A Psycho-Cultural Approach to Video Games

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ABSTRACT

Jerome Bruner has helped to shape the notion of constructivism, which is of prime significance when looking at pedagogy in games and much of the learning that occurs in games is constructive. In one of his more recent works, "The Culture of Education" (1996), he discusses the importance of nine tenets to the development and maintenance of culture. Many of these touch on recurring themes in many discussions of games (Beavis, 1999; Kafai, 2001; Wolf & Perron, 2003). Bruner believes that "education is not an island, but part of the continent of culture." (1996, p11) The same can be said of games. Bruner's tenets guide such a 'psycho-cultural' approach to education and this paper will examine these tenets through the lens of game design.

INTRODUCTION

"The object of interpretation is understanding, not explanation. "(Bruner, 1996, p90)

When it comes to how to teach using games, some claim that games are *already* doing it right, even if not deliberately (de Castell & Jenson, 2003; Gee, 2003; Prensky, 2006; Shaffer et al, 2004). Many current scholars in the field of Games Studies also talk about *how* games teach – James Gee for example defines 36 principles for learning based on his game-playing experiences. These principles are useful, but Gee does not, by and large, tie them to accepted pedagogy. In order to gain the recognition needed to advance the notion of game-based learning in formal settings, this connection must be made explicit. This paper explicitly 'connects the dots' from existing commercial game design to accepted pedagogy and learning theories.

This paper forms part of larger body of work connecting commercial game design to known instructional design which includes Gagné's 9 Events, Reigeluth's Elaboration Theory, Merrill's 1st Principles of instruction, Gardner's Theory of Multiple Intelligences, as well as numerous theories of various learning styles: Keirsey's temperament sorter (Meyers-Briggs), Felder's Index of Learning Styles, Kolb's Learning Styles, and the Gregorc Syetem of Learning. The connection of accepted pedagogy to the design of commercial games does not prove that all

games employ good learning strategies, but it does show that games *can* embody sound instructional pronciples. It also provides a lens through which games can be examined. When first presented with these connections, a common comment from teachers and other educational professionals is that they never really looked at games this way before. Connecting good games to good pedagogy is one step in establishing feasibility of games as educational technology.

Jerome Bruner

Jerome Bruner ranks among the foremost social thinkers of the last century. His contributions to psychology, cognitive science and education have been equaled by few. He is either responsible for or has been a principal figure in the development of such notions as scaffolding instruction, constructivist learning models, and the role of narrative in learning.

Most recently, he has turned his attention to the connections between culturalism and education. In this, he is not alone – the connections between culturalism and both invidiual and collective intelligence are strong (Donald, 2001; Tomasello, 1999). In their book "Figments of Reality", Ian Stewart and Jack Cohen refer to this phenomenon of collective intelligence as "extelligence" (Stewart & Cohen, 1997).

In his 1996 book "The Culture of Education", Dr. Bruner discusses education from a cultural anthropological perspective. An emphasis throughout the book on a culturalistic view of education in contrast with a computationalist view exposes an evolution of his theories and ideas about the role of cognitive psychology that includes an acknowledgement of the social and cultural context of learning. Included in this volume are nine 'tenets' for his psycho-cultural approach to education.

Psycho-Cultural Approach

"Understanding is the outcome of organizing and contextualizing essentially contestable, incompletely verifiable propositions in a disciplined way." (Bruner, 1996, p90)

In order to appreciate Bruner's 'psycho-cultural' approach, it is helpful to distinguish, as he does, between the computationalist theory of mind and the cultural one. The computational theory is characterized by the analogy of the mind as a machine or computer. Its approach to meaning making has to do with the organization and utilization of material – it is essentially about information processing. Educationally, computationalists concrn themselves primarily with the reformulation of theories and what can be summarized as computational optimization. This redescription is the hallmark of metacognition – thinking about thinking.

By contrast, the cultural approach views the mind as a cultural device. Learning in the general sense is about meaning making, while education relies on culture to provide the tools we need for organizing what we know & learn. This view makes all learning situated and contextual. The psycho-cultural approach recognizes the significant roles played by symbolism and mimesis. It offers an alternative way to approach the theory of education. Culturalism requires attention to agency, reflection and collaboration.

Games are Cultural Objects

Games are mimetic in almost every sene of the word and this makes them ideally suited to meaning making through culturalism. According to Jesper Juul, "A game is a rule-based system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels emotionally attached to the outcome, and the consequences of the activity are optional and negotiable." (Juul, 2005, p.36) One aspect of culturalism has always been to "confront the unanswerable questions of human existence", and as Janet Murray so aptly says, "(e)very age seeks out the appropriate medium in which" to do this (Murray, 1998, p.280). The current age appears to be turning to games. Games can be viewed as cultural objects as well as cultural spaces and are simultaneously messy, emergent and highly complex (Taylor, 2006).

