Enhancing Parent's Skills to Advance Children's Physical and Intellectual Development

Presenter: J. Lovejoy
Region One Education Service Center

Objectives

- Review the Pre-K Guidelines for physical and cognitive development
- Increasing cognitive learning by using movement and music
- Review brain research on movement and music
- Taking a look at the Teaching Model for teaching movement

What Do We Want for Children?

Affectionate
Altruistic
Careful
Considerate
Courteous
Desire to excel
Emotional fearful
Gets good grades
Intelligent
Obedient
Proud
Refined
Self-confident
Has a sense of humor
Socially well-adjusted
Timid
Is a visionary
Is a good guesser
Asks questions
Competitive
Cooperative creative determined
Energetic
Friendly
Industrious

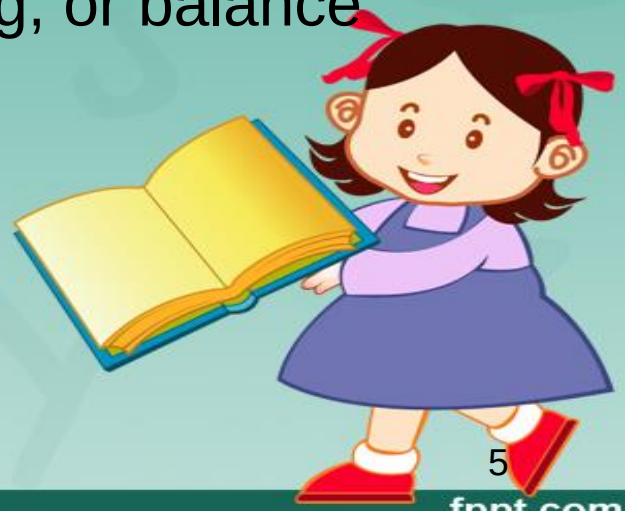
Intuitive
Persistent
Quiet
Receptive
Self-satisfied
Sensitive
Stubborn
Thorough
Is a risk-taker
Adventurous
Competent in basic skills
Conforming
Courageous
Critical
Domineering
Fault-finding
Healthy
Independent
Negative
Physically strong
Rebellious
Remembers well
Self-sufficient
Sincere talkative
Versatile
Helpful

Physical Development 3 - 4 year olds

Large motor skills — My child can:

- Walks with agility, good balance, and steady gait.
- Run at a comfortable speed in one direction and around obstacles; she can also stop, re-start, and turn while running.
- Aim and throw a large ball or beanbag, or catch one thrown to her.
- Hop several times on each foot.
- Walk along and jump over a low object, such as a line, string, or balance beam.
- Bounce a large ball several times.
- Kick a stationary ball.
- Pedal and steer a tricycle.

(Stanberry, n.d.)



Physical Development 3 - 4 year olds

Small motor skills — My child can:

- Brush teeth, comb hair, and get dressed with little help.
- Skillfully use eating utensils.
- Use (child-sized) scissors to cut along a line.
- Pick up small items such as coins, toothpicks, and paperclips.
- Assemble simple puzzles.
- Copy simple shapes, like a circle or square.
- Print some letters of the alphabet.
- Stack objects so they don’t fall

(Stanberry, n.d.)

Encouraging physical development at home

- Give your child the space and freedom to use large muscles, through activities such as running, climbing and swinging on playground equipment.
- Make sure your child gets adequate sleep and nutrition to fuel her overall development and activity.
- Take your child to a pediatrician for regular well-child exams, and be sure to have her vision and hearing checked. Even small problems, caught and addressed at this age, can greatly enhance motor skill development and confidence.

(Stanberry, n.d.)

Encouraging physical development at home

- Collect toys and equipment that your child can use to help her develop large muscles. (For example: hula hoops, bean bags, tricycle, large beach balls and a child-sized basketball hoop.)
- Set up empty water bottles like bowling pins, and let your child use a soft ball to “bowl.”
- Join your child in active play. Play catch, tag, or set up a simple obstacle course.
- Give your child opportunities to practice small motor skills using child safety scissors, Lego blocks, dice, and buttons.

