Movement and Play during Distance Learning

By: Ester Rios, Jerry Martinez & Silia Robles

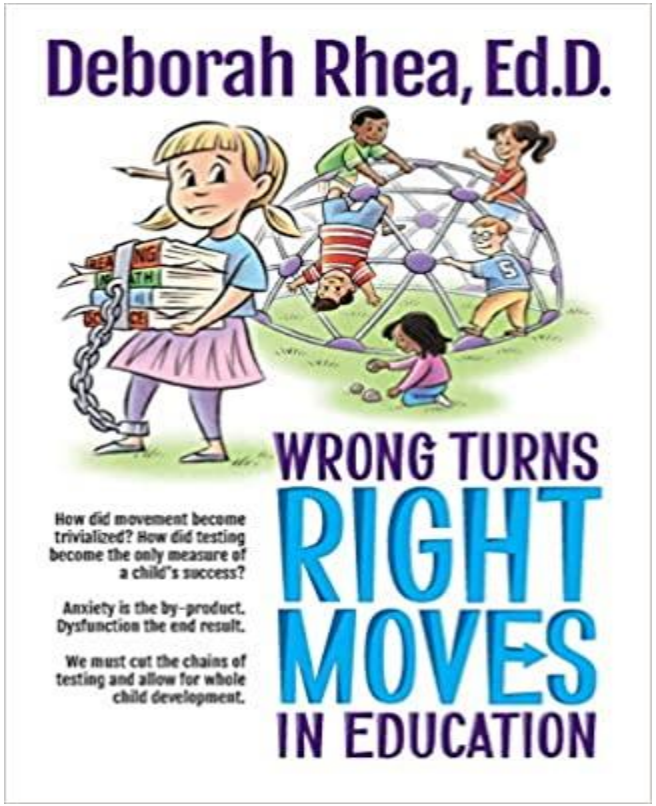
Movement and learning connected

- Freedom of movement is necessary for children to meet their developmental milestones
- Research shows that memory and movement are linked

Movement and learning connected

- Children who have trouble sitting still many times are not getting enough opportunities to move
- Punishments or discipline when a child is having trouble sitting still should delayed; first we need to explore offering ways to move the body while learning
- Schools with short movement breaks throughout the day show gains in attention span and instructional time (ex. LIINK project, Dr. Deborah Rhea

Wrong turns, Right moves in Education (2019)



Play and learning connected

- "Scientists have recently determined that it takes approximately ***400 repetitions*** to create a new synapse in the brain-unless it is done with play, in which case, it takes between ***10-20 repetitions***" – Dr. Karyn Purvis

Play and learning connected

- Play is self chosen, voluntary, motivated by means than the end and creativity, uses mental rules, guided by imagination

- All species play! As humans, we are meant to play throughout life because it increases meaningfulness of experiences

Play and learning connected

- Play promotes development of a wide range of socio-emotional skills, such as self-regulation, listening, negotiating, independent thinking, taking other perspectives, persistence, and curiosity, mental health.

- **Kids should be getting several hours of play, unstructured play**
  - **1-3 hrs per day toddlers**
  - **30-60 minutes over 4 yrs old**

Distant learning- Less movement and play opportunities

Effects on academics

- No recess and child led games
- No PE and group relationships
- Difficulty concentrating
- Increased distractibility
- Visual/ screen fatigue

Health

- Heart disease
- Diabetes
- Obesity
- Strained eyes
- Poor posture
- Sleep quality
- Visual/ screen fatigue

Whole body movements to embed through out the day

- **REGULATING**- movements that helps with focus and attention
- **ALERTING**- movements that are stimulating to increase body awareness or sleepy students
- **CALMING**- movements that helps to relax when frustrated or anxious or upset

Regulating (improve attention)

- Animal crawls (crab, bear)
- Chair push ups
- Wall sits
- Chair yoga
- Sit ups
- Planks
- Chair bands
- Gum chewing
- Squeeze a ball
- The “hook” (brain gym)

