Juvenile Offenders: Developing Motivation, Engagement, and Meaning-Making through Video Game Creation

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ABSTRACT
In this study, the authors examined juvenile offender experiences in Project Tech, a research-based educational pilot program to teach socially responsible serious game development at a major Midwest university’s Games Lab. Using open-ended interviews, learner feedback surveys, and learner journaling during the program, the researchers examined two questions pertaining to: (a) learner motivation, engagement, and meaning making; and (b) program feedback and critique to elicit program improvements as part of an iterative process. Responses were analyzed using inductive textual analysis and content analysis. Several learner themes emerged: game development as motivation, discovery learning (i.e., learning game development skills through trial and error) as engagement in game development, and meaning-making through designing games to teach a social issue. The authors link these findings to the research questions and implications, discuss discovery learning as it pertains to juvenile delinquency interventions, and identify new questions for the ongoing pilot program.

Keywords: Discovery Learning, Game Development, Juvenile Delinquency, Learner Feedback Surveys, Learner Journaling, Meaning Making, Social Skills

INTRODUCTION
Juvenile delinquency is one of society’s most pressing problems, causing detrimental emotional, physical, and economic effects occurring throughout communities (Sander, Patall, Amoscato, Fisher, Funk, 2012; Tarolla, Wagner, Rabinowitz, & Tubman, 2002). There were 5,804 arrests for every 100,000 U.S. youths aged 10 through 17 in 2009 (Office of Juvenile Justice and Delinquency Prevention, 2011). Further, research indicates that without intervention juvenile offending is highly resistant to change, with non-treatment recidivism rates ranging from 60% to 80% (Farrington, 2002). The risk factors and predictors of juvenile criminal...
activity include individual characteristics (e.g., self-confidence) interacting with key social systems such as families, peer groups, schools, and communities (Borduin, 1999; Sander et al., 2012). Despite childhood antecedents of juvenile delinquency having been identified across communities and at-risk adolescents, there are factors linked to the escalation of offending that are poorly understood (Hoeve, Blokland, Dubas, Loeber, Gerris, & van der Laan, 2007). For instance, due to low motivation and engagement, juvenile offenders typically are not successful academic learners (Borduin, 1999; Sander et al., 2012). That is, these adolescents typically have low motivation or volition to continue participating in a learning activity and do not engage or immerse themselves in activities that lead to learning (Borduin, 1999; Sander et al., 2012). Therefore, they do not engage in the meaning-making process that relates new learning to their own lives. As a result, aspects of their learning are compromised, and they do not develop new skills for continued academic learning. One technology that is making education motivational for adolescents is video games. With over 97% of US adolescents reporting that they play everyday (Lenhart, Kahne, Middaugh, Macgill, Evans, & Vitak, 2008), video games are a popular media that allow teenagers to experience real world issues in a virtual environment. Given the high interest in video games the ability to create games aimed at promoting social responsibility, and the wide availability of game creation software, recent literature has begun to report on adolescents creating their own games (Bates, Brown, Cranton, & Lewis, 2009a, 2009b; Kafai, 2008). Furthermore, video game-making is an accessible educational activity that is related to positive learning outcomes, including increased motivation, engagement, and meaning-making (Gee, 2003, 2007, 2010; Papert, 1998). The purpose of this qualitative study was to investigate motivation, engagement, and meaning-making as juvenile offender learners participate in and report on a social issues learning game development program.

**CONTEXT FOR THIS QUALITATIVE RESEARCH**

**Project Tech**

The Project Tech camp, the context for this study, is a pilot program sponsored by the Serious Games Lab at a large Midwestern university in cooperation with the local juvenile courts. Learners attended a two-week game camp and then attended bi-weekly design sessions for 12 months. This article discusses findings from the two-week game camp. The purpose of the program is to use social skills features in a discovery learning game development intervention to promote academic learning. The first year focuses on program stabilization. More specifically, discovery learning game development means that learners create their own video games through the discovery learning process of learning by doing, seeking information, and accessing mentoring. Thus, we are examining how juvenile offenders work together and use inquiry to learn how to develop a game. The program focuses on the learners using teamwork and working with authority figures as equal stakeholders. Juvenile offenders attend daily camp workshops designed to teach game development and social skills. Each day, learners interact with each other and graduate students to brainstorm, plan, and implement game design. In the program’s cooperative learning model, through discovery learning game development, juvenile offenders and graduate students (GAs) learn together. The learning procedures include: (a) self-led learning, in which students and educators learn individually through their own independent game development process, (b) peer-to-peer learning, in which learners work with each other on game creation, and (c) expert-guided learning, in which graduate students help scaffold learning and solve problems on demand.
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