## INTERGENERATIONAL AND TRANSMEDIATIONAL PLAY PARTNERSHIPS

MAMTA SHAH, PH.D & BRENNA HASSINGER-DAS, PH.D.

#### INTRODUCTION

To answer the question central to this special issue, we engaged in part autoethnography and part self-ethnography over a onemonth period. During this time, we positioned ourselves as researchers of play and learning, academic parents, and parentresearchers to individually (a) reflect upon the significance of play, (b) document the theoretical and empirical perspectives on play from which we draw inspiration, (c) describe how we choose games for our children, and (d) record instances of game play with our sons using some of our favorite games.

We believe that by reflecting on our own stance as parentresearchers and by teaming up with our 5-year-old sons, we provide unique yet complementary perspectives on two forms of play partnerships . First, the *intergenerationality of our play partnerships* led us to use our sons' interests as a starting point to select games. Simultaneously, being the adults and the academicparents in the relationship allowed us to assume many roles (e.g. a model/collaborator, guide/coach, co-learners; Siyahhan & Gee, 2017). Second, we expanded our sons' play experiences and further honed their interests, skills, and/or knowledge through opportunities that went beyond the game. We refer to this as the creation of *transmediational play partnerships* (Siegel, 1995). We conclude this paper with thoughts that will resonate with parents or caregivers seeking to understand what makes a game helpful, harmful, appropriate, challenging or intimidating for a child (Green & Cohen, 2019).

# WHO ARE WE?: AN INTRODUCTION TO THE PLAY PARTNERS

I (Mamta) study play mediated by digital and non-digital environments, as a gateway for engaging learners to experiment with complex ideas and possible selves, and to explore new interests and deepen existing ones. My work uses this potential of play as a starting point to support educators in (a) identifying, examining, repurposing, and leveraging well-designed game environments (Foster & Shah, 2015a), (b) designing and implementing associated curricula or pedagogical approaches (e.g. game-based learning) in formal and informal settings (Foster & Shah, 2015b), (c) facilitating nuanced forms of student learning (e.g. identity exploration; Foster, 2014; Shah, Foster & Barany, 2017), and (d) reconstructing professional identity and practices in learning ecologies as educators engage in a pedagogical partnership with novel play-based environments (Shah & Foster, 2018).

H is my 5-year old son, studying in a Montessori preschool. I am confident that his favorite game play genres are puzzles/logic, role-playing, and construction/strategy. I say this because he can spend good amounts of time at school or at home either building 100-200 pieces floor puzzles, building-testing-refining different models of marble runs, rollercoaster challenges or LEGO models, and/or creating and living the life of fictional characters. H likes playing by himself, with his mixed-age peers, and with family and family-friends alike.

I (Brenna) also study play, but with a somewhat wider focus. I research playful learning, which is a broad play category focused on child learning that features the child-directed play methods of free play, guided play, and games (Hassinger-Das et al., 2017; Toub, Rajan, Golinkoff, & Hirsh-Pasek, 2016). Playful learning is active (not passive), engaged (not distracted), meaningful (not disconnected), and often set in a context of social interaction (Hirsh-Pasek, Zosh et al., 2015). It embodies how children learn best while also promoting transfer to new contexts (Weisberg, Hirsh-Pasek, Golinkoff, Kittredge, & Klahr, 2016). In order to more fully understand the role of play in human development, I believe that research needs to carefully examine children's environments, cultural customs and practices, and the role of adults in children's lives.

As for my son, A is a 5-year-old who, like Mamta's child, is also enrolled in a Montessori preschool. A is a very active child who loves all kinds of gross motor activity, including karate, playground play, and cooperative outdoor games with friends. He also shows a special interest in mathematics and spatial play, particularly block play and puzzles. For the most part, A prefers to play with others, including school friends or family members. He can also get absorbed in solo play with his favorite LEGOs for a significant length of time.

