Beyond gamification: reconceptualizing game-based learning in early childhood environments

Jason Nolan & Melanie McBride

To cite this article: Jason Nolan & Melanie McBride (2014) Beyond gamification: reconceptualizing game-based learning in early childhood environments, Information, Communication & Society, 17:5, 594-608, DOI: 10.1080/1369118X.2013.808365

To link to this article: http://dx.doi.org/10.1080/1369118X.2013.808365
Beyond gamification: reconceptualizing game-based learning in early childhood environments

Jason Nolan* and Melanie McBride

Early Childhood Studies, Ryerson University, 350 Victoria Street, Toronto, Ontario, Canada M5B 2K3; Communication and Culture, York University, Toronto, Ontario, Canada

(Received 7 December 2012; final version received 7 April 2013)

The recent promotion and adoption of digital game-based learning (DGBL) in K-12 education presents compelling opportunities as well as challenges for early childhood educators who seek to critically, equitably and holistically support the learning and play of today’s so-called digital natives. However, with most DGBL initiatives focused on the increasingly standardized ‘accountability’ models found in K-12 educational institutions, the authors ask whose priorities, identities and notions of play this model reinforces or neglects. Drawing on the literatures of early childhood studies, game-based learning, and game studies, they seek to illuminate the informal contexts of play within the ‘hidden’ and ‘null’ curricula of DGBL that do not fit within the efficiency models of mainstream education in North America. In the absence of a common critical or theoretical foundation for DGBL, they propose a conceptual framework that challenges what they regard to be the institutionally nullified dimensions of autonomy, play, affinity and space that are essential to DGBL. They contend that these dimensions are ideally situated within the inclusive and play-based curriculum early childhood learning environments, and that the early years constitute a critically significant, yet overlooked, location for more holistic and inclusive thinking on DGBL.

Keywords: DGBL; digital game-based learning; early childhood education; videogames; situated learning; hidden and null curriculum; critical pedagogy

Introduction

Children aged 3–10 represent the largest demographic of the virtual worlds and online games (Kzero, 2011) they themselves choose to engage with and identify as significant to them (de Castell & Jenson, 2004). The recognition that digital games are a critically important dimension of younger children’s lives at home and in early years locations presents challenges as well as opportunities for early childhood education. Though there is a growing body of work on the use of technology in the early years, much of the research has focused on multimedia tools and popular culture as pathways to multimodal literacies with relatively little focus on digital games (Marsh, 2010; Marsh, Brooks, Hughes, Ritchie, & Roberts, 2005; Plowman, McPake, & Stephen, 2008; Plowman, Stephen, & McPake, 2010; Wolfe & Flewitt, 2010; Yelland, 2010).

*Corresponding author. Email: jnolan@ryerson.ca

© 2013 The Author(s). Published by Taylor & Francis. This is an Open Access article distributed under the terms of the Creative Commons Attribution-Non-Commercial License (http://creativecommons.org/licenses/by-nc/3.0/), which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited. The moral rights of the named author(s) have been asserted.
Though funding and access to resources are often cited as the primary barrier to technology adoption and integration in early learning contexts, the role of negative dispositions towards technology and digital games has not been fully considered as a contributing factor in the relatively slow pace of technology adoption in early childhood education. These negative dispositions towards technology may also reflect more than a century of dominant values informed by the naturalist and romantic beliefs about children, childhood and children’s learning. For example, in their study of technology integration in a UK preschool, Wolf and Flewitt (2010) report that practitioners believed children’s lives were made ‘toxic’ by technology use, and that these practitioners only rarely encouraged or supported the use of computers or other technologies for learning.

Though many parents and practitioners alike still regard digital games to be less developmentally, socially and culturally beneficial to children than outdoor play (Agger & Shelton, 2007; Frost, 2010), a growing number of early childhood scholars (Marsh, 2010; Wohlwend, 2009; Yelland, 2010; Zevenbergen, 2007) are advocating the inclusion of digital technology and culture in early childhood education. In addition to reinforcing the value of these technologies in the development of multi-modal and emergent literacies, these scholars suggest that early childhood learning environments can play a vital role in bridging the digital divide across socio-economic and cultural barriers to access (Zevenbergen, 2007). However, institutional preoccupations with data and accountability are primarily focused on operational, skills-based technology use rather than its meaning-making potential and role in the development of multi-modal literacies (Wolf & Flewitt, 2010).

In the absence of a critical pedagogy for digital game-based learning (DGBL), educators unfamiliar with games or gaming culture are faced with confusing and conflicting agendas which they are ill-equipped to interrogate. Miller, Robertson, Hudson, and Shimi (2012) have pointed out that most of the conceptualization and implementation of DGBL have focused primarily on the upper-years, far removed from the sociocultural literacies and experiences of children’s ‘at home’ technology use (Plowman et al., 2010). As de Castell and Jenson (2003a) contend, the true pedagogical and ludic spirit of learning with games ‘resides in the engagement itself and not in its extrinsically defined “learning outcomes”’ (p. 52). Given the formative role of play in children’s learning and development, we ask how any vision of game-based learning can be so far removed from the conditions and states of being that inspire players to engage in the ‘lusory attitude’ of game-play (Suits, 2005).

