

Reducing the Recidivism Rate of Juvenile Offenders Using VR Room–Escape Games

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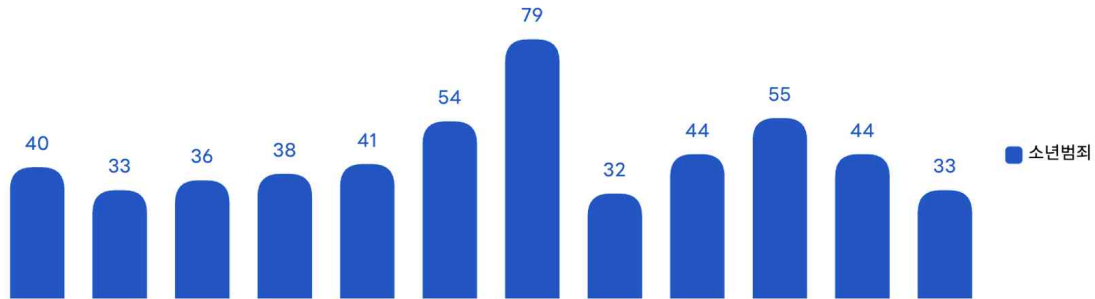
I. Problem Statement

– Severity of the Problem

Recently, the risk and level of juvenile crimes have been increasing to the extent that it is difficult to say that minors have committed them, and the targets of crimes range from young children to the elderly, police, and teachers.

In particular, juvenile crimes in Gangwon Province are increasing day by day, and among them, there are voices of concern among experts that the number of habitual offenders will increase due to the large increase in theft crimes, which are likely to be

recidivism.



Graph #11)

As up to 80 cases are recorded within a month, it is an issue that can cause major social problems. It is judged that an effective and systematic management system is necessary to solve this problem.

- Definition and Causes of the Problem

If so, what is the cause of delinquent adolescents' deviation? Actually, delinquent adolescents cited their shrinking self, lack of economic care, adolescent rebellion, and inequality in education as the causes of their deviation.

The misconduct of juvenile offenders is not a simple mistake, and 33% of juvenile offenders lead to 're-fraud', and 50% of youths with recidivism have three or more convictions. Therefore, the nature of edification is more important to the punishment of juvenile offenders than the meaning of punishment.

- Importance of the Problem

The edification of delinquent youth and economic independence have a remarkable relationship. According to the results of the 'Study on the Status and Prevention of Recidivism of Juvenile Criminals' by the Korea Youth Policy Institute, the period of recidivism was about twice as different depending on the economic activity after release from juvenile detention or juvenile prison.

The period from first-time offenders to recidivism is about 10 months for juvenile offenders who participated in economic activities and 5 months for juvenile offenders who did not participate in economic activities. Choi Jeong-won, an associate researcher at the Korea Youth Policy Institute, who is in charge of the research, said, "What kind of education and correction is important in correctional facilities, but it shows that it is important to create an environment where you can concentrate on productive activities when you come out to society."

In addition, as a result of a survey of actual juvenile offenders on the "most necessary conditions to prevent recidivism," a majority of the respondents chose "disconnecting friends with flying friends" and "stabilizing livelihood through employment."

1) Statistics on Juvenile Crime Rates in Gangwon Province from January to December 2018

Therefore, after recognizing the problems with juvenile deviations and recidivism rates of juvenile crimes, this group planned an experiment to solve the problems through economic independence education.

II. Proposed of the Problem

- Definition of VR



First of all, VR refers to virtual reality, or virtual reality, and it is a state-of-the-art technology that allows people to experience a real-life experience in a virtual world embodied by computers while wearing the same device on the left of the attached picture.

Using these vr games, our group Living Lab's main goal is to conceive an economic activity education program in the form of a room escape game and to provide economic activity education for juvenile offenders,

Among the attached photos, 'The Cabin' on the right is a VR room escape game that is actually being played.

As such, our group judged that there was no technical problem in making a room escape game, and the expected effects of the project implementation were summarized in two main ways. First, systematic follow-up management of juvenile offenders will be possible, and the active participation of the local community will make it possible to embrace delinquent youths' normal return to society. Second, through VR games, it will be possible to induce economic activities of juvenile offenders to proceed with effective edification and lower the recidivism rate. The detailed reasons will be specified through the following.

