DESIGNING WITH PINK TECHNOLOGIES AND BARBIE TRANSMEDIA

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In this chapter, we take an expanded view of children’s popular media to critically consider the design affordances, constraints, histories, and possibilities in Barbie transmedia (Jenkins, 2006; Kinder, 1991), the flows of licensed goods in popular media franchises that range from children’s playthings to everyday consumer products. Although children are living in immersive flows of increasingly influential transmedia, in this era of high-stakes tests and narrowing curricula, they rarely have an opportunity at school to play, produce, or critically respond to popular media. Instead, we must look to out-of-school play spaces, like virtual worlds or children’s museums, to find rich opportunities for children to play and design their favorite transmedia. These sites can inspire educators to redesign curricula to make them more relevant and vibrant, including increased recognition of child-directed design and play with popular media as crucial literacies for twenty-first century learning. However, it is just as important to be prepared to critically respond to and productively teach with transmedia’s problematic texts.

In this chapter, we examine digital play and virtual dressmaking in a dress design game on the Barbie website and the hands-on experience of drawing and making dresses in a Barbie workshop at a children’s museum. We compare the available designs in materials and practices across museum and virtual sites to understand how corporate branding practices (e.g., use of colors and image, simulation of high-end fashion and art; expansion of its brand/consumer relationship) shape the possibilities for children’s redesign—remakings that resist, improvise or otherwise twist expected uses of the material (dolls and avatars, makeup and fashion in doll clothing) and the discursive (e.g., gendered and consumerist identities and practices).

The purpose of this chapter is to examine the nexus of media, play, and design, comparing fashion designs that are made available and child design
opportunities that are made possible in barbiegirls.com virtual world and in a one-of-a-kind interactive Barbie Design a Dress exhibit at a children’s museum. We examine available artifacts and practices in children’s design opportunities, critically considering the ‘pink technologies’ (Marsh, 2010) and other connections across these sites that link Barbie transmedia to discourses of childhood, markets, and femininities. We use critical multimodal analysis (Norris, 2004; Wohlwend, 2011) to consider modes, the culturally-shaped meanings given to sensory aspects of material experience. For example, modes carry cultural meanings embedded in the curve of a vinyl doll’s shape or the sheen of its dress fabric. We looked closely at modes to see how children might make and remake gendered stereotypes materially embedded with the pervasive force of glitter. Our critical analysis of Barbie artifacts reveals consumerist and post-feminist discourses (e.g., ‘cool girl’ and ‘avid shopper’) that traditionally position girls as susceptible fans who aspire to Barbie’s beauty ideal and heterosexual norms (Seiter, 1993; Willett, 2008) or as consuming subjects who only seem to exercise ‘choice’ through shopping (Cook, 2007). But interestingly, there are also significant learning opportunities for designing and marketing that position girls as producers rather than consumers, rare in children’s media. Finally, we consider our findings in the context of classroom practice to better understand how teachers might extend young children’s learning through opportunities to design and redesign with children’s popular media.

Barbie Transmedia and Design in Children’s Cultures

Our work takes a sociocultural perspective on design and redesign that situates material designs in sociocultural contexts (New London Group, 1996). We consider how designs transform designer identities and power relations as well as the meanings, appearance, and uses of physical objects. Popular media pervade all aspects of everyday life through transmedia (Jenkins, 2004; Kinder, 1991). Popular transmedia are intertexts (Kinder, 1991) that must be read across products, as each Barbie doll or DVD, T-shirt or toothbrush links to every other product in the franchise and draws upon a semiotic gumbo of shared storylines from commercials, films, books, and video games. This means that an individual artifact cannot be analyzed in isolation but must be investigated for its connections to market histories and trends across diverse products in a global network (Orr, 2009). To complicate the ways particular identities and designs are made available or unavailable in the nexus of commercial branding practices and children’s design practices, we situate the doll franchise in the critical literature on popular culture, consumerism, and childhood identified in feminist post-structuralist literature on Barbie, fashion, and post-feminist discourses (McRobbie, 2004; Willett, 2008).
Barbie transmedia foreground consumption practices in two ways: as a franchise with products to be consumed and as a cultural model of a white female consumer to be emulated. Like many other mass-market toys, the Barbie franchise, with its signature hot pink packaging, foregrounds segregated gender categories. Part of Barbie’s appeal in children’s cultures lies in the exaggerated gender models that also circulate backgrounded whiteness beauty ideals and professional associations.