Drawing on the critical pedagogical theories of the ‘hidden curriculum’ (Jackson, 1968/1990) and ‘null curriculum’ (Eisner, 1985), we seek to identify whose priorities, identities or cultures are promoted or neglected in the current conceptualizations of DGBL and how they may be reconnected with the meaning, pleasure and engagement they hold for children in their out-of-school lives. We make use of Eisner’s null curriculum, in particular, as a conceptual heuristic through which to illuminate dimensions of informal learning and play with digital games that are often inconvenient for mainstream K-12 education. Focusing attention on these inconvenient dimensions is important, because, as de Castell and Jenson (2003b) suggest, ‘the ways in which tools are shaped and organized are often decontextualized, either hidden or abstracted from their particular sociocultural location’ (p. 652). We propose that a critical inquiry into the institutionally nullified dimensions of autonomy, play, affinity and space may form the basis for developing a framework from which to reconceptualize a more inclusive and meaningful vision of DGBL and play. From this standpoint, we situate the early years as the ideal location in which the nullified dimensions of DGBL can be understood.
Background: game-based learning beyond the ‘digital native’

Currently among the most profitable sectors of cultural production, digital games have also captured the attention of institutions that wish to harness the engagement and motivational qualities of games for a variety of non-gaming purposes from consumer loyalty to advocacy and education (McGonigal, 2011). Among the most popular expressions of this paradigm is the trend of ‘gamiﬁcation’, which emerged in 2008 as a behavioural marketing strategy that makes use of surface-level game features such as badges, achievements or rewards as an ‘incentive’ for consumer loyalty (Bogost, 2011). In industry parlance, the addition of these features to non-gaming appliances or services is referred to as a ‘game layer’ – such as points systems or rewards (Deterding, 2011).

Within educational domains, another variant of the non-gaming use of games is DGBL. Proponents of DGBL such as Prensky (2007) claim that digital games can promote collaboration, problem-solving, and communication, experimentation and the exploration of identities (Gee, 2007; Gee & Hayes, 2009; Prensky, 2012), which are resonant with the use of other technologies in the early years: ‘extending knowledge of the world, acquiring operational skills, and developing dispositions to learn’ (Plowman et al., 2010, p. 93). At issue is the problem that proponents of DGBL often make causal links between between their claims and learning theories drawn from behaviourism, constructivism, narrative and cognitive psychology, and various other educational theories (Van Eck, 2006) leading to assumptions regarding observations that are better characterized as coincidences.

Among the most contentious arguments made by DGBL proponents is the reliance on the ‘digital natives’ argument (Bennett, Maton, & Kervin, 2008), which has rhetorically constructed a ‘new’ generation of learners who are supposed to be ‘ﬂuent’ in digital technologies (Prensky, 2007, 2012; Tapscott, 1999). The most established proponents of DGBL (Gee, 2007; Gee & Hayes, 2009; Prensky, 2007) argue that there is some inherent, though unsubstantiated, interest and identiﬁcation with digital games that appeals to the digital native learner regardless the social, cultural, and environmental contexts. However, as de Castell and Jenson (2003a) point out:

> technology’s principal use in curriculum development has had little to do with transformation and far more to do with its principal appeal to educational administrators: its unprecedented capabilities for surveillance, control, and documentation – all basically forms of record-keeping – and so of ‘educational accountability’. (p. 48)

It comes as no surprise that many models of DGBL more closely resemble the extrinsic, reward-driven structures of gamiﬁcation in exchange for a pedagogical capital divorced from intrinsic meaning or motivation. By pedagogical capital, we mean the acquisition of outcomes, practices and dispositions valued and rewarded within formal education rather than those of the player. For many teachers, the idea of adding, what is referred to as a ‘game layer’ to existing curriculum seems a logical, if not desirable, goal. As with gamiﬁcation, there is a question of whether these school-approved games will actually engage children meaningfully in curricula and activities that hold no intrinsic value.

We suggest that autonomy, in the form of learner-initiated choices, is a core dimension of informal game-based learning. Furthermore, we argue that the highly ‘incidental’ learning that occurs as a result of these autonomous choices reﬂects a lived experience of digital gaming culture that is often counter-institutional. Ignoring the importance of autonomy, many models, particularly those emerging in American and Canadian K-12 education are more gamiﬁed than gameful.

