Barbie Girls and Xtractaurs: Discourse and identity in virtual worlds for young children

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Abstract
This paper examines the ways in which Mattel’s Barbie Girls and Xtractaurs, online sites aimed at girls and boys of six years of age and up, respectively, offer markedly distinct literate and semiotic resources for their young users. Analysis focuses on the multimodal layers of meaning and the mediating tools, artefacts, and literacy objects that both afford and constrain certain types of play and shape the possibilities for self-representation and interaction in these spaces. Through content analysis and comparison of the two sites, the authors explore the kinds of discourses made available in these spaces and examine how they might impact on young players’ perceptions of the social roles and life opportunities accessible to them both within and outside of these virtual worlds.

Keywords
Early childhood, popular media, discourse, technology and early literacy, identity

Introduction
The name and slogan of the main Mattel, Inc. website is “Creating the future of PLAY”. Indeed, Mattel claims its spot as the largest toy franchise in the world (Fortune 500 List, 2011), with a consumer base in the millions and big
stakes in forging the future of designing artefacts, symbols and activities connected to play. As young people increasingly incorporate technology into their daily lives and playtime, Mattel has kept up with the times and produced branded virtual worlds, online games and hybrid virtual and material artefacts.

In recent years, virtual worlds and video games for young children have started occupying a prominent position in children’s screen-based interactions. Popular sites such as Neopets, Webkinz World and Club Penguin attract user bases in the tens of millions (Compete, Inc., 2010). While the aforementioned sites are designed to appeal to both male and female users, many of these emerging virtual worlds are aimed at attracting a more gendered demographic. For example, sites such as Stardoll, Girl Sense and Barbie Girls target young female players and centre on stereotypically feminine activities such as fashion and “dress up”, while sites such as Ridemakrz, Webosaurs and Xtractaurs are aimed at young male users and focus on stereotypical male interests such as automobiles and dinosaurs. In this article, we focus on two such websites from the Mattel Corporation, Barbie Girls and Xtractaurs, in order to understand how these sites offer distinct affordances for literate engagement, differing exposure to secondary discourses and markedly different representations of “possible worlds” (Carrington, 2003) to their gendered target audiences.

Many virtual worlds and video games, such as Barbie Girls and Xtractaurs, are tied to a collection of material and multimodal artefacts (e.g. toys, dolls, action figures, music, movies, television shows and music) that make up what has been described by researchers as media mixes (Ito, 2001), media franchises (Lemke, 2005) or sets of cultural practices (Buckingham and Sefton-Green, 2004) that permeate children’s lives. These sites and their accompanying material and multimedia artefacts can be viewed as “literacy objects” (Wohlwend, 2009: 60) or texts with associated narratives and ideological content that young children read and consume. As children engage with such texts, they often appropriate them, acting as “bricoleurs” (Levi-Strauss, 1974) who recombine and rework popular media through their writing, play and other meaning-making activities (Black, 2009; Dyson, 1997; Wohlwend, 2009) both in and out of school. Research on such agentic practices has helped to dispel notions of children as passive media consumers; however, it is important to recognize that these acts of appropriation are also influenced by the “interwoven narratives and commodities” (New London Group, 1996: 70) and layers of meaning that are “sedimented” (Kress, 1997, 2003) in the multimedia and material artefacts that permeate modern childhood cultures.
Scholars of new media and new literacies often suggest a bidirectional relationship between identities and linguistic practices. Bartlett (2005) draws on the work of New Literacy theorists to explore the role of cultural artefacts—images, symbols, discourses and narratives—in social positioning and identity work. Her work reminds us to stay attuned not only to the positional elements of identity (e.g. what kind of person an individual is enacting) but also to symbolic elements and how cultural artefacts are used to mediate identities. Following Dyson’s (1997) work on students writing and rewriting superhero narratives, she shows that cultural artefacts are not innocent and carry with them demarcations of class, culture and gender.

Along these lines, in her ethnographic exploration of young girls’ writing practices involving Disney princess characters, Wohlwend (2009) suggests that these toys, as literacy objects, encode anticipated identities or identities “that have been projected for consumers and that are sedimented by manufacturers’ design practices and distribution processes” (84). These anticipated identities consist not only of explicit product narratives (e.g. the “damsel in distress” trope), but also of more subtle messages about societal expectations related to childhood, gender and sexuality (e.g. powerful women are unpleasing and unattractive), to name just a few. From this perspective, digital and material media artefacts frame the discursive contexts of children’s interactions and offer them preexisting narratives, identities and discourses to take up in their play.