We (Mamta and Brenna) know each other professionally because of our somewhat similar professional interests. We also know each other personally, because our children became friends while attending the same Montessori school. Given many mutual interests, we decided to draw upon our professional stances and personal accounts of playing with our play partners (our sons) and address the following question, "How does a parent know if the games that their child is playing are helpful, harmful, appropriate, challenging or intimidating for their child?

## OUR PROCESS: PART AUTOETHNOGRAPHY, PART SELF-ETHNOGRAPHY

We wanted to address the central question of this special issue by reflecting on our own work. This was crucial because decisions we make for H and A regarding the selection of a game as worthy or not, and how we play the game with our children are largely inspired by our professional views on play and learning. Hence, reflecting on our work would allow us to make our implicit beliefs and actions about intergenerational and transmediational play more explicit. At the same time, we wanted to illustrate detailed accounts of the play partnerships we engage in with our sons. This back and forth between the study of self and participants in a natural setting that is difficult for outsiders to have insight into prompted us to adopt a part autoethnographic and part self-ethnographic approach. Other studies by parentresearchers have demonstrated the benefits and challenges of adopting a self- or autoethnographic approach (Vedder-Weiss, 2017; 2018). We believe that combining the two approaches would afford us to respond in a richer and more systematic manner.

Over a one month period, we responded to prompts including: (a) Why is play important to you? (b) How do you choose a game for your child? (c) What are some of your favorite games to play your child? (d) What about these games makes you want to play them with your child? (e) How do you play a game with your child? (f) How do you go beyond the game play to make the learning meaningful to your child? (g) Provide an example from an actual/naturalistic game play session. Include conversations with your child, (h) What would you like to say to parents as it relates to being aware of what makes a game helpful, harmful, appropriate, challenging or intimidating for their child? We used these prompts to organize the rest of this piece.

#### SIGNIFICANCE OF PLAY AND STANCE ON GAMES

Mamta: Play is at the core of the questions that drive my endeavors as a designer, researcher, and educator. I study (a) how people learn about themselves and society through digital and non-digital play-based environments; (b) how can play-based environments be designed/repurposed and implemented to afford nuanced forms of learning for students; and (c) how can educators be supported in leveraging emerging and existing play-based environments as pedagogical partners? These questions are crucial because new media forms, such as games and maker tools, have galvanized the energy around play as a medium of learning in novel ways. Learners are afforded with individual, participatory, and connected learning opportunities in and out of school to experiment with complex ideas and possible roles and to explore new interests and deepen existing ones. Yet, less attention is given to the praxis of teaching and learning with these environments across multiple learning settings (e.g. teachers in schools, parents at home, educators in after-school and museums).

I have a background in human development; as such, I recognize the developmental significance of play as a parent and an educational researcher. As is reflected in the works of seminal scholars such as Lev Vygotsky, who believed that play is a tool for children to develop intellectually and that children learn how to use language at play, and John Dewey, who expressed that play is the mediator between child and society and that play and work should be integrated together in curriculum opportunities for play are important because they impact the affective, cognitive, social, motivational dimensions of learners' development (Huang & Plass, 2009). Contemporary scholars have also emphasized on the significance of cultivating play or playfulness as an attitude for holistic development. A lifelong love for play can be promoted when learners have opportunities to pursue their passions, to construct and share projects, and to learn naturally with peers (Resnick, 2017).

I also have a background in educational technology, educational psychology, and the learning sciences which inform the way I approach the design, selection, and use of play-based environments such as games. Games are designed experiences (Squire, 2006), and by extension, designed curricula with affordances and constraints for content (what someone can learn) and pedagogy (how someone can learn) (Foster, 2012). Some scholars have proposed specific principles to appreciate the design of games for learning (Klopfer, Hass, Osterweil & Rosenheck, 2019). Other scholars have argued that welldesigned games can allow players with opportunities for selftransformation (Foster, 2014; 2008) and enculturation (Gee, 2003; Shaffer, 2006), both of which are valuable to support learners' agency and participation in a constantly changing society (Thomas & Brown, 2011). Finally, scholars have theorized how well-designed games can afford transformative educational experiences in a Deweyan sense by tapping into learners' natural curiosities for inquiry, communication, construction, and expression (Foster & Shah, 2015b; Shah & Foster, 2014). However, learning with games is often implicit; educators can serve as a catalyst to make learning with games meaningful and personally relevant for children (Barzilai & Blau, 2014; Siyahhan & Gee, 2017).