The gamiﬁed vision of DGBL that ﬁts best with standardized curriculum is one of competition, achievement and reward structures that reﬂects what Jackson (1968/1990), and many
since, have referred to as a ‘hidden curriculum’ of values and norms in keeping with existing power relations and institutional structures. Within the resistance pedagogy of Freire (2004), hooks (1994) and others, the hidden curriculum refers to the hegemonic values and social relations that underlie traditional education (Flinders, Noddings, & Thornton, 1986) that are unexamined in relation to current educational technology trends. In the context of DGBL, the hidden curriculum pertains not only to the operationalization of games for schooling, but the use of games and game-based structures that serve to reinforce and emphasize the competitive and hierarchical values of institutional education. As Miller et al. (2012) note, the freedom, cooperation and open-endedness of early years learning and play are put aside in favour of competition and a reduced set of options for engagement in K-12 education. We contend that the authentic motivation for game-play is not simply an affordance of engaging game features, but resides within the player’s lived and embodied sociocultural identity and her own situated contexts for playing a game.

Unlike traditional institutional schooling, the everyday learning and play that occur with games is organized and directed by the child rather than a teacher (Jonassen & Strobel, 2006; Meyer, 2002; Silvia, 2008; Stevens, Satwicz, & McCarthy, 2008). While proponents of DGBL such as Gee and Hayes (2009) and Prensky (2007) characterize game-based learning as ‘situated’ within videogame communities and cultures, their use of the term most often refers to the ‘semiotic domains’ of the symbolic culture of the game as a text (i.e. affinity for the game and culture of World of Warcraft) rather than the lived and sociocultural life-world of the player. For example, a child who plays a game because it is meaningful to a friend with whom they want to spend more time is not playing the game because of a specific investment in the semiotic domain of that game but their feelings and interest in their friend. Given the more ‘parallel’ play styles of today’s videogame players, it is easy to presume that their interest resides in the game and not with the friend whose co-location in room or online may otherwise appear secondary.

An awareness of the need to give children a voice in their learning choices, and a recognition that there are many children’s voices to listen to, are on the rise, in part due to the influence of the Reggio Emilia approach (Edwards, Gandini, & Forman, 1998; Gandini, 2008). Over the past decade, post-foundationalist and reconceptualist movements in early childhood education, particularly in Australia, New Zealand and Canada, have interrogated the grand narratives of developmental and behaviourist traditions in early childhood education according to critical intersectionalities of race, class, gender and sexuality (Canella, 1997; Dahlberg, Moss, & Pence, 2006; Grieshaber & Cannella, 2001; Pacini-Ketchibaw & Pence, 2005). Similarly to the Reggio Emilia approach, reconceptualist and post-foundationalist scholars have largely neglected technology or digital culture as an important site of struggle for more emergent questions of theory and praxis, just as, by and large, most thinking on games for learning misses the opportunity to explore cultural contexts (de Castell & Jenson, 2003b) as well as the socio-spatial dimensions of the player’s space (de Kort & Isselsteijn, 2008). And there is room for movement in both directions.

Reconceptualizing DGBL through a more holistic and critical lens must also critically interrogate the essentialism of digital native narratives in order to address the learning and play needs and interests of children who do not enjoy or respond to the extrinsic, procedural logic of games or those who do not regard games as play. For as problematic as it may be for educators to undervalue or neglect digital games, it is equally as irresponsible to promote the idea that today’s children, by virtue of their immersion and access to digital culture, love and are engaged by, digital games. This presents educators with the apparent double-bind of two conflicting agendas for DGBL: On the one hand, proponents of DGBL, who may never have had direct or lived experiences of classroom teaching, are advocating on behalf of the learning and literacy offered by games without having to take into account the real and varied challenges faced by today’s
diverse learners. Conversely, classroom practitioners who do the daily work of addressing these issues have scant opportunities to engage in the personal and professional learning required for developing the expertise necessary for incorporating DGBL into their professional practice, even if they have an intrinsic personal interest in digital gaming. We are left with a situation where both sides expect the other to have the expertise and experience to provide the solutions necessary to make DGBL work in the classroom, not realizing that they have, in effect, nullified or excluded the very dimensions required for potentially successful implementations of DGBL.

Dimensions framework: autonomy, play, affinity and space

Our proposed framework identifies four key dimensions of informal learning with digital games that appear to be most inconvenient or incompatible with the formal and increasingly standardized curriculum models of K-12. The first and arguably most important of these dimensions is ‘autonomy’, which is the basis for anything we might call truly ‘self-directed’ play. The second of these dimensions is ‘play’, which, for our purposes, describes an open-ended, autonomous and intrinsically motivated activity that is not easily instrumentalized within performance-oriented goals. In the context of informal gaming, as opposed to organized institutional activities such as sport, play is voluntary, chosen freely, and chosen because it brings joy or pleasure (Schwartzman, 1978). The third dimension is ‘affinity’, which reflects the role of interest in particular objects, processes, experiences, and locations that draw or attract us beyond extrinsically defined values of what we should like or wish to engage. The final and fourth dimension is ‘space’, which is the environment or ecological location in which informal game-play occurs. In the context of autonomy, play and affinity, we are considering the significance of the space of game-play as a factor that is particularly inconvenient in relation to relocalizing the more socioculturally situated aspects of game-play within the school. The following sections serve to illuminate the interrelationship of our framework of autonomy, play, affinity and space as a means of reconceptualizing DGBL from the living room to the classroom.