Obviously, a detailed examination of the cultural nature of games is beyond the scope of this paper, but an acknowledgement that games are indeed cultural objects as well as cultural spaces permits us to examine them as learning environments as well. "The design of online, collaborative-learning environments is founded on the assumption that culture matters, that we live and learn in community for a reason, that community-based living and meaning-making is a reflection, to a large degree, of our unique genetic makeup as a species. " (Shea, 2006) If we view digital games as a form of online (or offline) collaborative-learning environment, we can then also view some of Bruner's work through the lens of games. The following section examines Bruner's nine tenants to guide a psycho-cultural approach to education.

Bruner's Tenets

The following parapgraphs outline Bruner's nine tenets. Each is briefly described and illustrated with one or more games that embody the idea.

The Perspectival Tenet

This tenant is about making meaning, which is always relative to one's perspective or the frame of reference through which it is viewed. There are often numerous ways to understand something, and many games afford players opportunities try them all. One of the aspects of games that keep players involved with the same game for extended time is the ability to play it from different angles. For example, it is possible to play *Lord of the Rings, The Two Towers* from any of several different perspectives, each of which offer a different game experience. In a game like Black & White the choices one makes during gameplay cause the creature entrusted to your care to develop along different lines.

The Constraints Tenet

People are constrained by human mental functioning and by semiotics. While other technologies facilitate role-playing, good games can place you in the virtual skin of someone you could not otherwise be – your choices and actions are largely constrained by the design of that character. In his doctoral dissertation dealing with ethics in video games, Miguel Sicart puts it this way: "Virtual environments are complex because they are worlds created with the intention of being experienced as a fundamental part of a game, an active and a passive part of the game (active because it constraints to a certain extent how the game is played, passive because it also works as a background for these gameplay activities). The way these virtual environments are constrained has ethical implications. Previously, I have referred to the case of *Half-Life 2*, where friendly fire is not possible by a design implementation. Similarly, in *XIII* there is a situation in the early

stages of the game in which killing a police officer means the immediate, and quite distressing, end of the game for no other apparent reason than the fact that killing the police officer is "wrong"." (Sicart, 2006, draft version, p32-33)

The Constructivism Tenet

Reality is constructed and ascribed to the worlds we inhabit. In a game, your world is a virtual one. The realities that can be constructed can be both dream-like and fantastic, but also a hybrid of societies and relationships that exist partly in a gameworld, but anchored to real people, bolstered by real relationships and real sharing.

The Interactional Tenet

Passing on knowledge involves a subcommunity in interaction. Most popular games inspire fan groups that become quite extensive. One has only to visit the website of one of the fan sitesfor the *Civilization* series of games, called *Apolyton University* (http://apolyton.net/) to see how strong this tenet is for some games. This particular site is an outstanding example of what Bruner referes to as a "subcommunity of learners bootstrappingeach other." (Bruner, 1996, p. 21)

The Externalization Tenet

Externalization evidenced by the production of 'works' can produce and sustain group solidarity. This is one of the main functions of collective cultural activity. Once again we turn to the Internet. Fan art and fan fiction thrives in the 'shadow' of a successful game. Many of the spaces where participants can share their fan 'works' become sustaining communities far more supportive and inclusive than many schools.

The Instrumentalism Tenet

Education has consequences that are instrumental in the lives of individuals. It cannot be culturally free standing. "The chief subject matter of a school, viewed culturally, is school itself. That is how most students experience it, and it determines what meaning thay make of it." (Bruner, 1996, p. 28) If we adopt this same view towards games, it is easy to see how immersion in games can influence those who play. It is beginning to become clear, that there exist other consequences in the later lives of gamers, some of which appear to be quite promising (Beck & Wade, 2004).

