Research Quotes

"Game developers must balance an implicit notion of fun with the educational merit of a video game. In most commercial examples, disciplinary content is secondary to enjoyment and pleasure. In most educational examples, fun and engagement is a byproduct of the context. Developers face the daunting task of maximizing the technological elements of video games alongside the educational affordances. Further, they must accomplish this without losing the intangible element of fun…educators and developers must work together to produce immersive video game contexts that provide affordances that maximize learning and fun" (Schrader, Lawless, & Deniz, 2010, p. 309).

In reference to the collaboration between educators and developers "Both sides must create common cause, and form an in-depth understanding of the processes they each go through to accomplish their goals. Educators need to know the strengths and limitations of the game development process, just as game designers need to appreciate the challenges and techniques behind implementing and reinforcing pedagogical practices and coursework" (Lawrence, 2010, p. 418).

"For gaming and the study of gaming to reach their full potential, industry and academia must cultivate a deeper understanding of the ideas that drive games, the experiences games can offer, and the implications of those ideas and experiences on the social and cultural significance of this young medium. This kind of progress will only come about when academia and industry work together" (Gold, 2008, p. 1).

"Programmers, artists, and designers speak very different languages and use very different tools to create a single game, which ideally has a consistent and unified vision" (Spaulding, 2009, p. 36).

"'Finding the fun in...learning' and devising ways to focus on and enhance that fun as a core game dynamic is a good strategy" to approaching educational game development" (Klopfer, Osterweil, Salen, Haas, & Roy, 2009, pp. 29-30).
The authors suggest learning games design principles:
   1. "Put learning and game play first
       a. Good educational games will consider both the learning goals/content and the game play at the same time, with enough flexibility to iterate between the two to change one or both simultaneously" (Klopfer, Osterweil, Salen, Haas, & Roy, 2009, p. 34).

"A very important part of any learning process is the assessment of the progress of the learning experience. Games are a very rich interactive medium, and this interactive behaviour can be exploited for assessment purposes" (Moreno, Burgos, Martinez-Ortiz, Sierra, & Fernandez-Manjon, 2008, p. 2534).

"The presence of elements such as a slow pace, reflection, study of the environment, and problem-solving make point and click adventure games relevant from a pedagogical

perspective" (Moreno, Burgos, Martinez-Ortiz, Sierra, & Fernandez-Manjon, 2008, p. 2535).

"Modern video games immerse minds in virtual worlds in which the players must explore and discover the attributes of complex relationships and develop sophisticated skills and strategies in order to advance within the game. The virtual environments of video games appeal to student's innate desire to learn and self-educate by sparking their natural curiosity while they are engaged in something they already enjoy. In other words, video games create a unique opportunity for tangential learning. Tangential learning is about being exposed to things within a context in which you're already engaged" (Niles, 2010).

The following are results from a case study: "The teachers suggested that the combination of learning with fun and the alignment with learners' learning preferences were two main reasons of using the mathematics game" (Kebritchi, 2010, p. 260).

"So the real issue is that the same simple word 'fun' can connote both enjoyment and pleasure (good), *and* amusement and/or ridicule (bad). This dichotomy, which we will see over and over again, lies at the root of resistance by business people and educators to new learning approaches based on any connection to fun (and, by extension, to play and games). In some respects, it's only a matter of semantics, but with important consequences. Proponents of 'fun learning' relate fun to enjoyment and pleasure. Opponents relate fun to amusement and ridicule. They use the same word but don't speak the same language" (Prensky, 2001).

"'New educational products, even with obvious advantages, are being adopted very slowly by educational institutions'" (Rogers, 1962, 2003). "'Educational computer (video) games are considered effective teaching tools because they (1) use action instead of explanation, (2) create personal motivation and satisfaction, (3) accommodate multiple learning styles and skills, (4) reinforce mastery skills and (5) provide interactive and decision-making contexts'" (Kebritchi and Hirumi, 2008). "'Educational computer games are considered powerful tools that have the potential for improving the quality of the American educational system, yet the games are not being readily adopted by schools" (Federation of American Scientists [FAS], 2006)
(Kebritchi, 2010, pp 256-257).