Dimensions of autonomy

Autonomy is essential to young children’s socio-emotional development, critical thinking and decision-making (boyd & Jenkins, 2006; Helwig, 2006; Kamii, 1991; Marx & Steeves, 2010; Nolan, Raynes-Goldie, & McBride, 2011). As an open-ended, child-initiated activity with unknowable outcomes, children’s at-home digital game-play provides many opportunities for autonomous learning through explorations that promote cycles of theory-building, testing, and reflection, in ever increasing levels of complexity. These explorations are rarely repetitive and static, but rather unfoldings and bifurcations predicated on their own goals and interests at the moment, at least when unmediated by adult interventions. A child’s motivation to play a game, her choice of game, selection of playmates and the location, time and duration of her play are all mediated by the possibility and degree of autonomy. Though younger children’s digital activities are subject to a higher degree of restrictive mediation, surveillance, and adult intervention (Nolan & McBride, submitted; Nolan et al., 2011), children’s access, explorations and engagement with technologies in the home is more meaningfully situated than the often inauthentic and limited range of technological activity that takes place in the classroom. While there are legitimate legal and ethical reasons why younger children’s activities are more limited in early learning environments, children’s development of critical literacies (Macnaughton, 2005; Vasquez, 2004) is contingent on a reasonable provision of autonomy in relation to their inquiry and exploration of selected texts, which includes their play with digital games.
Some aspects of children’s play with games may be relocalized in early learning environments insofar as children have similar opportunities for autonomous engagement. Jenkins (2006) articulates the problem of heteronomous, rather than autonomous, limits in relation to the relocalization of children’s informal literacies within the predetermined hierarchies classroom space: ‘Schools impose a fixed leadership hierarchy … . Even the most progressive schools set limits on what students can write compared to the freedom they enjoy on their own’ and children are actually ‘deskilled’ when they then attempt to relocate their own literacies within the classroom (p. 193). Similarly, the spirit of inquiry that guides children’s everyday play with digital games resides in the ‘player, not the teacher or program, having autonomy over the interaction (the degree, kind, with whom, etc.)’ (de Castell & Jenson, 2003a, p. 50). The contradiction between what children are able to do and learn on their own, versus what is prescribed in learning institutions, is at issue when institutions seek to appropriate play and game-play as instruments for the achievement of institutional goals or aims, while nullifying autonomous play.

The meaningful, playful and autonomous exploration of limits and self-regulation through DGBL would require an equally engaged and open-ended pedagogical orientation. As we are suggesting (Nolan & McBride, submitted) in the context of game-based play, teachers and parents can develop more authentic and negotiated rules through a mediation strategy that involves more parallel and co-play than restrictive or heteronomic approaches, which are more common among parents with negative dispositions towards videogames and among non-gaming parents of younger children. Studies of parental mediation have shown that parents with a negative disposition towards the child’s chosen cultural object are more likely to engage in restrictive, rather than collaborative, mediation practices (Nathanson, 2002; Nikken & Jansz, 2006; Oosting, IJsselsteijn, & de Kort, 2008). By extension, the challenge for non-gaming teachers in relation to their approach to children’s digital gaming cultures is to develop experience in helping children explore their own goals and interests in relation to digital game-play, to avoid imposing a ‘learning layer’ and to look for emergent learning situated in the child’s intrinsic interests and motivations.

From their socio-anthropological study Children’s Games in Streets and Playgrounds, Opie and Opie (1984) report that children’s informal play, unlike the play that is directed or supervised by adults or external structures, arises in the child (the one who is playing) and is mediated by the child’s immediate context and her own needs, goals and curiosity. An outcome of child-initiated play is the child’s own creation of rules that guide further play, sometimes resulting in the codification of these rules. When children are playing, they need freedom to not only choose the form that the play will take, but to choose everything about it, with minimal interference from others; this extends to the tools and technologies they use in their play as well: ‘Play is unrestricted, games have rules’ (Opie & Opie, 1984, p. 3).

Suits (2005) refers to the player’s adoption of the rule-set of a game as a lusory attitude. When children participate in the creation of their own rule-sets through play, they engage in a metacognitive and autonomous inquiry into the nature of good or bad rules. Games encourage children to examine rule-sets in ways that schools cannot. However, teachers can use games, if they choose to permit these explorations, to support the child’s autonomy in relation to the support and provision of the conditions that contribute to the child’s experience of choice.

Miller et al. (2012), in their study of the off-the-shelf game Nintendogs among 5–7-year-old Scottish school children, found that successful learning outcomes were linked to the level of children’s autonomy when they were playing. The importance of using games that were ‘familiar’ and ‘from home’ resulted in greater general motivation on learning tasks, group processing and peer interaction. Though they make no claims to generalizability of their findings, this example reinforces the importance of the role of choice, autonomy and ‘familiarity’ in younger children’s
game-play, which is otherwise nullified by more top-down and prescriptive approaches to digital content selection, implementation and pedagogy.

