

Youth Offenders Developing Social and Technical Skills Through Game Creation

Dana Ruggiero
Bath Spa University
Newton St. Loe
d.ruggiero@bathspa.ac.uk

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.

Keywords

Youth Offenders, Social Skills, Game Creation

1. PROJECT TECH

The Project Tech camp, the context for this study, was 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. The purpose of the program was to use social skills features in a discovery learning game development intervention to promote academic learning. The first year focused 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 examined how juvenile offenders work together and use inquiry to learn how to develop a game.

The program focused 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 interacted 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) learned 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 (see Figure 1), and (c) expert-guided learning, in which graduate students help scaffold learning and solve problems on demand. After two years in the Midwestern United States the program moved to Somerset, United Kingdom.

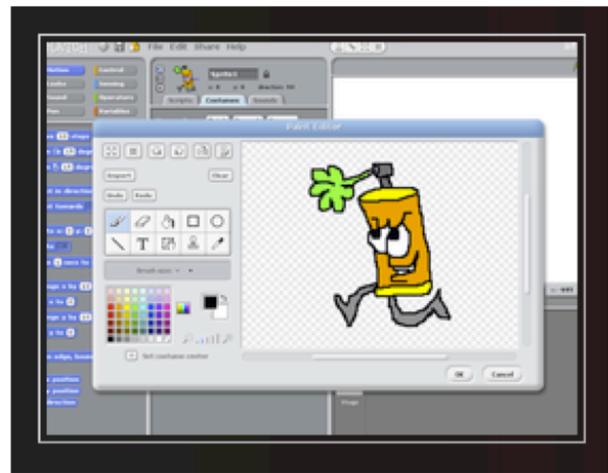


FIGURE 1: An example of a learner designed avatar

2. PROJECT TECH ACTIVITIES

A research team, including the Project Tech team coordinator (PTC), carried out the study capturing social meaning and ordinary activities in a naturally occurring setting (Patton, 2002). The camp functioned as an intervention for juvenile offenders with the research procedures embedded in the camp activity. Thus, the learners and the GAs were immersed, as a team, in the project's activities.

Procedurally, every day in the camp, the learners and GAs, as a team, reviewed a game with academic content about a social skill (e.g., working collaboratively) or a social issue (e.g., homelessness, war, and date rape). For example, on the first day of camp, the 10 learners and three GAs played a computer game, *Spent*, to acquaint the learners with a social issue game. After the learners finished playing the GAs' teaching game, the learners and GAs met as a large group to talk about the game and how it related to real life. In addition to this activity, the learners spent five hours a day using *SCRATCH* (game development software) to write, draw, design levels (see Figure 2), develop rule sets, and program games. Thus, learners used web tools to create both an individual game and a two-person team game, while working with an assigned partner. Both games were designed to investigate a social issue, with learners using *SCRATCH* (MIT, 2009) and

Sploder (Sploder.com, 2011) to program their games. GAs taught the learners the basic programming skills needed to create individual and team games about a social issue (e.g., drug use, littering). In addition, learners created a portfolio with their games and attached their written work. For example, learners created game documentation to serve as a blueprint for developing their games.

During the two weeks of the camp, the learners completed four tasks that comprise the study's data. First, based on motivation and engagement indicators that affect learning (Skinner & Belmont, 1993), learners wrote daily journal entries describing the day's activity in relation to: (a) the level of academic challenge, (b) the effectiveness of active and collaborative learning, (c) the positivity of interacting with the GA teacher, (d) the extent to which education experiences were enriching, and (e) the extent to which the learning environment was enriching. In addition, the GAs wrote daily observations and field notes to describe learner activities and interactions with the technology and their peers.

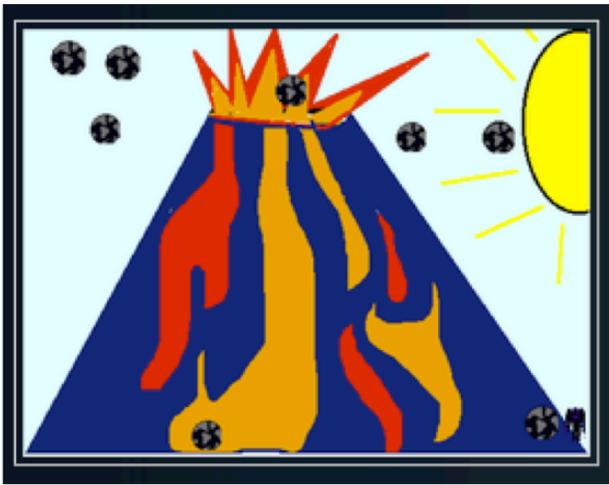


FIGURE 2: The third level of a learner designed game about making good choices.

The GA field notes logged observations by day and activity (e.g., daily meetings, team planning time, individual game time, instruction) (Graue & Walsh, 1998). Finally, we interviewed the learners at the end of the camp session, and each participant responded to a 10-question survey. Of these, six items (e.g., I found the activities engaging) were rated on a Likert-type scale anchored by 1 (*strongly disagree*) and 6 (*strongly agree*), and four items (e.g., what went well and what could have gone better at camp?) were open-ended questions.

3. RESULTS AND DISCUSSION

Perhaps the most important implication of our study was that the learners were motivated to complete their game development, if only in order to play each other's games, and portfolios. For instance, one participant even worked on his project at home; "I downloaded SCRATCH so I could keep making my game better," reported Ted during his exit interview. In addition, the initiative to work as a team and negotiate tasks was more successful in some groups than in others. It seems, therefore, that there was variability in the importance that juvenile offenders placed on working together to produce a product. If so, then camp leaders should develop interventions and programming

to create strong working groups prior to or while implementing game development learning.

4. FUTURE DIRECTION

After two years in the United States the Project Tech program has been restructured to work within the Youth Offending Program in the United Kingdom. There were both structural changes and cultural modifications made to the program. One of the main changes is the evaluation of the participants within the program. The UK model requires that any program working with people under the age of 18 is quantifiable and linked to positive outcomes, namely a drop in recidivism and an increase in employment. These are changes we are still trying to mesh with the mission of the project while keeping the aim and objectives of Project Tech focused on social skill and technical skill development.

5. REFERENCES

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