I believe I am privileged as a professional and a parent to recognize the developmental significance of play and theoretical promise of games. As a result, my research has focused on making game-based learning accessible to educators in formal and informal settings by way of developing and applying analytical and pedagogical models that guide educators to systematically select, analyze, and incorporate games for supporting student learning (Foster, 2012; Foster, Shah & Duvall, 2015; Shah, in press; Shah & Foster, 2015). Having said that, I believe parents are a critical form of educators for children and youth. If more parents are empowered (a) to understand the affordances and constraints of a game based on their children's development needs and interests and (b) to create playful opportunities for children that go beyond the game itself but promote children to make meaningful connections between themselves, others, and their world, these would set the stage for forging rich play partnerships.

**Brenna:** As a researcher who studies play, I spend a lot of time thinking about how I involve myself in play as a parent. I have written about the importance of playful learning, which includes free play, guided play, and games for children's development (Hassinger-Das et al., 2017). Learning is supported in all three approaches because children are active, engaged, interacting with activities that are meaningful to their lived experiences, and socially-interactive with adults or peers (Hirsh-Pasek, Zosh et al., 2015).

Free play, whether with objects or pretend or physical, is fun and voluntary, involves active engagement, without extrinsic goals, and often incorporates make-believe (Fisher, Hirsh-Pasek, Golinkoff, Singer, & Berk, 2011; Johnson, Christie, & Yawkey, 1999). During free play, children can engage in discovery learning and practice social and other skills without constraints from adult involvement (Singer & Singer, 1990). Guided play retains most common characteristics of free play, especially the nature. but adds an additional focus on a enjoyable developmentally-appropriate learning goal (Toub et al., 2016). Guided play involves children exploring their environment with adults through interactions focused on implicit learning goals (Weisberg et al., 2016). Adults support a learning goal by using strategies including commenting and asking open-ended questions about children's ideas (Weisberg et al., 2016), fostering the serve and return interactions that are critical for development. Finally, by infusing games with learning content,

their playful, active, and engaging elements increase children's motivation to learn that content. Games may be successful learning tools since they foster an environment that activates children's intrinsic motivation and a positive attitude toward learning through the inclusion of characteristics such as challenge, control, curiosity, and fantasy (Hassinger-Das et al., 2017).

In addition, I am committed to exploring play in different communities. I am influenced by Göncü et al.'s (1999) sociocultural theory of play, which suggests that we should explore 1) the ways children represent their world through play activities and narratives; 2) the social and economic structures that impact the availability of play objects and spaces; and 3) the community beliefs about the purpose of play that may shape play opportunities.

### IS THERE A RECIPE FOR A GOOD GAME?

**Mamta:** In my view, I do not outrightly dichotomize any game in categories such as good or bad, educational vs. non-educational. Instead (a) the experiences mediated by a game (which may be unique to each individual or setting in which the game is played, and is impacted by the design of the game itself), (b) the purpose for which a game is used, and (c) the manner in which the game is used results in specific outcome(s) which may or may not be favorable.