Early feminist deconstructions found much to critique in the popular doll: from the impossible proportions in the doll’s features to an overwhelming emphasis on grooming and physical appearance in consumer products, Barbie transmedia uphold heteronormativity and hyperfeminine expectations for body, actions, and dress (Willett, 2008). Interestingly, these familiar concerns align with recent feminist poststructuralist critiques of post-feminism in media and popular culture. For example, the explosion of lifestyle television and fashion makeovers aligns with a post-feminist belief that women should consult fashion experts in order to buy better (newer and more expensive) clothing in the effort of improving their (body) image with the ostensible goal of pleasing themselves (McRobbie, 2004; Roberts, 2007; Wilk, 2000). McRobbie argues that a pervasive focus on designing and redesigning selves in post-feminist popular culture opens:

a new, feminized, social space which is defined in terms of status, affluence and body image. More generally by these means women are subjected to more subtle practices of power directed to winning their consent to and approval of a more competitive, consumer-oriented, modernized, neo-liberal, meritocracy.

(McRobbie, 2004, p. 105)

Like makeovers and other technologies of the self (Foucault, 1988) that invite self-policing, Barbie fashions provide an introduction to post-feminist demands for continual self-improvement that urge women to keep up-to-date with the latest fashion trends by wearing the right clothes and buying the right goods that importantly create renewable cycles of demand and consumption for the fashion industry (McRobbie, 2004; Roberts, 2007; Wilk, 2000).

○ In what ways are Barbie brand texts passed down/transmitted?
○ What are the favorite toys in your school/classroom? What brand texts do these toys communicate? How are these texts read and circulated among children?
Barbie and the Child Producer: Design, Pleasure, and Peer Cultures

A Barbie doll is a child-oriented identity text (Carrington, 2003) that emphasizes particular identities over others, through the design of its materials and clothing as well as its marketing messages and film storylines (Wohlwend, 2009). The ‘market child’ (Sekeres, 2009) describes a fictional character and personality that grounds franchises such as Barbie. Such brand identities represent more than automatic association to a media narrative or product line; rather, marketers develop a brand persona to establish a personal relationship and connection to child consumers who affiliate and identify with a brand rather than merely purchase a product. The Barbie persona is a highly feminized and sexualized model of ‘bubblegum, All-American’ femininity (Grimes, 2008), but as a toy and an object of play, a doll is also a malleable text (Brougère, 2006) that enables multiple meanings.

Barbie is perhaps the preeminent example of the incorporation of design and redesign opportunities within a single brand—with Barbie’s vast collection of interchangeable accessories and outfits, consumers are encouraged (and expected) to reimagine multiple ‘looks’ and identities for their Barbie dolls. In this regard, Barbie is not a monolithic, universal text for all youth, but is instead a pliable form upon which consumers design and construct their own texts. These multifarious opportunities for designing are therefore vehicles for youth to develop embodied and implicit understandings about design, arts and aesthetics—attributes not commonly fostered in toys intended for boys. For example, combining and recombining Barbie clothes and accessories attune youth to general distinctions in clothing (such as stylistic attributes that make formalwear distinct from casual dress) as well as more nuanced differentiations (such as attention to fabric manipulation, cuffs, zippers, sleeve style, skirt cut and length). Further, multiple varieties of dressing up Barbie dolls sensitize youth to how fashion contexts are forms of identity texts—how certain combinations of clothes create identities that are preppy or urban, etc. Matching what colors and shapes go together, furthermore, presents opportunities for learning about design grammars, such as color theory, shades, and tints. Most often, these sensibilities are not recognized and valued until they reach the professional level, indicated by the high cultural status adults give designers of clothes, furniture, and interiors (e.g., Vera Wang; Charles and Ray Eames; Frank Lloyd Wright).

Beyond these imaginable learning possibilities, widespread dismissing of the value of Barbie play comes at additional costs, given the complicated positioning and potential marginalization that comes with critiquing a toy so strongly associated with girlhood. Kuenz (2000) points out:

To be frank, I find it strange that no one ever seems to think that repeatedly telling or intimating to kids, particularly girls, that their toys are
Instead of positioning the child as a passive consumer of corporate messages, compounded by adult critique, we view children as actively co-constructing the meaning of Barbie, as active participants within peer cultures and global markets. In converged media cultures, Barbie fandom provides a way that children both transgress and reproduce middle-class tastes and adult expectations to establish peer cultures and find pleasure in spaces and things of their own. As a whole, Barbie transmedia offer considerably more options for Barbie in its video storylines and career narratives than, say, Disney Princesses, perhaps due to Mattel’s attempts to tap into nostalgic memories of twenty-first century mothers who grew up with Barbie during second wave feminism (Orr, 2009). Further, a focus on innovative fashion design and play in Barbie products provides opportunities inherent in these semiotic practices that enable reconfiguring Barbie artifacts to suit the player/designer’s purposes.

