

T IS FOR TRANSMEDIA:

LEARNING THROUGH TRANSMEDIA PLAY

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advancing
children's learning
in a digital age

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Executive Summary

Within the context of a media saturated, hyper-connected, and rapidly changing world, the concept of “transmedia” has come into the spotlight among those creating and using media and technology for and with children. Transmedia, by itself, means “across media” and describes any combination of relationships that might exist between the various texts (analog or digital) that constitute a contemporary entertainment media experience. In recent years, the texts and practices associated with transmedia have developed through active conversations among fan communities, creative artists, entertainment industry executives, academic scholars, policy makers, and others interested in the future of entertainment and storytelling.

In this report, we focus on transmedia in the lives of children aged 5 to 11 and its applications to storytelling, play, and learning. As educators, researchers, and designers, we are interested in the ways in which transmedia can be a resource for learning through participation, experimentation, expression—and, in particular, through play. We will discuss both transmedia storytelling and transmedia play, a related but distinct concept from transmedia storytelling in that it involves experimentation with and participation in a transmedia experience, but also applies to media that has

no storyline, such as open-ended videogames. Our exploration of transmedia play and its relationships to learning in middle childhood is important and timely as more media producers consider ways to incorporate transmedia into their creations and as educators increasingly look to new media as a site for expanded and enhanced learning opportunities.

Some transmedia experiences for children are designed with learning objectives in mind; for others, learning is not an explicit goal. However, even without overt “educational content,” transmedia offers numerous opportunities for learning. The complex, interconnected, and dynamic narratives and vibrant story worlds characteristic of transmedia provide fertile sites for children to explore, experiment, and oftentimes contribute as story worlds unfold across media. The multi-modal, multi-sited nature of many transmedia productions challenge children to use varied textual, visual, and media literacy skills to decode and remix media elements. In these ways, the active, ongoing, creative engagement with complex stories required of participants in a transmedia play experience stands in contrast to the routine, decontextualized learning that, unfortunately, all too often characterizes children’s experiences in school.

Transmedia, done well, can contribute to an immersive, responsive, learner-centered learning environment rich with information and linked to children's existing knowledge and experiences. It can build upon what children already know about playing games, telling stories, and sharing media. While transmedia does not have to privilege new media technologies, leveraging new media in creative and accessible ways in order to facilitate sharing and communication among participants or to provide frequent and personalized formative feedback can be valuable for enhancing the learning environment.

Learning with Transmedia

We believe that transmedia has the potential to be a valuable tool for expanded learning that addresses some of the most pressing challenges facing education today. Through immersive, interconnected, and dynamic narratives, transmedia engages multiple literacies, including textual, visual, and media literacies, as well as multiple intelligences. It is highly engaging and allows for important social sharing among collaborators.

In reviewing numerous children's media properties and the existing popular and scholarly literature about transmedia and children, we have identified the following key links between transmedia and learning:

- **Transmedia play can promote new approaches to reading.**

In order to take part in a transmedia play experience, children must learn to read both written and multimedia texts broadly (across multiple media) and deeply (digging into details of the narrative). This kind of reading has been described as "transmedia navigation" or "the ability to follow the flow of stories and information across multiple modalities" within the context of the new media literacies (Jenkins, Clinton, Purushotma, Robison, & Weigel, 2006, p. 4).

- **Transmedia play can encourage learning through joint media engagement.**

The complex narratives, rich worlds, and multiple points of entry characteristic of transmedia experiences can provide opportunities for families to experience transmedia together.

- **Transmedia play can support constructivist learning goals.**

Transmedia play involves exploration, experimentation, and remix, all activities firmly aligned with a constructivist approach to learning (e.g. Bruner, 1990; Piaget, 1985; Vygotsky, 1978) that emphasizes the active role of the learner in creating knowledge by working to make connections among information in a specific context.

Characteristics of Transmedia Play

We highlight five characteristics of transmedia play that make it useful for learning:

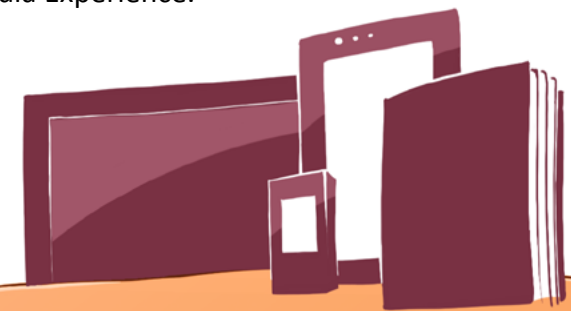
- *Resourceful*: The ability to act with/react to diverse, challenging situations by thinking creatively about solutions that leverage any and all available tools and materials
- *Social*: Conversing with others who may be co-located or linked through media/technology, as in the case of social media or virtual worlds
- *Mobile*: Use of mobile technologies, movement between platforms/media, and causing movement within media themselves
- *Accessible*: The ability to jump in from a variety of starting points and define a trajectory that takes into account people's own unique contexts and types of access
- *Replayable*: Enticing people to revisit, explore, and investigate rich worlds so intensive that they require multiple "visits"

Building Transmedia Play Experiences

We present three core principles for building transmedia play experiences:

1. *Play Partners*: Relationships between producers and audiences; conditions for people engaging in transmedia play together
2. *Places to Play*: Metaphorically, meaning places within a transmedia "universe"; and physically, the environments within which children participate in transmedia play
3. *Paradigm-shifting Play*: Modifying pre-existing concepts and routines to maximize the lasting positive impact of children's transmedia play

We offer three extended examples of transmedia play experiences that support these core principles: the emergence of Caine's Arcade, the work of the Story Pirates, and the Flotsam Transmedia Experience.



INTRODUCTION

by Henry Jenkins

There is a monster at the end of this report (well, maybe there is, but you won't know for sure until you turn all of the pages and read what we have to say).

But, it is telling that most of you probably recognize this phrase as a reference to a classic children's book, written by Jon Stone, illustrated by Michael Smollen, released in 1971 just a few years after *Sesame Street* debuted on PBS, and "starring lovable, furry old Grover." Much has been made of the ways that *Sesame Street* reinvented children's television, embracing rather than running away from the properties of its medium, incorporating tricks from advertising, parodies of popular culture, songs and skits, into something which encouraged the active engagement of its young viewers. Yet, far less has been made of the fact that *Sesame Street* from the very start encouraged its young fans to follow it across media platforms—from television to records, books, stuffed toys, public performances, feature films, and much more. Certainly, the then-Children's Television Workshop's steps in that direction were cautious, given the anxieties many parents have about the commercialization of children's culture. But, over time, much of the American public came to embrace those experiments in transmedia storytelling as part of what made *Sesame Street*

such a powerful learning system. In a 2007 online poll, the American Education Association voted *The Monster at the End of this Book* onto a list of "Teachers' Top 100 Books for Children." A few years later, the *School Library Journal* gave it a prominent spot on its list of the Top 100 picture books.

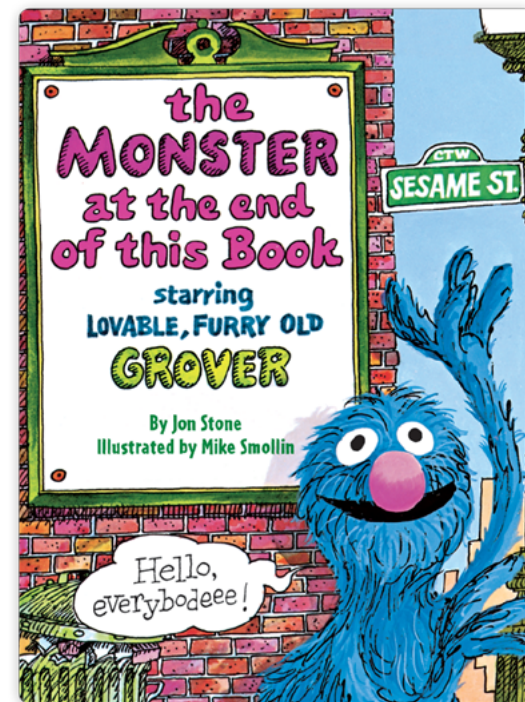


image credit: Sesame Workshop

Part of what makes *The Monster at the End of this Book* so compelling is that it is as reflexive about the nature of the printed book as a medium as *Sesame Street* was about our experiences of watching and learning from television. Reading this book becomes a kind of play as children scream with a mixture of fear and delight as we turn each page, wondering when the scary monster is going to appear, only to discover that it is “lovable furry old Grover” who is the monster we warmly welcome at the end of the book. Grover tries to do everything he can to block us from turning the pages, from tying knots to constructing brick walls, from begging to haranguing us, yet the desire to read overcomes all of the walls he might try to erect. The children’s book has long been a site for domestic performance, as parents and children alike try out different voices, make sound effects, and respond with mock emotions, to the pictures on the page.

This book had effects that go beyond the printed page: Grover emerged as an early fan favorite on *Sesame Street* as his personality took shape across platforms. When young people pick up *The Monster at the End of this Book*, they already know who Grover is, they know his back story, they understand his motivations, they identify with what he is feeling, and as a result, there is an immediacy about our experience of this book.

Predictably enough, *The Monster at the End of this Book* has in recent years evolved into a digital book, an interactive experience children have on their iPad. We certainly do

not want to exclude adults from the fun—reading books together across generations is perhaps the most powerful way to foster a deeper appreciation of the pleasures of reading. But, *Sesame Street* has always understood that children do not enjoy equal opportunities to learn. Some children are left on their own while their parents work long hours. Some parents do not have good models for active reading with their children and look for prompts that might allow them to learn how to play and perform and speculate around the printed page. The experience of an e-book version of *The Monster at the End of this Book* will ideally supplement and scaffold the experience of reading the traditional picture book, not replace it, but it also adds a new layer to the ever expanding “supersystem” which constitutes the world of *Sesame Street*. So does *The Putamayo Kids Presents Sesame Street Playground*, a CD/DVD set which shares with children songs from the many versions of the program which have been localized to languages and cultures around the world, and video clips featuring the original casts in India, Mexico, Russia, or South Africa. And *Sesame Street*, the longest street in the world, just keeps growing.

Today, we might describe *Sesame Street* as a transmedia experience—that concept did not exist in 1971 when *The Monster at the End of this Book* was first published. Transmedia is an idea that has come into sharper focus over the past decade, having emerged from active conversations between academic researchers, creative artists, policy makers, fan communities, anyone and everyone interested in the

future of entertainment and storytelling. Transmedia, by itself, means “across media” and it describes any number of possible relationships that might exist between the various texts that constitute a contemporary entertainment franchise. Marsha Kinder (1991), a media scholar who has written extensively about children’s media, coined the term, “transmedia,” to refer to the “entertainment supersystem” which had emerged around characters such as the *Teenage Mutant Ninja Turtles*, the *Muppet Babies*, or the *Super Mario Brothers*, as personalities and characters that move across media platforms, encouraging their fans to follow them wherever they appeared. In my own work (Jenkins, 2006), I extended her concept to talk about transmedia storytelling, which refers to the systematic unfolding of elements of a story world across multiple media platforms, with each platform making a unique and original contribution to the experience as a whole.

The Monster at the End of the Book builds off what we know of Grover on television but it creates a new kind of experience that takes advantage of the distinctive affordances of the printed book, which is designed to be read aloud in the child’s bedroom or playroom. The feature film *Follow that Bird* (1985) expands upon the time we get to spend with Big Bird while watching the television series in order to flesh out his backstory, situate him within a quest narrative, and

In a hunting society, children learn by playing with bows and arrows. In an information society, they learn to play with information.

suggest how much he means to the larger *Sesame Street* community. Neither example builds on extensive narrative information that must be remembered across different texts—that would not necessarily be appropriate for younger viewers—but it does reward fans who apply what they learned in one context to each new appearance of the characters.

Each of these texts contributes something to our knowledge of this fictional realm, and each takes advantage of those things their respective medium does best. We want the depiction of Oscar or

Cookie Monster or the Count in a *Sesame Street* game to be consistent with what we see on television, but we also want the game to provide us with an interactive experience that is only possible in digital media. By combining media with different affordances, we create a more layered entertainment experience. Or at least, that’s the theory. A good transmedia narrative uses these various cross-platform extensions to flesh out the world, to extend the timeline, to deepen our familiarity with the characters, and to increase our engagement.