As such, as a parent, I start with a bigger picture in mind such as, (a) what are H's interests at the current point that he would like to explore further, (b) what are some ideas or experiences I want to expose H to, (c) what are some skills I want H to cultivate, and (d) what are some issues H is struggling with, which I can address by way of game-play? I use the answers to these questions to drive the choice of games for him. Simultaneously, from a play and learning researcher perspective, I seek games that can allow me to facilitate one or more 21st century knowledge and skills WELL PLAYED 197 in H. These knowledge forms include foundational (core content, cross disciplinary knowledge and digital literacy), meta (creativity and innovation, problem solving and critical thinking, communication and collaboration) and humanistic knowledge (cultural competence, ethical/emotional awareness, life/job skills; Kereluik, Mishra, Fahnoe & Terry, 2013). These skills, transdisciplinary in nature, include perceiving, patterning, abstracting, embodied thinking, modeling, deep play and synthesizing (Mishra, Koehler, & Henriksen, 2011).

I believe some of our current favorite games offer many opportunities for H to cultivate 21st century knowledge and skills. For instance, Rush Hour by Thinkfun is a logic game for 8+ years that comes with 40 multilevel challenges (beginnerintermediate-advanced-expert), a set of cars and car grid. We often play this game collaboratively, engaging in a think-pairshare process to clear the traffic jam. Rollercoaster Challenge by ThinkFun is similar in design (multilevel challenge cards, grid, logic-focused). However, we have flipped the rules and built the roller coasters by following the solutions on the reverse side of the cards. This has empowered H to independently engage in the process of building, testing, and observing the different configurations of a rollercoaster. Disruptus by Funnybone Toys is a card game that engages players in seeing ideas and objects in new ways. H has combined his interest in a cartoon character called Captain Underpants and characteristics of deep sea creatures, and applied the process of Disruptus. This has given way for GreenClover-H's superhero alter ego who fights his nemesis with the power of bioluminescence and farting. Finally, the *Felt Mosaic Game* by eeBoo is a tangram-like game that comes with 72 colorful felt triangles, a felt board and a set of 50 cards cards that illustrate 100 patterns and representations of creatures and objects. H equally enjoys arranging the felt pieces as depicted in the cards, engage in free play with the pieces,

and recreate patterns observed in nature (e.g. concentric growth rings on a tree).

I know a game is a good one for H when the experience of playing it (a) evokes a sense of wonder about himself or a phenomenon, (b) can be adapted to and can extend H's zone of proximal development over time by H himself or by an expert play partner (cousin, parent, grandparent), and (c) drives H to express about it and/or connect it to his lived experiences (Foster, 2014; Foster & Shah, 2015b; Shah, Foster & Barany, 2017; see Figure 1).



Figure 1. H writing and drawing from school depicting his experience of visiting the San Antonio Botanical Garden where we went on a LEGO nature + art scavenger hunt.

**Brenna:** When selecting a game to play with my son, I primarily consider his interests and what would "hook" him in to playing. This reflects on my theoretical framework highlighting the ways that people learn best–through active, engaged, meaningful, and socially interactive (Hirsh-Pasek, Zosh et al., 2015). At his current age, my son is very interested in being physically active as well as in spatial and mathematics tasks (see Figure 2).



Figure 2. A engaging in block play with Imagination Playground materials.

I think that is true for other parents as well. You are able to use your knowledge of your child to help design an ideal gameplay situation from which you both will benefit and enjoy. For me, I use the framework of active, engaged, meaningful, and socially interactive contexts to determine the best games to play with my child. As you can see by the conversation during gameplay with my child, I am very focused on giving him agency in the play–in other words, making it an active or "minds-on" experience for him. I do not want it to be about me telling him the rules and him simply following along. I want him to see the gameplay as our joint activity–not as my activity in which I have included him. This method of approaching gameplay has made our time playing more productive and appropriate for his age level.

I also look for games that do not have a lot of bells and whistles that distract from the goals of the game. For example, when he was younger, he always wanted to play The Cat in the Hat I Can Do That! Game, but only because he wanted to use the man in the hat and boat figurines as toys. He would get distracted by playing with these toys and stop playing the game. Now, he enjoys playing this game, but I think this example demonstrates the need to find games that work for your child at their developmental stage (and not necessarily following the suggested ages on the box).

