Gaming the General Consequences of Learning

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Abstract: This paper illustrates how videogames can productively support general consequences of learning beyond play spaces and inform alternative perspectives on the idea of learning transfer. As the empirical and conceptual adequacy of game-based and -infused models evolve, new opportunities emerge for understanding and supporting learners between and beyond play experiences. Because games foster empathy for, if not embody, meaningful social relations (Gee, 2003), they can organize and illuminate the general consequences of learning with respect to a broader nexus of factors implicated in social practice. Three complementary cases enlist the concept of consequential transitions (Beach, 1999) to towards these ends.

Introduction

Many forms of interactive media engage users in imagining possibilities for themselves and the world rather than simply showing or explaining a world to them. Such forms reflect the idea that "learning is a way of being in a social world, not a way of coming to know about it" (Hanks, 1991, p. 24). As a case in point, many videogames exemplify the idea that learning how to "be" a kind of person, or professional (e.g., soldier, doctor, thief), accompanies how to "do" the range of skillful practices associated with a particular discipline (Gee, 2005). Such games invite players to engage but, moreover, they often recruit deeper involvement, concern, and empathy. Play can also be a form of peripheral participation with the authentic value systems and identities of professionals and their attendant modes of subjectivity. As the empirical and conceptual adequacy of such game-based and game-infused models for learning and knowing evolve, new opportunities emerge for understanding and supporting learners as they move between and beyond these play experiences. This poster therefore considers the work of designing videogames and documenting impact with respect to more general yet equally productive consequences of play experiences.

Consequential Transitions across and beyond Videogames

Century-long lines of inquiry into learning transfer document ongoing discussions and intractable tensions, underscoring both the central importance and contentious foundations of transfer (e.g., Detterman & Sternberg, 1996). Special issues of *The Journal of the Learning Sciences* (vol. 21, 2012) and *Educational Psychologist* (vol. 47, 2012) featured multiple contemporary lines of research on transfer. These articles collectively concentrate on either knowledge as a discrete entity or knowing as relational practices. Regardless of how learning is theorized, however, few of the articles consider the broader context in which learning and learners interact; none consider how changes in knowing complement changes in being, namely the shaping influence that learning has on the learner. This observation punctuates earlier critiques published in the same journals (Packer & Goicoechea, 2000; Packer, 2001) and frames a fundamental research challenge that educational games can inform. In brief, this challenge is that, while learning is increasingly viewed as a broad ecological process in which social, affective, environmental, and cultural factors interact with more traditional cognitive factors, such a broad view is only vaguely reflected in empirical accounts of the general consequence of learning. The idea of *consequential transitions* (Beach, 1999) is one alternative, socio-cultural viewpoint with noteworthy implications for the interplay among games, learning, and society. A consequential transition involves a developmental change in relations between individuals and their social activities, one that is brought about through conscious reflection, personal struggle, and ultimately a change in identity or social positioning (p. 114). Because videogames can foster empathy for, if not embody, meaningful social relations (Gee, 2003), they represent a powerful medium for organizing and understanding the practices and identities of situated learning in terms of consequential transitions. Involving players not only in game play but in transitions between and beyond games can illuminate links and separations with respect to the relational practices and identities of knowing. The relative consistency of videogame contexts enables a more methodic characterization of continuity and transformation, mapping developmental trajectories of changing relations that constitute consequentiality. As a preliminary foray into better understanding the intersections of games, the learning sciences, and learning transfer with respect to educational opportunities, this paper offers contrasting cases of designing for consequential transitions with educational games.

Case 1: Consequential Transitions About and Beyond a Game

A game-based scenario challenged players to think about and beyond an immediate situation in general terms. It is designed within a *Quest Atlantis* socio-scientific inquiry curriculum (Barab, Zuiker et al., 2007). Players initially assume the role of field investigators for whom concepts like erosion become key tools for defining problems and

developing solutions related to declining fish populations. Building on initial accomplishments in the game, the consequential transition unfolds when players are recruited to advise the Atlantian council and thereby into an expanded game narrative in which principles and practices related remain relevant to sustainable watersheds. The scenario enlists the player's elevated status as a frame to organize and support a developmental transition into multiple, complementary settings and documents disciplinary forms of problem finding and solving therein.

Case 2: Consequential Transitions from Games back to Classrooms

Dramatic conventions extended transitions from "as-if" videogame scenarios to "as-is" school classrooms. Using the same *Quest Atlantis* curriculum as Case 1, face-to-face activity structures enlist the game as a dramatic pretext for improvisational roleplay with props and a facilitator (Zuiker, 2013; cf. Cameron & Carroll, 2009). The consequential transition creates a two-fold challenge for participants: to negotiate a change in classroom social relations among peers and with teachers and to dialogically negotiate the unfolding significance of competing perspectives about problems and solutions related to declining fish populations and sustainable watersheds.

Case 3: Consequential Transition Cycles between Games and Classrooms

An educational game involving the dynamics of charged particles engineers a sequence of bounded episodes in which players transition from collaborative investigations during game play into small group discussions about their findings, and then ultimately into whole class debates to co-construct a shared problem space (Zuiker, Anderson et al., 2008). The interplay of games and argumentation inspires and enables authoritative and accountable participation in a disciplinary forum, arranging recurring consequential transitions across cycles of game-centered dialogic activity. Within this forum, transitions concern whole classes as a unit of analysis while individuals remain a unit of concern.

Conclusions

These three cases employ educational games to design for consequential transitions, which can support and reveal the general consequences of learning with respect to both disciplinary identities and practices as well as their changing relations across scenarios. The contrasting cases begin to establish a framework concerning productive participation beyond the local, situated contexts in which meaning emerges during game play. Insofar as productive learning must expand beyond one level of activity and includes more than one level of understanding, the idea of transitions can contribute to a more coherent and equitable system of opportunities to learn and serve a systemic agenda to understand and improve education.

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