# Active Learning

Toni Hardin, KSB Outreach Consultant KVEC
Pamela Howard, KSB Outreach Consultant KEDC
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Penrickton Center
Perkins School for the Blind
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LilliWorks Active Learning Foundation

Developed by Dr. Lilli Nielsen for learners of all ages with significant disabilities who have a developmental age of 4 or under. As the name implies, Active Learning revolves around the **learner being active**.

The Essential Active Learning Principal:
***To create environments that give feedback & support to the learner, so the learner can take action on their own initiative to learn.***

# Active Learning

- Developed by Dr. Lilli Nielsen, of Denmark. Dr. Nielsen had nearly 50 years of experience with vision and multiple disabilities. She authored 9 books, 20 articles in professional journals, developed a countless variety of perceptual aids, and held over 200 trainings throughout the world. Considered the top expert and in education of children with multiple disabilities. She was a teacher and psychologist, her PhD was on spatial relations of congenitally blind infants.

Typical daily activities of a child with disabilities to those of a child without disabilities.

| Activity | Non-Disabled | Disabled |
|---|---|---|
| Self-Care/Activities of Daily Living | | X |
| Mobility Activities | X | |
| Fine Motor Activities | X | |
| Communicating | X | |
| In Therapy | | X |
| At Doctor's Appointments | | X |
| Playing Independently | X | |
| Playing with children | X | |
| Playing with adults | | X |
| Spending time alone | | X |

## Slide 1

1 This is the updated powerpoint

Toni Hardin, 10/26/2017

## The Active Learning Approach

https://library.tsbvi.edu/Player/Chapter/3497

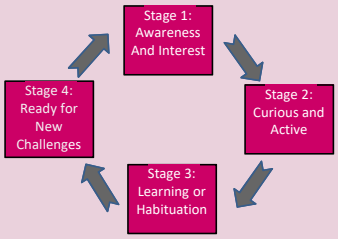
- EVERYONE CAN LEARN!
- **Provide activities that are DEVELOPMENTALLY APPROPRIATE and reinforcing to the individual.**
- Children learn by exploration and repetition of opportunities.
  - We are not prepared neurologically to learn through direct teaching until 4-5 years
- Hands Off – let them have control of their own hands!
  - Hand over hand takes away kinesthetic & tactile concept development.
- Observe – watch them play, don't interrupt and limit distractions.

## Active Learning – Observation

- Observe and Assess developmental level – INDIVIDUAL Functional Scheme Assessment (This assessment is used with learners between birth and 48 months to determine their developmental levels and changes in levels.)
  - Strengths: existing skills, abilities, repertoire, preferences
  - Weaknesses: vision loss, other disabilities, compensating mechanisms
  - How do they explore: by seeing, touching, listening, tasting, smelling
  - Do they repeat – on their own (without coaching)

- Gross Movement
- Fine Movement
- Mouth Movement
- Visual Perception
- Auditory Perception
- Haptic-tactile Perception
- Smell and Taste
- Language non-verbal, verbal, comprehension
- Object Perception
- Social Perception
- Emotional Perception
- Play and Activities
- Toileting Skills
- Undressing & Dressing Skills
- Personal Hygiene
- Eating Skills

## Dynamic Learning Circle-4 Stages of Learning




Disharmonic learning can occur in each stage for various reasons. These stages represent how someone learns new skills. By understanding this process you can find out what is disrupting learning in the environment and change the environment. Identifying and correcting the cause is imperative to student learning and attaining skills.

## Stage 1 Awareness and Interest

http://library.tsbvi.edu/Player/13136

For a child with a visual impairment and spastic cerebral palsy - placing an object on his/her wheelchair tray would be an example of disharmonic learning. The child may be unaware of the object because he/she cannot see it. The solution is to move the object so that it lightly touches the child's body. Do not perform hand over hand and bring the child's hand to the object as this promotes passive participation. To promote active participation hold the object still so that it lightly touches the child's body and wait for the child to move. The child can independently feel the object on the skin and may be more likely to be aware and interested in the object. This child may take minutes, days, weeks or years to understand that his/her movement is causing something to happen and must be allowed the time needed.

## Stage 2 Curious and Active

http://library.tsbvi.edu/Player/13137

A child who is cognitively impaired is given a toy to play with while seated in his wheelchair. After holding the toy a few seconds, the child throws the toy on the ground. An adult picks up the toy and gives it back. The child then throws the toy three more times. The adult picks up the toy each time and returns it, but on the fourth time, the adult decides that the child must be "done" with the toy and takes it away. Disharmonic learning has occurred because in this example, the child was in the exploratory stage of throwing and is unable to independently get the toy back to repeat his actions. He wants to repeat throwing over and over and over again - but has not been given the opportunity to do so. His learning has been interrupted and he therefore cannot complete stage 2.

