Lessons from the sandbox for the boardroom: Realizing the promise of high quality preschool

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September 23, 2016
What do you hear?

Repeat after me
Now change the lens

Content

Collaboration (Following others)

Repeat after me
What’s going on here?
Change the lens!
But all we emphasize is content!

- CONTENT is KEY but it is not everything!
- We need to build the playful foundation on which content and 5 other crucial skills can be built:
  - Collaboration, Communication, Content, Critical Thinking, Creative Innovation, and Confidence
This narrow view of success even pervades our everyday activities: Check out how children can now learn during potty training!

A reporter called me yesterday: Why are we calling day cares schools -- even for tiny tots? ME: Our obsession with Content!
“Could you at least lay off the flash cards until we see a head?!”
We are wearing out our youngest children by engaging in “drill-and-kill” and testing for “factoids” in our assessments rather than real learning.
The “education” problem
Oft cited facts:

- America is falling behind in the international rankings (PISA)
  - 17th in reading behind Finland, Poland, Japan
  - 30th in math, a full 13 slots behind Slovenia
  - 23rd in science
- 50% of our inner city students do not graduate high school
- The US is 12th in the % of citizens with college degrees

- 21st Century Partnership – a group of 500 CEOs surveyed say our graduates are not prepared for the workforce

- The military suggests our educational status is a national security problem

- Newsweek decries our “creativity crisis.” We are not training students for the jobs of tomorrow
When children come from disadvantaged families, gaps can show up very early in...

**Language:**

These differences translate to lower language scores at age 9-10 and lower reading comprehension scores throughout school.

**Spatial skills:**

In children’s ability to copy a block design with appropriate number and orientation.
And by Pre-K, in Numeracy:

- Math knowledge in kindergarten predicts math achievement through elementary and even high school.
- Gaps between low and higher resource children get larger over time (Rathbun & West, 2004).
- Gaps in standardized tests (Starkey et al. 2004) and math activities (Clements & Sarama, 2005; Levine et al., 2010) increase.
What’s a nation to do? In particular, what is Florida to do?

How do we remedy the inequities -- and assure Florida’s future work force?
RE-imagining global education requires re-imagining our definition of success!

In *Becoming Brilliant*, we suggest that a new definition should prevail:

*Society thrives when we craft environments, in and out of school, that support happy, healthy, thinking and social children who become collaborative, creative, competent and responsible citizens tomorrow.*

Modified from Ontario Ministry of Education!
A new way to conceptualize early childhood learning:

Building a foundation for HIGH QUALITY learning at home and school
Where a high quality foundation for learning must include....

• Content – a strong curricular component (3Rs) – including learning-to-learn skills

• And 5 more crucial skills:
  – Collaboration
  – Communication
  – Critical Thinking
  – Creative Innovation
  – Confidence (and grit) in the face of intellectual risks
The traditional answer: **FILL THE GAP**

Many preschool programs stuff content into the “empty” heads of young children – reading, math....
But filling children with content will only go so far....

- Kids are not empty vessels

- The world is changing – facts are at our fingertips
  - Business leaders suggest that information doubles every 2.5 years!

- Schools cannot do it alone
  - Children spend only 20% of their waking time in school. What should we do with the other 80%?
In preschools, HIGH Quality occurs in environments where...

Teachers are trained in early childhood, small group sizes, targeted learning, & warm and engaging teachers...

And where the pedagogical approach is developmentally appropriate – playful learning.
Playful Learning contains time for both free and guided play:

<table>
<thead>
<tr>
<th>Directed by</th>
<th>Initiated by</th>
</tr>
</thead>
<tbody>
<tr>
<td>child</td>
<td>child</td>
</tr>
<tr>
<td></td>
<td>adult</td>
</tr>
<tr>
<td>Free Play</td>
<td>Guided Play</td>
</tr>
<tr>
<td>Co-opted Play</td>
<td>Direct Instruction</td>
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</tbody>
</table>

Guided play has been studied in a number of learning areas and wins over direct instruction – transfers!
Guided play in a game also increases vocabulary

How to Play: Teacher says, “First, spin the spinner and move to the first square that is the same color. Then, I am going to read you the word that you landed on and a question about that word. Next, your neighbor gets a turn. Let’s play Snakes & Ladders!”

Figure B3. Sample Snakes & Ladders game board

Hassinger-Das, Ridge, Golinkoff & Hirsh-Pasek, in progress
Building a foundation in **math and STEM**

**At Home**

Parents who use more number words with 14-30 mo. olds have children who are better at number at age 3

"Point to three"

From Levine, Surivakham, Rowe, Huttenlocher & Gunderson, 2010

**At School**

Children who are better at a game using line estimation have better math skills

From Siegler and Ramani, 2008

**Critical thinking and problem solving**
Building a foundation in spatial skills (STEM)

- Parental talk about spatial knowledge is stronger in block play and puzzle play.
  - Ferrara, Hirsh-Pasek, Newcombe & Golinkoff, 2012; Levine, Ratliff, Huttenlocher & Cannon, 2011)

The ability to copy spatial designs with blocks is related to later spatial and math ability.
  - Verdine, Golinkoff, Hirsh-Pasek, Newcombe, Filipowicz & Chang, 2014

More problem solving and critical thinking
Building a foundation **in social emotional control** for children in preschool

**Important skills for later reading, math and collaboration!**

(Bodrova & Leong, 2006, Blair & Raver, 2014 but see Thal, 2012, Lillard et al., 2012)
On the “C” of Critical thinking and hypothesis testing

Gweon, Goodman, Spelke & Schultz (2010)

This toy is neat!

I tell you:

“Look what this can do!” [phone call]

Or I tell you: “What can this do?” [phone call]
Summary

• High quality education begins even before preschool

• Achieving high quality demands that we move from filling a gap to building a foundation at both home and school

• Playful learning (when targeted through guided play) can become a key pedagogy for learning the basics (3Rs)

• Playful learning also offers support for learning to learn through collaboration, communication, critical thinking and creativity (4Cs)

• In the reviewed research, guided play trumped direct instruction (filling the gap) and free play without targeted learning goals. It offers a new direction for helping all children become ready to learn.
• Skills learned in the sandbox

• Are those that the nation’s business leaders want to see in the boardroom.

And we know how to put them into our high quality preschools today!
Thanks to our funders

- My long term collaborator Dr. Kathy Hirsh-Pasek
- The most wonderful postdocs, graduate students and undergrads.
- And to the families who make the research we do possible!