Play-making: Games and the Quest for Agency

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Abstract: This paper argues that game play and the design of games offers a window into youth agency, defined here as the use of competence, strategy, and awareness. Analysis of game experiences in light of classical (Aristotelian) and progressive (Deweyan) learning goals illuminates design principles that can support the development of agency in contexts beyond games. A key factor is the role of making that occurs within games but is often absent in other learning environments. A three part model articulates aspects of making that occur within game spaces: (1) creation of original games or modifications of existing games, (2) construction of transient artifacts used within game play, and (3) development, application, and modification of tacit mini-theories which guide play. Each of these 'making' processes allows kids to exercise agency, and thus be active participants in the game space — an identity well worth nurturing for other parts of kids' lives.

Play has long been a characteristic of childhood, as illustrated in artwork such as Bruegel's painting *Children's Play* and as documented in sociological research (Sutton-Smith, 2001). In fact, many educators consider play to be the work of childhood (Paley, 2005), as young people develop a range of social and intellectual capacities through play, which together contribute to the development of agency. While there are academic debates about just what constitutes agency, Valentine's definition (2011, p. 347) is sufficient for our purposes. She argues that "children demonstrate their agency through competence, strategy, and awareness, and [this] agency entitles them to greater participation and more rights." This framing of agency aligns particularly well with games, since competence, strategy, and awareness are foundational elements of game play. To support this, there is a range of research implicitly linking games and agency. Work in this regard includes research by Barab and colleagues (2010) articulating the value of consequential choices in game settings, Gee's (2007) learning principles that focus on the developmental value of active and critical engagement within games, and Squire's (2011) delineation of games as participatory, identity-building experiences. The model offered here attempts to make the game-agency link more explicit and comprehensive.

Consistent across these research agendas is the premise of games being situated learning environments that scaffold complex thinking (Putnam and Borko, 2000). More specifically, good game designs embody Dewey's (1938/1997) philosophy of experience as they promote continuity from previous experience into new ventures, interaction with the game space and with each other, a deeply felt sense of purpose, and a progressive unfolding of more complex experience over time. Dewey developed these markers nearly 80 years ago as a critique of mainstream schools. Sadly, they remain ideals more sought after than achieved in today's highly prescriptive schools. Under increasing pressures for test-driven accountability (Ravitch, 2010), many schools focus on accumulating factual knowledge and skills out of context, in pursuit of tasks which neither the student nor the teacher values. The result is an environment that operates on a "wastebasket economy" (Rheingold and Seaman, 2013), with many assignments completed simply to be graded and thrown away. Without a catalyst toward something better, these schools devolve to a robotic framework in which neither teachers nor students find value in their work (Coulter, 2014). If instead we are to develop agency in young people, we need to create Dewey-inspired environments built to foster meaningful experience. Within that bed of experience, we also need to heed Aristotle (1997) and work toward a more productive balance of knowledge (*episteme*), skill (*techne*), and practical wisdom (*phronesis*). When this happens, we can achieve *eudiamonia*, or a flourishing that is reflected in our personal growth and vitality, and in our ability to serve the public good.

These ideas of flourishing within rich experiences come together to inform the design of comprehensive game-focused experiences such as the Quest to Learn charter school in New York City (Salen, Tekenbas, et al., 2010), as well as in a host of smaller game camps and after-school programs (Coulter, et al., 2012; Martin, 2011). In any of these game-infused spaces, youth demonstrate the competence, awareness, and strategy that Valentine argues are the cornerstones of agency. Unfortunately, these opportunities can be hard to come by. Even when they are not in class, most kids find themselves in spaces that are highly structured by adults, whether it be during recess or in an after-school program, or even in a sports league where all of the choices are made by the adult coaches and referees. Compounding the challenge, fear of danger leads to restrictions being imposed on where kids can go and what they can do. Freely chosen and structured play – the work of childhood – is increasingly a rarity as kids are shuttled from one planned and sheltered space to the next. As a result, kids fit play in where they can. Wyness (2015), building on Oswell's (2013) conception of 'tactical agency' captures the situation rather astutely. As Wyness (p. 23) notes, tactical agency involves "children using interstitial spaces, often hidden, and often in creative ways that temporarily subvert structures dominated by adults."