The Institutional Tenet

Education behaves as an institution. Although it would be nice to be able to report that neither game designers nor game communities follow this tenet, as it turns out, they sometimes do, which often evolve in a manner befitting the theme of the game. In her case study of players in theWorld of Warcraft, T.L.Taylor showed that "systems of stratification and control can arise from the bottom up and be implemented in not only everyday play culture but even player-produced modifications to the game system itself." (Taylor, 2006) Games, especially massively multiplayer online games specify quite "concretely what roles people may play and what status and respect these are accorded." (Bruner, 1996, p. 29)

The Tenet of Identity and Self-Esteem

 The tenet of identity and self-esteem is about agency and self-evaluation. According to Will Wright, "Games, on the other hand are most directly dependent on something else entirely: the concept of agency. Agency is our ability to alter the world around us, or our situation in it. We

are able to act, and that action has effects. This is probably the first thing we learn as babies. This is the crucial distinction between interactive and liner entertainment." (Wright, 2003, p. xxxii)

The Narrative Tenet

People make sense of the world and their place in it through logical-scientific thinking and narrative. Games also use both approaches. Games do some of what they do through the use of narrative. Although many games require players to solve elaborate problems, it is primarily done within the context of a story. One of the most compelling games of the 1990's was *Myst*. The gameplay itself consisted almost entirely of puzzles to be solved, but they were embedded in a context created by an elaborate story. The story gave the puzzles coherence.

CONCLUSION

An examination of a psycho-cultural approach to games demonstrates that existing game design an game culture is a good fit with Bruner's approach to education. This connection also suggests that games have the potential to actualize some of Bruner's ideas on education. If we define good games as those that have enjoyed both commercial and critical success, it also provides further evidence that at good game design meshes with what many in the educationalcommunity would accept as good educational design.

As with the previous examples that connect pedagogy with game design (Becker, 2005a, 2005b) being able to connect sound pedagogy with good games does not prove that all games have the potential to become instructional technologies, but it doees lend some weight to the argument that we can learn about howto design educational games by studying existing games. We do not need to begin from scratch, nor can we claim that the design of instructional games must apply traditional practices in formal ways in order to be affective.

REFERENCE LIST

Beavis, C. (1999). *Magic or Mayhem? New Texts and New Literacies in Technological Times* (143 Reports--Research; 150 Speeches/Meeting Papers). Australia.

Beck, J. C., & Wade, M. (2004). *Got Game: How the Gamer Generation Is Reshaping Business Forever*: Harvard Business School Press.

Becker, K. (2005a, July 4-6, 2005). *Games and Learning Styles.* Paper presented at the Special Session on Computer Games for Learning and Teaching, at the The IASTED International Conference on Education and Technology ~ICET 2005~, Calgary, Alberta, Canada.

Becker, K. (2005b, June 16-20, 2005). *How Are Games Educational? Learning Theories Embodied in Games.* Paper presented at the DiGRA 2005 2nd International Conference, "Changing Views: Worlds in Play", Vancouver, B.C.

Bruner, J. S. (1996). *The culture of education*. Cambridge: Harvard University Press.

de Castell, S., & Jenson, J. (2003). OP-ED: Serious Play. *Journal of Curriculum Studies, 35*(6), 649-665.

Donald, M. (2001). *A mind so rare : the evolution of human consciousness* (1st ed.). New York: W.W. Norton.

Gee, J. P. (2003). *What video games have to teach us about learning and literacy* (1st ed.). New York: Palgrave Macmillan.

Juul, J. (2005). *Half-real : video games between real rules and fictional worlds*. Cambridge, Mass.: MIT Press.

Kafai, Y. B. (2001). The Educational Potential of Electronic Games: From Games–To–Teach to Games–To–Learn, *Playing by the Rules*. Cultural Policy Center, University of Chicago.

Murray, J. H. (1998). *Hamlet on the holodeck : the future of narrative in cyberspace*. Cambridge, Mass.: MIT Press.

Prensky, M. (2006). *Don't Bother Me Mom I'm Learning!* : Continuum

Shaffer, D. W., Squire, K. R., Halverson, R., & Gee, J. P. (2004). *Video games and the future of learning*: University of Wisconsin-Madison, Academic Advanced Distributed Learning Co-Laboratory.

Shea, P. (2006). A Study of Students' Sense of Learning Community in Online Environments. *Journal of Asynchronous Learning Networks, 10*(1).

Sicart, M. (2006). *Computer Games, Players, Ethics*. Unpublished PhD, IT University of Copenhagen, Copenhagen.

Stewart, I., & Cohen, J. (1997). *Figments of reality : the evolution of the curious mind*. Cambridge ; New York: Cambridge University Press.

Taylor, T. L. (2006). Does WoW Change Everything?: How a PvP Server, Multinational Player Base, and Surveillance Mod Scene Caused Me Pause. *Games and Culture, 1*(4), 318-337.

Tomasello, M. (1999). *The cultural origins of human cognition*. Cambridge, Mass.: Harvard University Press.

Wolf, M. J. P., & Perron, B. (2003). *The video game theory reader*. New York: Routledge.

Wright, W. (2003). Forward. In *Creating Emotion in Games: The Craft and Art of Emotioneering* (pp. 576 pages): New Riders Games.

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