Carrington’s (2003) work also examines children’s toys and media artefacts as texts that convey messages related to gender roles and patterns of consumption to young girls. According to Carrington (2003), the talking Diva Starz dolls (also by Mattel) are “powerful markers of the necessary expansion of the notion of ‘text’ in contemporary, post-industrial societies, and more specifically, in discussions around literacy” (84). In the same article, Carrington argues that traditional print literacies are no longer sufficient for full participation in contemporary social, civic and even leisure contexts. Reading a text such as Diva dolls requires sophisticated multimodal and intertextual literacy skills, as ideological content is conveyed not only through the dolls’ physical characteristics (e.g. clothing, body style and facial appearance) and recorded speech (e.g. “Fabulous, let’s go to the mall with our friends and find something we can wear to parties” (Carrington, 2003: 89), but also through the broader “textual landscape” surrounding these toys (e.g. commercials, anime, TV shows, music and videogames).

Carrington’s (2012) and Carrington and Hodgett’s (2010) recent pieces focusing on the textual landscape of Barbie Girls describe an impoverished
literate environment which the authors call “literacy-lite”. Instead of providing rich communication channels and opportunities to engage in creative and sophisticated textual practices, the site, presumably in deference to safety concerns, severely limits communication. For example, players can only communicate with other players using pre-constructed messages or approved words and phrases in highly monitored chat systems. Also, players can communicate with the computer-generated male characters in the game by selecting a pre-written “text” message on their in-game mobile phone and receiving a stock response. Therefore, rather than being provided with opportunities to use language creatively to express themselves, children are limited to using language that has been composed for them and communicating on topics that have been selected for them by adults. The authors also note the lack of diversity and sophistication in the environmental print of the site. As a result, Barbie Girls presents a relatively homogeneous textual landscape that reflects an urban, middle-class view of girlhood that centres on consumption.

The aforementioned research has provided nuanced understandings of the ways in which media for young women construct particular notions of girlhood; however, few, if any, studies have provided a detailed examination of the textual landscapes of comparable media artefacts for young women and young men. In order to further our knowledge in this area, this article compares the literate and semiotic resources that the Mattel websites Barbie Girls and Xtractaurs provide for their young users. The results of such a comparison may be valuable and instructive for parents, teachers and literacy researchers, because it is through engagement with such multimodal textual landscapes that children receive messages about what cultural practices, literate activities and social roles are possible, acceptable and valuable within a given community and, as Carrington (2003) points out, develop dispositions toward text.

**Description of study**

**Context**

Data for this article stem from a larger project that involves comparative case studies of the websites Club Penguin, Webkinz World and Barbie Girls, which are all popular virtual worlds for a stated target audience of children aged 6 and up. The purpose of the larger study is to explore the affordances and constraints for children’s learning, literacy and social development in these spaces. The researchers were a professor of education who is a literacy researcher and the parent of a young child (first author), a graduate student in a School of Education who is interested in the relationship between larger structural
messages and children’s agency when confronted with these messages (second author), and an undergraduate researcher in a School of Psychology and Social Behavior who is interested in how media might impact on young children’s development and sense of self (third author). During the course of this study, we became interested not only in how these sites afforded opportunities for learning as an explicit component of their design (e.g. trivia games based on academic content), but also in how these sites offered implicit lessons about economic consumption, socioeconomic status, morality and gender. We were particularly interested in how Mattel’s Barbie Girls positioned players as certain types of females and as consumers. In order to investigate this positioning further, we decided to extend our comparison to include Xtractaurs, another Mattel site with a young male target audience. For the Barbie Girls and Xtractaurs comparison, we focused on the following research questions: (1) How do the textual landscapes of these sites construct available social roles? (2) How do they promote particular values? and (3) What opportunities for identity or self-representation do these sites offer to their gendered target audiences? It is important to note that for the material presented in this article, our exploration of these questions is focused on the available site content, rather than on observations of young children’s interactions with these sites. The limitations of this approach are presented in the discussion section.