To draw a clearer contrast in how schools and games typically support agency, consider the affordances of each relative to the four key parameters that make up Dewey's (1938/1997) philosophy of experience (Table 1).

Parameter	School	Games
Continuity: Ideas and concepts flow naturally across multiple strands of work.	Discrete units with sharp breaks in focus (e.g. an ecology unit followed by electricity).	Play within and across game genres allows transfer of skills and strategies.
Interaction: Opportunities to work collaboratively with others and with rich materials.	Materials tend to be minimal; interpersonal interaction largely prohibited.	Immersion in a game environment; interpersonal rivalry and sharing of strategies.
Sense of Purpose: Goals authentically felt by the learner.	Assigned work. Goal is a good grade.	Pursuing a quest or defined win state.
Progressive Unfolding of Experience: Increasing complexity over time.	For content, occurs cyclically in a spiral curriculum; skills are practiced periodically over time.	Leveling up within a game leads to more complex levels.

Table 1.

While each situation has its nuances, there is a clear distinction to be drawn in terms of the agency of a student and that of a player. Self Determination Theory, a psychological construct supported by an extensive research base (Deci and Ryan, 2002), articulates the importance of people of all ages being able to exercise control over their lives. If we can assume therefore that kids intrinsically want to achieve some degree of agency, and the dominant structures in their lives don't allow it, we shouldn't be surprised to see them seek out the interstitial spaces for agency described by Oswell and Wyness that were noted previously. Play is healthy; apparent 'game obsessions' may well be an effort to feed a need for agency that players aren't getting in more experientially sterile parts of their lives.

Even within a rich environment, however, we need to pay attention to how a person acts to leverage what is available. Space limits preclude in-depth analysis, but there is a clear distinction between how a student approaches tasks in a typical school assignment and in a well-designed game context. In school, the goal is to fulfill an assignment set by others (most often using pre-determined formulas and procedures), whereas a game space rewards the critical and creative thinking Gee (2007) articulates, and it builds on the consequential choices described by Barab and colleagues (2010). Framed within an Aristotelian context, knowledge, skills, and wisdom serve very different functions in the two environments (Table 2).

Parameter	School	Games
Knowledge (episteme)	Paramount, in response to concerns for 'coverage' of a wide range of curriculum concepts.	Accumulated as needed; applied toward achieving game-related goals.
Skill (techne)	Often practiced as discrete processes out of context.	Practiced iteratively to achieve goals embedded within the game.
Practical Wisdom (phronesis)	Largely not recognized in highly structured curricula, learning tasks, and assessments.	Developed over time through practice and collaboration with peers.

Table 2.

Stitching these pieces together, we can see that agency requires both a conducive environment and the ability to act productively within that environment. Dewey and Aristotle sketch some of the essentials for us, but we need more definition if we are to act on this premise. Games and game-like experiences show that it is possible for kids to exercise agency (even if it needs to be done furtively at times), but it doesn't just happen spontaneously. Rather, I will argue, agency emerges through the 'making' tasks that are embedded within the games.

Play-making: An Agenda for Action

Building and creating allows people to move past the ennui of the wastebasket economy by employing competence, strategy, and awareness toward valued ends. In this sense, games align well with the maker movement, an emerging field focusing on the value of crafting artifacts (Hatch, 2013). While there are well-placed critiques of certain aspects of the maker movement, such as its perceived gender and racial biases (Chachra, 2015), the underlying ideal of creating rather than consuming as a path toward learning is well supported by constructionist learning theory (Harel and Papert, 1991; Kafai and Resnick, 1996). Scholarship within the maker movement has identified specific benefits of making that also apply as good game practices, and by extension, as fruitful opportunities to foster agency in other pursuits — including school. Opportunities to 'make' as it will be described here would counteract many of the limitations of traditional schooling described earlier.