Animal walks- 30 seconds

Chair sit ups- x10 while in lesson

Wall push ups- x10

Chair yoga/chair band

Research article

Effects of chewing gum and time-on-task on alertness and attention

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Rationale: Chewing gum has been shown to reliably increase subjective alertness whereas the effects on attention are more variable. It has been suggested that chewing gum only enhances attention when the person has been performing a task for some time.
Objectives: The current research aimed to investigate if time-on-task trends enhancing effects of chewing gum could be observed in alertness and attention during and following chewing.
Methods: Study 1 used tests of reported mood, including reported mood, and tests of attention (categoric search, focussed attention, simple reaction time, and vigilance). These tasks were performed shortly after the start of chewing. Study 2 examined effects of previous and current chewing on reported alertness and the attention tests.
Results: Study 1 showed that chewing gum increased reported alertness and hedonic tone and improved performance on the categoric search task. Chewing gum maintained reported alertness across sessions in study 2. In the first experimental session of study 2 gum improved categoric search performance, and during the second session gum broadened focus of attention and quickened vigilance reaction time. This effect on vigilance reaction time was moderated by time-on-task, with an initial negative effect being replaced by a positive effect.
Discussion: The results confirm the robust effect of chewing gum on reported alertness and show that changes in the effects of chewing gum on attention require further investigation. Future research may also determine underlying mechanisms for an alerting effect.

Keywords: Alertness, Attention, Chewing gum, Time-on-task

Introduction

A recent review of research on chewing gum has highlighted a robust alerting effect of gum chewing but variable effects on cognitive performance.[1] Numerous studies have indicated that gum chewing during performance of a variety of tasks is associated with higher reported alertness.[2–7] Another study failed to find an effect of chewing gum on reported alertness, although it was somewhat underpowered,[8] while an experiment which required participants to stare at a dot (instead of completing a more active task) also failed to show an effect on reported alertness, although gum did attenuate an increase in sleepiness, which was both self-assessed and measured using a physiological test of pupillary unrest.[9]

The effect of chewing gum has been analysed for various aspects of attention, including vigilance, i.e. attention to occasionally-occurring stimuli which demand a response, selective attention, i.e. attention maintained in the presence of distracting stimuli, and divided attention, i.e. simultaneous attention to multiple tasks.[10] Although there is evidence that chewing gum can enhance vigilance task accuracy,[5] other research has not indicated an effect of gum chewing on vigilance.[6,11] Speed of encoding of new information for a selective attention task has been shown to be improved by caffeinated gum but not non-caffeinated,[6] although a later study did indicate such an effect with non-caffeinated gum.[5] Similarly, divided attention (assessed by a multi-tasking activity) has been shown to be improved by chewing gum,[3] but the finding was not replicated.[2] Recent research has indicated that chewing may improve attention only after a period of time, either across a series of different attention tasks[5] or within a single task,[12,13] although another paper has not found a within-task effect.[14]

Alertness may be enhanced through an arousing effect of gum, for example through increased cerebral activity[15] or stimulation of the trigeminal nerve. It has been suggested that gum may enhance attention by making more glucose available to brain areas

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Chewing gum has been shown to increase attention and alertness ~20 minutes

*avoid artificial ingredients and sweeteners; natural gums preferred

Brain gym- The Hook

Alerting (wake up)

