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without walls

An Overview of How We Learn

With Claire Wurtzel

February 24, 2009



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Our Guest: Claire Wurtzel

Claire Wurtzel is the Director of Faculty Development for the Churchill School and Center in New York, working within and beyond the school to develop the Churchill Center for professional development. Prior to this position, Ms. Wurtzel was the Director of Faculty Development for the New York City *Schools Attuned* initiative for *All Kinds of Minds*, dedicated to helping educators work effectively with struggling learners. In her capacity as Director, Ms. Wurtzel oversaw Schools Attuned courses, mentor training and facilitator training for over 400 New York City schools.

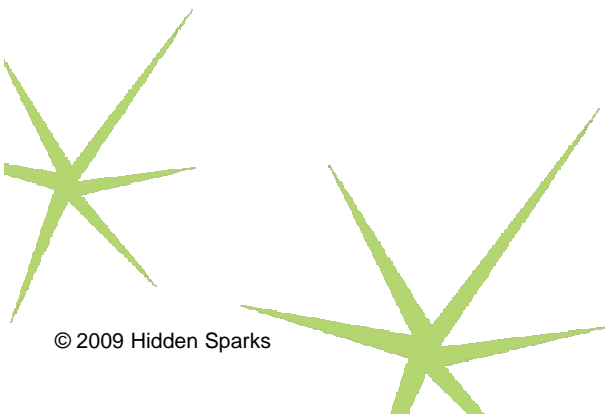
Ms. Wurtzel is also one of two educational directors for Hidden Sparks, providing training, supervision and ongoing mentoring to the Hidden Sparks teams of coaches, principals and Internal Coaches in twenty-eight *yeshivot*.

Overview: Table of Contents

An Overview of How We Learn

In this session we will discuss the various pathways of learning and how they interact with each other to form a person's learning profile of strengths and weaknesses.

We will explore the following developmental pathways: attention, memory, language, organization, neuro-motor functioning, higher order thinking and social cognition.



Goals of this Session

- To understand some of the characteristics of each of the pathways and the role each plays in learning.
- To become aware of the complexity of learning because all the pathways interact with each other.
- To understand that this approach is developmental and a student's ability in any pathway may change over time.
- To become aware of an approach to learning that relies on observations and applying what is learned from these observations to all aspects of teaching and learning.

Attention

Attention has 3 major functions:

- Mental Energy: Initiating and maintaining the energy needed for learning.
- Processing: Directing and controlling the use of incoming information.
- Production: Directing and controlling academic and behavioral output.

In this approach we use observable behavior and description rather than labels.

Attention- Mental Energy

- **Raise your hand if** you are fully awake when you first get up in the morning?
- Raise your hand if you need **time** to wake up and perhaps a cup of coffee?

Mental energy helps you to:

- Maintain the energy level needed for learning throughout the day.
- Sleep well at night and be alert during the day.

If you do not have the necessary energy, it is difficult getting started or finishing work.

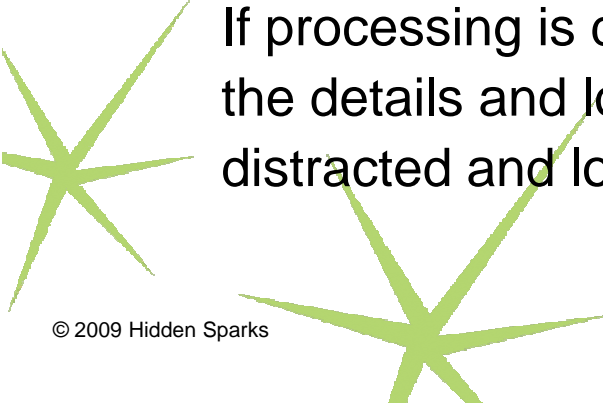
Some people move around a lot, using physical energy when they don't have enough mental energy.



Attention- Processing

Processing

- Discriminating between important and unimportant information.
- Absorbing information deeply enough to remember it.
- Linking new information with prior knowledge without losing focus.
- Doing tasks at the appropriate speed.



If processing is difficult for a student, he/she might get lost in the details and lose the main idea. Or, he/she may become distracted and lose focus.

Attention- Production

Production

- Previewing what the end product or event will look like whether it's a book report, a diorama or essay.
- Saying and doing what is appropriate/ not acting impulsively.
- Monitoring oneself at work and making necessary modifications.