(Stanberry, n.d.)

Pre-K Guidelines – Fine Motor

IX.A.2.

- Child coordinates sequence of movements to perform tasks.

IX.B.1.

- Child shows control of tasks that require small-muscle strength and control

IX.B.2.

- Child shows increasing control of tasks that require eye-hand coordination.

Pre-K Guidelines – Gross Motor

IX.A.1.

- Child demonstrates coordination and balance in isolation (may not yet coordinate consistently with a partner).

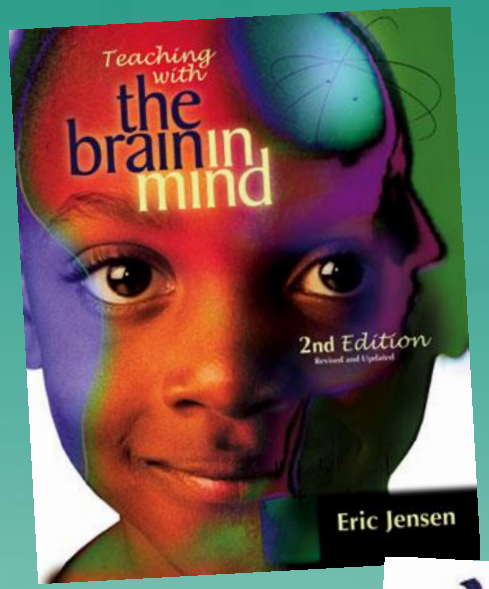
IX.A.2.

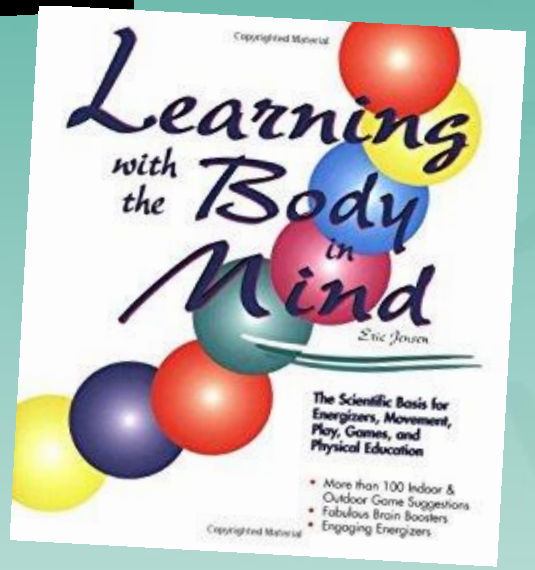
- Child coordinates sequence of movements to perform tasks.

Little Texans – Big Futures

- Use the Little Texans – Big Futures Handout
- Everyone turn to page 5 – 6 of the handout
- Divide into 3 - 4 groups
- Group 1 – p.p. 7 - 8
- Group 2 – p.p. 16 -17
- Group 3 – p.p. 21- 22
- Group 4 – p.p. 23 – 25
- Read and summarize

Brain Research





Key Concepts:

- The mind-body link
- How exercise affects cognition
- The importance of play, recess, and physical education
- What Science says: play is an integral part of developing the intellect

Mind-Body Relationship

Old Understanding

Cognition

$E=mc^2$

Emotions

Old, Compartmentalized Paradigm

(Jensen, 2005)

Mind-Body Relationship

Many play-oriented movements have the capacity to improve cognition:

Exercise play

Rough-and-tumble play

Solitary play

Outdoor learning activities

Group noncompetitive games

Stand & stretch

Group or team competitive games

Constructive play

Adventure or confidence play

Exploratory play

Functional play

(Jensen, 2005)

Connection of Movement to Learning

Exercise helps to improve behavior in the classroom, social skills and academic performance

cognitive strategy which helps with:

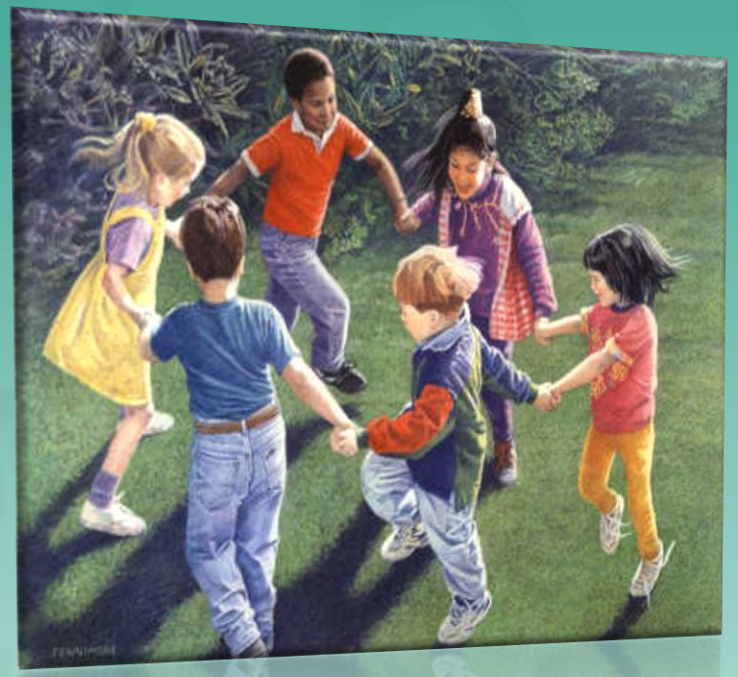
- Strengthening learning
- Improving memory and retrieving information
- The learner becoming motivated to learn

The following activities help with building attention skills and reading:

- Swinging
- Rolling
- Spinning
- Crawling
- Tumbling
- Rocking
- pointing

(Jensen, 2005)

Practical Suggestions for Teachers



- Keep your students active to provide oxygen rich blood for increase performance.
- Integrate movement activities in learning everyday:
  - Dancing
  - Drama
  - Stretching
  - Take walks
  - Energizers
  - games
  - Movement other than seating

(Jensen, 2005)

Play Enhances Learning

- Making predictions
- Developing symbolic capacity
- Comparing and contrasting
- Enhancing literacy skills
- Solving problems

- Organizing a project
- Practicing newly acquired skills
- Attempting novel or complex skills
- Developing a better understanding of time
- Drawing conclusions

(Jensen, 2000)

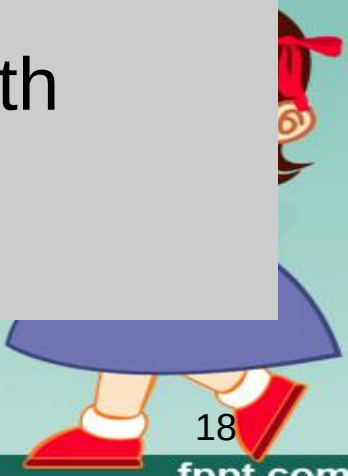
Play Enhances Learning

Creativity

- Extending ideas
- Using new mediums for expression
- Using rhythm, singing, and music
- Improvising

- Improvising ideas
- Flexible thinking
- Experimenting with “make-do” items

(Jensen, 2000)



Play Enhances Learning

Healthy Lifestyle

- Improving large/gross motor skills
- Interpreting rules
- Developing fine motor skills
- Improving self-trust and competence

- Learning safety precautions
- Better use of outdoors
- Learning nutrition concepts

(Jensen, 2000)