One useful framework for making has been offered by Thomas (2014), who argues that makers employ a range of character attributes including curiosity, playfulness, risk-taking, responsibility, persistence, resourcefulness, generosity, and optimism. Each of these, of course, has substantial overlap with committed gaming, while at the same time frequently being undervalued in a school context. For example, risk-taking is essential in a game, but hard to do in a high-stakes testing environment. Being collaborative or resourceful in school is often known as cheating. In a complimentary body of research, Halverson and Sheridan (2014) show how a productive maker space supports makers in the process of making. The balance of this paper offers a model illustrating the ways in which 'makers making in a maker space' overlaps with 'gamers gaming in a game space.' In both, there is a process of creation taking place, with a strong potential to nurture the development of agency. While the design of games offers the closest link to making, there is also great potential for making to occur within the play of existing games.

To illustrate this synergy between making and gaming, a three part 'play-making' model is offered, based on the author's phronetic (Kinsella and Pitman, 2012) and autoethnographic (Denzin, 2014) research agenda. This body of work reflects more than a decade of experience with game design camps and nearly 20 years of leading a regional gaming competition. In brief, the model defines three domains of play-making in the context of gaming:

(1) Creation of *lasting artifacts* such as games or modifications of existing games
(2) Creation of *transitory resources* such as drawings needed within game play
(3) Creation of *tacit formulations* or mini-theories as part of the game play.

In each of these domains, strategies are developed, enacted, and revised. Throughout, there is an ongoing process of creation, evaluation, and rethinking that guides a player's choices and that nurtures increasing levels of agency. To illustrate how this happens, consider these vignettes from the life of a nine-year-old:

> *Max is working diligently at a summer game design camp to refine his creation, drawing on peer feedback to add features which fine tune the level of challenge. Through iterative adjustments like this, he gets closer to his ideal game. Even though this is just his first game camp, he has developed facility with Star Logo Nova (Scheller Teacher Education Program, 2014) and is increasingly seeing himself as a builder. This identity grows each day as he integrates ideas gleaned from other games he has played and from suggestions made by peers who test his game. He also absorbs ideas by talking with peers about games they are developing and by making effective use of the camp director, who provides Max with 'more able assistance' (Luckin, 2010).*
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> *Max's gaming life also extends to formal and informal play opportunities. This is most visible in his participation in a dice-based math game, which is the focal point of a regional competition involving a thousand youth ages 8-13 each year. The game – a variant of Equations (Wff n' Proof, 1963) – involves 20 cubes with numbers and operations on the cube faces. After rolling the cubes, the goal-setter creates a goal using up to five of the cubes. For example, placing 7 x 4 on the board would make the goal of 28. At this point there are 17 of the 20 cubes remaining. The other players take turns requiring, forbidding, or permitting a cube. Each player's intent is to work toward the goal but not to allow the goal to be reached on the very next play. Also, the one placing a cube needs to avoid making it impossible to ever reach the goal. Most often, this happens by forbidding an essential cube. If a player commits either of these "flubs," another player is likely to issue a challenge, which needs to be considered by the other players. Scoring rewards the one who correctly challenges another player. While playing, Max engages in a making process as he constructs and reconstructs possible equations that reach the goal. He needs to accommodate any cubes that another player has required, and quickly re-build his solution if a cube he was*

counting on has been forbidden. From a maker point of view, he is constructing a series of transient artifacts in the form of written equations. While these equations have no useful life once a challenge has been resolved, they are very much a valued creation in the moment.

Finally, Max enjoys testing new games. One he was asked to provide feedback on was created by the author as a participant in a course on game design. Players take turns rolling a 12-sided die and progressing that number of spaces along a 1-100 grid. On each turn, the player can stop, or continue rolling. If the subsequent roll is higher than the last, the scores combine. If not, there is no score for that round and play moves to the next player. Throughout the game, Max needs to create, consider, and act on mini-theories that draw on his understanding of probability and his position within the game ("We're getting to the end…Do I take a bigger risk to catch up with the others?") From the beginning he needs to balance his own tolerance for risk with the potential reward. These mini-theories are almost always entirely tacit, but they are no less constructions – ones that grow and change as he gains experience, confidence, and insight.