Data

To answer these questions, the first and the third authors each spent a minimum of 40 hours, playing games and participating in activities on these sites. While this research involved observing public interactions on the sites, no personally identifiable data were collected on any of the players in these spaces. In addition, due to the restrictive nature of player-to-player communication in these sites, analysis focused on artefacts, texts and activities that were generated by Mattel designers rather than by individual players. We used open-ended qualitative protocols to analyze site features and artefacts. We also used discourse as well as grade-level vocabulary content analyses to compare the features of community texts. We collected data such as maps of site contents, records of available activities (e.g. arcade games, fighting games and adventure games) and site artefacts (e.g. transcripts of site texts and screenshots of popular activities). We then selected comparable features and artefacts that were relevant to answering our research questions. These features and artefacts included the sites’ avatars, the focal games of each site, and community news texts (e.g. texts that are
generated by the site designers, shared by all the players and presented as news for the game community). The first and third authors met weekly during the course of data collection to compare artefacts, protocols and field notes.

**Discourse and identity**

This article takes a discourse analytic approach to understanding how the multimodal texts of *Barbie Girls* and *Xtractaurs* encode meanings that are tied to particular social and cultural contexts. Drawing from Gee’s (1999) d/D theory and method of analysis, we examine how language, or “little d” discourse, is used to construct the activities and identities that are available to players on these sites. An additional construct, that of “big D” Discourse, is also a crucial analytic tool that guides our understanding of how messages about gender and other cultural practices are constructed and conveyed in this space. “Big D” Discourse encompasses the myriad forms of semiotic meaning making (e.g. dress, gesture, actions, interactions, symbols, tools and technologies) and stances (e.g. values, attitudes, beliefs and emotions) that accompany particular world views and their associated identities. Gee (1990) describes Big D Discourse as an “identity kit” “which comes complete with the appropriate costume and instructions on how to act and talk so as to take on a particular role that others will recognize” (142). In this article, we examine how anticipated identities are encoded through Big D and little d discourse on each of these sites.

Discourses are inextricably linked to various social, historical and political contexts, and thus are implicated in relations of power (Gee, 1999). As such, the notion of Discourse is useful for understanding how the social languages (particular ways of using language within a Discourse) of these sites resonate with or oppose other social languages and are reflective of broader societal tensions (e.g. teen slang vs proper academic language). This methodological lens focuses attention on the ways that the anticipated identities created for children in these commercial spaces are tied to discourses, which in turn are tied to broader societal issues and contexts.

Through in-depth analysis and observation, we investigate these aspects of the sites in order to understand what sorts of messages are conveyed and what sorts of identities and literacies are promoted and made available to players in these worlds.
Barbie Girls and Xtractaurs

Barbie Girls is an online virtual world designed for girls of six years of age and up that was launched by Mattel in April 2007. The Barbie franchise, launched in 1959 and named after the designer Rugh Handler’s daughter Barbara, includes a vast array of dolls, toys, games, music and DVDs, to name just a few of the countless items associated with the brand. Membership opportunities for the site include a free subscription or a paid VIP account. A VIP membership allows players to have access to “exclusive” games, activities and spaces in the world and to purchase “exclusive” clothes. The world is set up much like a town, with a residential area, a mall, a recreation area, an outdoor park, a skating rink and a camping area. There is no overarching narrative or goal for this world. Instead, players play games and earn money, known as B Bucks, to purchase furniture for their apartment or clothing for their online characters.

Xtractaurs is an online site for boys aged six and up that was introduced by Mattel in 2009. Unlike Barbie Girls, there is no free subscription option. To access the site, members must purchase an Xtractaurs Starter Kit, which includes a plastic dinosaur, an extraction gun (for extracting and uploading dinosaur DNA to the site) and an installation CD. The Xtractaurs brand is limited to an assortment of plastic dinosaur figures containing a computerized DNA code that players can use to add characteristics to their “hybrid” dinosaur avatars on the site (e.g. a player may have a Pterosaur avatar on the site, but then can use the DNA from a purchased Tyrannosaur to add Tyrannosaur body parts to the Pterosaur). The overarching narrative for the game is that a new breed of dinosaur, the Megavoreă, is attacking human civilization, and it is up to the player-created Xtractaur dinosaurs to save the world. Members play a variety of games to earn “health boosts” and special abilities for use when battling the Megavores.