With an educational property like *Sesame Street*, transmedia does something else—it reinforces the learning both by encouraging us to reread and re-experience a particularly pleasurable narrative (something, as we all know, kids are often inclined to do with little or no adult encouragement)

and readers are invited to connect together pieces of information across multiple installments. In his book, *The Tipping Point*, Malcolm Gladwell (2000) describes the original *Sesame Street* as “sticky,” suggesting that young people become so drawn to its vivid characters that they keep coming back for more and in the process, these repeated encounters reinforce what they learn from its curricular design.

Transmedia encourages additive comprehension. We learn something new as we follow the story across media. This distinguishes it from cross-media, which refers to the use of these other media platforms as simple delivery mechanisms for the same old content. If we watch *Sesame Street* online or on a DVD and change nothing else about the content, that’s cross-media. We might also distinguish transmedia from multimedia. Multimedia might use multiple kinds of media—words, pictures, sounds, videos—which are brought together in a single package: in the old days, there might be a CD-ROM developed around *Sesame Street*, where clicking a button opens us up to a range of different kinds of media. In transmedia, there’s something powerful about how the reader is incited to search out dispersed content and reassemble it into a meaningful mental model.

In a hunting society, children learn by playing with bows and arrows. In an information society, they learn to play with information. That’s part of why we think transmedia learning is such a compelling concept. A science fiction writer has to construct a world which can extend across media platforms, but there already exist many rich worlds—the world under

the sea, the universe beyond the Earth, the ancient world, the people who live on the other side of the planet—which are central to our desired curriculum. Perhaps, the best way to learn about them is to explore their stories, their environments, across media platforms, much as we acquire a deeper affection for Grover through repeated encounters.

Like any other kind of storytelling, transmedia is something that can be done well or badly. You can be attentive to the possibilities of expanding a story in new directions or you can simply slap a logo on something and pretend like it’s part of the same franchise. Transmedia can be enriching or exploitative, can be motivated by the crudest of economic motives or shaped by the most cutting edge learning science. But, when transmedia is done well, it creates a deeply engaging, immersive experience, which multiplies the number of learning opportunities.

Young people do not simply consume transmedia narratives; rather, transmedia encourages playful participation. In my book, *Convergence Culture* (2006), I talk about attractors (things that draw together an audience) and activators (elements which give the audience something to do, especially in a network society, ways to interact with each other around the shared content). Narrative-inflected play is hardly new. Go back and reread the great children’s books of the 19th century. There’s Meg in *Little Women* developing a backyard game based on *Pilgrim’s Progress*. There’s Tom Sawyer in Mark Twain’s novel pretending to be a pirate or Robin Hood. There’s Anne, she of the Green Gables, who

re-enacts the story of the Lady in the Lake. Each of these books remind us that children before the era of mass media actively engaged with stories told to them by adults and transformed them into resources for their own creative play. In the 20th century, mass media displaced many traditional forms of storytelling, but children's play with narrative remained meaningful as a way of trying on adult roles and expanding core stories that matter to them. And this is what this report means by transmedia play. Certainly, adults have some legitimate worries about commercial media "colonizing" their children's imaginations, but keep in mind that the human imagination feeds upon the culture around it and children show enormous capacity to re-imagine the stories that enter their lives.

Transmedia encourages this kind of creative reworking. The scattered fragments of a transmedia story are like pieces of a puzzle; they encourage curiosity, exploration, experimentation, and problem solving. Transmedia's process of dispersal creates gaps that require our active speculation: some call this negative capability. Transmedia processes show us that there are more than one way to tell story, that there is always more we can learn about the characters and their world, and that such insights encourage us to imagine aspects of these characters that have not yet made it to the screen. Young people make these stories their own through their active imaginations. The stuffed toy becomes their avatar: they use it as a stand-in for some other powerful figure in their lives. For a short moment, as they are reading

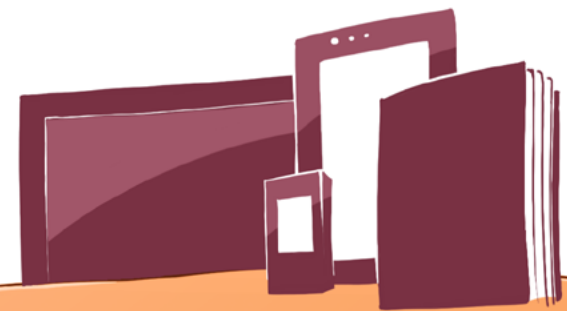
about or manipulating Grover, they become the monster—and again, that's a valuable experience. The child psychologist Bruno Bettelheim (1976) tells us that young people need to read stories which acknowledge the monstrous, because children know that they are not always good and they need resources for thinking through how they should respond to the things that frighten them in the real world.



So, there you have the core concepts of this report—transmedia stories, transmedia play, transmedia learning. Put them all together and something magical happens.

Transmedia is not the monster at the end of the book; it's not something you need to be afraid of encountering. So far, we know more about transmedia in entertainment and branding contexts than in relation to learning. That's not a

reason to take off running down the street. That's a reason for people who care deeply about insuring the most diverse learning opportunities for our children to take transmedia seriously, to try to understand how to link multiple media together to create new pedagogical experiences, to be ready to play together around the materials of a transmedia franchise, to invite children to explore what it means to read a story across the borders and boundaries between different texts and different media. This report offers some rich exemplars of groups who are doing well by children through their creation of powerful and transformative transmedia experiences, and it offers some design principles so that educators and producers might generate more meaningful, even mind blowing, transmedia experiences for the coming generation.



LEARNING THROUGH TRANSMEDIA PLAY

*by Becky Herr-Stephenson and Meryl Alper with
Erin Reilly*

In this report, we survey transmedia products and experiences designed for children, focusing on products designed for children ages 5 to 11. We are interested in how transmedia can be a resource for learning through participation, experimentation, expression and, in particular, through play. In the introduction, Henry Jenkins discusses the “playful participation” encouraged by transmedia narratives. Through transmedia play, children explore, enjoy, and remix elements from diverse media—for example, characters, settings, and plot elements taken from books, television, videos, toys, and new media. This “creative reworking” (in Jenkins’ terms) allows children to tell new stories, work through problems, and share with others.

As we will discuss in more detail in later sections of the report, we believe that transmedia play has several characteristics that are highly supportive of learning. First, transmedia play can support new approaches to reading across media, helping children develop broad literacy skills necessary to navigate a media-saturated society; second, transmedia play can foster co-learning among children, peers, parents, and other adults through joint media engagement (Takeuchi & Stevens, 2011); and third, transmedia play can encourage learners to construct understanding and draw

complex connections between information, leading to learning that is deeply meaningful.

Some transmedia experiences for children are designed with learning objectives in mind; for others, learning is not an explicit goal. However, even without overt “educational content,” transmedia offers numerous opportunities for learning. The complex, interconnected, and dynamic narratives and vibrant story worlds characteristic of transmedia provide fertile sites for children to explore, experiment, and oftentimes contribute as story worlds unfold across media. The multi-modal, multi-sited nature of many transmedia productions challenge children to use varied textual, visual, and media literacy skills to decode and remix media elements. In these ways, the active, ongoing, creative engagement with complex stories required of participants in a transmedia play experience stands in contrast to the routine, decontextualized learning that, unfortunately, all too often characterizes children’s experiences in school.

Transmedia, done well, can contribute to an immersive, responsive, learner-centered learning environment rich with information and linked to children’s existing knowledge and experiences. It can build upon what children already know

about playing games, telling stories, and sharing media. While transmedia does not have to privilege new media technologies, leveraging new media in creative and accessible ways in order to facilitate sharing and communication among participants or to provide frequent and personalized formative feedback can be valuable for enhancing the learning environment. We have carefully selected the examples and case studies presented later in this report to demonstrate both old- and new-media approaches to transmedia play. Despite these differences, we believe that all the examples demonstrate how transmedia play acknowledges children's cultural participation, respects children's thoughts and feelings, and builds *up* and *upon* 21st century literacies.

Why transmedia and learning?

We have chosen to investigate transmedia and learning at this time for two reasons: First, although transmedia is not a new concept, it has in recent years become a regular practice within the children's media industry. As we will describe in later sections of this report, numerous children's media producers have been experimenting with transmedia narratives built around books, television programs, and interactive media. David Kleeman, President of the American Center for Children and Media, attributes the rise of

The multi-modal, multi-sited nature of many transmedia productions challenge children to use varied textual, visual, and media literacy skills to decode and remix media elements.

transmedia within the children's media industry to the presence of producers who grew up in an age of "ubiquitous but discontinuous content... bouncing medium to medium, while longing for a connective thread" (2012, pp. 1-2). Now in positions of power in the industry with access to multiple new media tools and platforms, this new generation of producers can craft the transmedia experiences they have long desired and imagined. As Kleeman notes: "Suddenly, it seems, the world of 'transmedia' isn't just a buzzword, or even necessary to say [within the children's media industry]. It has seeped into mainstream culture, not only surrounding the audience, but coming from the audience" (2012, p. 2).

Our second reason for considering relationships between transmedia and learning is related to trends in education. It is well documented that public schools in the U.S. are struggling to keep up with their students' needs—whether they are supplemental literacy supports for struggling readers or enrichment activities for advanced students. Throughout the United States, school districts are challenged to stretch shrinking budgets; and, while changes to the No Child Left Behind (NCLB) Act have been authorized and implemented in some states, the accountability movement that links student performance on standardized tests to school funding continues to trouble the climate in schools. Within this

context, many school districts are looking to media and technology for solutions to provide additional support to students, from instructional technologies such as interactive white boards to school services such as online credit recovery classes. In addition to the efforts from schools themselves, numerous organizations have leveraged media and technology in creative ways to provide expanded learning opportunities to students. Expanded learning includes informal learning experiences that take place in non-school spaces such as afterschool programs, libraries, museums, or online communities.

We believe that transmedia has the potential to be a valuable tool for expanded learning that addresses some of the most pressing challenges facing education today. Through immersive, interconnected, and dynamic narratives, transmedia engages multiple literacies, including textual, visual, and media literacies, as well as multiple intelligences. It is highly engaging and allows for important social sharing among collaborators. We see a strong connection between transmedia play and the practices and settings conducive to “connected learning,” a concept put forth by a MacArthur Foundation-funded research network and defined as learning that is “socially embedded, interest-driven, and oriented toward educational, economic, or political opportunity” (Ito et al., 2013, p. 4). Media use, production, and sharing are essential parts of connected learning. New media in particular are thought to support engagement, self-expression, social support for interests, access to unique learning

opportunities, and empowerment for some marginalized groups (p. 12).

In the sections that follow, we explore a variety of transmedia properties for children, looking at how children learn and play with these media. We highlight five characteristics of transmedia play that make it useful for learning. We then present three core principles for designing transmedia play



experiences before presenting extended examples that support the principles. In the final section of the report, we sketch out a research and development agenda in this area. First, however, we present a brief discussion covering the basics of transmedia. We recognize that the interdisciplinary nature of transmedia, as well as the enthusiasm with which it has been adopted by different sectors, has potential to create confusion through differences in language and

grounding theories. For this reason, we wish to present the origins, key terms, and logics of transmedia that shape this report.

Origins of Transmedia: Key Terms and Logics

Multiple theoretical principles and historical precedents have formed the foundation for contemporary conversations about transmedia. The word “transmedia” on its own simply means “across media.” Different scholars have focused on “intertextuality,” or ways that media cross between boundaries. Cinema scholar Marsha Kinder (1991) first wrote about “transmedia intertextuality” in the late 1980s, defining it as “the intertextual relations between television and cinema as compatible members of the same ever-expanding supersystem of mass entertainment” (p. 40). Literary critic Julia Kristeva (1986) also discusses media and intertextuality, using “intertextuality writ large” to describe the uncoordinated but complex relationships between texts that influence and reference one another. Jenkins (2011) explores what he terms “radical intertextuality,” or “a movement across texts or across textual structures within the same medium.”