The solution to this disharmonic learning is to make a position board. This board allows a child or adult to throw objects, but because they are secured with elastic - the objects spring back to the board, allowing a child or adult to repeat his/her activity. Another solution - place containers around the child so that the object is thrown into the containers. Have multiple objects, so that the child/adult can throw more objects - experimenting and comparing what it is like to throw into containers of different size, shape and material.

## Stage 3 Completion of Learning or Habituation

http://library.tsbvi.edu/Player/13138

A child is given a switch toy, you press a button and the toy plays music. The child can independently press the switch, and smiles while the toy plays a song. But the child is given the same toy and switch day after day. The child is observed to start chewing on the cord for the switch, pushes the toy off the table, or rarely or never activates the switch. The child may also play with only this one toy for hours at a time, never wanting to play with anything else. This child has learned all he/she can from a simple cause and effect switch toy. The child needs new toys or more complex switches to interact with, or better yet more complex toys to interact with. The child already understands the concept of cause and effect.

## Stage 4 Ready for New Challenges

http://library.tsbvi.edu/Player/13139

A child has mastered the skill of picking up ping pong balls from a tray with both hands and dropping the balls back onto the tray. An adult introduces the child to shapes in the forms of circles, squares and triangles and asks the child to pick up the shapes and place them in the correct shape sorter hole. The child cannot grasp the shapes independently and cannot drop objects into a container independently. The task is too difficult for the child. Solution - simplify the task into its basic steps and allow the child to interact with the objects at that developmental level. Provide the child with the shapes and ping pong balls on the tray. Provide the child with different shaped containers (bowls, plates, cups, boxes). The containers should be so big as to allow the shapes to be easily placed in the container. Allow the child to play with the objects in an Active Learning format using the Five Phases of Educational Treatment. By experimenting, exploring and comparing, dropping the shapes on the tray and possibly into the containers - the child will learn through repetition that objects can go into something which eventually may turn into a child's understanding that certain shapes can go in certain containers.

## 5 Phases of Educational Treatment

These phases demonstrate how an ADULT should interact with the learner, developing a trusting relationship between the student and the adult, recognizing and developing the emotional level of an individual and fostering emotional and social skills.

- Children at the earliest developmental levels (birth to an emotional level of 2 years) will typically need the adult to utilize the techniques in Phases 1-3. Only when the child is developed emotionally to the level of 24 months will an adult use Phase 4 and then later Phase 5 with the learner.
- Once a learner's emotional level has reached the age of two years or above, the phase of consequences can be introduced.

## Educational Treatment-Phase 1: Offering

- Awareness and interest are key.
- Accept the method of exploration as acceptable.
- Verbal responses should only be to comment directly on what the learner is doing, and only during the pauses in activity.
- The focus is that the learner has accepted the adult and the objects into his/her environment and has begun to accept the offer of the activity. The adult can use information gained through observation to gain an understanding of the learner, his/her skill level and the learner's method for contacting the world around him/her.

The purposes of the Phase of Offering are:

- to promote trust between the learner and the adult
- to observe the learner's reactions
- to identify what the learner likes/dislikes
- to establish an understanding of the learner's emotional level
- to introduce self-activity

http://library.tsbvi.edu/Player/Chapter/3538

## Educational Treatment-Phase 2: Limitation

- Child should be independently active! Observe if the learner will imitate the adult. If the learner does, this indicates the learner is beginning to pay attention to the activity of others in the environment. If the learner does not imitate the skill or exhibits negative behaviors, the adult should go back to imitating the action of the child again.
- Was the skill too difficult for the learner? Too different than previous skills? Presented in a way that reflected a demand or request? Make adjustments to his/her methodology the next time a new skill is introduced to the activity.

The purposes of the Phase of Imitation are:

- to increase the learner's interest in activities nearby
- to increase the learner's ability to initiate
- to increase the learner's belief in him/herself
- to introduce activities and movements not yet performed by the learner

http://library.tsbvi.edu/Player/13391

## Educational Treatment-Phase 3: Interaction

- The focus of the activity should be on interaction or turn-taking between the adult and the learner.
- The choice of activity while interacting with the learner is based on the learner's emotional level, his/her motor skills, interests, dislikes and need for repetition.
- The adult sets up situations and environments that will foster interactive games such as you push it and I will pull it, or you give me a sound, now I'll give you a sound.
- It is important for the adult to be patient and wait for the learner to take his/her turn without trying to persuade the learner to act. Simply be quiet and still.