As I mentioned earlier, I always look for games that will trigger his interest. Whether this is a game based on a favorite show (like PJ Masks) or a game that targets a content area of interest, games that speak meaningfully to a child's own life are much more likely to be favorites. This also means that it is less likely that children will feel intimidated by a game to which they can closely relate. For example, A's love of the PJ Masks characters is a great hook to get him engaged with the PJ Masks Night Sight game, which I describe in detail in the next section. He can put on a Catboy mask and engage in some sociodramatic play before diving into the actual game. Seeing himself as a superhero I think helps him persevere at the memory aspect of the game, which can be difficult at his age.

Beyond this current favorite game, one of our all-time favorite brands is Thinkfun. The mission of Thinkfun is to make learning through their games fun and engaging. The very first game A and I played together was Roll & Play by Thinkfun. In this game for toddlers, children roll a plush cube with different colored sides. Then, they select a card with the same color as the side that landed face up and complete the action depicted on the card–like hopping on one foot or roaring like a lion. He loved this game, because it was physically active and kept him engaged.

Currently, we are enjoying their game Zingo! 1-2-3. This game builds on his interest in mathematics by asking players to recognize different numerical representations-such as the word

"seven," the numeral "7," and seven items-and by completing simple addition. We play together, and the game is very fast paced, which keeps his interest.

He is also interested in other numerical games, including Ratuki and Blink. We play these games by their original rules, but also make up our own-depending on any learning goals I might have for our play. For instance, Ratuki is a perfect game for learning about numerical representations. Cards feature numerals, tally marks, fingers, and die, each representing the same numbers. Some days we play by sorting by all the cards for one number at a time, sometimes we play using the game directions and making piles of the numbers 1-5 in order. I like games where I can adjust the level of challenge based on the needs of my son.

Finally, I cannot stress the socially-interactive element enough. I look for games that I can play WITH my child. He can watch me model appropriate play behaviors, and I can scaffold his experience with relevant comments and suggestions. I can work with him in his zone of proximal development–making sure that there is enough challenge to keep him engaged but not too much that he becomes frustrated and gives up (Vygotsky, 1967).

### PLAY PARTNERS IN ACTION

**Mamta:** Below, I describe instances of play experiences with H using some games/game/toy types.

**1. Gathering a Garden by eeBoo:** In this board game, players take turns while on a trip to visit vendors to gather flowers, vegetables, and herbs for creating their own garden. H, his father, and I played this game for the first time at the onset of Spring 2018. Over the remainder of the season we extended his experience of playing this game by (a) visiting the library to read books about things that happen in Spring, (b) taking a trip to the local arboretum to observe birds, and (c) introducing him to our community garden. This year H wants to revive our kitchen

garden. We will play the game using it as a springboard to discuss what we want to grow in our garden (flowers, vegetables and/or herbs). This will be followed by a trip to Home Depot or Lowes to pick seeds and/or saplings of the chosen items for our garden.

3. Construction Toys: As I mentioned previously, H enjoys playing with construction sets. We have owned and expanded our collection of many of our current favorite sets since he was 18 months old (e.g. LEGOs, Marble Run, TinkerToys by K'Nex, Magformers, Tegu Blocks. Collectively, these sets are built with different materials (wood, plastic, magnets), have different shapes (cylinders, bricks, planks, wheels, triangles, spools) and function on different mechanisms (interlocking, stacking, magnet). These characteristics in themselves have provided many opportunities over time for me to model cognitive processes of asking, observing, imagining, creating, reflecting, and iterating to H, which are central to many disciplines. Additionally, these games stimulate hard fun experiences (Papert, 1997), which have allowed me to shape his motivational orientations such as selfcorrecting and help-seeking strategies, and mastery over performance learning (Foster, 2011). In addition, most construction sets come with instructions for building ideas. H learned to 'read' the manuals from his older cousin, particularly for LEGOs. This literacy has given him autonomy and a good foundation to independently construct models meant for much older kids (12+) and to be a coach to his peers; thus expanding his zone of motivational and cognitive proximal development (Vygotsky, 1967; see Figure 3).