Those who use the term transmedia to describe their work sometimes use it interchangeably with “multimedia” or “cross-platform.” While these terms describe related concepts, using them as synonyms elides important differences. As a concept, cross-platform tells us more about the means

of delivery than about the process by which audiences and producers shape content and negotiate meanings. Multimedia emphasizes the number of different types of expression used within a given project, while transmedia focuses on the way a project is dispersed across multiple media platforms without privileging one combination of media platforms over another. Multimedia is separate too from the idea of “multimodality,” or a range of possible modes of expression across various systems of representation (Kress, 2003).

For a work to be a transmedia story, the storytelling process needs to combine multimodality with radical intertextuality. For example, one way of combining radical intertextuality with multimodality would be the characters, plots, and events dispersed across multiple comic book titles, movies, and TV series within the DC or Marvel universes. Each medium has a different range of possible affordances and different constraints around what kind of transmedia story can be told across it (Dena, 2009; Gomez, 2010). This way of distinguishing transmedia from other modes of storytelling emphasizes that networks of people (e.g., audiences and producers, individually and collaboratively), technology, and institutions all have the potential power to influence the stories we consume, create, and share using media.

Historically, transmedia entertainment is not a new industry development, despite its recent official recognition by the Producers Guild of America (“PGA Board”, 2010). The idea of a fictional franchise existing across multiple platforms is

fairly old. For example, modern serialized “webisodes” on the Internet have generic roots in newspapers and magazines through the unfolding fictional narratives of Charles Dickens in the 19th century (Hayward, 1997). The ways these narratives unfold, however, has evolved over time. “Old” media and established ways of audiences engaging with media are not being displaced by the introduction of new media platforms, as expressed in the digital revolution paradigm of the 1990s (Negroponte, 1995). Instead, the function and status of older platforms continually shift (Gitelman, 2006), as articulated by the concept of “convergence culture” (Jenkins, 2006). These shifts are partly possible because of the interconnectivity, layering, and diversification of networked communication. New media has not brought about transmedia practices, but it has certainly enhanced the circulation or “spreadability” of content at all levels of culture (Jenkins, Ford, & Green, 2013).

Transmedia Logics

There are different “transmedia logics” shaping convergence culture, or ways to think about the flow of content, information, and knowledge across media (Jenkins, 2011). These flexible strategies are leveraged by producers and consumers alike to shape mediated experiences. Some such

logics might include transmedia branding, transmedia activism, transmedia ritual, or transmedia play.

Transmedia storytelling (Jenkins, 2006) is, at the time of this writing, the most robustly theorized logic of transmedia. Transmedia stories are, at their most basic level, narratives experienced across multiple media. Jenkins (2007) defines transmedia storytelling as “a process where integral

elements of a fiction get dispersed systematically across multiple delivery channels for the purpose of creating a unified and coordinated entertainment experience.” The specific properties of each medium—from television to websites to social media—are leveraged to shape the way in which the story

unfolds. For example, books and television episodes are useful for conveying large amounts of information about a story’s plot and characters, while websites make it possible for producers and users to add on to the story in an ongoing and time-sensitive manner. Websites and social media further provide places for users to connect, discuss, and share fan-made media. In a well-designed and executed transmedia property, there is a careful balance of new and repeated information across mediums.

Transmedia play is a related but distinct concept from transmedia storytelling in that it involves experimentation with and participation in a transmedia experience; but it also

Through immersive, interconnected, and dynamic narratives, transmedia engages multiple literacies, including textual, visual, and media literacies, as well as multiple intelligences.

applies to media that has no storyline, such as open-ended videogames. Within the logic of transmedia play, play is approached not as a frivolous activity, but as a meaningful and important mode of interacting in the world. This way of understanding play is aligned with its definition as a new media literacy: “the capacity to experiment with the surroundings as a form of problem solving” (Jenkins Clinton, Purushotma, Robinson, & Weigel, 2006, p. 35). Writing about young children’s play, Vivian Paley (1990), noted that “there is a tendency to look upon the noisy, repetitious fantasies of children as *non-educational*, but helicopters and kittens and superhero capes and Barbie dolls are storytelling aids and conversational tools (p. 39). For children growing up amidst convergence culture, transmedia experiences can provide rich sites for exploring, enacting, and learning through imaginative and productive play.

Transmedia for Children

Transmedia storytelling and play assume an active audience capable of demonstrating new media literacies—the technical and social skills Jenkins et al. (2006) have identified as essential to taking part in participatory cultures. New media literacies differ from “traditional” literacies—reading and writing—placing increased value on visual, oral, and aural communication as well as on performance, experimentation, and play. The relationship users have to transmedia experiences is at least partly bounded by the beliefs of media producers about the audience’s ability and capac-

ity for interacting with the narrative. As we will discuss in a future section of this report, children as young as preschool are included in initiatives to create transmedia for learning. Transmedia for children similarly reflects beliefs about who children are and what they can do. In particular, when we think about transmedia experiences that support learning (either by design or incidentally), we see a construction of the child audience as being made up of interactive, con-



nected, interest-driven learners (Dickson, 2012a; Michael Cohen Group, 2012; Pasnik et al., 2011). This notion of the (inter)active child user is consistent with new models of childhood that posit the child as an agent who has rights and needs, rather than a “work in progress” becoming an adult (at which time s/he will have rights and needs) (James, Jenks, & Prout, 1998; James & Prout, 1997). Impor-

tantly, new models of childhood position children as “active participant[s] in, and impacting upon, a wider social world” (Marsh, 2010, p. 13) from an early age. Such constructions have supported an understanding of media as an important resource in addressing concerns about children’s academic achievement and preparation for future work and civic participation (U.S. Department of Education, 2010).

The children’s media industry has long focused on ways to reach audiences through multiple channels and has maintained a commitment to creating learning opportunities within the different media that children access. One might trace the historical antecedents of transmedia for children to the period following World War II, during which factors such as free market capitalism, the influx of modern domestic conveniences, and the availability of affordable mass-produced goods in the U.S. altered the amount and type of cultural materials available to children, particularly paperback books, board games, and other toys (Jenkins, 1998).

The array of media and products associated with transmedia properties may bring to mind the “program length commercials” (animated programs produced to sell toys) that dominated Saturday morning television in the United States throughout the 1980s. In *Playing with Power*, Kinder acknowledges that these shows helped children “to recognize, distinguish, and combine different popular genres and their respective iconography that cut across movies, television, comic books, commercials, video games, and toys” (p. 47), but expresses concern that this cognitive development was

inexorably linked to consumer culture.

Such concerns have not receded in the era of transmedia. Transmedia requires access to multiple media—often accenting the problem of the participation gap (that is, inequalities in terms of access to resources and opportunities for participation in the new media landscape). Further, transmedia asks users to immerse themselves in the story, removing critical distance in favor of “immersive aesthetics” and “pervasive fiction” (Dena, 2004; McGonigal, 2003), both of which may be seen as positioning viewers in a particularly vulnerable position. Early attempts at transmedia, which mainly involved reusing the same media on different platforms, contribute to ideas about transmedia as overly commercialized and without much other benefit. As Brenda Laurel (2001), a key figure in the digital arena in the 1990s and founder of girls’ software company Purple Moon, writes:

[T]he transmedia process has thus far consisted of repurposing content from one medium for another—film to TV, comics to film, dolls and toys to videogames, movies to dolls and toys, or movies to the Web. In a transmedia world, where you know from the start that you want to produce content that will appear across several media types and delivery devices, repurposing is an inelegant and inefficient solution (p. 82).

An alternative to repurposing content that is better aligned with transmedia is what Mizuko Ito has called “media mix”

(Ito, 2008). Ito uses this term to describe “a synergistic relationship between multiple media formats, particularly animation, comics, video games, and trading card games” (p. 403) that she has observed to be particularly strong in Japanese children’s media. Japanese media mixes open up story worlds and invite different types of participation. Using Pokémon as an example, Ito describes how children can “look to the television anime for character and backstory, create their own trajectories through the content through video games and trading card play, and go to the Internet to exchange information...” (p. 403).

Laurel (2001) points to a need for children’s media producers, designers, and researchers to develop “a methodology for creating core content that can be shaped with equal ease and effectiveness for myriad devices and context, including ones that haven’t been invented yet” (p. 84). Some producers, both in the U.S. and internationally, have taken this challenge to heart, such as the German program *Ene Mene Bu (And It’s Up to You)* from Der Kinderkanal ARD/ZDF (KIKa). *Ene Mene Bu* is a television show for preschoolers where young children show viewers how they draw, craft, build, and play. The program also collects images of viewers’ artwork through its online site and incorporates selected artwork into the show’s graphics.

Evidence of the value of experimenting with new methods for storytelling can be seen in Sesame Workshop’s dynamic re-launch of the literacy-focused series *The Electric Company*. Beginning with the show’s third season, the television

program experience has been enhanced by a transmedia story *The Adventures of the Electric Company on Prankster Planet*, a serial animated adventure that unfolds across television, and online comics, games, and videos. Each piece of the transmedia story supports a math curriculum while making unique contributions to the experience of the story. *Prankster Planet* is credited with increasing traffic to the *Electric Company* website by 432% in 2011 with nearly 3.2 million visits and 900,000 unique visitors (Dickson, 2012b).

Transmedia remains a hotly debated topic in the children’s media industry; some producers have invested heavily in its abilities to engage and communicate with audiences while others think it is no more than a buzzword (Getzler, 2011). Despite this debate, examples of significant investment in transmedia as a strategy for supporting learning through media exist. In the next section, we describe a multi-million dollar transmedia initiative sponsored by the U.S. Department of Education. This initiative provides significant support (financial and symbolic) to the project of educational transmedia.

Ready to Learn Transmedia Initiative

In 2010, the U.S. Department of Education awarded three grants through its Ready to Learn program to support the development and evaluation of transmedia properties for children ages 2-8. The three grants were awarded to support organizations creating transmedia properties that



integrate math and literacy curricula for young children. The projects, funded through 2015, include: *Expanded Learning through Transmedia Content*, conducted through a partnership between the Corporation for Public Broadcasting (CPB) and the Public Broadcasting Service (PBS); *Project LAMP (The Learning Apps Media Partnership)*, run by the Hispanic Information and Telecommunications Network, Inc. (HITN); and *UMIGO (yoU Make It GO)*, created by Window to the World Communications, Inc. (WTTW).

Each of these projects takes a different approach to providing cross-platform media content to child audiences. For example, *Expanded Learning through Transmedia Content* has supported development of [PBS Kids Lab](#), a website featuring “suites” of cross-platform games designed for play on computers, various mobile devices, and smart boards. The suites of games are built around popular characters from PBS Kids programs such as *Curious George* and *Dinosaur Train* and allow children to play with the same characters and story worlds across devices. The suites are also linked by math and literacy curriculum, and accompanied by suggested activities for home, school, and out-of-school settings. These suites are bundled with tools for tracking learning and modeling content for use in the classroom,

Harry Potter and The 39 Clues are intensive social reading experiences. For many, reading also involves participating by creating and circulating media or information, making connections between elements of the story found in different media, and collaborating with other readers.

as well as formative and summative research reports from the project’s evaluators. In addition to the online site, CPB/PBS has partnered with 11 public television stations across the country. As demonstration sites for the project, these stations will work to introduce local communities to the transmedia content through outreach and public awareness campaigns, as well as train caregivers and teachers on its use.

Similarly, [Project LAMP](#) focuses transmedia storytelling in new and existing properties. This project aims to produce open educational resources available through a variety of platforms from books to television, with an emphasis on

mobile applications. Again, the math and literacy curricula are an important part of the transmedia stories in this project, providing a particular type of story to guide users as they navigate across media platforms.

Whereas *Expanded Learning through Transmedia Content* and *Project LAMP* focus on transmedia storytelling—following characters across platforms and expanding story worlds, [UMIGO](#) emphasizes trans-

media play, a concept we will explore in greater depth in the next section of this report. Key to *UMIGO*’s transmedia play approach is the way in which stories unfold hand-in-hand with opportunities for children to explore, build, and

tinker with digital and physical objects. Tinkering tasks from designing clothing to creating musical mashups are linked to an early math curriculum. All three projects emphasize outreach through community organizations. This is accomplished through partnerships with children’s museums and public television stations across the country.