Moreno-Ger, Burgos, Martínez-Ortiz, Sierra, and Fernández-Manjón (2008) state that there are largely three approaches to educational game design:
"Multimedia approaches tightly linked to content presentation,"
1. "those that repurpose pre-existing games for education," or
2. "a middle category of specially designed games that seeks a balance between fun and educational content" (Moreno, Burgos, Martinez-Ortiz, Sierra, & Fernandez-Manjon, 2008, p. 2531).

"Turns out if you make a really solid, fun word game it will be educational simply by virtue of the fact that constructing words or dissecting words requires you to consider the

structure of words, and ultimately push the boundaries of your word-building abilities in order to play the game as successfully as possible" (Johnson, 2009, p. 1, para. 11).

"One of the key rules of game design is the first 15 minutes. These introductory minutes have to be fun, satisfying, and exciting. You are letting players know they're on the right track, you should reward them, and let them know cool stuff will happen later. This doesn't negate increasing difficulty levels later on, by the way" (Perry, 2010).

"Fun from games arises out of mastery. It arises out of comprehension. It is the act of solving puzzles that makes games fun" (Koster, 2005, p. 40).

 "The Quest Atlantis project has provided a fertile context for generating, testing, refining, and evolving theories of participation that work to preserve the joy and meaning in the processes of learning" (Barab, Arici & Jackson, 2005, p. 16).

"The pedagogical strategies a teacher uses must provide support for students during game play and reinforce opportunities for learning outside of the game. A strategy that has been successful in doing this is to have students engage in collaborative game play... Learning is reinforced outside of the game when the teacher follows up the activity with debriefing sessions and whole group discussions about the experience" (Dipietro, Ferdig, Boyer, & Black, 2007, p. 230).

"Even students who read at grade level may be overwhelmed by assignments that require them to grasp new vocabulary words and complicated texts and content. Electronic games can immerse kids in new roles and new worlds that can help them grasp concepts in a different way. Our study will experiment with games that let students play with words in new ways -- experiences that will help them improve their reading skills" (as cited in Cowan, 2010, para. 5).

"Just as schools are moving toward increasingly standardizing the learning experience, games offer the prospect of user-defined worlds in which players try out (and get feedback on) their own assumptions, strategies, and identities" (Collins & Halverson, 2009, p. 85).

"If game designers included learning standards in their entertainment products and demonstrated how they could be integrated into lesson planning, it would expand the market for the product and assist teachers and parents in and out of the classroom." (Williams, 2010, p. 1, para. 5-8).

 "We can imagine epistemic games in which players learn biology by working as a surgeon, history by writing as a journalist, mathematics by designing buildings as an architect or engineer, geography by fighting as a solider, or French by opening a restaurant... these players learn by inhabiting virtual worlds based on the way surgeons, journalists, architects, soldiers, and restaurateurs develop their epistemic frames" (Shaffer, Squire, Halverson, & Gee, 2005, p. 108, para. 5).

"The old adage that child's play is imagination in action must be reversed: we can say that imagination in adolescents and school children is play without action" (Vygotsky, 1933/1978, p. 93).

"As we play, we learn. And as we grow, our play gets more complicated. We add rules and goals. The result is something we call games" (Wright, 2009, para 1).

"Digital Game-Based Learning … is based on two key premises that are still not fully accepted in the training and adult learning community. The first is that the **learners have changed in some fundamentally important ways** — the bulk of the people who are learning and being trained today … are, in a very real intellectual sense, **not the same** as those of the past. As a result, while there is a great deal of discussion about "how people learn," there has been relatively little focus on how **these** people learn. …The second "radical" premise is that these "under-36" individuals are of a generation that when growing up *deeply experienced, for the first time in history, a radically new form of play — computer and video games* — and that this new form of entertainment has shaped their preferences and abilities and offers an enormous potential for their learning, both as children and as adults" (Prensky, 2001, p. 16).