Figure 3. H creating with K'Nex.

2. What's Gnu? By ThinkFun: At school, H is learning to sound and spell three letter words. Unlike with puzzles or construction sets, where he has acquired self-competence and fluency to express himself, H and I or H and his dad have to engage in a co-operative and guided play to support his emergent reading abilities. We have taken a liking to What's Gnu? which we have played using our own rules. Sometimes, each player gets a turn to challenge the other to spell a specific word. This requires the challenger to read the letter tiles that are dispensed and a word that is possible with the three-letter word boards (e.g. T-A-P). At other times, H's father or I pose a riddle, the answer to which is a three letter word new to H's spelling vocabulary (e.g. What is the word for short and fine hair on some animals? F-U-R; see Figure 4)



Figure 3. H playing What's Gnu?

**Brenna:** According to A, his current favorite game is PJ Masks Night Sight by The Wonder Forge. This is a view into what playing this game looks like at our house:

B: [After removing all of the pieces from the box.] Okay, A! Remember how we start?

A: Yes! We need to put on our masks for night time!

B: That's right. Why do we need to do that first?

A: Because we need to see what toys are on our shelves before we try to remember them in the day time.

B: Yep! Okay, masks on!

A: I'm Catboy! [Zooms around the room.] I'm going to defeat you, Romeo! B: I'm Gecko. I'm going to carefully study my toy shelves so I can remember what I have. Catboy, shouldn't you look at your toys, too?

A: Oh yeah! I want to beat Romeo!

B: [After looking at the toy shelves for about two minutes] Okay! We've looked at our toys. Now what do we do?

A: It's time for day time! Take off our masks!

B: [After removing our masks.] Okay, now what do we do?

A: I'll pick three Romeo tiles from the pile. Then, I'll match them with my shelves, or yours, or the extra one for Owlette. Because we don't have an Owlette to play today so we have to do it that way.

B: Great!

A: Okay, I got the tractor, teddy bear, and dinosaur. I know I have the dinosaur!

B: Okay, think about where the dinosaur is on your shelves. Close your eyes and see if you can see it in your mind.

A: [Places the tile on the shelf.] I think this is the right spot. Mom, do you have the other ones?

B: I think the Owlette shelves do.

A: Maybe we can just put them next to that board and then use our night masks again once we finish our boards? And we can work together to do Owlette's shelves?

B: That sounds like a good plan. That way, we can do those we remember first and then work together to do the other shelves (see Figure 5).



Figure 5. A playing his current favorite game, PJ Masks Night Sight.

#### OUR COLLECTIVE VOICE AS AND FOR PLAY PARTNERS

In this essay, we have documented and analyzed our process of how we come to know as parents if the games our children play are helpful, harmful, appropriate, challenging or intimidating. Over a one-month period, we adopted a part autoethnographic and part self-ethnographic approach, positioning ourselves as researchers of play and learning, academic parents, and parentresearchers to individually (a) reflect upon the significance of play, (b) document the theoretical perspectives on play from which we draw inspiration, (c) describe how we choose games for our children, and (d) record instances of game play with our sons using some of our favorite games.

Our perspectives on game selection are informed by our professional stances on the significance of games and play for 208 ERIC KLOPFER learning, the learning goals we have for our sons, and the interests of our children. Each of us is interested in studying the benefits of play for learning and development, but from fairly different perspectives. Yet, even with our differences, we both focused on the importance of creating engagement with a game by building on our children's interests. This included selecting games that were recommended for children older than our sons and then adapting the play experience to our children's level (e.g. rule modification, co-operative/guided play). Additionally, we both highlighted the importance of connecting games to our children's lived experiences in meaningful ways. We believe that these two elements may end up being the most salient for other parents as well. It is also worth noting that the instances we have documented with H and A are those involving non-digital games. However, our process for selecting and playing the games is similar even with digital games or play environments.