The Ready to Learn grants provide important support to theories about the value of transmedia for learning. Further, the grants call attention to the needs of low-income children and English language learners—children who are not the target audiences for other high-tech transmedia experiences. The projects appear to straddle the line between cross-platform and transmedia content. As the content rolls out across media formats and demonstration sites, the success of the projects as transmedia storytelling and transmedia play experiences should become more apparent.

Thinking Seriously about Transmedia Play

The evaluations and research poised to come out of the Ready to Learn transmedia projects will meet a need for empirical data about the roles that transmedia might play in learning. Currently, very little of this type of evidence exists (Fisch, Lesh, Motoki, Crespo, & Melfi, 2011). However, in reviewing numerous children’s media properties and the existing popular and scholarly literature about transmedia and children, we have identified the following ideas about transmedia play and learning:

- **Transmedia play can promote new approaches to reading**

In order to take part in a transmedia play experience, children must learn to read both written and multimedia texts broadly (across multiple media) and deeply (digging into details of the narrative). This kind of reading has been described as “transmedia navigation” or “the ability to follow the flow of stories and information across multiple modalities” within the context of the new media literacies (Jenkins et al., 2006, p. 4). Dresang (1999) has noted changes to print books themselves in reaction to the new demands and pleasures of reading new media. She describes such books as “Radical Change” books—print books influenced by digital age aesthetics and logics. For example, these books may tell stories in a non-linear manner or may feature narratives with multiple layers of meaning. More recently, Jenkins (2009) has discussed the concepts of “spreadability” and “drillability” as important features of transmedia texts. In order to navigate transmedia stories, children must learn to cope with spreadability by learning to scan different media to collect bits of a distributed narrative. Drillability requires that a child learn research techniques and skills for comprehending complex narratives. Both spreadability and drillability leave room for readers to contribute to the unfolding narrative (Jenkins, 2009).

In 2011, Scholastic and Ruckus Media announced a partnership to create a children’s transmedia imprint that will publish children’s books across print, e-book, and enhanced e-book platforms (“Scholastic and Ruckus Media”, 2011). This is certainly not Scholastic’s first foray into the world of transmedia. Indeed, several of the publisher’s top titles for children in the 5-to-11 age range are examples of transmedia storytelling. This is certainly not Scholastic’s first foray into the world of transmedia. Indeed, several of the publisher’s top titles for children in the five to eleven age range are examples of transmedia storytelling. The *Harry Potter* series and *The 39 Clues* series are two particularly interesting transmedia examples, in part because of their very different approaches to transmedia storytelling.

Although not initially conceived as a transmedia experience, the *Harry Potter* franchise provides a strong example of transmedia storytelling. The seven books in the *Potter* series act as a “mothership” for a transmedia property that extends to films, music, toys, clothing, food items, video games, mobile apps, a theme park, museum exhibits, and ancillary books. Reading the *Potter* books is, for many, just one part of the experience. In addition to these many official extensions, a vibrant and prolific fandom has developed over the 15 or so years since the first installment of Harry’s story hit bookshelves. During the wait between books, *Potter* fans showed their acumen at what Jason Mittell (2009) calls “forensic

fandom,” or in-depth research and theory-building around the story. Potter fans also have contributed to building the transmedia story by creating music, videos, art, and podcasts; by writing and publishing fan fiction as well as scholarly papers and books; by hosting conferences and performances; and by creating organizations like the [Harry Potter Alliance](#) (HPA). The HPA works online, in local communities, and in conjunction with schools



and community organizations to incite action around social justice issues. Through all of these extensions, the transmedia world of *Harry Potter* is expanded and enriched. Although not every *Harry Potter* reader engages with all of the transmedia elements of the story, it has become nearly impossible to experience *Potter* as “just” a book series. Navigating the many extensions to the

narrative and storyworld—including places where the Wizarding World and “real” world meet—is an integral part of reading *Harry Potter*.

Scholastic’s *The 39 Clues* series was from its inception designed as a children’s transmedia experience. *The 39 Clues* currently includes two series of books: 12 books in the original *39 Clues* series and six books (so far) in a spinoff series called *Cahills vs. Vespers*. The books tell the story of Amy and Dan Cahill, tween-aged orphans who join in their family’s long-standing hunt for the 39 Clues. Although the books are the basis of the property, reading the series involves also engaging with a number of game-like elements of the story, including finding collectable cards and participating in an ongoing interactive game on the39clues.com. The collectable cards contain clues related to the narrative in the books; readers must log their cards on the website to track clues and earn additional cards. The online game is a role-playing game/alternate reality game in which users participate as a member of one branch of the warring Cahill family and compete with other user-populated families to collect clues. Taking part in the clue hunt by collecting cards and participating in the online game are not just nice enhancements to the story; they are essential to the active reading experience designed into *The 39 Clues*.

Further expanding the transmedia experience of *The 39 Clues* is a forthcoming movie, which will likely be accompanied by new licensed products. Other unique

characteristics of the series that contribute to its strength as a transmedia property are the series’ multiple authors, which include many well-known young adult authors with distinct styles. This situates the books within a larger context of children’s/young adult literature and contributes to the ways in which the stories can be interpreted. The series also incorporates important historical figures from around the world—from Benjamin Franklin to Anastasia Romanov, adding to the story’s sense of alternate reality.

Both *Harry Potter* and *The 39 Clues* are intensive social reading experiences. For many, reading also involves participating by creating and circulating media or information, making connections between elements of the story found in different media, and collaborating with other readers. These four Cs (creating, circulating, connecting, and collaborating) have been identified as important functions of participatory culture (Reilly, Vartabedian, Felt, & Jenkins, 2012).

- **Transmedia play can encourage learning through joint media engagement**

The complex narratives, rich worlds, and multiple points of entry characteristic of transmedia experiences can provide opportunities for families to experience transmedia together. Previous research from the Joan



Ganz Cooney Center has investigated “joint media engagement,” an expansion of the concept of co-viewing television to include multiple new media platforms (Stevens & Penuel, 2010). Authors Takeuchi and Stevens (2011) have identified characteristics, challenges, and design strategies related to productive joint media engagement. As they describe, experiences designed for productive joint media engagement “can result in deeper understanding, inspiration, greater fluency, and physical, emotional, or mental wellbeing than others” (p. 43). The idea of productive engagement with media, as well as a number of the characteristics and design principles presented in Takeuchi and Stevens’ report, are salient to transmedia.

For example, joint media engagement involves mutual engagement—meaning something in the experience appeals to the diverse partners involved. As Takeuchi and Stevens note: “Neither partner is bored nor participates out of sheer obligation to the other” (p. 43). Transmedia with multigenerational appeal, for example, *Star Wars*, exemplifies this principle. The broad transmedia narrative and linked extensions offer multiple opportunities for users to enter the story and to experience it in ways that are interesting and engaging to them. For example, a child may engage with *Star Wars* through LEGOs or other toys, while her mother is drawn to online fandom practices such as writing fan fiction. Conjunctive points of their participation might exist around watching the movies

or reading ancillary books. In these ways, both mother and child are able to share in the transmedia experience of *Star Wars* in ways that are appropriate to their comprehension level and that maximize their enjoyment of the story.

Other characteristics of joint media engagement such as dialogic inquiry— “collaborating with others to make meaning of situations” (p. 43)—and co-creation—making media, physical artifacts, or shared understandings—also apply to transmedia experiences. The three case studies appearing later in this report are excellent examples of these characteristics as well as of what Takeuchi and Stevens call “intention to develop” —an orientation toward media use in which “at least one partner intends for herself or a partner to grow through the activity” (p. 44).

- **Transmedia play can support constructivist learning goals**

Transmedia play involves exploration, experimentation, and remix, all activities that are firmly aligned with a constructivist approach to learning (e.g. Bruner, 1990; Piaget, 1985; Vygotsky, 1978) that emphasizes the active role of the learner in creating knowledge by working to make connections among information in a specific context. Constructivist learning theory has been influential in much research on digital media and learning,

which has highlighted the importance of experience and active participation in learning activities. An important part of the construction of knowledge is communicating one's ideas and understandings; this is what takes it from being an individual to social process, thus facilitating additional connections and deeper understanding.

Good transmedia experiences scaffold children's participation—supporting them through tasks such as asking and answering questions, making connections between information, creating media, and sharing creations with others. Such activities, in and of themselves, are examples of constructivist learning. When designed with specific constructivist practices in mind—for example, providing learners with highly relevant, real-world experiences, emphasizing multiple realities and perspectives, or fostering collaboration and co-construction of meaning—transmedia play can be a transformative learning experience. As Laura Fleming, library media specialist and advisor to the transmedia project *Inanimate Alice*, notes, such actions “shift the locus of control in learning firmly away from the teacher towards the learner...” thus “morph[ing] the concept of StoryWorld familiar to transmedia producers, into something that is powerful for learning in the digital age, the Transmedia Learning World (TLW)” (2012, p. 1). The case studies presented later in this report exemplify Transmedia Learning Worlds.

Learning to Play with Information

Years of research in developmental psychology have highlighted different aspects of play that contribute to children's healthy development. In *Play, Dreams, and Imitation in Childhood* (1962), Jean Piaget distinguished between play and imitation, describing play as “primarily mere functional or reproductive assimilation,” meaning that a child plays without thought to how her/his play fits with reality. For example, a block can be used as an airplane without having to adhere to laws of gravity or aerodynamics. Piaget distinguishes play from “objective thought,” a hallmark of adult cognition, “which seeks to adapt itself to the requirements of external reality” (p. 87).

Whereas play (and especially imaginative play) aligns with the process of assimilation, imitation aligns with accommodation. When a child recreates activities from real life, making an effort to portray them accurately, s/he is working to change the way s/he thinks about the world. Imitating a parent kicking a ball while playing soccer or mimicking a media character's speech or actions are examples of accommodation. Learning, according to Piaget, happens as children work toward achieving equilibrium between assimilation and accommodation.

Lev Vygotsky (1978) emphasized play as a tool for practicing behaviors. Importantly, Vygotsky highlighted the value of play in helping children develop abstract thinking by separating thought and action. Pretend play is especially good for the development of abstract thinking, as children must

learn to reconcile competing realities. As Tsao (2002) summarizes:

Thinking and acting are no longer simultaneous; behaviors are no longer driven by objects, but rather by children's thinking. By exercising their minds through different play behaviors, children become capable of using high-level mental functions (i.e. abstract thinking) to manipulate and monitor thoughts and ideas without direct and immediate reference to the real world. Therefore, play can be an important educational strategy for facilitating children's development in cognitive, social/emotional, motor and language areas (p. 231).

The child development literature highlights social and cognitive elements that categorize play. In terms of social interaction, play can be solitary, parallel, or social. Solitary play happens throughout childhood. Parallel play, in which children play near but not with one another, is typical of toddlers. Social play tends to emerge during the preschool years for typically-developing children.

There are also distinct cognitive characteristics of play:

- *Sensorimotor play* includes play and exploration with objects (movement, banging, shaking, etc.)
- *Pretend play* includes socio-dramatic play wherein children act out roles and try on identities

- *Constructive play* involves manipulating objects, building, and designing
- *Games with rules* show a child's progression from an egocentric understanding of the world to social play.

Children's play rarely is restricted to any one of the above categories; indeed, children engage in different genres of play depending on the circumstances (e.g., locations, play partners) and resources (e.g., toys, stories) available.

When playing in transmedia universes, people manipulate the different forms of media available across platforms, "collecting" the pieces of a narrative—plots, characters, settings, and so on—distributed through transmedia storytelling and world building. People employ these pieces in new ways and/or explore and experiment in non-narrative but alternatively linked cross-platform spaces. For many children, this kind of "mixing and matching" of media is not a new mode of play; indeed, researchers have long noted the appropriation of media elements in children's play (Dyson, 1997; Kinder, 1999; Paley, 2005; Seiter, 1993). As children remix media properties through imaginative play, tinkering, experimentation, and creative expression, creating their own rules for how media may be used, they push on the boundaries defined by institutions and media companies.

