Abstract: Behavior in virtual environments can be varied and complicated. Real-life social norms cannot always be used to predict behavior and movement in virtual environments. In a world with many changing ways of interacting, learning, and behaving, it is vitally important to understand how certain pedagogical approaches can help alleviate deviance and disruptive behavior, in this case in a virtual environment that was chosen specifically because the allure of deviant behavior options is literally at the fingertips of the player at every turn in the game. To put it simply: if we can keep players from deviancy while playing Grand Theft Auto, we should be able to do it in any virtual environment.

It should be mentioned that there were two previous Grand Theft Auto studies that asked players to accomplish basic, non-deviant tasks. In both of these studies the players engaged in deviant acts at a high frequency, even though this was not part of their instructions. So with this final study, we used what we learned from the first two, and devised an experiment whereby players were given three different types of tasks (easy, moderate, and hard.) in the virtual world of Grand Theft Auto 4. These tasks were normal things that one would do in real life and were in no way criminal. Both groups were given twenty minutes to accomplish the most tasks possible. Group A, identified as the "constructivist" group, chose their own tasks from all the tasks we made available to them. Group B players, identified as the "cognitivist" group, were given a task pile with tasks deliberately ordered by the researchers to have the subject accomplish the most tasks by leading them from basic tasks to more complicated tasks. While subjects were playing the game the researchers also observed them for deviant and criminal behavior (running red lights, shooting their gun, killing people, etc.).

We found that the constructivist group chose more difficult tasks, spent longer on each task, and had more fun than the cognitivist group. The cognitivist group accomplished more tasks, spent less time per task, and committed fewer deviant acts. What was most remarkable was the both groups more-or-less stayed on task for the entire play time (20 minutes), which was drastically different from previous studies. So it seems that both pedagogical approaches could be considered to be "successful," it's just a matter of how success is measured and what behaviors are valued.