Our analyses revealed that we engage in two forms of play partnerships-intergenerational and transmediational. The intergenerational nature of our play partnerships with our children allows for productive scaffolding opportunities as we bring to bear our experience as more knowledgeable others to help our sons construct new understanding (Vygotsky, 1978). As transmeditional, our play partnerships also focused on taking our sons' interests, skills, and/or knowledge and encouraging them to see the value of these both inside and outside the context of the game at hand. We think this framing may also be helpful to other parents in determining the importance of play partnerships children's supporting and for learning development.

#### REFERENCES

Barzilai, S. & Blau, I. (2014). Scaffolding game-based learning: Impact on learning achievements, perceived learning, and game experiences. *Computers & Education* 70,65-79. Dewey J. (1902). The child and the curriculum. Chicago: University of Chicago Press.

Fisher, K., Hirsh-Pasek, K., Golinkoff, R. M., Singer, D. G., & Berk, L. (2011). Playing around in school: Implications for learning and educational policy. *The Oxford handbook of the development of play* (pp. 341-362). New York, NY: Oxford University Press.

Foster, A. (2008). Games and Motivation to Learn Science: Personal Identity, Applicability, Relevance and Meaningfulness. *Journal of Interactive Learning Research*, 19(4),597-614. Waynesville, NC: Association for the Advancement of Computing in Education (AACE).

Foster, A.N. (2011). The Process of Learning in a Simulation Strategy Game: Disciplinary Knowledge Construction. Journal of Educational Computing Research, 45(1), 1-27.

Foster, A. N. (2012). Assessing learning games for school content: Framework and methodology. In Ifenthaler, D., Eseryel, D. & Ge, X. (eds.) Assessment in Game-based Learning: Foundations, Innovations, and Perspectives. New York, NY: Springer.

Foster. A. N. (2014). CAREER: Projective reflection: Learning as identity change. DrexelUniversity, Philadelphia: National Science Foundation.

Foster, A. & Shah, M. (2015a). The ICCE framework: Framing learning experiences afforded bygames. *Journal of Educational Computing Research*, 51, 369-395.

Foster, A. & Shah, M. (2015b). The play curricular activity reflection and discussion model for game-based learning. *Journal of Research on Technology in Education*, 47, 71-88.

Foster, A., Shah M., & Duvall, M. (2015). Game Network Analysis:

For teaching withgames. In M.L. Niess & H. Gillow-Wiles (Eds.) *Handbook of Research on Teacher* 

*Education in the Digital Age*(pp. 380-411). Hershey, PA: Information Science Reference.

Gee, J. P. (2003). What video games have to teach us about learning and literacy. New York:

Palgrave Macmillan.

Göncü, A., Tuermer, U., Jain, J., & Johnson, D. (1999). Children's play as cultural activity. In A.

Göncü (Ed.), Children's engagement in the world: Sociocultural perspectives (pp. 148–170). New York, NY: Cambridge University Press.

Green, C. & Cohen, M. (2019). Parents' Choice Foundation & MCG Find Similarities In Toy Selection And Purchase Habits. Retrieved from https://www.mcgrc.com/parents-choice-foundation-mcg-release-results-of-new-survey-on-caregivers-toys/

Hassinger-Das, B., Toub, T. S., Zosh, J. M., Michnick, J., Hirsh-Pasek, K., & Golinkoff, R. M.(2017). More than just fun: A place for games in playful learning. *Infancia y Aprendizaje, 40,* 191-281. doi: 10.1080/02103702.2017.1292684

Hirsh-Pasek, K., Zosh, J. M., Golinkoff, R. M., Gray, J. H., Robb, M. B., & Kaufman, J. (2015).Putting education in "educational" apps: Lessons from the science of learning. *Psychological Science in the Public Interest, 16*, 3–34. doi:10.1177/1529100615569721

Huang, T., & Plass, J. L. (2009). Microsoft Research: History of play in education. New York: Games for Learning Institute.