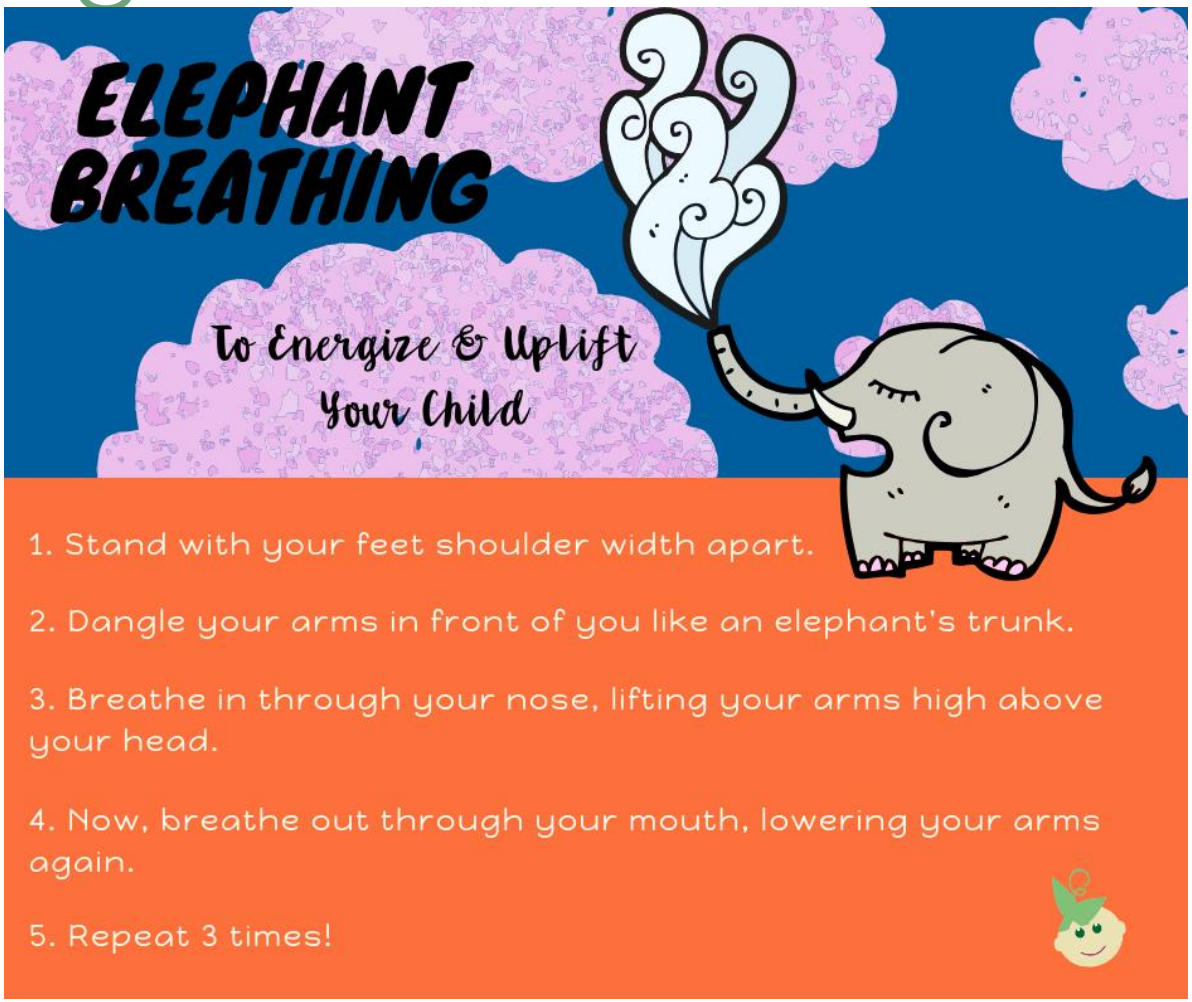
- Bouncing on a ball chair
- Jumping in place
- Chase games
- Dance break
- Spinning in a circle
- Running in place
- Trampoline break
- Stand up instead of sitting down
- Energetic breath(nose, mouth)

Alternative sitting/standing

Spinning in a circle- 5 seconds to left, then right

Jumping breaks- 30-60 seconds

Energetic breath



Calming (when frustrated or upset) * not focused on movement however is good tool when children are having trouble coping during the day

- Weighted vest/towel/blanket
- Self hugs/squeezes/body sock
- Quiet space/calm corner
- Dim the lights
- Using a whisper voice
- Blowing bubbles
- Slow breath work, 4 sec inhale, pause 4 seconds, 4 second exhale, pause 4 seconds

Weighted products-

Self hugs and compression

Light and colors- dim and natural light most calming

What Are The Benefits of Natural Light in Schools?

1. Better dental health.
2. Healthier height and weight for the relevant ages.
3. Lower absentee levels.
4. Daylighting promotes vitamin D generation and circadian regulation.
5. Poor daylighting causes discomfort, which reduces learning.
6. Enhanced mental performance, decreased depression, improved sleep.
7. Natural light is completely free of charge.