These sites were chosen for comparison because they are both associated with Mattel, they appear in comparable online formats, are specified for the same age group, and clearly target a particular gender. The target gender of the sites was determined by gender depictions in advertisements (e.g. commercials for Xtractaurs depict only boys playing the game), choices of avatar (e.g. stereotypically feminine vs masculine figures), and the language and images used on the site (e.g. the Barbie Girl introductory screen opens with “Hey, girl!” and depicts only females).
Analysis

Avatars as “identity kits”

One of the primary means of self-representation on both of these sites is the avatar, or the graphical representation that each player uses to navigate the world. Avatars are important because, much like the physical body, they offer visual markers of an individual’s “identity kit”, and these markers shape how players perceive and interact with each other. In adult virtual worlds such as Second Life, players have a great deal of control over their avatar’s appearance, including age, body style and even species. In many virtual worlds for children, however, choices are often more constrained, thereby limiting the identities that young players can take on and enact in these spaces. For example, upon joining the Barbie Girls site, the default avatar is a Barbie-like figure with long blond hair and blue eyes (Figure 1).

Players are then able to “Choose a Look” by selecting the colour and style for their Caucasian-only avatar’s skin, hair, eyes and lips. Of the 15 hairstyle choices, there are 12 long hairstyles (10 of which are below the waist) and three shorter hairstyles (just below the chin), but there are no options for very...
short hair or more conservative styles such as a bun at the nape of the neck or athletic styles such as a ponytail. All face, eye and mouth selections include thinly arched eyebrows and pre-applied makeup.

The next stages in creating an avatar are to “dress up” and “accessorize” the character. In terms of clothing, out of seven choices for tops, only two cover the midriff, and one of these is sleeveless. Of the five available bottoms, there is one pair of ripped jeans, two pairs of capri-length pants, one calf-length skirt and one miniskirt. All of the clothing choices, top to bottom, are form-fitting. Accessories include an array of dressy and dress-casual shoes, handbags, jewellery, eyewear and one stylish rather than functional hat. Players also have the option of shopping for additional clothes for their avatar in certain areas of the site, such as Shop-a-Mallics; however, out of 99 outfits in multiple stores, there were only four items related to professions, a veterinary mini-dress, a chef’s coat, a scarlet maid’s uniform and a nurse’s hat. These were all located in the Kooky Costumes shop, and there were no other props or in-world artefacts or activities related to these jobs, suggesting that these items were for dress-up rather than for any sociodramatic play involving these professions.

The process for creating an avatar in Xtractaurs differs considerably from that of Barbie Girls. In Xtractaurs (Figure 2), rather than a dressing room, players design their avatars in a scientific laboratory setting called the Hybrid Creator.

Figure 2. Avatar selection in Xtractaurs.
Players begin with a Tyrannosaur as their default avatar. Then, by extracting and adding bonus DNA from a different type of dinosaur to selected body parts, the player is able to create a hybrid dinosaur avatar with unique skills and abilities from the combined dinosaur species. Players are able to choose from five types of dinosaurs to create their hybrids: Tyrannosaurs, Raptors, Pterosaurs, Stegosaurs and Certatopsids. Each of these dinosaur types comes with special abilities (e.g. large front claws are better for certain kinds of attacks). Thus, the changes made to an avatar’s appearance impact on the player’s performance on the site. This can be contrasted with Barbie Girls where avatar changes are solely ornamental.

Players in Barbie Girls and Xtractaurs are positioned quite differently during the avatar creation process. In Barbie Girls, the process of creating an avatar is similar to getting ready in the morning (e.g. grooming and dressing). Thus, the player is positioned much like a child who is dressing a doll, or in terms of professions, as a person who works in the style or beauty industry. In Xtractaurs, creating an avatar is likened to a scientific procedure. Players are dubbed “Xtractologists” and are positioned as a scientist or laboratory technician who extracts DNA and makes choices about how to create more powerful life forms in order to save the world.

Language and discourse encode different anticipated identities for players in the avatar creation process. The anticipated identity for young women playing Barbie Girls is one that involves a highly sexualized appearance (form-fitting and revealing clothing) and does not emphasize professions outside of the beauty and style industry or include athletics. The “identity kit” available for the avatars also sends the message that physical appearance, particularly markers of feminine beauty that conform to traditional Western standards such as long hair, makeup and enhanced features, is most valued in this space. In contrast, the anticipated identity for young men playing Xtractaurs is that of someone who will work in the scientific or medical professions. The “identity kit” available for avatars suggest that it is physical strength and capability, rather than appearance, that are valued in this world.

**Games and social roles**

The games and activities of virtual worlds also play a significant role in shaping the experiences that users have in the space, as they often require players to take on particular roles (i.e. caring for a sick pet in Webkinz World vs stealing cars in Grand Theft Auto). In-world activities can also be a notable means of conveying information about social roles and societal values. For example,
in *Barbie Girls*, most games revolve around collecting items (e.g. flowers, jewels or animals) or serving others (e.g. housekeeping and department store employee) and are designed with stereotypically feminine colours and a well-manicured, urban aesthetic.