These experiences and others like them enable game players to realize the benefits Thomas (2014) ascribes to the making process. Drawing from the vignettes, we see how play-making supports the development of competence, strategy, and awareness – the hallmarks of agency:

Curiosity: Each of the game spaces just described fosters curiosity as designers and players construct and modify artifacts and ideas that give them the greatest advantage. In each iteration of the game, players try to discern subtle nuances, which can be exploited to improve outcomes the next time around.

Playfulness: In each of the games there is an element of playfulness that goes with seeing how different combinations come together. Players and designers need to consider multiple options, imagine potential outcomes, make choices (sometimes with great trepidation!), and evaluate the outcome with an eye toward more successful play in the next round.

Risk: Each of the games just described offers an element of risk. Designers have to think of ways to embed risks that make the game challenging. In Equations, for example, the scoring reflects a risk/reward structure, as the one who is the first to issue a challenge scores better. But, there is a risk involved, since there is no opportunity to retract a challenge made too hastily. Hence the need to have equations crafted and ready to support a challenge. In the 1-100 game, there is risk embedded in each choice to re-roll the die or settle for the points already earned.

Responsibility: Games enforce responsibility through consequential choices (Barab et al., 2010). In the vignettes just cited, Max needed to accept responsibility for choices in his design features, the equations he constructed, and (while playing the 1-100 game) in his choice on each turn to keep the points or re-roll the cube.

Persistence: None of these game processes is easy or automatic. If they were, the game would lose players' interest. Rather, design challenges need to be overcome, and players need to work to develop new skills and strategies, and to bounce back from disappointment when a construction proves to be inadequate.

Resourcefulness: Learning from peers, investigating related games, and drawing on "more able assistance" (Luckin, 2010) all help in developing a repertoire of resources to improve participants' ability to design and play games.

Generosity: A sense of generosity is part of the community ethic instilled in each of the game spaces illustrated in the vignette, whether it be through sharing design tips and math strategies, or simply by commiserating when a score is lost to a bad roll of the die.

Optimism: A good game space nurtures the expectation that continuing efforts will pay off in improved play. This expectation nurtures a 'growth' (as opposed to a 'fixed') mindset that Dweck and colleagues (2000) have shown to be educationally valuable.

Play-making Beyond Games

We need to build on Gee's (2007) call not simply to employ games for learning but rather to utilize what we know about games to create better learning environments. The model presented here has value in doing just this. It's clear that making – in all of its manifestations – is a foundational element within a good game space. It's equally clear that this making contributes to the agency that is necessary to secure greater participation in

the world. Taking on this agent role as a creator and problem solver promotes what Aristotle (1976) describes as *eudaemonia*, or a flourishing in life that enables people to contribute to a healthier community and develop the self. This won't happen if the work of childhood continues to focus on accumulating factual knowledge and skills out of context, and robotically following scripts set for them. Rather, we need to follow Aristotle and work toward a more productive balance of knowledge (*episteme*), skill (*techne*), and practical wisdom (*phronesis*). Real-world problems (and effective game play) require all three. Can school tasks and other childhood experiences be designed to do the same? Looking at the learning space from a Deweyan perspective, environments marked by continuity, interaction, purpose, and a progressive unfolding of experience are perfect for nurturing the competence, strategy, and awareness Valentine (2011) describes as hallmarks of agency.

Charting a path toward agency, Princen (2011, p. 175) offers criteria we can use as benchmarks for successful play-making, within games and beyond. He argues that people are at their best when:

1. They are faced with a genuine challenge;
2. They are creative and productive;
3. They find meaning in their own problem solving and in acts larger than themselves;
4. They help themselves and help others;
5. They self-organize and self-govern; and
6. They feel that they are getting a fair shot at the benefits of their work.

Framed more poetically, Wendell Berry (2011, p. 97) captures this dynamic of an active, puzzling-out problem solver: "It may be that when we no longer know what to do we have come to our real work, and that when we no longer know which way to go we have come to our real journey. The mind that is not baffled is not employed." We know that kids can do more than simply be passive recipients of what others give them. In school or out, it's the making and remaking that promotes the agency needed to flourish in life. Games are a great medium for pointing the way forward.

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