Comparing Sites of Design and Redesign

We visited a prominent children’s museum to see the Barbie ‘Fashion Experience,’ a 10,000-square-foot exhibit dedicated to Barbie® and sanctioned by Mattel Corporation. The exhibit, the first of its kind, promoted an array of fashion design experiences, ranging from historical displays showcasing the history of professional and homemade designs for the doll, to dress fabrication and hair styling stations, to runway modeling. Original pieces from famous designers sat alongside stations as inspiration for museum participants as they created their own designs. Throughout our visit, we documented artifacts (i.e., fashions) designed by young participants at the exhibit and analyzed the play and design opportunities throughout the space. One area that was ripe for exploration was the Design a Dress workshop, which offered opportunities for young designers to design and construct ‘no sew’ Barbie outfits with fabric scraps, trim, buttons, ribbon, sequins, paper, and double-sided tape. The opportunities presented in the workshop offered multiple ways to redesign and personalize the Barbie brand.

We compared the dress designing in the museum space with young girls’ digital play and virtual dressmaking in barbiegirls.com, focusing on the Dazzling
Using video gathered once a week for six weeks with girls (ages 5–8) in the computer room of an afterschool program (referred to as the ‘computer club’ throughout this chapter), Karen documented girls’ interactions with the computer and with each other, collecting video of barbiegirls.com screenshots from an over-the-shoulder angle and synchronizing these data with video from a second camera that recorded children sitting side-by-side at the computer desks. Dual video captured conversation and peer mediation as children chatted and consulted each other while they played on the popular virtual world website. From the launch of barbiegirls.com in April 2007 until Mattel closed it in June 2011, the virtual world accrued 22 million members (Chmielewski, 2010). Players who registered on the website could design a Barbiegirls online character, visit and decorate her bedroom, chat with other members, try on outfits, and shop at the mall. Some virtual products were freely available to all registered members but many items of clothing, jewelry, or furniture were only available to V.I.P. members who pay a monthly fee for deluxe design choices.

In the Barbie museum exhibit and in barbiegirls.com, we analyzed artifacts in terms of modes, those culturally meaningful, sensory aspects of the environment, including sound, proximity, texture, image and elements of color, shape, (visual) texture, and so on (Norris, 2004). Critical multimodal analysis (Wohlwend, 2011) examines the interaction among modes to see how aspects of activity are foregrounded or backgrounded, looking closely to see how modes support naturalized practices associated with particular situated identities (e.g., foregrounded modes of color in marketing and clothing design which make up a nexus of expected practices for Barbie fans who are expected to be exclusively girls). Foregrounded modes provide a way of tracking discourses through analysis of material artifacts and physical actions by creating visible and/or tangible trace of prevailing discourses that legitimate (i.e., foreground) some modes, practices, and identities over others in a particular context.

**Designing and Making Dresses in a Children’s Museum**

Within the Barbie ‘Fashion Experience’ museum exhibit there were many spaces for participants to engage in redesign, ranging from drawing and dress fabrication to runway modeling using life-size Barbie fashions. Of these activities, the most substantive opportunity for redesign came from the Design a Dress workshop, where participants were given materials and guidance toward the aim of designing their own three-dimensional Barbie fashions from scratch. The resulting artifacts from the workshop extended beyond basic wrapping and arranging of fabrics, ribboned belts and the like, to the more fine-grained

Although barbiegirls.com recently closed, the dress design shop game is still available on www.barbie.com
elements of fashion design—paying attention to seams, cuts, placement of decorative elements (like buttons and trim), form-fitting shapes, and the details of operation. The one-hour workshop, offered twice each day, accommodated roughly 20 participants and occupied 6–8 tables in the exhibit, which were populated with miniature dress-forms, tools and design templates. At the front of the space were bins of one-square-foot fabric squares in a multitude of Barbie brand-approved colors and textiles. Notably, participants ranged across age groups and genders; parents, grandparents, sisters and brothers were all common participants in the workshop and it was not uncommon to find adults designing dresses even in the absence of children.

