

Handy
Learning
Seminars, Inc.

Presents

Unraveling the Mysteries of Motor Planning

By: Susan Thompson, OTR/L



Handy Learning Seminars, Inc.
2201 Long Prairie Rd. Suite 107, #810
Flower Mound, TX 75022
972-375-8618

For more information about this and other seminars:

www.handylearning.com Susanotr@gmail.com

Unraveling the Mysteries Of Motor Planning

I. Introduction

1. Dread and Fear
.....oh dear!
2. **Who am I?** Susan Thompson, OTR, Susanotr@gmail.com
www.handylearning.com
 - a. **Handy Learning and The Write Stuff Workshop**

II. Course Objectives

- Define Motor Planning
- Understand the ingredients of Motor Planning
- Facilitate changes in motor planning and motor learning

“Moving Through the World”

III. What is Motor Planning?

- Learn
 - Transfer
 - Learn
 - DEFINITION:
-
-
-

1. Motor Planning

- My first experiences:
 - Spunky the Clumsy Dog
 - Danny the twin who couldn't move
 - The one sided man

IV. Ingredients to Motor Planning

- a. What does it take?
- b. Systems involved in MP

V. What Does it Take - to Motor Learn – **REFERENCE CHART** (see last page)

- a. **Motor Learning**
 - Three stages of Motor Learning:
 - 1.Cognitive**
 - 2.Transitional**
 - 3Automatic**

- b. **It's Greek to Me** – a motor learning exercise

VI. What About Sensory?

a. Sensory Review

- 3 primary systems working together to provide **feedback/feedforward**:
 - Vestibular
 - Proprioceptive
 - Tactile

b. Sensory Feedback

- Somatosensory
- Kinesthetic
- = **Body awareness in Space**

VII. Feedback & Feedforward

a. Feedback System

- Using our sensory systems for information
- Kinesthetic system
 - Drawing squares
 - Moving w/eyes closed

b. Feed forward System

- Using our sensory system for moving forward
- Toss Game
 - Toss a small item
 - Toss a medium item
 - Toss a balled up piece of paper

VIII. Vision: The overlooked sensory piece

1. Vision and Movement

2. Vision and Autism

- Seeing the Gestalt -
 - Part to Whole
- Autism -
 - Parts not whole
 - Peripheral not central
 - Details not Gestalt
 - Strongest learning system

Looking through a Slatted Fence

Daniel Tammet

<http://www.cbsnews.com/video/watch/?id=2406085n>

<http://www.cbsnews.com/video/watch/?id=2406085n>

3. Moving with Purpose

- Activity - Mirror game
 - Fast, unpredictable
 - Slow
 - Planned

XI. What About the Brain?

1. Learn, Store & Transfer

- Cognition - Movement and IQ
- Practice, practice and practice
 - Backward chaining
 - Forward chaining
 - Chunking
- Leads to **automatic** motor skill

2. Learn, Store & Transfer

Once the motor skill becomes **Automatic**:

- Store in the higher brain
- Recalled when needed again

3. Learn, Store & Transfer

- Using learned motor patterns in new situations
- Adjusting to new demands
- Using higher brain to assess and adjust
 - a. Motivation = Learning**
 - b. Motivation**
 - Accesses Limbic system for better storage
 - Heightens sensory information for learning
 - Definition of “motivation” and “to motivate”

4. Bilateral Integration

- Communication of the two sides of the brain
- Coordinates movement between and across midline
- Develops hemispheric specialization
- Enhances body awareness in space
- Develops lead-assist relationship with hands
- Helps us to organize information

SUMMARY: Motor Planning Ingredients:

1. Sensory for Feedback/Feedforward

- | | |
|--|--|
| | <ul style="list-style-type: none"> -Proprioception -Vestibular -Tactile |
|--|--|

	= Somatosensory
--	------------------------

	= Kinesthetic sense
--	----------------------------

2. Vision & Visualization

- | | |
|--|---|
| | <ul style="list-style-type: none"> -Seeing the Gestalt -Seeing it = doing it =foresight of movement |
|--|---|

3. Higher Brain

- | | |
|--|--|
| | <ul style="list-style-type: none"> -Cognition -Bilateral integration -Movement learning -Movement memory -Cognitive to Automatic |
|--|--|

	= Transfer
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Question: What is Motor Planning?

Answer:

Things you know: Video

PART II- Strategies for Developing Motor Planning
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I. Review of Ingredients

II. Ingredients +++++Strategies

- a. **Sensory**
 - Somatosensory
 - Feedback/feedforward
 - Visual
- b. **Higher brain**
 - Cognition
 - Memory
 - Learning
- c. **Sensory input**
- d. **Visual input**

e. **Motivation**

f. **Practice**

III. Somatosensory

Goal: awareness in space

Strategies:

IV. Visual

Goal: visualize movement

Strategies:

V. Motivation

Goal: Well...Motivate!