**Dimensions of play**

Along with autonomy, play is among the most ambiguous and nullified dimensions of DGBL. Play is both a central priority in early childhood education and the site of struggle between conflicting beliefs about the nature, value and purpose of DGBL. Despite much discipline-driven debate about the meaning of play, there is some general agreement about its core characteristics. In her comprehensive overview of the anthropology of play, *Transformations*, Schwartzman (1978) identifies several ‘assumed’ features of play:

> Play is first of all assumed to be pleasurable and enjoyable, to be characterized by freedom and spontaneity, and to elicit active (as opposed to passive) engagement by players. Second, it is generally assumed that play is unproductive and without ‘real’ consequence in life – its motivations are said to be intrinsic as opposed to extrinsic. (p. 327)

Schwartzman’s definition, like many others, emphasizes the non-purposive (i.e. ‘unproductive’) aspects of pleasure and freedom of play that sets it apart from other kinds of activities. This emphasis on play as a voluntary and freely chosen activity is important in the context of education, particularly in relation to the needs of marginalized children and children with disabilities. Goodley and Runswick-Cole (2010) extend this emphasis on freedom in a definition that reflects new sociology of childhood and critical disability perspectives:

> play [is] freely chosen, personally directed and intrinsically motivated. Freely chosen play means that children choose when and what play they undertake, play is not part of a curriculum or a programme and does not have steps that need to be completed. When play is personally directed, it is children themselves who agree the roles or rules of the activity, as well as the outcomes, if any. (p. 506)

In *The ambiguity of play*, Sutton-Smith (1997) catalogues hundreds of ‘rhetorics’ of play that he breaks down into seven categories or overarching rhetorics, including: power, fate, identity, frivolity, self, progress, and the imaginary, each of which ‘can be examined as a representation of the way people value some kind of play’ (p. 204). For Sutton-Smith, *play as progress* is applied to ideas of a child’s growth, development and adaptation through play, whereas *play as fate* is associated with games of chance such as gambling, and is situated in adults. *Play as power* describes sports, athletic activities and competition, while *play as identity* relates to community, festival and belonging to, and promoting, a shared social sense of self. His notion of *play as the imaginary* is where he locates creativity and innovation, along with flexibility and even irrationality, and the rhetoric of the *self* contains solitary and private interests, hobbies and pursuits that require sustained attention. The final rhetoric of *play as frivolous* highlights the importance of the traditional fool or trickster who is a playful critic of the existing dominant social power structures.

Sutton-Smith suggests that the rhetorics of play as ‘progress’ or ‘growth’, promoted within developmental psychology and education, are among the most hegemonic means of inscribing the irrational aspects of play with ‘rational’ attributes. However, the developmental basis of these play rhetorics promoted in the National Association for the Education of Young People’s *Developmentally appropriate practice in early childhood programs serving children from birth through age 8* (Chung & Walsh, 2000; National Association for the Education of Young People, 2009) are now widely contested by more recent reconceptualist and post-foundationalist movements in early childhood education, which critique Developmentally Appropriate Practice for lacking inclusivity or cultural ‘intersubjectivity’ (Jordan, 2003; Langford, 2010;
Lewin-Benham, 2008; Pacini-Ketchabaw & Pence, 2005). These critiques, which are gaining acceptance primarily among new sociology of childhood movements also challenge the universality of developmental stages as naturally occurring, *a priori* events (Goodley & Runswick-Cole, 2010).

Considering the seven rhetorics of play – *progress, fate, power, identity, imaginary, self* and *frivolity* – in the context of the three curriculum forms – *explicit, hidden and null* – provides a heuristic for understanding the differences between the rhetorics of play valued by institutions, and the rhetorics of play nullified by those institutions that survive in the player’s out-of-school world. Eisner describes three locations for different learning opportunities that not only demarcate what can or cannot be undertaken in a schooling environment but also point to the varying levels of awareness of what is actually taking place. As mentioned above, the explicit curriculum is acknowledged in the teacher’s curriculum, learning materials, textbooks, and institutional policy, while the hidden is present in the unwritten social practices of the school or learning environment, and the null can be ascertained by reflecting on what is missing, left out or occluded under the influence of the explicit and hidden curricula (Flinders et al., 1986). The play rhetorics (*progress, fate, power, identity, imaginary, self* and *frivolity*) can be tabled along with the three forms of curriculum (*explicit, hidden and null*) to reveal the clusters of the rhetorics of play that find a place in the explicit, hidden and null curricula of schools.