The game *Crazy Carpet Ride* from *Barbie Girls* (Figure 3) is a particularly striking example of how language and images are used to position female players in a subservient role. The game opens with the following message, “Uh oh! You just knocked over a magic lamp! There’s a cranky genie inside! He turned you into a genie, too! Find all his furniture so he’ll change you back to normal!”

Upon entering the game space, the player encounters the male genie, who tells her, “Pick up all my stuff and I’ll make you big again, maybe.” After travelling around the genie’s living space and successfully picking up his furniture, the player returns to the genie and is told, “Nice work but now I’m bored. Let’s see you take on some tigers.” While speaking to the player, the smiling genie pops grapes into his mouth, contributing to the harem aesthetic of the game. In addition, the genie’s words suggest that even though the

![Figure 3. Crazy Carpet Ride game from Barbie Girls.](image-url)
player has successfully completed the task set before her, she is at the mercy of the male genie’s whims and must “take on” some additional male figures to alleviate his boredom.

The focal game for Barbie Girls, *Dazzling Designs*, is a game in which players create their own “fashion biz”. In this game, players take on the role of business owners who design and then sell clothing in a boutique. Prior to designing, players are presented with a magazine cover depicting the “hot trends” in fashion and are encouraged to keep these trends in mind when designing their items. The creative process involves choosing colours and patterns and adding flair to existing items (e.g. adding a heart to a t-shirt and colouring it purple). After designing, players then must decide how much stock to order for the store and how to price each item. Thus, this game introduces players to elements of running a business, such as keeping track of stock and supply and demand. Interestingly, both the first and third authors noted that even when all “hot trend” suggestions were followed, NPC customers in the boutique would reject fashions and make derogatory comments about the designs, such as “This is so last season!” Moreover, much as in the business world, there was no clear sense of “winning” the game. Players who successfully sold their fashions and earned money then had the option of purchasing more supplies and using more sophisticated means of marketing their fashions.

In contrast, *Xtractaurs* games tend to involve destroying or avoiding obstacles and the prevailing aesthetic is that of the rugged, natural world (e.g. volcanoes and jungles). One game in *Xtractaurs* does involve helping others, but in the form of a rescuer who supplies food and medical supplies to groups of dinosaur allies during a military battle. The majority of games in *Xtractaurs* also had a clear progression through levels, and upon completing a level, players were provided with feedback either in the form of text (e.g. Level 1 Completed!) or visual and auditory cues (e.g. the earth shaking). This can be contrasted with the Barbie Girls games which seldom offer clear resolution or a sense of accomplishment.

The focal game in *Xtractaurs* is *Megavore Battles*, a game in which players must modify their hybrid dinosaur to battle the evil Megavores. The introductory screens convey that Megavores are taking over the world and it is up to the player to halt their progress. *Megavore Battles* provides a comprehensive tutorial that outlines the different ways in which players can defeat the Megavores. Throughout the battle, players receive detailed feedback about how much damage each attack method caused, thus enabling them to alter their avatar in order to launch more effective attacks. As in other *Xtractaurs* games, there is a
clear winner in each battle, and if a player is unsuccessful, s/he can choose to play at a lower level. No such option exists for many of the Barbie Girls games. Games in Xtractaurs had a clear progression through levels, and upon completing a level, players were provided with feedback either in the form of text (e.g. Level 1 completed!) or visual and auditory cues (e.g. the earth shaking).

A notable design difference between the games and activities in these two sites was the level of support, player control and sense of accomplishment that the sites provided. Upon comparing notes, the first and third authors both noted that they both had much greater difficulty playing the games in Barbie Girls and were unable to achieve any sort of resolution in many of the games even after hours of play. In addition, they both noted the negative feedback that featured prominently in the aforementioned Dazzling Designs and another game, Fashion Frenzy. To illustrate, in Fashion Frenzy, the player is acting as a salesperson and cashier in a mall. The opening screen states, “This place is crazy busy—everybody wants your help at the same time! Can you handle it?” Customers enter the space and need to be directed to the proper department and then assisted in paying for their purchases after they make their selections. When a non-player character (NPC) (an avatar that is not controlled by another player but is generated by the game) customer feels that she (all customers are female) has been waiting too long, she begins complaining, making comments such as “Helloooo, I’m waiting. Let me talk to the manager!” and exclaiming “Finally!” in an impatient voice after being helped. Even after repeated rounds of this game, both the first and third authors were unable to keep up with the demands of the customers and received a great deal of negative feedback during play.