The purposes of the Phase of Interaction are:

- to help the child learn dependency on another or several other people
- to help the learner initiate interactions
- to enhance the child's development of self-identity
- to give the child the basis for social development

https://library.tsbvi.edu/Player/14775

## Educational Treatment-Phase 4: Sharing the

- NEW experiences, NEW challenges, NEW activities, and NEW interactions!!!!!
- Environments and activities are introduced that give the learner tasks to do that are based on the things the learner has experienced success in doing.
- In the beginning the tasks can be completed in a few seconds up to a few minutes without any consideration for how perfectly the learner can complete them.
- Let the learner know which part of the tasks he/she will complete and which part the adult will complete.
- The adult must make sure to give the learner plenty of time to complete the task, but if he/she still won't do it, consider if the task is too hard.

The purposes of the Phase of Sharing the Work are:

- to increase the learner's experience of success
- to involve the learner in new social relationships
- to increase the learner's interest in acquiring new abilities

## Educational Treatment-Phase 5: Consequence

- Model how consequences work for the learner through a discussion of the adult's actions. For example, stating to the learner, "I have to stop playing and cook dinner, or you will not have anything to eat."
- Begin to set up situations where the learner can experience the consequences of his/her actions. For example, "If you want me to pour more milk, you must put your glass on the table."
- The adult may accept a less than perfect response from the learner, and may need to offer encouragement either through prompting or modeling.

The purposes of the Phase of Consequence are:

- to help the learner to endure meeting demands
- to help the learner endure changes in life
- to help the learner feel self-confident - which is fundamental in making your own decisions about your life
- to establish a sense of responsibility

## Phases Overview

- Experiment and play with children to gain more experience and become comfortable teaching in the 5 phases of Active Learning.
- Video your sessions with children and identify what you are doing wrong. You will make mistakes and it's ok, just review and revise.
- It is a fluid relationship between the phases, you may use one or two phases at the same time while teaching.
- The end result is to build a trusting relationship to enable the child to become an independent learner.

## The Little Room

- A rich and safe place for children to develop spatial relations and object concept
- Properly equipped with acoustically responsive toys
- Natural feed back to the learner with every movement to develop fine motor movements

*"If the child cannot come to the room, the room must come to the child." - Dr. Lilli Nielsen*

## The Resonance Board

- Made with a thin plywood panel for maximum feedback
- Board vibrates to every movement of learner
- Encourages gross motor movement

*The Resonance board is 48" x 48". The Little Room version is 40" x 28". ****Boards and rooms may be built to any size deemed appropriate.*

## The Support Bench

- Allows Learner to lie prone with hands and feet free
- Students learn to coordinate movements of arms and legs
- Promotes midline activity

*"The support bench frees arms and legs from bearing weight"*
*- Dr. Lilli Nielsen*

## Lilli's HOPSA Dress

*A Critical Active Learning Support*

- Safely provides vertical orientation and support without legs bearing weight
- Increases blood circulation, internal organ functions and extends leg tendons while preparing for sufficient muscle strength for bearing own weight, for learning to balance, to stand and to walk
- Provides learners with great freedom, feedback and improved control

http://www.perkinselearning.org/accessible-science/blog/teaching-science-using-active-learning-approach

## Essef Board

*Highly Responsive to Pressure*

- Wonderful way to engage the child in lower motor activities
- Teaches balance-when standing at wall with rail, sitting on, or pushing with feet while seated
- Promotes leg and feet movement through kicking
- Facilitate the child's learning to sit unsupported and to develop the gross motor movements necessary for learning to stand and walk.

## Scratch Board

- Teaches scratching and using fingertips, graduating to manipulating of objects
- Repetition of actions to establish memory
- Versatility of textures and objects

## Position Board

- Beginning movements of manipulating objects
- Experiencing tactile qualities of objects
- Continue repetition of movements

"Grasp and Let Go!"

## Grab Board

"Grasp and Keep"

- All activities should be completed with active exploration and examination guided by the child
- The repetition of grasping and letting go lead to the ability of grasping and keeping, the user will benefit from holding the object and relocating the object for future use.

## References

**Books by: Dr. Lilli Nielsen**

- *Space and Self*
- *Spatial Relations in Congenitally Blind Infants*
- *Are You Blind?*
- *Educational Approaches*
- *Visual Impairment - Understanding Needs of Young Children*
- *The Comprehending Hand*
- *Early Learning Step By Step*
- *Functional Scheme: Final Skills Assessment*
- *The FIELA Curriculum - 730 Learning Environments*

*www.LilliWorks.org*

## Active Learning

LilliWorks Active Learning Foundation
California 501(c)3 Non-Profit Corporation
2517 Blanding Ave., Suite 110, Alameda, CA 94501
Phone: (510) 814-9111, Fax: (510) 814-3941
Website: www.lilliworks.org
Contact us : info@lilliworks.org

- Penrickton Center for the Blind: http://penrickton.com/
  AL Live-In Facility in Michigan (American experts in AL)
- Texas School For the Blind: www.tsbvi.edu
- Perkins School for the Blind www.perkins.org

www.activelearningspace.org