.
  - Point out indicators of cognitive overload.
- You can have each learner participate in this activity by having him or her switch roles when they are finished.

## **Section 4 – Using Instructional Strategies to manage Cognitive Overload** **20 Minutes**

### **Materials**

- PowerPoint Presentation
- Slide #13-14
- Flipchart
- Markers
- Instructional Strategies for Avoiding Cognitive Overload Job Aid-hand out

### **Directions**

- Have learners brainstorm for instructional strategies that reduce cognitive load and write them on the flipchart.
- Ask what would have been helpful to them during the Trigram Retention Activity to help them remember the trigram.
- Ask the learners to recall a time when they have experienced cognitive load.
- Ask the learners what strategies they

### **Notes**

# Adult Learning Lesson Plan: Cognitive Overload

---

use personally to manage cognitive load.

- Ask the learners what strategies they have used in past instructional design to help their learners manage cognitive load.
- Slide #13-14, summarize the brainstorm activity.
- Hand out Job Aid.
- Review the learning objectives.

## Final Resources:

## Preparation Checklist(s):

- Laptop and all peripherals
- Projector
- Screen
- Flip Charts with Markers
- Trigram Retention Activity Handouts
- Room setup is a “U” configuration with screen in the front or top of U
- Copies of PowerPoint Presentation
- Instructional Strategies for Avoiding Cognitive Overload Job Aid

# Adult Learning Lesson Plan: Cognitive Overload

---

Copies of Annotated Bibliography

## Assessment:

There is not a formal assessment for this training session.

## Recommended Resources:

Clark, Ruth Colvin. Building Expertise: Cognitive Methods for Training and Performance Improvement.

**Chandler, Paul and Sweller, John. “Why Some Material Difficult to Learn.”**  
**Cognition and Instruction 12 (1994): 185-233.**

This article by Chandler and Sweller was published for the academic journal Cognition and Instruction in 1994. The authors discuss why some material is more difficult to learn than other material focusing on the Cognitive Load Theory.

**Clark, Ruth Colvin and Taylor, David. “The Causes and Cures of Learner Overload.”** Training July 1994: 40-43.

This article provides a good example of learner overload in a training context.  
**Cognitive Load/Cognitive Load Theory** (Sweller, 1988; 1994) –An instructional theory that describes learning structures in terms of an information processing system involving the human memory.

## Key Terms:

## Attachments Needed For Class:

- Trigram Retention Activitiy
- Copies of PowerPoint Presentation
- Instructional Strategies for Avoiding Cognitive Overload Job Aid
- Annotated Bibliography for Cognitive Overload