Writing about young readers (age 8-12) of popular (or “branded”) fiction, Sekeres (2009) describes an “interplay” between the real and the story world:

The tween reader of branded fiction may see, hear, write, and, through tangible toy products like action figures or dolls, manipulate the market child—the virtual character imagined through the consumption of multiple products associated with a brand—in ways that expand the imaginative potential of the character. When tweens interact with other products in the brand and with other real children in an imaginary or virtual world, their imaginary interplay expands, changes, and codifies storylines and interpretations of the market child. (p. 403)

The three processes noted in this quotation—expanding, changing, and codifying—are significant to transmedia play, as they represent different modes of participation across media. Just as non-media-based play involves different modes of participation (e.g. pretend play versus sensorimotor/active play), transmedia play offers multiple opportunities to experiment with and participate in a transmedia experience. In this way, transmedia play reflects the definition of play put forth as one of the new media literacies: “the capacity to experiment with one’s surroundings as a form of problem solving” (Jenkins et al., 2006, p. 24).

Taking a more critical view, Stephen Kline (1993) notes character play with television characters as a phenomenon that is frequently co-opted by marketers in order to sell more toys:

In character play the mental processes of “expression” (entailed in the creative encoding which takes place in a child’s play enactments) and “interpretation” (the application of social knowledge and media grammar which allows a child to understand television fiction) must be brought into alignment. The activities of watching television and playing with toys have thus become mutually reinforcing: television feeds the child’s social imagination with knowledge about fictive social universes that only a particular toy can make available for simulated play enactment. The synergy created between television and toys through their merger within a single narrative universe links these separate domains of expressive and interpretive experience through a common structure of fantasy (p. 323).

Kline’s concern is that children’s play with television characters may be circumscribed by their understandings of television narrative—that is, that television will draw boundaries for children’s creative play. This is a reasonable concern, as television (like all media) is a mix of open texts (allowing multiple interpretations) and closed ones (leading readers to a single interpretation) (Eco, 1979). Good transmedia experiences, we argue, primarily consist of open texts, thus creating myriad opportunities to play.

A nice example of open-ended transmedia play can be seen in the example of *Minecraft*, a transmedia experience that is quickly growing in popularity among children and adults alike. Markus Persson, a developer with the Swedish independent game development studio Mojang, created the game in 2009. As of November 2012, the game boasted 8 million downloads for PC. *Minecraft* is, first and foremost, an open-ended video game that challenges players to build with virtual blocks. Currently, users can build with 153 different kinds of blocks; some are “naturally occurring” within the *Minecraft* world, while others are created during gameplay (“Blocks”, n.d.). Each block has different characteristics and features. For example, stone blocks can be used to construct buildings or pathways, while note blocks allow the user to compose music in-game. Discovering, researching, gathering, and experimenting with different kinds of blocks, involves developing and leveraging knowledge of the “natural” properties of these resources within the world of *Minecraft*. It also involves reaching out to various other media resources, including online videos, wikis, and other websites, to learn from other players’ experiences. All of these activities can be described as “tinkering,” casual experimentation with the intention of learning how something works and/or repairing it; tinkering has been found to be a useful mode for learning in formal and informal learning spaces (Kafai & Peppler, 2011; Guzzetti, Elliot, & Welsch, 2010).

Understanding the characteristics of transmedia play and the ways in which it fits within the context of children’s play experiences more broadly is one way to give play the attention it needs and deserves. In the next section of this report, we describe a working set of principles for educators and producers to consider when building meaningful transmedia play experiences.



photo credit: Matt Beard

TRANSMEDIA PLAY IS:



MOBILE

Mobility in transmedia play means a number of things: use of mobile technologies; movement between platforms, media, and setting; and causing movement within media themselves. By linking stories together across platforms, transmedia storytelling encourages children's media producers to consider formats other than the 11-minute television episode. The remix, appropriation, and tinkering characteristic of transmedia play similarly pushes industry creators to consider how children are moving stories, characters, merchandise, and other aspects of a media product between platforms in order to create new meanings.



ACCESSIBLE

The cross-platform nature of many transmedia experiences gives them a high potential for accessibility. People can jump in to play with transmedia from a variety of starting points and can define a trajectory that takes into account their own unique context and access. Accessibility in transmedia play also means that some experiences become memorable moments that can be accessed in future play. Salient and memorable transmedia experiences can be a valuable resource for learning.



REPLAYABLE

Many transmedia experiences are large-scale and unfold over time, leading to high potential for replayability as the story is revealed and revisited. Indeed some transmedia experiences are so intensive that they require multiple "visits" or interactions.

Rich worlds that invite exploration, characters that require analysis, and clues that need investigation all contribute to replayability.



RESOURCEFUL

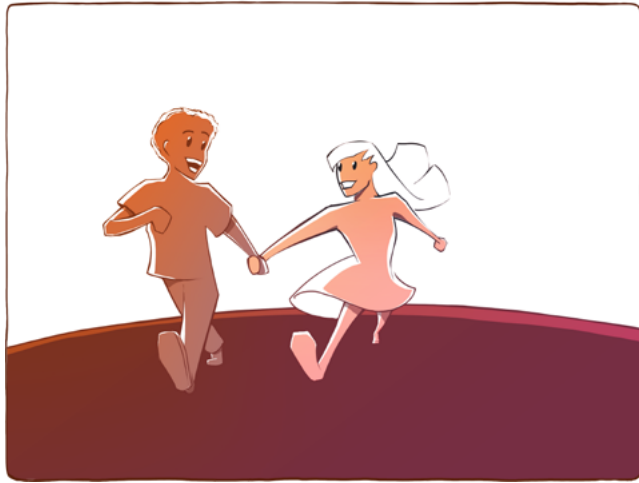
As we have described in earlier sections of this report, transmedia requires participation that is different from that required by more traditional media. Transmedia consumers are expected to be active and motivated, skilled in new media literacies, and able to access and navigate ubiquitous connections to networked, convergent media. Another related characteristic is resourcefulness, which we define in the context of transmedia play as a quality that combines the ability to act with/react to diverse, challenging situations by thinking creatively about solutions that leverage any and all available tools and materials, even if that means pulling from somewhere else or repurposing items.



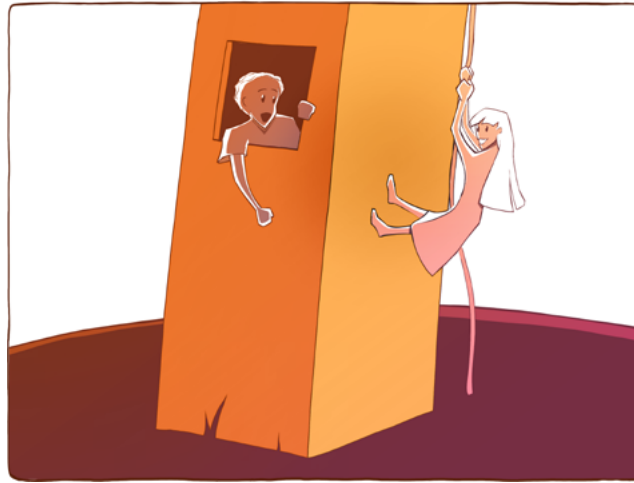
SOCIAL

Transmedia play generally happens in conversation with others. Other players may be co-located, or linked through media/technology, as in the case of social media, online communities, or massively multiplayer online (MMO) games.

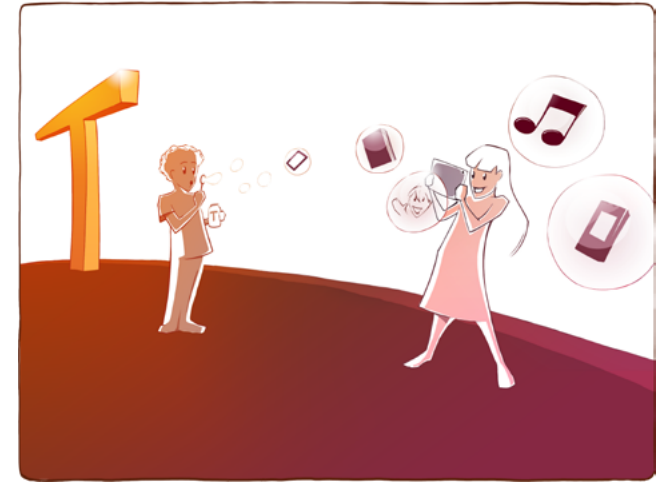
BUILDING TRANSMEDIA PLAY EXPERIENCES



Play Partners



Places To Play



Paradigm-shifting Play

Aligned with the Joan Ganz Cooney Center’s mission to study the relationship between digital media and the developmental needs of children ages 5 to 11, our suggestions for building transmedia play experiences target this age range, itself quite diverse. The guiding principles below may also be a useful starting point for those designing transmedia play experiences for older or younger groups. Our principles are summarized by three core themes:

1. *Play Partners* Relationships between producers and audiences; conditions for people engaging in transmedia play together
2. *Places to Play* Metaphorically, meaning places within a transmedia “universe”; and physically, the environments within which children participate in transmedia play
3. *Paradigm-shifting Play* Or “pattern-shifting play”—modifying pre-existing concepts and routines to maximize the lasting positive impact of children’s transmedia play

These principles emerged from the authors’ various experiences researching and developing experimental, small-scale transmedia play experiences. For nearly two years, we had a regular series of discussions about the relationship between transmedia and learning as part of the USC Annenberg Innovation Lab’s Children, Youth, and Media Research-Design Track, led by the Annenberg Innovation Lab’s

Creative Director, Erin Reilly and advised by USC Annenberg Professor Henry Jenkins. This design guide also incorporates our experiences discussing transmedia storytelling, play, and performance with scholars, researchers, educators, and children’s media industry professionals at various children’s media and transmedia conferences and meetings.

We believe that children have much to add to the process of developing exciting and personally meaningful transmedia play experiences. Young people can contribute to the socio-technological design process in many valuable ways through a variety of age-appropriate methods (Druin, 1999). More work must be done to develop and refine best practices for supporting children’s roles as users, testers, informants, and design partners (Druin, 2002) at the intersection of participatory culture, participatory learning, and participatory design.

What follows is not intended to be complete or comprehensive, but a work-in-progress to which we invite further reflection and refinement. Not all of these design principles must be present in a children’s transmedia play experience for learning to occur. However, each component focuses on an important part of the process of making a media text “transmediated” and the challenges in producing a transmedia play experience whose “final product” will continually evolve in the minds, hands, and hearts of audiences.

Play Partners

- **Flexible contracts.** Adults and children entering into collaborative transmedia projects together start off inherently in different positions of power. It can be tricky to navigate from consulting children to involving children more deeply in design without tipping the scales and overburdening them. Beginning a project with a contract—but one with wiggle room—opens up possibilities for youth-led actions, shared decision making, and partnerships with adults while balancing children’s needs for scaffolding and safety.
- **Sharing transmedia.** Kids, often very organically come up with conditions for playing together and sharing, particularly when using popular culture material (e.g., favorite characters, toys, songs) as the basis for play. While children may sometimes act in the interest of the group and with a notion of shared ownership (both online and offline), joint media engagement also necessitates children being able to identify “that’s mine” and “that’s yours.” Issues around individual and collective ownership, consumption, creation, and circulation of media might also raise issues around what traces children leave behind in this process (again, both online and offline).

- **Together isn’t always better.** While collaboration is important and transmedia play is generally a social activity, some children may feel more comfortable setting boundaries and engaging in peripheral, parallel, or solitary transmedia play. Spending time with a rich transmedia world doesn’t necessarily need to involve partners or parents. Children frequently imagine partners for their play (with tea parties as a classic example); participation in fandom can be a next step in imaginary play, with children imagining possible publics with whom they might engage.