A facilitator opened the workshop with a brief overview of the design process. Participants, equipped with sheets of paper containing a blank silhouette of a Barbie-proportioned model, were instructed to first sketch a design atop the template using colored pencils (Figures 8.1a, b and c). Fashion magazines were nearby for inspiration, and the workshop facilitator moved between tables for encouragement and to answer questions. Upon completion of a sketch, participants were invited to select one of the fabric squares to be tailored.

FIGURE 8.1a Three Models from Design a Dress workshop in museum Barbie exhibit.
FIGURE 8.1b

FIGURE 8.1c
in likeness of their drawn designs. A template was on-hand as a basic guide for a sleeveless, mid-length dress, which participants could modify and extend to align with their drawn designs. Double-sided tape and Velcro were used to suture seams and create fasteners. Finished dresses, which were sized for use on a Barbie doll, could then be taken home. Creating and designing alongside others in the workshop provided participants with a unique perspective into the design process, where young creators could view and compare their designs with others’ at each stage of fabrication, as opposed to the more common opportunities to compare works only after completion.

From a smaller range of materials comes a wide margin of variability; indeed, the variety of resulting dresses from each workshop was quite vast. A small tweak to the hemline or neckline in one design could mean the difference between a back-enclosing dress and a front-enclosing jacket. Through these open-ended possibilities of free design, the designer can create multiple identity texts for Barbie, positioning her as a workingwoman to a Hollywood starlet, as well as create outfits that represent alternative narratives of the designers’ choosing (Figures 8.1b and c). These texts carry with them the designers’ intentionality and less of what the corporate perspective of Barbie intends for the populace.

**FIGURE 8.2a** Range of Barbie designs produced by visitors at museum exhibit.
Despite the freedom that free design promotes, all of the raw materials in the workshop, with their chic textiles and feminine colors, lend themselves more easily to designs that promote glamorousness and heteronormativity. For example, there are no one-foot squares of brown corduroy or low-grade denim. In this respect, the aforementioned identity texts that designers could create are somewhat predisposed to fall into those gendered constructions often critiqued
Designing with Pink Technologies and Barbie Transmedia

by feminist scholars. Furthermore, the objectives of the workshop—the design of a dress, specifically—compound the restrictions placed on any potential identity texts. Surely, the limited design objectives of the workshop are both practical as well as philosophical. Practical, as dressmaking is less complicated than fabricating shirts or pants; philosophical, as Barbie is most famously known for her modeling of dresses more so than other garments.

Barbie is commonly seen as a consumerist-based phenomenon, one that fundamentally promotes the purchasing (and adoption) of upper-middle-class clothing, cars, houses and their accompanying activities and tastes. In contrast, redesign activities allow youth to personally reformulate what Barbie stands for. For instance, the Barbie Basics line (which features dolls in simple black dresses without accessories) empowers young girls to think about designing their own fashions for Barbie, starting with the possibility of not just buying prearranged ensembles. Though less featured in the prominent discourse about Barbie, redesign has been a part of the Barbie culture for generations (Kafai, Peppler, Burke, Moore, & Glosson, 2010), where World War II-era mothers and grandmothers of Barbie owners would design outfits out of scrap fabric, spare buttons and found materials. We imagine opportunities like the Design a Dress workshop as a starting point for today’s youth to take up some of the age-old traditions of designing clothing for Barbie, especially in the wake of hugely successful fashion and design media phenomena like the American Bravo Network’s *Project Runway*. Barbie represents a range of meanings and potential futures to many girls—she can be blond, Black, young, a software designer or a racecar driver. Fashion creation builds context for this imaginative play and engages girls in fashion design, potentially teaching them grammars important to careers in design, as well as other career paths that value color theory knowledge, fashion and others.

- To what extent is repurposing and remaking commercial Barbie designs possible?
- What design opportunities and materials are available to children for repurposing and remaking their toys and play materials?
- What aspects of your students’ toys are malleable and open for remaking?

**Designing and Selling Dresses in a Virtual World**

We turn our attention to design opportunities in Barbie’s virtual world, barbie-girls.com. Here, players could design not only clothes but also a Barbiegirl avatar, a digital self perhaps, a proxy that can be maneuvered across screens from closet to bedroom to mall and back again. Designing a personalized avatar was the first step in entering barbiegirls.com. Girls chose from a three-part menu on
the avatar screen to select body features and clothing combinations. Avatar
design options included 1) body features: skin color, hair color and hairstyle, eye
shape and eye color, and mouth shape; 2) clothing choices: styles, patterns, and
colors for ‘tops, sleeves, and bottoms’; and 3) accessory choices including shoes,
jewelry, purses, and hats. Although barbiegirls players could select items from
the three tabs in seemingly endless combinations to create a ‘unique look,’ the
avatars were similar enough to signal a unified barbiegirl identity and a way of
belonging within the Barbie community. Even after designing an avatar, players
could return again and again to the avatar screen, creating ongoing opportuni-
ties to change clothes, hairstyles, eye and skin color, and so on.