Strategies:

VI. Practice

Goal: Effective Motor Learning

Strategies:

Activity- How to Macrame

VII. Other Stuff

–Motor Planning and handwriting

1. Print vs. Cursive
2. Part to Whole
3. What is handwriting?

–What to focus on

–What to expect (or not expect) from your school based OT

–Write Stuff Workshop

–Handy Learning Books

“Moving Through the World”



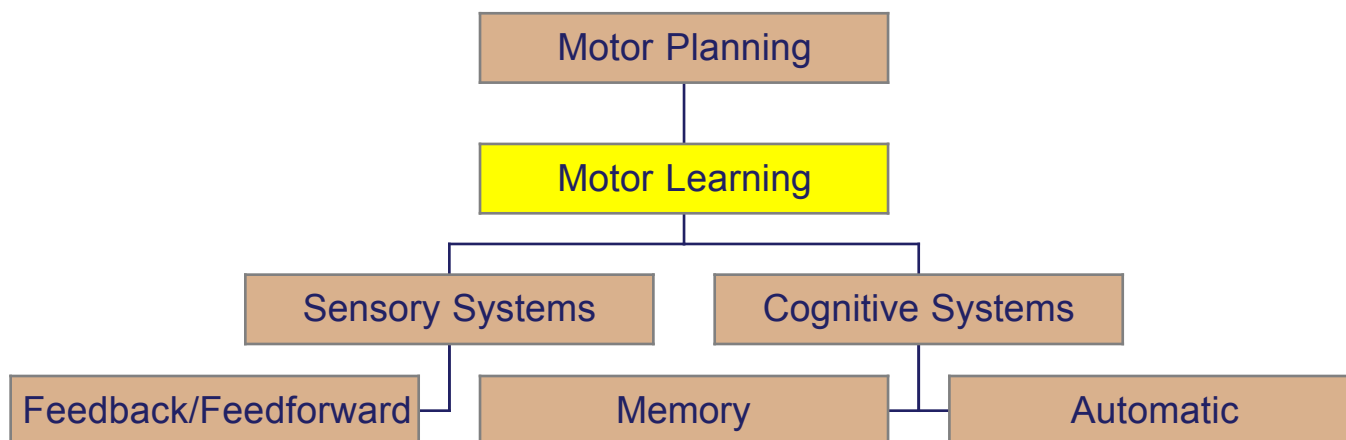
Susan Thompson, OTR

Susan is available for **workshops** at your school:

Contact Susan directly: Susanotr@gmail.com or
www.handylearning.com

- **Handy Learning** books available with order form (in back of handout)
- **Discounted conference price: \$35**

Motor Planning Reference chart:



Writing Lesson
(an experience in the stages of motor learning)

Key:

a	b	c	d	e	f	g	h
α	β	ξ	δ	ε	φ	γ	η

i	j	k	l	m	n	o	p
ι	φ	κ	λ	μ	ν	ο	π

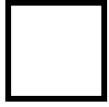
q	r	s	t	u	v	w	x
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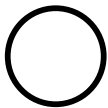
Adapted from Vreeland, E. (1998). Maxanna Learning Systems

Kinesthetic Feedback

Draw three rows with five shapes as pictured in the left upper corner of these half sheets of paper. Space the columns evenly. On completion of the fifteenth shape, close your eyes and draw a fourth row.



Fold here -----



Benbow, M. (2003) – Workshop

HANDY LEARNING BOOK

Order Form

Order forms MUST be complete and include PAYMENT for processing

NAME: _____			DATE:
Address: _____			
City, State, Zip: _____			
Phone: _____			
Email: _____			
Quantity	Description	Unit Price	TOTAL
	Handy Learning Activity book @ discounted \$	35.00	
Method of payment (please include payment with order):		Shipping	
Check # _____		add \$5 per book:	NA
-----		Total:	
Credit Card Type – Mastercard or Visa		Office use only:	
Number: _____			
Expiration: _____ CVC _____			
Signature: _____			
Print Name on Card: _____			

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Name: _____ Employer: _____ Title: _____

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PLEASE RATE THE FOLLOWING:

Course content, value of information (circle response):

Excellent Good Fair Poor

Appropriateness of learning objectives and topic

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Excellent Good Fair Poor

Course materials and handouts:

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Quality of meeting facility and service:

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YOUR VALUABLE COMMENTS:

What other topics would interest you?