Some students who have difficulty in production may be impulsive and not think before they act.

Memory

Memory has 3 major functions:

- Short term: Holding on to incoming information long enough to use it.
- Active-working: Suspending some information while using or manipulating other information and then pulling it all together.
- Long Term: Storing information permanently and being able to access it when needed.



Short-Term Memory

- Have you ever asked for directions and then been unable to remember them?
- Or, ever have an email address given to you over the phone and not be able to remember it long enough to write it down?
- Do you have trouble remembering the names of people to whom you were just introduced?



Short-Term Memory

Short term memory demands:

- Copying from the board without looking up for every letter.
- Quickly determining what is important to hold on to and then being able to remember it.
- Following oral directions.



Active Working Memory

Have you ever called someone and while waiting for the person to answer, started another activity? What happens when the person answers the phone?

Active working memory demands:

- Keeping prior information in mind while taking in new information (note-taking, solving a multi-step problem, remembering why you walked into a room)
- Applying rules while in the midst of a larger task such as writing



Active Working Memory

- Students who have active working memory difficulties are very anxious test takers.
- Some students don't have enough cognitive work space to hold all the pieces in mind long enough to complete the job.
- When much of what needs to be done is not automatic, the student's active working memory gets overloaded. For example, if the student doesn't know the addition facts, too much work space is taken up figuring out the facts and there is not enough time or workspace to complete the problem.



Long-Term Memory

- Once facts and procedures have been consolidated into memory it remains in memory forever. One part of long term memory is making sure the information gets consolidated deeply enough. The other part of long term memory is being able to access the information when needed.
- Remembering words, facts, rules and procedures learned without too much effort.
- Retrieving the words, facts, rules and procedures easily when needed.
- Recognizing a familiar pattern even if it is slightly different from the original- (math problems, conflicts, visual pattern) and knowing when to use it.

Ineffective and Effective Storage



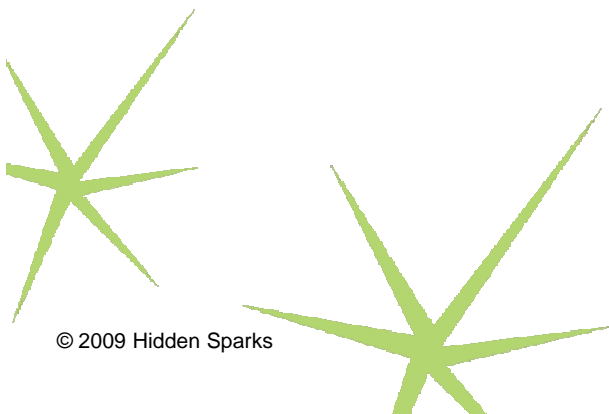
Language

- Language can be explored different ways. We will examine two aspects of language, receptive and expressive language. One may have strengths and /or weaknesses in any aspect of language and not in another.
- Students who are learning a new language may look like they have language difficulties but language acquisition is very different from language dysfunction. The student's primary language processing should be explored to differentiate between the two.
- There are several language levels-from the smallest unit of sound to the language of interpersonal communication: phonology, morphology, semantics, syntax, discourse, pragmatics.

Receptive Language

Processing and understanding incoming oral or written information.

- Understanding questions.
- Knowing the meanings of words.
- Decoding the words on the page.



Expressive Language

Formulating and expressing ideas orally and in writing.

- Using words appropriately.
- Being able to retrieve the right word at will.
- Developing ideas cohesively-orally and in written form.
- Using appropriate language in social situations.



Components of Language

Components of Language Claire Wurtzel

	RECEPTIVE		EXPRESSIVE	
	Oral	Written	Oral	Written
Phonology				
Morphology				
Semantics				
Syntax				
Discourse				
Pragmatics				



The Two Pathways of Organization: Temporal Sequential Ordering/ Spatial Ordering

Temporal Sequential Ordering

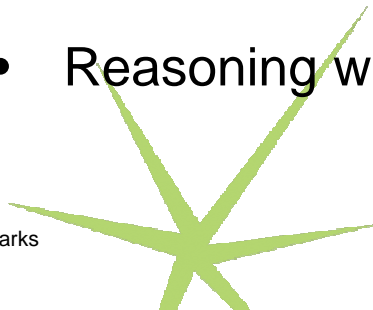
- Being alert to the fact that there is a sequence.
- Retaining the order of sequences- the letters of the alphabet, the days of the week, the months of the year.
- Learning to tell time / multiplication tables.
- Mastery of time-laden vocabulary (in a few minutes, later, first, next).
- Using time efficiently.