"It is becoming clear that one reason we are not more successful at educating our children and workforce, despite no lack of effort on our part, is *because we are working hard to educate a new generation in old ways*, using tools that have ceased to be effective" (Prensky, 2001, p. 17).

"The Games Generations … are *native speakers* of the digital language of computers, video games and the Internet. Those of us who were *not* born into this world but have, at some later point in our lives, become fascinated by and adopted many or most aspects of the new technology are, and will always be, compared to them, 'digital immigrants'" (Prensky, 2001, p. X).

"One of the most interesting challenges and opportunities in Digital Game-Based Learning is to figure out and invent ways to *include* reflection and critical thinking (either built into the game or through a process of instructor-led debriefing) with the learning *and still make it a fun game*" (Prensky, 2001, p. X).

"To a huge, underappreciated extent in our training and education we offer the Games Generations *very little* worth paying attention to from their perspective, *and then we blame them for not paying attention*. Many of the people accustomed to the twitch-speed, multitasking, random-access, graphics-first, active, connected, fun, fantasy, and quick payoff world of their video games, MTV, and Internet feel *bored* by most of today's approaches to training and learning, well meaning as it may be. And, worse, the many skills that new technologies *have* actually enhanced (e.g., parallel processing, graphics awareness, and random access)—which have profound implications for their learning—are almost totally ignored by education and training" (Prensky, 2001, p. X).

"From an educational perspective, there is a great deal of commonality between the characteristics of games and the characteristics of effective learning experiences…good learning activities are intrinsically challenging – but achievable – and stretch and engage

the learners through gradually increasing levels of difficulty" (Whitton, 2010, p. 31).

"One of the benefits of digital games…is the ability of a computer to provide the interaction and feedback that is crucial to the experiential learning cycle and to the whole learning process" (Whitton, 2010, p. 48).

"The problem-based learning approach to learning and teaching has clear parallels with the activities that take place in certain types of computer games, such as puzzle or adventure games" (Whitton, 2010, 50).

"Even when the context of the game is not directly relevant to the subject area, the transferable skills associated with problem-solving, such as lateral thinking, information gathering and analysis, and developing and testing solutions, can be valuable nonetheless" (Whitton, 2010, p. 51).

"Students are notoriously assessment-centered and using game play as part of the formative or summative assessment for a course is one way to ensure that students engage with it" (Whitton, 2010, p. 104).

"Learning with games can be assessed in the usual wide variety of ways available in higher education, but if assessment can be linked to the game itself it will be contextualized and taking part in the game will be more meaningful and purposeful" (Whitton, 2010, pp. 104-105).

"…role-playing games can provide the opportunity for learners to explore and navigate immerse virtual worlds using rich media, simulations can create authentic contexts for rehearsing skills that can be transferred to the real world, and adventure games can present a forum and context for problem-solving" (Whitton, 2010, p. 46).

"The rationale for using games must be that they can embody sound educational principles and are an effective way to learn in the context in which they are used" (Whitton, 2010, p. 41).

"He [Jesse Schell] embodies a tradition of reconciling diverse disciplines, extending the possibilities of each and creating new theories and opportunities for both industry and academia. Jesse is like the Einstein of entertainment" (Haley).
http://artofgamedesign.com/news

"Let's face it… what we do is wildly complex. Making games involves diverse contributors with equally diverse skill sets. Often, teams are geographically dispersed, hailing from dramatically different cultural backgrounds. It's amazing, really, that designers, producers, programmers, artists, musicians, audio engineers, QA engineers, project managers, PR and marketing partners and executive leaders are able to get anything done at all, much less create games that customers love. It's no wonder we struggle with, and often fail at, meeting deadlines, budget constraints and quality

expectations" (Voorsanger, 2011)
http://www.igda.org/leadership/archives/2009-forum-archive/personal-leadership-track/#Collaborative

"Life is a game, kid! It all depends on how you play!"-Mario
 http://en.wikiquote.org/wiki/Super_Mario_Bros.

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