Johnson, J. E., Christie, J. F., & Yawkey, T. D. (1999). *Play and early childhood development*. New York, NY: Addison Wesley Longman.

Kereluik, K., Mishra, P., Fahnoe, C., & Terry, L. (2013). What knowledge is of most worth: Teacher knowledge for 21st century learning. *Journal of Digital Learning in Teacher Education*, *29*(4), 127-140.

Klopfer, E., Haas, J., Osterweil, S., & Rosenheck, L. (2019). Resonant Games. *Resonant Games*.

Mishra, P. K., Koehler, M. M., & Henriksen, D. (2011). The seven trans-disciplinary habits of mind: extending the TPACK framework towards 21st century learning. *Educational Technology*, 51(2), 22-28.

Papert, S. (1997). The connected family: Bridging the digital generation gap. Marietta, GA:Longstreet Press.

Shaffer, D. W. (2006). How computer games help children learn. New York: Palgrave Macmillan.

Shah, M. (In press). Supporting Teachers' Examination of Games for Teaching, Learning, and Assessment. In D. Ifenthaler, & Y.J. Kim (Eds.), *Game-Based Assessment Revisited*. New York: Springer.

Shah, M. & Foster, A. (2018). Promoting Teachers' Identity Exploration: The Way Forward in Teacher Education for Game-Based Learning. In E. Langran & J. Borup (Eds.), Proceedings of Society for Information Technology & Teacher Education International Conference (pp. 486-494). Washington, D.C., United States: Association for the Advancement of Computing in Education (AACE).

Shah, M., Foster, A., & Barany, A. (2017). Facilitating Learning as Identity Change Through Game-Based Learning. In Y. Baek

(Ed). *Game-Based Learning: Theory, Strategies and Performance Outcomes*(pp-257-278). New York, NY: Nova Publishers

Shah, M. & Foster, A. (2014). The inquiry, communication, construction and expression (ICCE) framework for understanding learning experiences in games. *International Journal of Virtual and Personal Learning Environments*, 5(2), 1-14.

Siegel, M. (1995). More Than Words: The Generative Power of Transmediation for Learning. *Canadian Journal of Education. Revue Canadienne De L'éducation, 20,* 4, 455.

Singer, D. G., & Singer, J. L. (1990). The house of make-believe: Children's play and the developing imagination. Cambridge, MA: Harvard University Press.

Siyahhan, S. & Gee, E. (2017). Families at play: Connecting and learning through video games. Cambridge, MA: MIT Press.

Squire, K. (2006). From content to context: videogames as designed experience. *Educational Researcher*, *35*(8), 19–29.

Thomas, D. & Brown, J. S. (2011). A New Culture of Learning: Cultivating the Imagination for a World of Constant Change. Lexington, KY: CreateSpace.

Toub, T. S., Rajan, V., Golinkoff, R. M., & Hirsh-Pasek, K. (2016). Guided play: A solution to the play versus learning dichotomy. In D. Geary, & D. Berch (Eds.), *Evolutionary perspectives on child development and education* (pp. 117–141). New York, NY: Springer International Publishing.

Vedder-Weiss, D. (2018). "Won't You Give Up Your Snack for the Sake of Science?" Emerging Science Identities in Family Everyday Interaction. *Journal of Research in Science Teaching*, 55, 8, 1211-1235. Vedder-Weiss, D. (2017). Serendipitous science engagement: A family self-ethnography. *Journal of Research in Science Teaching, 54,* 350–378.

Vygotsky, L. S. (1967). Play and its role in the mental development of the child. *Soviet Psychology*, *5*(3), 6-18.

Vygotsky, L. S. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.

Weisberg, D. S., Hirsh-Pasek, K., Golinkoff, R. M., Kittredge, A. K., and Klahr, D. (2016). Guided play: principles and practices. *Current Directions in Psychological Science*, 25, 177–182. doi: 10.1177/0963721416645512