The language and discourses of the site games and activities set up different experiences and convey different messages to players in these spaces. Language was used to support and laud player success in Xtractaurs (e.g. clear instructions, frequent and helpful feedback, and acknowledgement of achievement), essentially positioning players as powerful and successful. As a whole, games in Xtractaurs index a discourse that is clearly linked to traditional Western notions of masculinity (e.g. men are strong, men fight, men engage in strenuous physical activity, and men are providers) and offer little in the way of alternative masculinities. Whereas in Barbie Girls, success is difficult to achieve and language is at times used to belittle players. As a whole, the games and activities in Barbie Girls index a discourse of traditional Western femininity (e.g. women are ornamental, women are nurturers, women are subservient, and women are not athletes or professionals).
Discourses of community texts

The Barbie Girls and Xtractaurs websites both have texts that are positioned within the news genre, Buzz & Goss (short for gossip) and Community News & Updates, respectively. In order to gain a sense of the sort of anticipated identities that were being encoded in these texts, we compared the written content in its entirety, focusing on the vocabulary, grade level and discourses of these materials. The Buzz & Goss text sample consisted of member polls, updates and news items. The Community News & Updates sample consists entirely of news items. To create more parity between the samples, the poll responses were removed (as they were not complete sentences) from the Buzz & Goss sample. The table below illustrates the results of our comparison.

The differences between these two text samples are striking, particularly in the indicators of lexical density, 5.7 words per sentence for Barbie Girls versus 14.61 for Xtractaurs, and grade level, 1.67 and 9.63, respectively. In short, although both sites target the same age group, the anticipated identity for a Barbie Girls player reads at below a second grade level and for Xtractaurs at above ninth. While quantitative measures of readability such as these provide only a partial view of the complexity of a text, qualitative assessments of the language used in these samples (e.g. nominalizations, dependent and embedded clauses, and active/passive voice) supported the findings of the quantitative measures.

The two text samples also were analyzed in terms of academic word content (Table 1) and misspellings (Table 2). These analyses were performed to delve into the kinds of literate audiences the two virtual worlds both assumed and created with their linguistic features. To analyze the academic vocabulary content, words on the Academic Word List (AWL, a list of words that appear with high frequency in English-language academic texts) from each sample were identified. To analyze misspellings, Microsoft Word spell check

Table 1. Academic Word Content.

<table>
<thead>
<tr>
<th></th>
<th>Barbie Girls</th>
<th>Xtractaurs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of words</td>
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</tr>
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</tr>
<tr>
<td>Flesch-Kincaid grade level</td>
<td>1.67</td>
<td>9.63</td>
</tr>
</tbody>
</table>
Instances of incorrect spellings and academic word usage were used as linguistic proxies to survey the imagined audiences of each site.

The Xtractaurus site yielded a much higher proportion of AWL vocabulary to misspelled vocabulary. The AWL vocabulary included general terms such as released, previously and community, as well as more specialized terms such as theories, evidence and phenomena. Moreover, of the misspelled terms identified in the Xtractaurus sample, three were trademark words and two were proper nouns (Velociraptor; Saronic Gulf). In the Barbie Girls sample, the misspellings consisted primarily of abbreviated (e.g. fave for favorite) and contracted (e.g. whatcha for what do you) words. Taken together, these three analyses suggest that the Barbie Girls site has an anticipated audience that reads at a lower grade level and engages with less academic and more colloquial vocabulary.

The inverse relationship between the results in the previous analyses is aligned with the prevalent discourses and generic structure of the content found in these community texts. To illustrate, in a separate analysis, each of these samples was segmented into individual lines or “idea units” (Gee, 1999), with each line representing a separate unit of meaning. These lines were then coded in terms of the types of discourse and/or discourses that they represented. For example, the following is a segmented excerpt from the Buzz & Goss text.