Organization- Spatial Ordering

Spatial Ordering

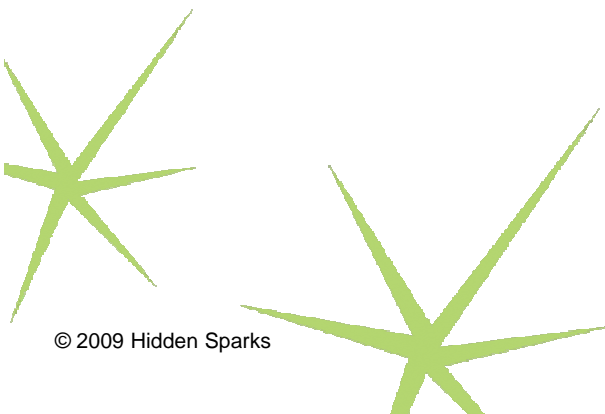
- Discriminating left from right.
- Visualizing mathematical problems and concepts.
- Having a sense of direction.
- Storing and recalling the visual configurations- spelling words, images, geometric shapes.
- Organizing and managing materials needed for an activity.
- Reasoning without language.



Neuromotor Functioning Has Three Parts

Gross Motor

- Using large muscles in a coordinated manner for sports/dancing.
- Keeping track of one's body while moving-knowing when to slow down or speed up.
- Learning and remembering routines using large muscles.



Fine Motor

- Using visual information effectively when working with one's hands.
- Buttoning/ zipping/ sewing.
- Arts and crafts/ knitting.

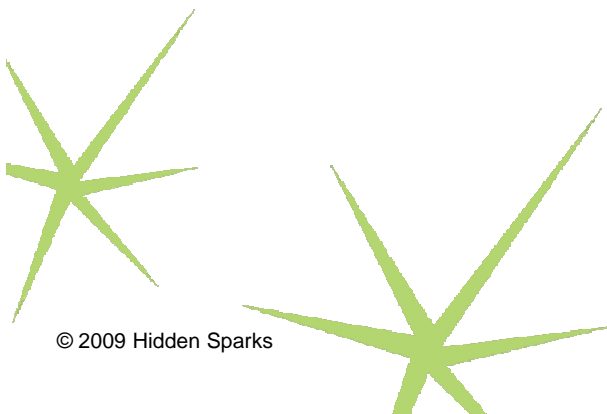
A student may have excellent fine motor functioning and weak graphomotor functioning. Often such students are called “lazy” or “sloppy”. These two motor functions have two different pathways in the brain. A person might have strong fine motor skills and weak graphomotor skills.



Graphomotor Functioning

- Using a utensil to produce handwriting.
- Coordinating the motor actions needed for each aspect of the handwriting task.

Some students' handwriting struggles are a result of an inability to visualize the letters. These students benefit greatly from having an alphabet posted on their desks.



Higher Order Thinking

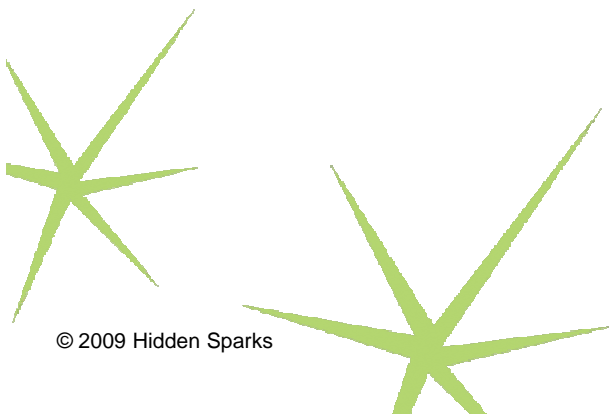
Higher Order Cognition

- Thinking critically and being able to evaluate ideas and products.
- Brainstorming / creativity- thinking independently and generating ideas.
- Understanding and using all kinds of concepts (concrete, abstract, verbal, nonverbal, process).
- Representing new ideas in one's mind in multiple ways.
- Learning, developing and applying rules.
- A person may have strong higher order thinking in one subject and not in another.