Design opportunities paradoxically incited similar recognition work as players
made selections in order to create individual styles and in doing so enacted
discourses of competition, individualism, and personal responsibility. At the
same time, the designs that girls create were markers of belonging that adhered
to peer culture’s tastes. Designing clothing and dressing barbiegirl avatars were
among the most popular activities among the five- to eight-year-old girls in the
computer club. Girls spent considerable time returning to the avatar design and
dress design screens, mixing and remixing elements to try out different looks
for their avatars and then calling out to others to ‘look at this one,’ connecting
with other girls in the local peer culture. Players consulted each other on design
choices, pointing out which ‘bling’ or ‘decals’ were their personal favorites, or
simply stating, ‘that one’s better.’

The emphasis on individual designs that are not too individual is consistent
with the persona of Barbie as (role) model and fan as fashionista in the brand/
consumer relationship created through corporate branding and circulated
through Barbie transmedia; the emphasis on personal style is repeated in the
online beauty salons and dress shops in barbiegirls and barbie.com. The creation
of design by exercising consumer ‘choice’ in the museum Design a Dress
workshop and in barbiegirls.com Dazzling Designs dress shop merges consum-
erist and post-feminist discourses and identities into inseparable aggregates
(e.g., ‘avid shopper’ and ‘cool girl’). Cook (2007) argues that such selections
constitute an intransitive empowerment bounded by the parameters of the
brand’s products and children’s ability to consume:

The universe of options are defined by the brand, by the structure of the
promotion or by the context of involvement. Children clearly have more
product choices and more commercially relevant choices at their disposal
than ever before. If there is a sense of empowerment that is evoked or expe-
rienced, is it of the intransitive variety as these “options” or “choices” refer
back to themselves and encourage identifying the act of making decisions to
be coterminous with the semantic universe of a particular product or brand.

(p. 48)
But interestingly, there are also numerous learning opportunities in the virtual dress shop for designing and marketing that position girls not only as consumers but as producers and business owners, specifically as designers and retailers, unusual in children’s media. The following excerpt from an eight-year-old girl’s design play in the Dazzling Designs game demonstrates this producer positioning.

Simone looks over the black cocktail dress she has just created. She clicks through the confirmation screen, deciding the price of tops, skirts, and dresses relative to the listed cost, which varies depending upon her choices of style, fabric, and ornamentation. Simone adjusts her order, adding and subtracting clothing items until she finally settles on 5 tank tops priced at $24 each, 5 skirts at $26 each, and 5 dresses at $30 each. The shop opens and 45 seconds of hectic selling begins as the shop quickly fills with customers who buy and admire the clothing styles, “I’m lovin’ this!” Periodically, Simone re-orders the best-selling items and discounts others until time runs out. A sales summary tallies the number of sales for each design, offering retailing advice about adjusting prices to respond quickly to fluctuations in buyer demand.

○ In what way are these doll/clothing texts re-envisioned/redesigned by girl designers?
○ What remakings or replaying of toys are visible among children at play in your school?

Pink Technologies and Playful Pedagogies

In both sites, material and virtual artifacts explicitly target girls as anticipated users through foregrounded design motifs and backgrounded technological uses. Many popular culture products intended for young girls are ‘often pink and feature icons such as flowers and hearts. “Pink technologies” sometimes offer more limited features than similar hardware aimed at young boys and they shape the construction of technological competence in particular ways’ (Marsh, 2010, p. 202). However, we also found affordances in the design technologies that allowed children to make and take dresses, teach peers, create a safe ‘girl’ space, and learn crafting and retailing skills.