Play Enhances Learning

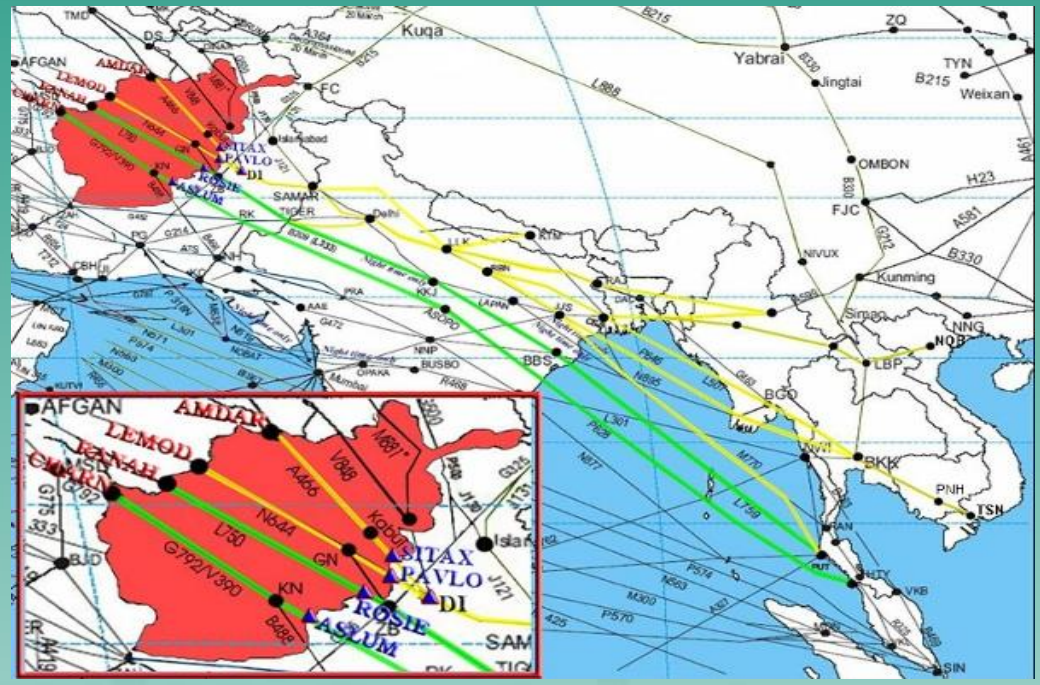
Social Skills

- Making and being a friend
- Sharing and taking turns
- Cooperation
- Learning multiple roles

- Understanding feelings
- Conflict resolution
- Becoming sensitive to other's feelings

(Jensen, 2000)

Executive Function



IQ is what you know. EF is how you show it…..

Executive Function

"Having executive function in the brain is like having an air traffic control system at a busy airport to manage the arrivals and departures of dozens of planes on multiple runways." -

Center on the Developing Child at Harvard University (2011).

https://www.youtube.com/watch?v=LIT73VpSEUA

What is Executive Function?

Executive Function skills are a group of skills which are critical for lifelong learning.

State Penn (2014)

Executive Functioning

- Non-academic in nature
- Cognitive processes involved in regulation of thoughts and actions
- Enables individual to proceed steadily through life and confront any problem (Encyclopedia of Mental Disorders, 2012)

Executive Functioning

- Processes involved in goal-directed behaviors
- Directive capacities of the mind
- Cue the use of other mental abilities
- These need to be in place to access academic knowledge
- Not a direct correlation between IQ and EF

Factors of EF

- Initiation
- Focus
- Sustained Effort and Attention
- Emotional Control/Inhibition
- Working Memory
- Planning/Organizing
- Analysis
- Social and mental flexibility

Focus and Self-Control

Focus

Working memory

Cognitive flexibil

Inhibitory Control

Let's Play a Game!

How do we promote this life skill?

Step 1

- Group A will read p. 3 of article – start with second bolded statement.
- Group B [illegible] article

- Make two straight lines
- One for Group A
- One for Group B

Step 3

- Group A: each person will walk to one person on Group B line.
- Take turns and share the info you read.

goosechase

To play this game you will need to do the following:

1. Download the GooseChase iPhone or Android app.
2. Register for a personal account with a username & password of their choice.
3. Search for the "Executive Functioning Game" game & follow the prompts to select your team.
4. Join a team view the Team Lobby, entering the appropriate team or game password as required
5. The password is “RegionOne”.