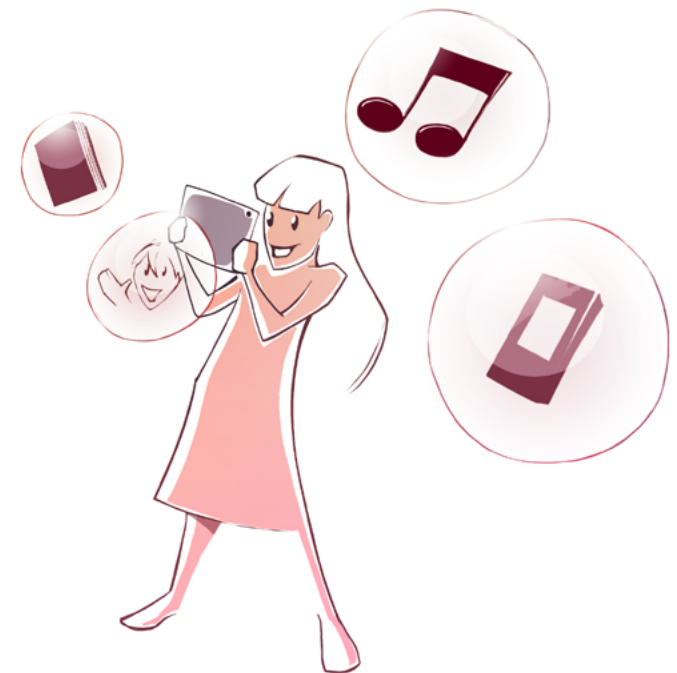
Places to Play

- **Environment as third teacher.** While teachers and families are children’s primary mentors early in their lives, the thoughtful arrangement of physical space around a child and around her/his use of media (both at home and school) can provoke new ways of looking at the world (Caldwell, 1997). Consider how the physical environment might impact the effectiveness of learning through transmedia play in formal and informal educational settings. Also consider how transmedia play might pop up in unexpected places (e.g., see Caine’s Arcade, below).
- **Strategic mix of positive and negative space.** More participatory transmedia properties build rich worlds for audiences to explore, but minimally participatory ones leave little opportunity for children to cause any personally meaningful change or test their ever-evolving theories about how the world works. Look for “hooks” or ways for less engaged users to focus on dense pre-established narratives that hint at later engagement (or “positive space”), and for more engaged users to fill in the “negative space” with their own missing pieces or build out on provided materials (Laurel, 2001; Long, 2007).
- **Accessible play places.** In both online and offline play, it is important not only to make the content of transmedia play experiences accessible for children of all abilities, but also to provide a variety of low and high tech tools that enable participation, creation, and contribution (Alper, Hourcade, & Gilutz, 2012). Make space for difference in participation online and offline spaces, including grade-level differences, a range of linguistic backgrounds, and budgetary constraints on schools, families, and communities.
- **Mobility matters.** Designers of transmedia play experiences should be aware of how people spend time with media—and if that time is on the go or spent in a fixed location. In the Joan Ganz Cooney Center’s report on joint media engagement (2011), authors Takeuchi and Stevens describe the need for designers to understand the “fit” of any new platform within families’ existing practices. They emphasize that technologies must “easily slot into existing routines, parent work schedules, and classroom practices” (p. 48). Mobile technologies are increasingly a part of these practices, as well as many others that are part of families’ everyday lives—including play. Transmedia play experiences that are flexible and mobile are best able to fit within diverse family practices, routines, and play spaces.

Paradigm-shifting Play

- **Mind-blowing experiences.** Transmedia play and storytelling can be paradigm-shifting experiences in that they provide gestalt moments that children can reflect upon, revisit, and activate later for new purposes or new stories. These experiences may come all at once (e.g., class field trips, seeing a theatrical performance), or coalesce over time. For example, Sherry Turkle's book *Falling For Science* (2008), a collection of essays written by her students at MIT, includes various accounts of how countless hours spent with LEGO bricks led many of them to see the scientific world in new ways. Transmedia is partly something that a child consumes, but also something that a child *does*. Be aware of the everyday, ordinary, and mundane of kids' lives so that the transmedia you are making matters.
- **Playing in real time.** New media and, in particular, mobile and social media, make it possible for children to participate in ongoing, real-time conversations and games as part of a transmedia play experience. This stands in contrast to the delayed response children, even in recent years, may have had with media, such as sending letters that might be read on a future episode of a television program or waiting for a requested toy to arrive in the mail. In many cases, providing feedback that changes the progression of the experience, having opportunities to connect

and share with children outside of one's immediate geographic area, and the possibility of sharing one's ideas or creations publicly and widely are among the most compelling features of a transmedia play experience. However, with these new opportunities for participation come concerns about safety and privacy as children venture into public (or semi-public) conversations, often for the first time. Transmedia producers should carefully consider the benefits and drawbacks of children's real time versus delayed (and moderated) participation, particularly if producers wish to incorporate children's feedback into a transmedia play experience in a timely manner and if those children are geographically dispersed.



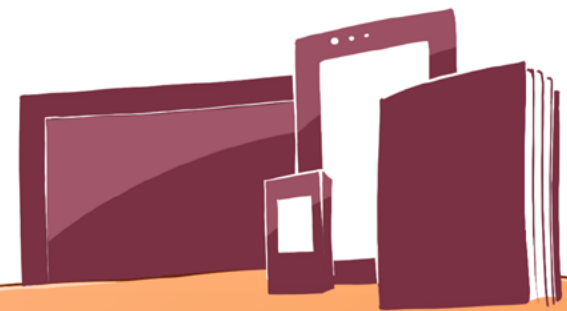
In the section that follows, we look at these principles in action through three extended examples—Caine’s Arcade, Story Pirates, and the prototype for the Flotsam Transmedia Experience. Over the past year, we have been observing and interviewing producers and participants of these transmedia play experiences (Case 1: Caine’s Arcade and Case 2: Story Pirates), as well as applying our theory and research to the practice of making a transmedia play experience ourselves (Case 3: *Flotsam*). Each of the three case studies described below represents a different approach to transmedia play. While Cases 1 and 2 are particularly relevant for educators, Case 3 is geared towards producers interested in the research and development (R&D) process. The educator-focused and producer-focused case studies showcase different perspectives on how best to incorporate transmedia play principles and the challenges faced in doing so.

We have chosen to include these examples because of the following shared characteristics:

- **Literacy and STEM content.** Momentum is growing among educational experts in support of better integrating the humanities, arts, and design thinking with the national imperative around science, technology, engineering, and math (STEM) education. Each of the experiences profiled promotes transmedia play as a way to amplify children’s learning, creativity, and curiosity about real world environmental and social issues. For

example, *Story Pirates* work closely with science teachers on the classroom level to link arts and literacy content to Common Core, national, and state standards.

- **None start with TV.** A great number of children’s media experiences start with television, and many franchises expand outward from the medium. However, these examples show how transmedia play can develop sometimes unexpectedly out of online video, theater, and books.
- **Different stages of development.** Some of these projects are further along or are more scalable than others. Much insight is to be gained though from looking at the available resources at any given point during the course of these projects and the choices that these producers of transmedia play make along the way.



EXAMPLES OF TRANSMEDIA PLAY

CASE 1: CAINE'S ARCADE

CONTEXT

Caine's Arcade is an elaborate DIY (Do-it-Yourself) cardboard creation built by a 9-year-old arcade-obsessed boy named Caine Monroy. Over one summer vacation, Caine spent countless hours transforming the front of his dad's used auto parts store, located in an industrial part of East LA. He used rolls of packing tape, cardboard boxes, and whatever spare materials he could find—including his own old toy cars—to use as arcade prizes.

But *Caine's Arcade* is also an 11-minute short film directed by Nirvan Mullick, an LA-based filmmaker and digital strategist for social good campaigns. Mullick came across Caine's arcade while looking for a replacement car door handle. What happened next was part luck, part magic, and part cultural convergence. Though Caine spent months preparing for customers—designing elaborate security systems out of calculators, perfecting the design of his Skee-Ball-like machine, and turning paper lunch bags into gift bags—the auto parts store had little foot traffic and Mullick was actually Caine's first customer. Determined to bring Caine custom-

ers, Mullick used social media sites Facebook and Reddit to organize a “flash mob” to surprise Caine one Saturday. *Caine's Arcade* documents not only Caine's story, but the support of his family and the collaborative efforts of online and offline community members.



photo credit: Meeno

Now, both Caine's Arcade and *Caine's Arcade* exist in the minds of children, parents, and educators around the world, and continues to play out across multiple media platforms. Posted online on April 9, 2012, the film has been viewed over seven million times on YouTube and Vimeo. A grass-roots version of fandom has developed around Caine, as children and families post YouTube response videos and Facebook photos featuring their own cardboard creations. Caine has also garnered the admiration of adults including U.S. Secretary of Education Arne Duncan. With the support of a matching challenge grant from the Goldhirsh Foundation, Mulick launched the non-profit Imagination Foundation. The non-profit started the Caine's Arcade School Pilot Program, where over one hundred schools in nine countries use the short film as a launch pad for classroom activities appropriating cardboard materials to support inquiry in areas including art, math, engineering, and storytelling. The Imagination Foundation also launched a Global Cardboard Challenge initiative, culminating in a worldwide celebration of play, creativity, and community in October 2012 that raised money for the Foundation as well as local causes.

TRANSMEDIA PLAY PRINCIPLES IN ACTION

Play Partners

The Imagination Foundation is developing into a collaborative transmedia play experience that seeks to support children's learning across digital and non-digital cultural realms. Caine and his arcade have become iconic among the "maker" movement—a network of communities that value open-ended, multi-sensory, and learner-centered experimentation with physical and digital materials. This making extends beyond just the platform of the cardboard arcade, which was very specific to Caine, but also to other forms of craftsmanship that might interest another girl or boy, including carpentry, circuitry, and crafting. The expectation is not that all children develop something so intricate and time-intensive as Caine's Arcade, but that young people have to opportunity to tinker and develop expertise at their own pace with the support of their friends, peers, families, and other adults.





photo credit: Imagination Foundation

Places to Play

Caine’s Arcade and the Imagination Foundation are building open-access spaces that allow for rich transmedia world building. These “places to play” include 1) a web platform for kids, parents, and educators to share stories like Caine’s Arcade and add project-based learning activity kits and curriculum to them; 2) a network of permanent and pop-up maker spaces and creativity playgrounds in historically disenfranchised communities such as Caine’s own in East LA that provide access to more expensive maker tools such as 3D printers; and 3) the orchestration of locally-hosted events like the Global Cardboard Challenge, which foster creativity and community. These spaces blend in-person locations with online

communities such as intergenerational virtual maker spaces like [DIY.org](#) and *Minecraft*. Official events for the Global Cardboard Challenge took place at a mix of formal and informal workshop areas, including schools, in backyards, and at libraries. A great deal of groundwork has already been laid for the story world of Caine’s Arcade, but young people continually have opportunities to change and contribute to how the Caine’s Arcade universe will evolve and grow.

Paradigm-shifting Play

Caine’s Arcade documents a major mind-blowing experience—Caine called the day the flash mob came “the best day of my whole life.” Taking part in the Caine’s Arcade transmedia play experience can also challenge the ways that children, parents, and teachers think about storytelling and about their own relationship to media and materials. Young people may have entered the Caine’s Arcade universe through either of its main media texts (or “motherships” as they are often called by transmedia producers)—the short film and the physical location. Other children may have come to know Caine and his arcade through its various transmedia extensions created by fans around the world, such as the Global Cardboard Challenge. The fandom around Caine’s Arcade developed in real time after the short film was posted online. The organizers behind the Global Cardboard Challenge incorporated feedback from geographically dispersed children,

parents, and teachers' through Facebook, Twitter, email, and YouTube relatively quickly, working around traditional production models for broadcast media.



photo credit: Imagination Foundation

CHALLENGES

Educators, policy makers, and funders must keep in mind that not every adult and child shares the same socially and culturally situated definition of “creative” and “imaginative” use of materials. For example, as writer Michael Chabon notes in his book *Manhood for Amateurs* (2009), most people who have seen the film *Toy Story* would identify the real boy, non-toy hero protagonist as Andy, the owner of Woody and Buzz. However, shouldn't we also be recognizing Sid, Andy's next-door neighbor, for his use of problem-solving skills and creative ingenuity to subversively “hack” and reconfigure his toys? Different meanings about the importance of play might also emerge in relation to other national, ethnic, and cultural traditions. For example, there has been some debate over the Maker Education Initiative by O'Reilly Media's spin-out Maker Media receiving partial funding from the U.S. Military's Defense Advanced Research Projects Agency (DARPA) (Dougherty, 2012). While DARPA does not have any claim on student work through the program, designers of transmedia play experiences might want to be cognizant of different, constantly re-negotiated global norms around how “making” might be defined and how physical materials might be approached in various contexts.