<table>
<thead>
<tr>
<th></th>
<th>Explicit</th>
<th>Hidden</th>
<th>Null</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Power</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Identity</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Imaginary</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Self</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Frivolity</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Fate</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

The play rhetorics of power and progress fall under the purview of the explicit and hidden curricula, which are arguably most compatible with the hegemonic structures of competition, winning and achievement that are present in most education, sports and commercial game environments. The play rhetorics of imaginary, self, frivolity and fate are relegated to the null curriculum, to be excluded as much as possible in most education sports and commercial game environments. Though the explicit and hidden curricula are not always seen as working in tandem, the triumvirate rhetorics of progress, power and identity are inscribed across both locations. In Sutton-Smith’s conceptualization of the rhetorics, progress, power and identity are played out wherever the curriculum engages issues of adaptation, growth, socialization, status and success, community and cooperation. Conversely, play rhetorics of the imaginary, self, frivolity and fate constitute the null dimension of play because they are less purposive, and more difficult to operationalize.

The above chart shows what is excluded *from* formal learning environments, and promoted *in* formal learning environments, as well as what is visible and what is hidden in formal learning environments. The play rhetorics of imaginary, self, frivolity and fate are excluded or nullified. However, these notions of imaginary, self, frivolity and fate at the same time represent what is most valued by players at the core of play. This exclusion brings into question both what institutions think the value of play is and what aspects of play can find a home in these institutions.
If we want the aspects of the progress, power and identity rhetorics of play to be the core of the DGBL in schools and learning institutions, we are on the right path, but is this what we want? The imaginary, self, frivolity and fate, are not only excluded in this scenario, but they are at the same time the elements of play for which most players have the greatest affinity.

Dimensions of affinity

Among the most considerable challenges for institutional integration of DGBL in schools is the problem of intrinsic interest or ‘affinity’ that normally occurs in informal game-play contexts. Gee (2006) refers to gaming cultures as ‘affinity spaces’ where players locate their interests in a personally meaningful and intrinsic ‘semiotic domain’. This is not particular to gaming, but any culture or community where interest drives participation. Both the educator’s disposition as well as the institutional attitude towards games and play are critical factors in the context of integrating DGBL in early childhood learning contexts, and sustaining their value throughout education. It is important to note that holistic learning approaches such as Waldorf, Montessori and Reggio Emilia sometimes serve to reinforce negative attitudes towards children’s choices to engage in technology-based learning and autonomous/unstructured play due to pre-conceived notions of what tools and technologies are appropriate for children, as well as their notions of ages and stages of development. Many early childhood learning programmes have over-determined the role of an unproblematised romantic notion of ‘natural’ play at the expense of critical and meaningful inquiry with technology. The result of this reticence to engage in both technology-based learning and autonomous/unstructured play is that, though there is much scholarship and popular discourse devoted to problems and risks associated with children’s increasing use of technology, such as obesity or online safety issues, there is an absence of critical or holistic pedagogies of digital learning and play. Waldorf, Montessori and Reggio Emilia approaches, as well as reconceptualist and post-foundationalist positions, have a great deal to offer in terms of holistic and critically situated discourses on children’s DGBL, provided there is a concomitant willingness to recognize the child’s autonomy when it comes to their affinity spaces and play.

Zevenbergen (2007) suggests that theoretical, pedagogical and dispositional alignments influence teachers perceptions and assumptions about the ‘purpose of play within these settings … whether play is solitary, parallel or interactive are also considerations in the field’ that need to be explicitly taken up (p. 25). Gee (2006) argues that videogames function as ‘affinity’ spaces with particular features that constitute unique ‘routes of participation’ and social organization linking an individual’s interests for the content within the play space. Gee points out that the features of ‘affinity’ spaces also include unique motivations on the part of players, and also unique ways in which content and activities are organized, how knowledge is distributed, and how the power relations between ‘experts’ and ‘noobs’ and distributed ‘leadership’ structures are manifest.

Central to notions of affinity are interest and emotion, both of which have long been identified as ‘sites of struggle’ within the classroom and formal education (Knight-Diop & Oesterreich, 2009). Emotion is among the most nullified aspects of formal education, however, research on emotion in education has shown that when emotion is engaged, it is often addressed in behavioural terms related to regulation and management (Boler, 1999; Knight-Diop & Oesterreich, 2009). In theorizing the null curriculum, Flinders et al. (1986) suggest that ‘affect’ (i.e. emotion, values, disposition) represents the most important core element of the null curriculum. Starting with their own affinities, children make more autonomous choices and decisions that situate their observations and theory-building within a familiar domain. When affinity links the child’s learning and play with a community of practice, there is an opportunity to connect the child’s learning to larger world of experiences. For the teacher, this is an opportunity to explore shared meanings and co-exploration that encourages learning as a shared experience of meaning-making.
Though interest and meaning are increasingly stated priorities within education, Eisner (1985) argues that the explicit curriculum in and of itself rarely holds any intrinsic meaning for learners. The heteronomous structures of institutional learning are often at odds with the complex cognitive, cultural, social or emotional needs of any given learner or the types of social arrangements or conditions that support authentically ‘meaningful learning’ (Novak, 2002). According to Shuell (1990), meaningful learning is an active, constructive, and cumulative process that occurs gradually over a period of time … It is a goal oriented process best characterized in terms of problem solving’ (p. 540). Research on meaningful learning also suggests the central role of affinity to communities of practice in supporting and cultivating learning, skills and knowledge:

meaningful learning occurs when learners are active, constructive, intentional, cooperative, and working on authentic tasks. Human learning is a naturally active mental social process. … Through formal and informal apprenticeships in communities of play and work, learners develop skills and knowledge that they then share with other members of those communities with whom they learned and practiced those skills. (Jonassen & Strobel, 2006, pp. 1–2)