Debriefing GooseChase

Let’s take a few minutes to share your experience:

1.How did you feel during the activity?

2.What was the purpose of the activity?

3.What executive functioning skills did you use during the activity?

4.Will this activity help you with your learning skills.

EF Comprised of 3 Core Abilities

A. Inhibitory control (self-control) the ability to resist a strong inclination to do one thing and instead do what is most appropriate or needed

Makes it possible for us to resist acting on our first impulse so we do not do something we'd regret.

Diamond (2009)

It take Discipline!

1. Staying on task despite boredom, initial failure, interesting digressions, or tempting distractions

- Requires the ability to inhibit strong inclinations to give up or to do something more fun.

2. Being able to inhibit acting impulsively & instead make a more considered response enables you to:

- Resist grabbing another child's toy
- Resist saying something socially inappropriate (or hurtful)
- Resist hurting or hitting someone else to get back at that person for hurting or hitting you
- Resist a luscious dessert when you want to lose weight.

3. Being able to pay attention despite distraction e.g., suppressing attention to what others are saying

- Such as screening out all but one voice at a cocktail party
- So that you stay focused on what's important

Selective or Focused Attention

EF Comprised of 3 Core Abilities

B. Working Memory:

Holding information in mind while mentally working with or updating it.

- WM is critical for making sense of anything that unfolds over time, requires holding in mind what happened earlier & relating what is happening now.

Working Memory

Makes it possible to…

- Consider things from different perspectives
- Understand what you are reading (relating beginning, middle, & end)
- Remember our good intentions, why we are doing what we're doing
- Translate instructions into action plans

EF Comprised of 3 Core Abilities

C. Cognitive Flexibility

- Being able to easily & quickly switch perspectives or focus of attention

- Flexibly adjusting to changed demands or priorities
- Being able to think outside the box

Cognitive Flexibility

Critical to creative problem - solving

- What are other ways I can react when something happens?
- What are other ways I can conceptualize a problem?
- What are other ways I can try to overcome a problem?

Diamond 2009

Executive Functions

Important for **School success**

Working memory and inhibitory control each independently predict both math and reading competence throughout the school years.

Diamond 2009

EF Activities for 3 to 5 Year Olds

1. Imaginary play
   a. Read books, take field trips, and use videos.
   b. Have children make props for their play.
   c. Have children **plan** what they will play.

http://membership.highscope.org/app/Default.aspx?id=2

Vygotsky: Engaging in social pretend play is critical for developing executive function skills in very young children.

http://www.anera.org

During Social Pretend Play

http://thehappytoystore.com

- Children must hold their own role and those of others in mind (working memory)
- Inhibit acting out of character (employ inhibitory control),
- Flexibly adjust to twists and turns in the evolving plot (cognitive flexibility)

What It is: Planning

- Establishing a problem or goal
- Imagining and anticipating actions
- Expressing personal intentions and interests
- Shaping intentions into purposes
- Deliberating
- Making ongoing modifications

Why Is Planning Important?

- Encourages children to articulate their ideas, choices, and decisions
- Promotes children's self-confidence and sense of control
- Leads to involvement and concentration on play
- Supports the development of increasingly complex play

EF Activities for 3 to 5 Year Olds

2. Storytelling
   a. Encourage children to tell you stories.
   b. Tell group stories.
   c. Have children act out stories.
   d. Bilingual families can tell stories in their home language.

EF Activities for 3 to 5 Year Olds

3. Movement challenges: songs and games
   a. Provide opportunities for children to test themselves physically through : the use of climbing structures, balance beams, seesaws, etc.
   b. Encourage attention control through quieter activities: practicing slow breathing.
   c. Play music.
   d. Songs that repeat and add on.
   e. Traditional song games.

EF Activities for 3 to 5 Year Olds

4. Quiet games and other activities
    a. Matching and sorting activities
    b. Increasingly complicated puzzles
    c. Cooking is also a lot of fun

EF Activities for 5 - 7 Year Olds

Games exercise children's executive function and self-regulation skills!