Another challenge for educators is to strike the right balance between a more individual DIY approach to transmedia play and a more collective DIO (Do-It-Ourselves) or DIT (Do-It-Together) form. In DIY culture, amateurs are able to

make their “own” cultural contribution using skills, materials, and techniques previously exclusive to professionals and experts. In their book *DIY Media: Creating, Sharing and Learning with New Technologies* (2010), Michele Knobel and Colin Lankshear write about DIY culture and what it might contribute to reframing contemporary educational practices and pedagogy. Caine’s Arcade might appear to be a DIY project, but parents and mentors still played an important roles—whether hands-on or purposefully hands-off—in helping children develop and mature physically, socially, emotionally, and cognitively. Caine’s Arcade, both the physical location and the documentary, is evidence for the value of DIO or DIT. How we “do” education and what “it” is that we value cannot be separated from the social context in which learning takes place. Logistically, DIY/DIO/DIT processes can be messy and experimental, and their documentation and assessment more complicated.

The expectation is not that all children develop something so intricate and time-intensive as Caine’s Arcade, but that young people have to opportunity to tinker and develop expertise at their own pace with the support of their friends, peers, families, and other adults.



CASE 2: STORY PIRATES

CONTEXT

If you crossed *Monty Python* with *Schoolhouse Rock*, you might come out with something like the Story Pirates. Based in New York City and Los Angeles, and led by Jamie (Benjamin) Salka (CEO) and Lee Overtree (Artistic Director), the Story Pirates are an education and media company that aims to celebrate the words and ideas of young people through arts and literacy programs. Founded in 2003 by a group of Northwestern University graduates, Story Pirates pairs experienced teachers, actors, artists, and comedians (e.g. *The Daily Show*'s Kristen Schaal) with schools and community organizations to collaborate in creating dynamic classes and workshops covering a broad range of academic topics. Most Story Pirates are self-directed continuing learners, and work professionally as writers, directors, improv comedians, actors, and musicians. One-third of all Story Pirates are also full or part-time teachers, with many holding masters degrees in education.

The cornerstone of the Story Pirates work is their Play/Write Program, an extended series of creative writing and drama workshops in schools that lead to a musical sketch comedy show acted by adults and comprised entirely of stories written by kids. These school-wide performances reward collective effort and showcase the power of children's writing. While the Story Pirates believe in working

with children on every end of the economic spectrum, the majority of their work is in underfunded schools expressing a need for programs bridging learning and creativity.



photo credit: Story Pirates

The Story Pirates also work on mentoring other teachers and supporting extended mentorship networks. In professional development workshops for educators, the Story Pirates work with classroom teachers to create lesson plans that complement their usual curriculum, but approach subjects from a radically different angle. They help teachers find ways to engage multiple intelligences in their curriculum, or to “storify” and “dramatize” lessons to make them more interesting. Using a “process drama” approach (O’Neill, 1995), students and teacher assume imaginary roles and act out parts in a pretend scenario as an interactive way of approaching a particular topic. The focus is on

finding a compelling reason to need to solve a problem, even if that reason is completely fictitious. The Story Pirates have also developed a program to train high school students to become junior Story Pirates. A unique model of community service, high school students bring stories to life from younger kids in their communities. The Story Pirates embrace the intersection of transmedia play, networked learning, and peer mentorship.



photo credit: Story Pirates

TRANSMEDIA PLAY PRINCIPLES IN ACTION

Play Partners

The Story Pirates support various youth-led partnerships with adults across various platforms. In Summer 2012, Disney Junior partnered with the Story Pirates to facilitate their Disney Junior Story Magic tour and lead Disney Junior-themed interactive sketch comedy shows. On a more grassroots level, in October 2011 the Story Pirates collaborated with transmedia producer Lance Weiler to develop the curriculum and facilitate Robot Heart Stories. Crowd funded by a campaign on micro financing website Indiegogo, the 10-day experiential learning project paired a classroom in Montreal and one in Los Angeles and asked them to work together to transport a robot in the shape of a cute robot-shaped plush toy whom the students named Laika, after the first dog to orbit Earth, back home to outer space. En route across the U.S. Laika traveled to whatever destination the students in both classrooms collaboratively chose using iPads. On the road trip, Laika interacted with the children through videos, photos, and a website that tracked her progress. The students needed to use writing, math, geography, and problem-solving skills in order to bring Laika home. Robot Heart Stories was a push-and-pull of shared decision-making between children's creative content and the transmedia play structure created by the adult producers.

Places to Play

The Story Pirates enact rich story worlds in physical and digital spaces, using their workshops and improv performances known as Create-A-Shows to scaffold children's own construction of the narrative that the Story Pirates bring to life. Through a mix of transmedia play, storytelling, and performance, the Story Pirates disperse interconnected multimedia content across various social contexts and multiple media platforms. Comedic interpretations of a child's own writing provokes them to consider what makes a story different when it is written on paper versus when it is performed by the Story Pirates. The places that the Story Pirates transmedia universe plays out includes the physical stage, a regular slot on Sirius XM's Kids Place Live show, and online videos such as a Story Pirates internally produced and animated version of one student's story. Similar to the use of Indiegogo with Robot Heart Stories, this Story Pirates cartoon project was successfully crowd funded through Kickstarter. Recently, the Story Pirates also collaborated with an all-girls school in Kenya on a Create-a-Show using Skype. At midnight in the U.S. and 9:00 a.m. in Kenya, students, teacher, and Story Pirates could all find a time to meet in a hybrid online-offline classroom. All pieces of the Story Pirates transmedia play experience are scripted by children but are also thoughtfully scaffolded by experienced educators and actors.

Paradigm-shifting Play

Children participating in Story Pirates programs may start off with vague understandings of what it means to "write for an audience." But by becoming playwrights and/or by playing audience members to a play written by a fellow schoolmate, engaging in this form of transmedia play alters the way that children think about stories and about their own roles in crafting stories. Children also learn the importance of respecting individual subjectivity. They are encouraged to imagine multiple creative solutions for problems, and to understand "revision" as an ongoing part of the writing process. Story Pirates is not a writing contest, and the Story Pirates actors and teaching artists focus on providing genuine, constructive feedback about every child's story in workshops and encouraging children to expand and revise their stories to highlight the unique creative elements of their narratives. Paradigm-shifting play goes hand in hand with teaching and learning through storytelling.



photo credit: Story Pirates

CHALLENGES

The Story Pirates use unique funding models to support these programs, which build enthusiasm, energy, and playful spirits in classrooms. These financial models allow those passionate about education to co-create with the Story Pirates thanks to the democratization of web tools like Indiegogo and Kickstarter. While these backend systems allow projects to move at an accelerated pace, large-scale projects and sustained commitments to school communities require consistent and large financial investments.

Another challenge the Story Pirates face is gaining entry and maintaining teacher- and school-level support for the program. Given the current climate of high-stakes testing and the demands placed on teachers to cover a wide range of standards-linked content, some teachers and administrators are hesitant to use class time for activities that are perceived as not directly related to standards. In designing transmedia play experiences, it may be helpful for designers to be familiar with the content standards for their target audience's grade level(s) in order to create opportunities for teachers to align products or programs to the skills and content are required to teach.

The Story Pirates enact rich story worlds in physical and digital spaces, using their workshops and improv performances known as Create-A-Shows to scaffold children's own construction of the narrative that the Story Pirates bring to life.

CASE 3: *FLOTSAM* TRANSMEDIA EXPERIENCE

While the prior two case studies are educator-centered, the next case study describes the research and development of a transmedia play experience that we, the authors of this report, developed, designed, and built as part of an interdisciplinary team of researchers and designers at the Annenberg Innovation Lab at USC. Here we illustrate how we applied transmedia play principles to an actual product, and share some of the challenges we faced which may be particularly helpful for children’s media and transmedia producers.



photo credit: USC Annenberg Innovation Lab

CONTEXT

Flotsam (2006) is a Caldecott Award-winning wordless picture book by author/illustrator David Wiesner. The book depicts the story of a curious young boy who, during a family trip to the beach, finds the mysterious “Melville camera” that has washed ashore (a reference to Herman Melville, the author of *Moby Dick*). When the boy develops the film held in the camera, he sees evidence of the camera’s fantastic journey above and under the sea. After adding a few of his own pictures to a new roll of film, he releases the camera back into the ocean, where it sets off on a journey to its next child owner.

Over the course of 2011-2013, an interdisciplinary team of researchers and designers has worked to develop transmedia extensions to *Flotsam*. The group consists of the University of Southern California (USC) Annenberg Innovation Lab; The Alchemists, a transmedia production company based in Los Angeles and Rio de Janeiro; and the publishers of *Flotsam*, Houghton Mifflin Harcourt (HMH). As a wordless book, *Flotsam* encourages readers to tell their own story of what they see in its pages. The transmedia extensions were designed to scaffold and enhance these opportunities for storytelling. Further, the transmedia experience was intended to build upon the book’s ocean setting and depiction of marine life by incorporating an age-appropriate life science curriculum.

The project team brainstormed, researched, and rapid prototyped numerous transmedia extensions of *Flotsam*. In its current iteration, one way in which the transmedia experience extends from the printed book is to a dynamic book (or “d-book”) for the Apple iPad. The d-book is designed to invite children to explore their immediate environment and the larger world using integrated interactive tools, to record and remix their own stories, and to share those stories with their friends and families. In addition to the d-book, the prototype includes collectable “Explorer Cards” that elaborate on the book’s illustrations and related scientific concepts, and interact with the d-book through augmented reality. Play with the Explorer Cards can also happen outside of the d-book through a multi-player card game.

A number of qualities of *Flotsam* the printed book lend themselves directly to developing a transmedia storytelling and play experience. First, the core narrative of the book is about children actively consuming, creating, and spreading media in the form of photographs. The photographs included in the story range from images of other children around the world to fantastical images include a mechanical fish swimming with red snapper and anchovies, and a family of octopuses sitting on sofas in their underwater living room.



With the Melville camera feature, readers can integrate their own pictures into their Flotsam transmedia story.

Second, the team thought it would be interesting to use new media to help tell the story about old media. In play testing sessions, they learned that many young fans of the book were unfamiliar with the process of taking photos with physical film. The *Flotsam* project highlights the nature of convergence culture—that new media doesn’t displace old media, but shifts its cultural meaning and place in society.

Third, research strongly suggests that wordless picture books support literacy, particularly among English Language Learners (Arif & Hashim, 2008; Cassady, 1998; Jalongo, Dragich, Conrad, & Zhang, 2002). The d-book is designed to build upon the strategies for reading wordless books that

support literacy development, providing enhanced interactivity and opportunities for participation.

Finally, the book thematically embraced the idea that STEM content can be enhanced by the arts and humanities. For example, the young boy in the book uses the microscope as both a tool of scientific inquiry and as a way look closer at photographs. Notably, Wiesner employs the visual metaphor of increased magnification to represent going back in time, zooming deeper and deeper into the pictures of other children within the pictures of children, and finding the original child who first took a self-portrait with the Melville camera. The *Flotsam* transmedia project team believed such a book could be a jumping off point for learning about marine biology and developing scientific inquiry skills through written, visual, and oral storytelling.

RESEARCHING AND DEVELOPING BY “THINKING & DOING”

The Flotsam transmedia project began its research and development process with a “Think & Do Tank,” a full day immersive experience built around a provocative question. The Think & Do format is designed to bring together participants from varied disciplines, industries, backgrounds, and experiences to explore and experiment around the core question. The Flotsam project emerged out of one such Think & Do tank that was focused on the question, “What experiences and narratives constitute compelling play in the 21st century?” Participants spent part of the day playing with materials organized by different ways of engaging with digital and non-digital objects: representational play (e.g. decks of blank playing cards, yarn and buttons), physical play (e.g. Kinect, hula hoops), sensory play (e.g. magnets, Silly Putty and newspapers), and logical play (e.g. Make-do kits and recyclable materials). During this playtime, a large group of participants gravitated toward a print copy of Flotsam, recognizing the potential of the wordless picture book to inspire creative and productive play. Following the Think & Do Tanks, the Innovation Lab obtained permission to develop the book into a prototype for a transmedia play experience in collaboration with David Wiesner and Houghton Mifflin Harcourt.