The use of children’s self-selected affinity spaces, such as games they are familiar with and enjoy (Miller et al., 2012), offer a context for the kind of open-ended, autonomous and situated meaningful learning that should be a key requirement for the use of DGBL. The environment in which this situated learning occurs influences and is influenced by the other dimensions of autonomy, affinity and play (Flinders et al., 1986; Meyer, 2002; Silvia, 2008; Silvia, Henson, & Templin, 2009). In order to support ‘freedom’ to play or learn in an open-ended manner, we must first be able to recognize what it looks and feels like in informal learning contexts and consider what aspects may or may not be easily re-localizable schools and other institutional learning spaces governed by non-negotiable regulations, policies and norms.

Dimensions of space

Unlike a grade-segregated classroom, out-of-school ‘in-room’ game-play can consist of single or multi-aged player groupings. As well, children of the same age and demographic are free to approach the same game in radically different ways free of grade-, age- or developmentally determined expectations and limits imposed by institutional learning environments. The features or conditions of the location of interaction have as important a role as adult mediation in how children choose to interact. Unlike school, however, the physical conditions of ‘in-room’ gaming are as changeable and liquid as the configurations of the participants (Stevens et al., 2008). As Eisner (1985) notes, the absence of the ‘soft surface’ in school architecture and furniture represents a hidden curricula ‘that restrict the ways in which one can sit and that yield to no form of body pressure. Rooms seldom have a soft relief; there are few places for enclosure or for privacy’ (pp. 96–97). While children’s rights to privacy and play are both identified in the United Nations Convention on the Rights of the Child (UNICEF, 2011), the possibility that play might be contingent on a feeling of privacy and freedom from surveillance is an inconvenient question for formal educational spaces where play-based learning takes place without any choice as to who the child is playing with or around. Not only are other children present, but adults are continually engaged in observation, assessment and interference in children’s activities.

Invoking Bourdieu’s theory of habitus, Zevenbergen (2007) notes that the unique internal and situated nature of digital natives has ‘profound’ implications for early childhood practice. The internal, virtual and physical location of children’s digital learning and play is a critical, yet
under-researched, phenomena. In one of the few ethnographic studies of children’s at-home game-play, Stevens et al. (2008) articulate the everyday cognition ‘in-room’ game-play:

in the living and family rooms where the players are sitting, crouching, or reclining. Phones ring, parents come in (or argue in the next room), and players interact in a variety of ways with friends, siblings, and material resources—other than the game—that are in room. (p. 43)

Game-play at home requires no external set of rules, planned agenda or pre-existing pedagogy. It can be contingent on negotiations with the social and cognitive resources available and the interests and dispositions of those whom they wish to play with, where they wish to play and how. However, the experience of privacy, a limited experience for many children even at home, is a nullified condition in institutional spaces where children are supervised, monitored and assessed, and socialized into accepting this level of surveillance as normal.

Opie and Opie (1984) conclude that children play differently when they do not feel they are being observed, noting that privacy is a fundamental aspect of autonomous play and the informal learning that ensues. But what happens when play and the players are subject to the gaze of outsiders, parents or adults? And what happens when we institutionalize this lived experience of play, and bring it under the institutional gaze? From Bentham’s Panopticon and Joseph Lancaster and Andrew Bell’s monitorial methods in the early Nineteenth Century, up to contemporary early learning environments and elementary school classroom practices of surveillance and observation, the modern educational system situates the student within a heteronomous environment (Crain, 2003; Hager, 1959; Hogan, 1989; Lepper & Greene, 1975). If we are to introduce a meaningful and inclusive curricula of DGBL, a curricula that is arguably play-based, environmental considerations such as privacy cannot be overlooked.

Unlike the institutional spaces that children must be socialized into, out-of-school and in-room gaming environments are flexible and familiar spaces that are often repurposed and organized by children (Stevens et al., 2008). Game spaces are created by children themselves in a context in which ‘each can get different things out of the space – based on their own choices, purposes, and identities’ (Gee, 2006, p. 20). Bogost (2008) reminds us, video game players have ‘their own culture and values. Video game players often self-identify as “gamers” and devote a major part of their leisure time to video games … video game play could be understood as a “community of practice”’ (p. 119). At the same time, Jonassen and Strobel (2006) point out that through ‘formal and informal apprenticeships in communities of play and work, learners develop skills and knowledge that they then share with other members of those communities with whom they learned and practiced those skills’ (pp. 1–2). The situated ‘learning arrangements’ characteristic of both convergence and informal game-play also serve to destabilize traditional structures of authority in important and meaningful ways (de Castell & Jenson, 2004). Through this ‘in-room’ gaming context, another child takes the role of teacher, which is redefined as a ‘just-in-time’ resource (Stevens et al., 2008) rather than an arbitrary credentialed ‘professional’ in an institution the learner had no hand in selecting. The teacher emerges almost spontaneously as whoever has the knowledge, ideas, or inspiration in the moment and the willingness to share.