- Card / board games
- Physical activities / games
- Movement / song games
- Quiet activities

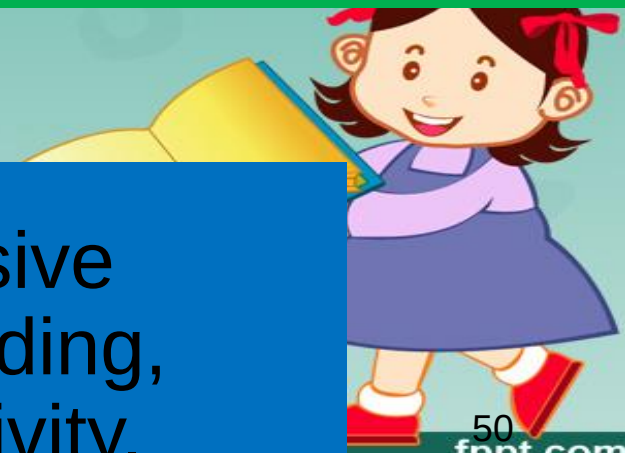
Game Time!!!

- Teams will rotate around the room to different stations.
- You will record on your paper which EF skill(s) you are using after doing the activity.
- When completed, return to your seats and we will debrief the games.

The Relationship between Music and Learning

Music has always been an important part of the human experience.

It is used to convey deep feelings, to express meanings, to transmit cultural heritage, to lift human spirit, and communicate.



It is central to comprehensive learning, organizing, attending, problem solving and creativity.

Resources Web Links

- https://www.understood.org/en/learning-attention-issues/child-learning-disabilities/executive-functioning-issues
- https://www.understood.org/en/learning-attention-issues/child-learning-disabilities/executive-functioning-issues/key-executive-functioning-skills-explained
- http://developingchild.harvard.edu/science/key-concepts/executive-function/
- http://46y5eh11fhgw3ve3ytpwxt9r.wpengine.netdna-cdn.com/wp-content/uploads/2011/05/How-Early-Experiences-Shape-the-Development-of-Executive-Function.pdf
- http://www.neurodevelop.com/File/e53e8b64-2e60-44a8-a14a-c728bb2979ce
- https://www.youtube.com/watch?v=efCq_vHUMqs
- http://developingchild.harvard.edu/resources/activities-guide-enhancing-and-practicing-executive-function-skills-with-children-from-infancy-to-adolescence/
- https://www.scholastic.com/ispy/games/mystery-match.htm
- www.coolmath-games.com
- www.pbskids.org/lab/games

Resources

Center on the Developing Child at Harvard University (2011). Building the brain's "Air Traffic Control" system: How early experiences shape the development of executive function: Working Paper No. 11. http://www.developing child.harvard.edu. Center on the Developing Child at Harvard University (2014). *Enhancing and Practicing Executive Function Skills with Children from Infancy to Adolescence.* Retrieved from www.developingchild.harvard.edu .

Diamond, A. (2009). Cognitive control and self-regulation in young children: ways to improve them and Why. Downloaded from http://www.excellence-earlychildhood.ca/documents/diamond_2009-11ang.pdf

Galinsky, E. (n.d.). Good Guidance: The 7 Essential Life Skills | National Association for the Education of Young Children | NAEYC TYC | Teaching Young Children Magazine. Retrieved January 31, 2017, from http://www.naeyc.org/tyc/focus-self-control.

Penn State Extension, (2014). Building brain power: executive function and young children. Downloaded from http://extension.psu.edu/youth/betterkidcare/news/2014/building-brain-power-executive-function-and-young-children.

Resources

- Jensen, E. (2000). Learning with the body in mind. Thousand Oaks, CA: Corwin Press.
- Stanberry, K. (n.d.) Understanding physical development in preschoolers. http://www.getreadytoread.org/early-learning-childhood-basics/early-childhood/understanding-physical-development-in-preschoolers