TRANSMEDIA PLAY PRINCIPLES IN ACTION

Play Partners

A wide range of stakeholders has contributed to the development of the transmedia extensions of *Flotsam*. Since its inception in the Fall of 2011, the team has included USC undergraduate and graduate students in communication, interactive media, computer science, electrical engineering, marine biology, and music composition. Collaboration took the group to the USC Wrigley Institute on Catalina Island off the coast of Los Angeles to learn more about marine biology research and for that to inform the development process. The group also worked closely with a second grade class in an arts integrated charter school in Los Angeles. Their teacher, who had the support of the administration to engage in project-based inquiry, used the print version of *Flotsam* in various ways across the curriculum over the course of the year. The team recorded, with parent permission, children sing different modes of expression to tell their own versions of *Flotsam*—including dance, puppetry, and illustration. The group then screened these videos in a follow-up Think & Do tank, where the *Flotsam* team invited many of the participants in the original Think & Do tank, as well as David Wiesner and his editor from HMH.

The next iteration of the *Flotsam* transmedia experience took into account different combinations of play partners,

including teachers, peers, parents, and siblings. Designing for the range of possible uses of the book—from informal, independent reading in the home to shared reading in a classroom directed by a teacher—has been a major challenge of the project. In order to meet the demands of multiple use scenarios, we experimented with customizable settings on the d-book and multiple ways of interacting with the Explorer Cards. The decision to include a high-level of customizability was supported by feedback from teachers and parents indicating that being able to turn features on and off was important to their ability to share the d-book with the children in their families and/or classrooms. The design of the d-book in particular took into account designing for joint media engagement and recent research by the Joan Ganz Cooney Center on parent preferences for e-book reading (Chiong, Ree, & Takeuchi, 2012).

Places to Play

A key theme of *Flotsam* is exploring new worlds and cross-cultural exchange. In the printed book, children around the world experience the Melville camera and pass the media along to another child. Thus, the children are united by the oceans, which serve to connect the children and also move the camera from shore to shore. Not only are the places in which these children live symbolically and geographically connected, they are also ecologically connected. A major interactive feature of the book emphasizes why it matters what people do to one ocean and how it impacts other people and other oceans.



The interactive map feature allows Flotsam readers to explore marine ecosystems around the world.

It was also the intent of the team for children to find many places to play inside the d-book. In its design, kids could co-author and co-design along with the original author at various points in the d-book. For example, kids could remix the story or construct an abbreviated version, recording their own voice along with sound effects. In order for the story to play out across multiple media, some of these features would come enabled, and others only would be available through the trading card game. While transmedia storytelling involves the dispersal and collecting of narrative elements, *Flotsam* also embraces transmedia play through its dispersal of collectable book mechanics that enable telling new versions of the story.

Paradigm-shifting Play

Flotsam offers simple ways to think about complex concepts. For example, when the protagonist comes to the last picture in the roll of film he has developed, he discovers a picture of little girl holding a picture of a little boy holding a picture of another little boy. This image plays with recursive math, introducing an inherently iterative, never ending story. The *Flotsam* project attempted to elaborate on this element of the book, giving children the ability to add themselves to this recursive image, thus making their own contribution to the ongoing story. Another example of abstract concepts addressed in *Flotsam* is the idea of cycles, such as finding and releasing objects. This concept is reinforced by the ending of the book, in which a girl finds the camera washed up on a different beach—just as the boy found it at the beginning of the book. For children who live very much in the here-and-now, thinking about history and the way it is documented, linkages between distant children is likely to challenge their ways of understanding of the world.

Flotsam blends science fact and science fiction as a way to provoke curiosity. The team enhanced this element by layering an integrated science curriculum connected to the sea life and geography depicted in the book's illustrations over the narrative. Learning to navigate a text that seamlessly combines real and fantastical elements requires a significant shift in strategies for discerning the credibility of texts as well as a recalibration of suspension of disbelief.

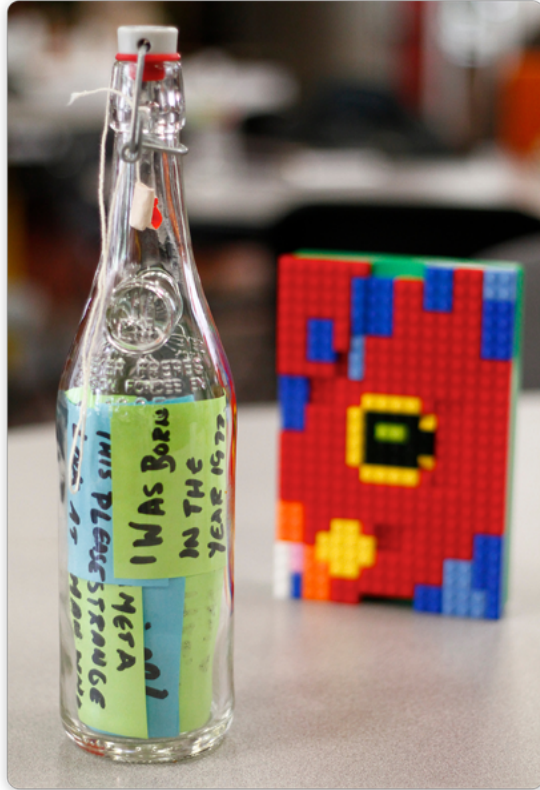


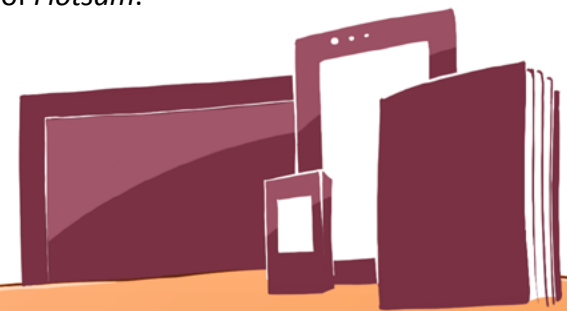
photo credit: USC Annenberg Innovation Lab

CHALLENGES

Finding a balance of scientific accuracy and whimsy has been one of many challenges faced in the design and production of the *Flotsam* transmedia experience. For example, as the team considered different interactive elements for the

book, one idea was to animate an image of a crab to create the appearance that its eyes were blinking. However, upon consulting with the marine biology experts on the team, we found out that crabs are physically unable to blink! Providing scientifically accurate material within a fantastical narrative is a challenging constraint. However, by carefully choosing where and when to break with reality, it can be worthwhile.

At the end of development of our most recent prototype, the team encountered new challenges. For example, academic and industry schedules and time frames did not necessarily align. The team came to value having people who could move fluidly between the university research setting and the industry-driven production process. The development process also involved making difficult choices about access. Without the capacity to design across all existing platforms and to provide low-, no-, and high-tech options for each extension of the book, the team struggled with how to make exciting, non-digital transmedia extensions. Ultimately, they felt that although only children with access to an iPad 2 or 3 could access the d-book, the print book, collectable Explorer Cards, and card game would provide other options for accessing the world of *Flotsam*.



FUTURE DIRECTIONS FOR RESEARCH AND DEVELOPMENT

Although a great deal of transmedia production is happening in the children's media industries, systematic research into the potential of transmedia for learning is in very early stages. This is an exciting prospect, but also presents the challenge of identifying and narrowing a research and development agenda. In this last section, we present a few possible directions for future research and development designed to better understand and leverage the possibilities of transmedia learning for all children.

First, as we have noted previously in this report, little empirical evidence supports the claim that transmedia supports learning. Producing a body of observational and experimental studies that investigate where, when, how, and under what conditions transmedia supports learning is, therefore, of primary importance. This research might also focus on questions such as:

- What kind of learning is best supported by transmedia? What kinds of content? What kinds of skills?
- How might we best leverage combinations of transmedia logics (for example, storytelling and play or play and activism) to support learning?
- How do children at different ages, stages of development, and ability levels use transmedia for learning?

A second issue warranting further investigation is that of access. Transmedia necessarily requires access to multiple forms of media. Further research into how children and families access media—and specifically how they access linked transmedia narratives and experiences—is needed to inform the design of new transmedia experiences that are accessible to a wider audience. This research might investigate questions such as:

- How does learning with transmedia differ depending on the point of entry into the experience? For example, are there differences in learning when a child begins participating in a transmedia experience through an interactive app versus a printed book?
- How much of an impact does having access to all of the media included in a transmedia experience, versus selected access points, make in the quality and appeal of the experience?
- How does the duration of participation affect learning?

Such research into how transmedia is used for learning under diverse conditions could assist designers in creating transmedia experiences that incorporate low-, no-, and high-tech opportunities for participation, thus broadening meaningful access to the experience. By designing transmedia experiences that take into account the differences in access available to children and families at varying income levels, in different communities, and in diverse parts of the world, transmedia has the potential to be a powerful tool for addressing stubborn achievement and participation gaps.

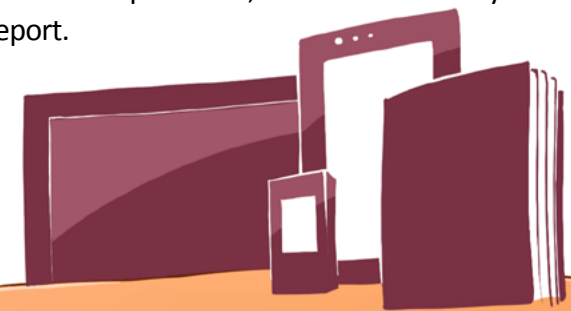
In addition to the above questions related to access to opportunities for learning with transmedia, research in to how to best design transmedia experiences that flow naturally across the boundaries of children’s lives—for example, between home, school, and informal learning spaces—could support widening participation in transmedia learning and improve the quality of transmedia experiences. Further, considering ways to design for different genres of participation—e.g. hanging out, messing around, geeking out (Ito et al., 2009)—and types of play—solitary, parallel, and social—could prove valuable for future transmedia productions wishing to support robust learning goals.

Future research might also focus on how policy, regulation, and practice in education and the entertainment/high tech industries impact the development of transmedia experiences for learning. For example, how will policy (e.g. COPPA, FERPA) shape the development of transmedia experiences that seek to connect users under 13, leverage data driven personalization, or link to systems for assessment in schools and informal

educational spaces? What new tools and systems for collecting, analyzing, and using data need to be developed to support assessment of learning through transmedia experiences?

Finally, as our examples demonstrate, creating transmedia for learning involves collaboration among diverse stakeholders. This raises important questions about how to best build partnerships between public and private entities, including the role of alternative models for funding (for example, Indiegogo or Kickstarter). Such research into the challenges and opportunities of organizational collaboration could provide important insight and inspiration for new approaches to creating transmedia experiences for children and families.

As suggested in the introduction, there is no monster at the end of this report. While the research and development agenda we have described may seem monstrous in its breadth and diversity, we hope that, like us, readers see it as exciting rather than scary. To our minds, transmedia has great potential for supporting learning through meaningful and innovative play. We hope that the concepts we have presented will incite cross-sector conversation about children’s play and learning with media that, like good transmedia experiences, will extend well beyond the pages of this report.



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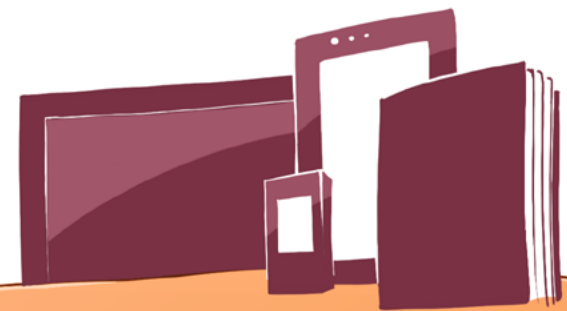
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T IS FOR TRANSMEDIA:

LEARNING THROUGH TRANSMEDIA PLAY

BY BECKY HERR-STEPHENSON AND MERYL ALPER
WITH ERIN REILLY

INTRODUCTION BY HENRY JENKINS



advancing
children's learning
in a digital age

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