Line 6 & then hit the V-Day par-tay in B Café
Line 7 (if you’re V.I.P.)!Line 1 Hey everybody!
Line 2 Show your V-Day LOVE!
Line 3 Wear your heart on your sleeve—
Line 4 and shirt and socks and boots, LOL.
Line 5 Do a red-’n-pink, sweet-’n-chic makeover

Line 4 was coded as representative of a teen discourse due to the emotive marker at the end of the line, the acronym for “laugh out loud”. The line was also coded as representative of a discourse of consumption, because the
reference to wearing a heart on these additional clothing items is an implicit encouragement for players to purchase in-game items bearing hearts. The language in Line 6 was also coded in the teen category, and the reference to a VIP membership in Line 7 was coded in the category of consumption. Out of 50 lines, the most prevalent discourses coded in the Barbie Girls sample were teen (40%), fashion (11%) and consumption (9%).

In contrast, the Community News & Updates excerpt from Xtractaurs reflects a markedly different set of discourses that are reflected in the following excerpt.

Line 1 POROS, GREECE—Scientists reported yesterday that traces of 3 exotic dinosaurs have been discovered in the Saronic Gulf off the coast of Greece.

Line 2 “These were not simply fossils,” said a local Paleontologist.

Line 1 was coded with a Discourse of journalism, as it emulates the “this just in” format of a news update. Line 2 was coded as scientific discourse due to the lexical content (fossils, Paleontologist). The second line was also coded as a Discourse of adventure, as it sets the stage for players to begin defending the world against live rather than fossilized dinosaurs. Of the 22 coded lines, 100% were coded as journalistic discourse, 68% were coded as adventure, and 45% were coded as a Discourse of science. Discourses invoked in this virtual world were thus easily linked to academic and professional discourses.

Discussion

Emily Coyle, a senior Psychology major at Washington and Lee University in Virginia, designed an experiment (Washington and Lee University, 2010) to explore whether or not Barbie Dolls have an influence on what young girls believe they can or cannot do in their future careers. To do this, she had 26 young girls, with an average age of 4.5 years, answer questions about their career goals. She included questions about jobs that are typically associated with males (e.g. police officers and firefighters) and females (e.g. teachers and beauticians) and asked the girls if they thought only men could do the stereotypically masculine jobs and if females could only do the stereotypically feminine jobs. A majority of these young girls indicated that they thought they were not able to do the stereotypically masculine jobs. Next, she dressed Barbie dolls in outfits associated with these masculine jobs, and while the young girls watched the Barbie receiving these new outfits, there was no explicit discussion of the careers. Then, the researchers again asked the
young girls if they thought they could do these stereotypically masculine jobs and a majority of girls’ responses changed to indicate that they now thought they could in fact do these jobs when they grew up.

This simple study makes a powerful point about the impact of popular culture and children’s play on children’s beliefs about what possibilities are open to them in the world. The dolls in the aforementioned study were static, material artefacts that could ostensibly be reconceptualized and integrated into any number of narratives of play; nonetheless, the mere presence of professional dress was enough structure to shape the way that these young children talked about the social roles that were available, presumably both for the gendered dolls and for themselves. By comparison, the literacy objects instantiated by the Barbie Girls and Xtractaurs virtual worlds are dynamic, interactive, artefacts that mobilize certain discourses, emphasize certain literacies and provide and valorize particular funds of knowledge.

Access to particular sets of literacies comes coupled with constellations of power. Thus, we suggest that these in-game experiences, mediated through the multimodal texts of the site, may also have an impact on the social roles and life possibilities that young users envision for themselves in offline spaces as well. Barbie Girls, with its emphases on girl talk, teen discourse and “texting” literacies, presupposes one kind of subject, while Xtractaurs, mobilizing quasiscientific and journalistic literacies, focuses on another kind of subject. These two worlds offer differential semiotic and literate experiences for their users. In turn, these kinds of experiences mediate the kinds of discourses users are exposed to, the configurations of identity that can easily take place, and the kinds of agentic stances that players are encouraged to take.

While this analysis of content suggests that there is cause for concern about the messages encoded in these types of literacy objects for young children, it is also important to conduct in-depth studies focused on children’s engagement with popular media, as there are no “ideal” readers of texts (Iser, 1980) or interpreters of literacy objects. Authors and website designers alike may encode particular configurations of identity into their texts, but it is readers who “perform” acts of meaning making as they decode and bring their own perspectives to bear on interpreting a literacy object (Iser, 1980). Gee (2005), when discussing players’ engagement with video games and virtual worlds, describes these acts of meaning making as a “projective stance”. Gee posits a balance between players “inhabit[ing] the goals of a virtual character in a virtual world” and the ways in which “a virtual character instantiates the goals of a real-world player” (Gee, 2005: 212). Much as a reader’s enjoyment begins when s/he actively engages with and makes meaning from a text, a player’s
enjoyment comes from recognizing the affordances of virtual artefacts and then bringing his/her values, goals, beliefs and desires (essentially, his/her identity) to bear on interacting with these artefacts in the virtual world.