Whereas the professional educator must maintain control and struggle with directing attention and classroom management in order to execute mandated learning policy, especially with rote or repetitive tasks, the practice principle in play and gaming environments forces us to acknowledge that children are more than happy to engage in rote or repetitive tasks when they choose to (Meyer, 2002). Children will engage if activities are attractive or interesting to them, and if they are able to choose how and when, and for how long, they engage in an activity, particularly if they are experiencing either success or meaningful failure in the activity. In such situations, the game-play is the curriculum content, and the content itself draws children together into shared
exploration and learning. As such, informal learning in participant-directed environments is predicated on a sense of social engagement, feelings of comfort, trust, respect, happiness, and being valued. These affordances are not unique to gaming but characteristic of what Henning (1998) describes as the ‘everyday cognition’ that ‘takes place at the juncture of everyday interactions’ (p. 143). Early childhood researcher Vasquez (2004; Vasquez & Branigan Felderman, 2013) describes the ‘negotiated’ space for inquiry into the ‘everyday’ texts of children’s own experience as a ‘curriculum’ for critical literacies. Though the situated and informal learning characteristic of gamers is often framed as an emergent phenomena, much of the learning and play that occurs in situated informal gaming contexts resembles reconceptualist and constructivist movements in early childhood learning, such as Reggio Emilia inspired dialogue and listening. The emphasis on ‘listening’ to children’s ‘100 languages’, which may be non-verbal, sensory or performative (Edwards, Gandini, & Forman, 1998), is pedagogically critical in relation to the multi-model literacies particular to digital games.

Conclusion

Without sustained critical inquiry, institutional approaches to educational technology integration and DGBL will only serve to reinforce, rather than disrupt, the behaviourist, rationalized and purposive frameworks that continue to transform learning and play into joyless performance and productivity outcomes. Though institutions may attempt to resist all that is not sufficiently ‘practical’ and not ‘easily measured’ within competitive learning outcomes (de Castell & Jenson, 2003b; Firlik, 1996), it is possible that reconceptualist and post-foundationalist pedagogies of early childhood education may offer the most direct route to the otherwise nullified head, heart and hands of ludic pedagogy.

Though policy and funding constraints are often cited as barriers to technology integration in early childhood learning centres, we argue that these problems are also dispositional. Digital games, and technology in general, remain a peripheral priority for many early childhood educators whose aversions to digital culture are often articulated according to outdated pedagogical and developmental standpoints. Reconceptualist pedagogies, however, may constitute a unique opportunity to re-cast ‘play-based’ learning priorities within a more inclusive digital approach that has implications far beyond early years. Zevenbergen (2007) notes that the use of technology in the early years is a matter of equity as much as pedagogical significance:

The provision of quality learning environments within the preschool has considerable potential to add digital capital to those students for whom the home experience is digitally impoverished in comparison with their more affluent peers. By addressing such differences as early as possible, the gap between the have and have-nots can be reduced. (p. 27)

In the meantime, as early childhood educators debate the merits of technology integration, there is a need for more research of the ‘everyday’ conditions and features of children’s digital gaming (Stevens et al., 2008).

If educators fail to develop a meaningful and inclusive critical pedagogy for DGBL, it will be left to a new class of educational consultants and developers to define learning and play. Rather than advancing education, we risk turning back the clock on decades of critical pedagogy and social research to replace the sandbox of play with a Skinner box of behavioural conditioning. Echoing Freire, Malaguzzi and others, de Castell and Jenson (2003b) conclude that ‘without play, education becomes a force of compliance, not intelligence, and in this sense what we most urgently require of schooling today is that it can once again teach us to play, not to obey’ (p. 49).
Notes on contributors

Jason Nolan is director of the Experiential Design and Gaming Environments (EDGE) lab, and a professor in Early Childhood Studies at Ryerson University, and teaches in the joint Ryerson/York University graduate programme in Communication and Culture. His research focuses on adaptive design for children with disabilities, gaming/play, privacy/autonomy, sensory play, informal learning environments, virtual worlds, and the voices of ‘digital natives’. [email: jnolan@ryerson.ca]

Melanie McBride is research associate in the EDGE lab at Ryerson University, and a MA candidate in Communication and Culture at York University. Her research is focused on children’s informal learning and sensory play in digitally mediated social and gaming environments.[email: melanie1.mcbride@ryerson.ca]

References