Critical multimodal analysis looks at foregrounded and backgrounded modes to locate tacit aspects of activity to see what constitutes ‘natural’ and expected ways of participating in a group. In Barbie designs, these backgrounded expectations are the ‘non-choices.’ The most obvious example is the non-choice body for all avatars with key features made prominent through
exaggeration—large eyes, heart-shaped face, slim torso, static frontal view of a model’s pose with one arm akimbo—that sends the message that all bodies must conform to the same standard, a pre-decided ideal, fixed and not available for redesign. Similarly, in the Dazzling Designs dress shop and in the museum Design a Dress workshop, it is possible to choose the color, type, patterns, accessories for clothing designs but not the shape of the mannequins that suggest an underlying expectation—the signature Barbie hourglass figure. The modes that are not ‘choices’ are tacitly given, forming nexus of practice that are naturalized and expected of all members. Nexus are the markers of belonging, in Barbie culture, the use of color, shape, pattern in ways just different enough to be creatively individual but similar enough to be recognizable. Backgrounded modes convey the post-feminist message is that there is a desirable body shape, and its posture is designed for maximum display.

Barbie’s transmedia intertextuality revolves around the reproduction and negotiation of ‘femininity’ as a social construct, more specifically as it relates to notions of “domesticity.” . . . Traditional associations between consumption, the domestic sphere and feminine beauty ideals become repositioned in the quasi-public, vicarious space of the virtual beauty salon, where they are not only reproduced within the game’s design but also re-enacted by its players.

(Grimes, 2010, p. 157)

But the agentic opportunities for redesign are also backgrounded, available through modes, materials, and practices that bring together girls with shared interests. In the two design sites, participants engaged in peer teaching drew upon funds of knowledge (Moll, Amanti, Neff, & Gonzalez, 1992) that linked to craft experiences and sewing skills handed down across generations. Barbie design sites create a space for girls to share their expertise in a girl-privileged space that cordoned off computer spots for girls in the after-school program computer room usually dominated by boys. Importantly, these were safe spaces where girls could play out interests that are often degraded by boys.

Redesigning dolls and their designer/player’s identities and imagined futures forms a powerful nexus of semiotic practices that transform the meanings and materials of Barbie products, reconfiguring these artifacts to suit the player/designer’s purposes and demonstrating to children in very concrete ways that these media and their messages are malleable. Such ‘playful pedagogies’ (Buckingham, 2003, p. 317) run on pleasure, emotional attachment, and productive power that allow children to draw on their expertise with familiar resources to make or remix aspects of the design. However, few teachers make space for play or design with popular media, often due to concerns about anticipated objections from administrators or parents or teacher’s self-imposed restrictions that popular media is not appropriate for classrooms or even playgrounds (Marsh, 2006).
It may be the case that this resistance would weaken if educators were clearer about the important role such narratives play in children’s identity construction. Marginalizing these texts, or banning them outright, serves only to ask of children that they cast off aspects of their identities as they move from home to school.

(Marsh, 2005, p. 39)

Given the learning potential of these sites, how might we incorporate or at least acknowledge the playful pedagogies of transmedia in our classrooms?

**Bringing Barbie to School**

Recognizing the value in designing and redesigning with Barbie in out-of-school spaces, we echo calls by new literacies and media researchers to infuse literacy curricula with popular transmedia. Dyson (2003), Buckingham (2003), and Marsh (2005), among others, argue that popular media, while problematic, provide a significant site of learning in new literacies and technologies that allow opportunities for productive critique.

We close with suggestions for expanding opportunities for playing and designing with popular transmedia at school:

- **Recognize design and play as literacies.** We need to value children’s designs and redesigns as ways to mediate, read, write, reread, rewrite, and artfully reinterpret the world (Wohlwend, Buchholz, Wessel-Powell, Coggin, & Husbye, in press). This includes adding popular mass-market media toys not only to play centers, but also as resource materials for visual and embodied storytelling, film-making, art classrooms, and art centers in classrooms.

- **Create regular opportunities for child-directed design and play with popular media.** Classrooms need a rich variety of art materials and digital media technologies in addition to picture books, toys, and props for pretending and exploring. In addition to media toys, we should be also making use of the smartphones in children’s pockets and backpacks (Shuler, 2009) which provide instant access to intuitive apps and easy-to-operate touchscreens for designing with multimedia.

- **Advocate twenty-first century skills acquisition and new literacies in preference to supporting a minimal curriculum that is focused on traditional basics.** In many classrooms, children’s richest learning experiences occur in out-of-school spaces. Bringing transmedia design and play into classrooms allows us to blend out-of-school literacies and art-making with school literacy practices. This approach runs counter to reductive trends that replace the creative production in art-making and play with print literacy skill practice and test preparation.
• **Recognize that play and design allows children to reimagine futures but also opens opportunities to reproduce as well as challenge stereotypes.** We need to avoid dichotomies and mediate children’s play and design to help them address exclusionary practices.

**References**