A crucial step in the process of taking a projective stance is being able to decode the artefacts and literacy objects of a given virtual space. Therefore, children require increasingly sophisticated literacy skills to navigate the multimodal media artefacts that are omnipresent in contemporary childhood contexts. Education and literacy researchers (e.g. Alvermann and Hagood, 2000; Buckingham, 2003; Giroux, 1994; Luke, 1997; Vasquez and Felderman, 2012) have emphasized the importance of supporting children of all ages in the development of critical media literacy skills. In recent decades, this critical disposition toward media text has expanded to include the ability not only to evaluate media messages but also to design or repurpose media content in order to better express the ideas, interpretations and meanings that audiences bring to their engagement with online content (see Merchant, 2011; Burnett and Merchant, 2011 for a more detailed discussion of this shift). Thus, as Carrington points out, it is not enough to simply be able to decode these multimodal texts in order to participate in virtual worlds, as “[b]eing ‘literate’ is also about having the skills and knowledge with which to participate in and transform one’s social and cultural context” (Carrington, 2003: 84).

The need for such critical digital media literacy skills is highlighted in analyses such as those presented in this article, as many virtual products for young children invite them to take on identities that conform to traditional gender roles. This is particularly salient in virtual spaces for young women that overwhelmingly focus on traditionally patriarchal and highly sexualized notions of disempowered females. Moreover, the forms of literacy promoted via these products are what Carrington and Hodgetts (2010) in their own exploration of Barbie Girls describe as literacy-lite: “a literacy that is static and controlled; a literacy that takes place online but does not reflect any of the powerful identity and community practices with texts made possible via Web 2.0” (681). This “lite” form of literacy for young girls is clearly reflected in our analysis of the Barbie Girls site, but it is also worth noting that this is not always a gender-specific issue. In our larger study, we have found that the prevalent literacy of the most popular gender-neutral virtual worlds is also static and controlled. The chat systems are highly constrained and offer limited opportunities for young users to communicate authentically online (Reich and Black, 2012). Site activities and artefacts are highly scripted and provide few circumstances in which children can innovate and creatively
shape the play narratives of the space (Black and Reich, 2011). Even the literate environments are largely focused on receptive forms of literacy, with limited chances for children to develop expressive language skills (Black, 2010).

**Conclusion**

While both the Barbie Girls and Xtractaurs sites have recently been taken down, the analyses in this article speak to a broader issue on children’s digital media, that of children’s virtual play spaces reflecting the market concerns (Marsh, 2010), values and ideological stances, and assumptions about childhood held by the adults who design and populate them with content. As Marsh (2010) points out, there is clear value in understanding the complexities of how children exercise agency and take projective stances as they navigate commercial spaces; however, it is also instructive to have a robust understanding of the ways in which such spaces may position their young audiences as certain types of consumers, people and literacy users. Through such understanding, literacy researchers and educators can help young children develop strategies, not only for reading and navigating these multimodal texts, but also for critically engaging with such texts in ways that foster agentic stances in relation to the ways in which young people are positioned within virtual spaces.

In their discussion of criticality in the age of social media, Burnett and Merchant (2011) explore how, with the advent of new forms of social media that blur the distinction between producers and consumers of media content, traditionally critical perspectives on media focused on the analysis of content and artefacts run the risk of overlooking the complexities of media users’ engagement with media content. The authors make important and salient points about the productive power afforded to users via social media and participatory culture. However, it is worth noting that this freedom of expression and productive agency is often reserved for older audiences, such as adolescents and adults. While websites differ in the opportunities they offer for self-expression, most virtual worlds for young children severely constrain the opportunities for customization and production of content. This limits children’s abilities to perform their own acts of meaning making and to transform the social and cultural contexts of these online spaces. Therefore, exploring these limitations also may provide a basis for communicating with companies such as Mattel about options for designing children’s play spaces in ways that allow for greater freedom of expression, more sophisticated forms
of literate engagement, and less constrained options for self-representation. Combined, such approaches might take a step toward encouraging children, rather than corporations, to “shape the future of play.”

Acknowledgement

The first author would like to thank the National Academy of Education/Spencer Foundation Postdoctoral Fellowship Program for their generous support of this work.

References