Social Cognition

- Making and keeping friends.
- Interpreting and communicating feelings.
- Making conversation appropriate for audience.
- Recognizing and regulating humor.
- Being able to speak differently depending on the context and people.
- Understanding nonverbal cues.
- Understanding how to work in cooperative learning groups.
- Knowing how to pace a relationship.
- Knowing how to resolve interpersonal conflicts without aggression.

Social cognition skills are among the most important life skills and yet the skills are seldom taught in school.



Conclusion

- This was a brief overview of the neurodevelopmental approach to understanding how we learn.
- I hope this session has provoked you to think and wonder about your own learning as well as your students' learning.

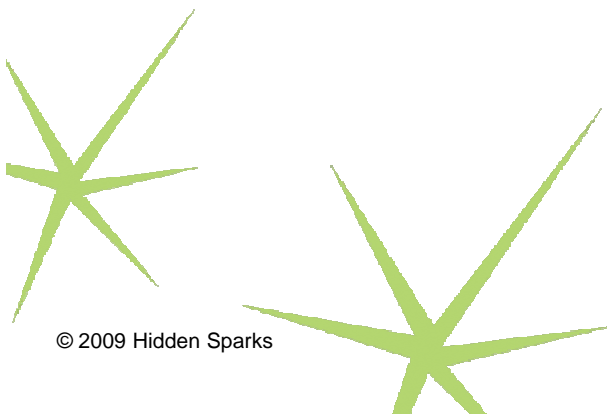
Resources:

- Dr. Levine, the founder of All Kinds of Minds, is the author of many books on this approach to learning. Two of these books:
 - **A Mind At a Time** published by Simon and Shuster
 - **Educational Care** published by Educators Publishing Service.
- He has also written a book for elementary school age students: **All Kinds of Minds** published by Educators publishing Service.
- **Elizabeth Cohen, Designing Group Work** is a great resource for students with weaknesses in this area.

Future Sessions

I hope you will review the PowerPoint we used this evening. It will help you work more effectively in future sessions.

Thank you.



About Hidden Sparks

Hidden Sparks is a non-profit fund whose purpose is to help children with learning differences reach their full potential in school and life. Hidden Sparks generates and fosters professional development programs for Jewish day schools to help increase understanding and support for teaching to diverse learners.

Hidden Sparks is guided by a philosophy that by helping schools meet the needs of children with learning and behavioral differences, ultimately all students will benefit. Hidden Sparks' programs combine professional development in learning and positive behavioral support, guided classroom observation and one-on-one coaching. The Hidden Sparks model and program is currently in twenty-one Jewish day schools/yeshivot in New York and, through a partnership with Gateways: Access to Jewish Education, in seven schools in Boston.

Upcoming Hidden Sparks Without Walls Sessions

Wednesday, March 18, 2009

Analyzing A Lesson, with Karen Kruger

Participants will use the neuro-developmental constructs to examine which constructs are primarily demanded in one of their lessons.

Wednesday, March 25, 2009

Analyzing Your Teaching Style, with Karen Kruger

Participants will briefly analyze their own neuro-developmental profiles.

Pre-requisite for this class is participation in the March 18th Hidden Sparks Without Walls class, Analyzing a Lesson.

Wednesday, April 22, 2009

Analyzing Student Work, with Kelli Pollock

A student's written work is a window into the student's learning profile of strengths and challenges.

Wednesday, April 29, 2009

Strategies for Peak Performance: Effective Tools for Organizing Your Students, with Jane Gertler

Study skills, such as organization and time management, are important lifelong skills.

Wednesday, May 13, 2009

Wednesday, May 20, 2009

Wednesday, June 3, 2009

Exploring Learning Processes in Judaic Studies Curriculum, with Shmuel Schwarzmer

3 Part Session: What do we expect our students to do in our Judaic Studies Curriculum: Chumash, Kriyah and Gemara?

Pre-requisite for this class is participation in, or downloading Claire Wurtzel's February 24th Hidden Sparks Without Walls class, An Overview of How We Learn.

Tuesday, June 9, 2009

Transitions, with Andrea Rousso

Transitions happen all the time. This seminar will focus on the many kinds of transitions that students must pass through at school.

For more details visit www.HiddenSparks.org

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