Trade Access Panels

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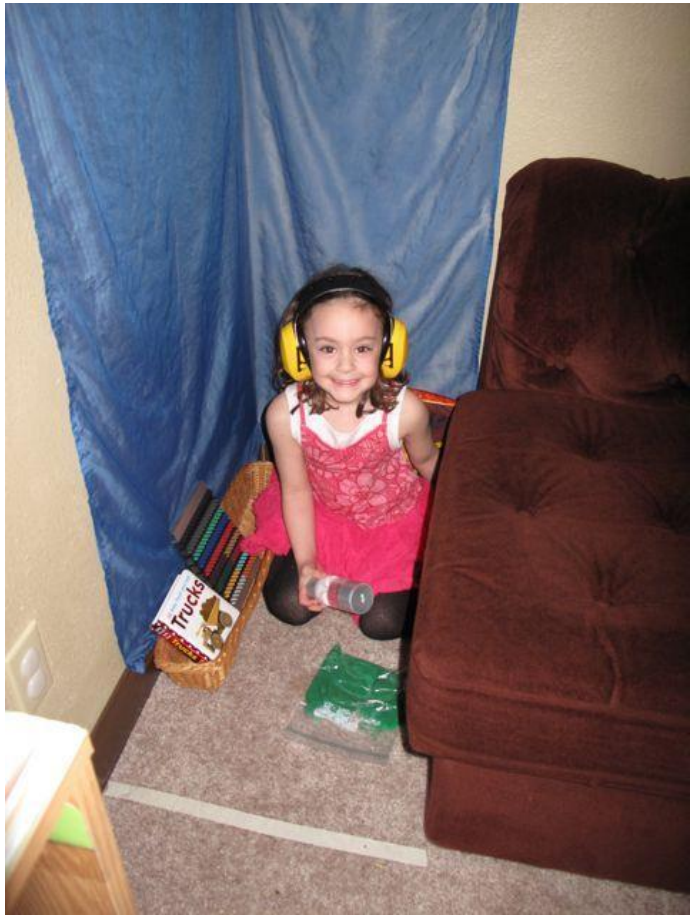
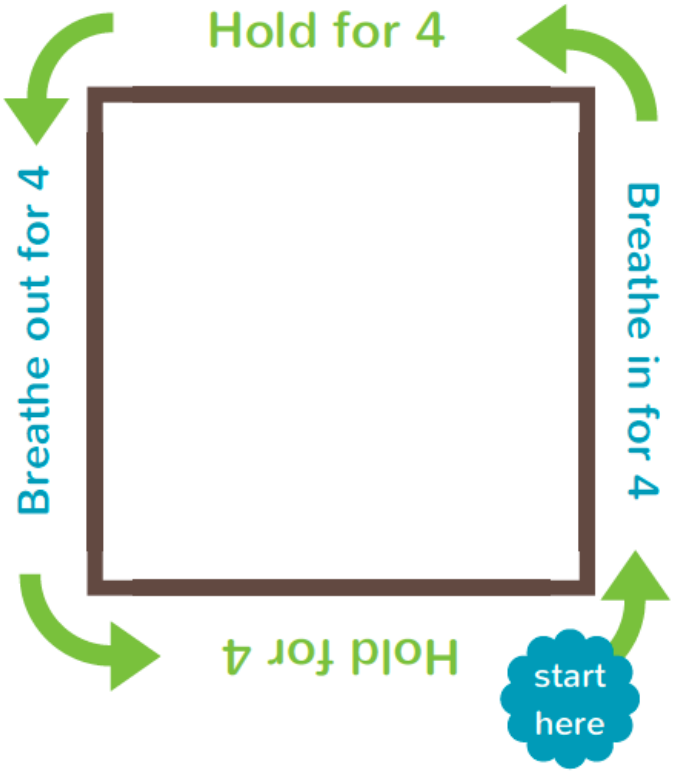
Quiet corner



Slow breath with pauses



Recommendations

The Red-Green-Blue Sensory Routine

EARLY MORNING	GREEN activity incorporated into morning routine
MORNING	RED activity then GREEN activity*
LUNCH	BLUE activity *(down time)*
EARLY AFTERNOON	RED activity then GREEN activity*
EARLY EVENING	GREEN activity (engagement based)
EVENING	BLUE activity incorporated into bed time

** Top tip - children tend to be most productive after a red activity and in the context of that second green activity*

Example schedule

8:30- Regulating activity /alerting activity

9:00- short regulating activity or calming

9:30- Alerting activity/ regulating activity

10:00-short regulating activity or calming

10:30-short regulating activity or calming

Lunch/PE- Calming activity

1:00- Alerting activity /regulating activity

1:30 short alerting activity or calming

2:00- Regulating activity

Dismissal -Calming activity

8:30- Crab walk 30 seconds, jump in place 30 sec.

9:00- Chair push ups x10

9:30- Spinning in place 5 sec each side/ warrior yoga pose each side 10 seconds

10:00- Stand up while learning for 30 seconds

10:30- "Hook up "activity

Lunch/PE- Close eyes, self hug (hands, wrists, arms, neck, head, eyes)

1:00- Energetic breath 3 times/Tree pose each side 10 seconds

1:30- Whole body dance for 30 seconds

2:00- Chair band for 1 minute (running seated)

Dismissal –Box breathing 3 times

Many choices options

- Easy, free, practical
- Can change activities every day
- As long as whole body breaks are also being offered with brain breaks
- Kids need both MOVEMENT and PLAY every day
- Reduce screen time when not doing online learning

ANY QUESTIONS? ☺

Thank you!

- www.braingym.com
- https://www.spdstar.org/node/1485
- https://www.toolstogrowot.com/search
- https://www.kidsyogastories.com/chair-yoga-poses/