- How to Implement

First of all, it is clear that juvenile offenders are not responsible for follow-up care or whereabouts after release. There is no way to know whether they are returning home after release or to their so-called "fam." So, juvenile offenders who want to "break off friendships with flying friends" lack a system to help them get out of their "own community." Therefore, our group intends to establish a youth delinquent culture house. It will be a kind of control tower that will continue to help delinquent youth get edification and provide educational opportunities such as local win-win jobs and GEDs. And this is where we want to experience vivid job sites through our planned VR virtual

reality vocational education. Through a game-type program, delinquent youth will be able to be interested in economic activities, and the threshold for employment will be lowered through continuous education. In addition, we can experience various occupational groups and discover their aptitude, which did not have diverse educational opportunities.

However, in reality, it seems difficult to establish this cultural house right away. Therefore, we planned a concrete experiment through the latter, or VR game.

- **Experiment Plan**

a. Experiment Duration

The subject of the experiment is to conduct a job experience program using a VR room escape game for delinquent youth. We are going to proceed by dividing a total of 16 weeks of actual experiment period and one year of observation period. Subjects participated in the game once a week for an hour, and planned two pre-in-depth interviews and post-interviews.

b. Experimental Group

The experimental group was selected as 20 delinquent youths from 16 to 18 years old who had experience in protective treatment and criminal punishment outside of school. Since the whereabouts are unclear, I was worried about how to get the experimental group. I think some of the participants will be connected through the "Dorandoran" of the counseling center for crisis youth outside the school in Wonju along with the announcement of the recruitment of participants in the experiment.

c. Budget

Next, the budget is planned to be 820,000 won in total. It may vary a little depending on the cost of producing a VR game program for smartphones, but I estimated it to be an average of 700,000 won and about 120,000 won for three VR devices.

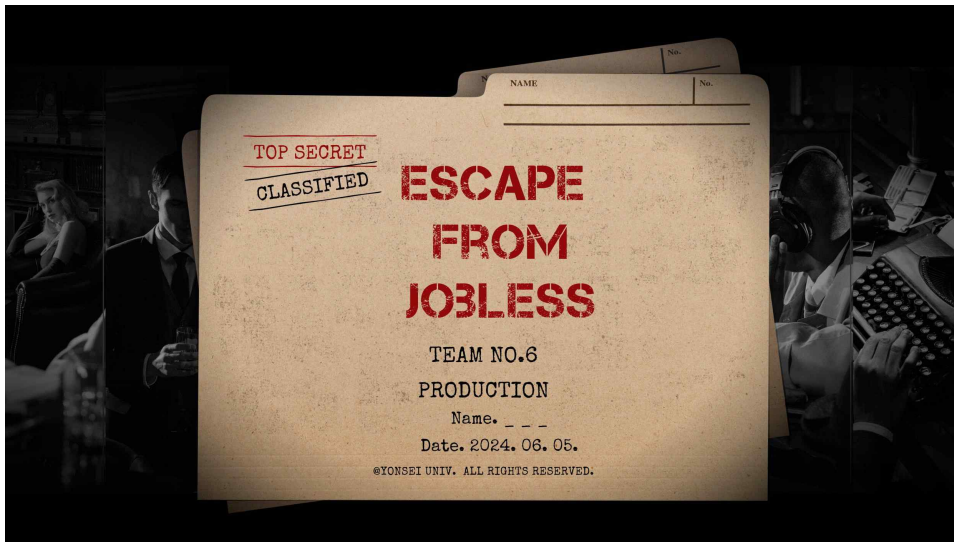
d. Experimental Model(1)

The experimental model is as follows. Twenty participants are divided into 10 in the experimental group and 10 in the control group. At this time, the independent variable with x that will change is whether or not the VR room escape game is played.

Through the first interview before the experiment, the causes and reasons for flight and deviant behavior of each participant will be investigated, and vocational education combined with VR room escape games will be conducted for a total of 14 weeks.

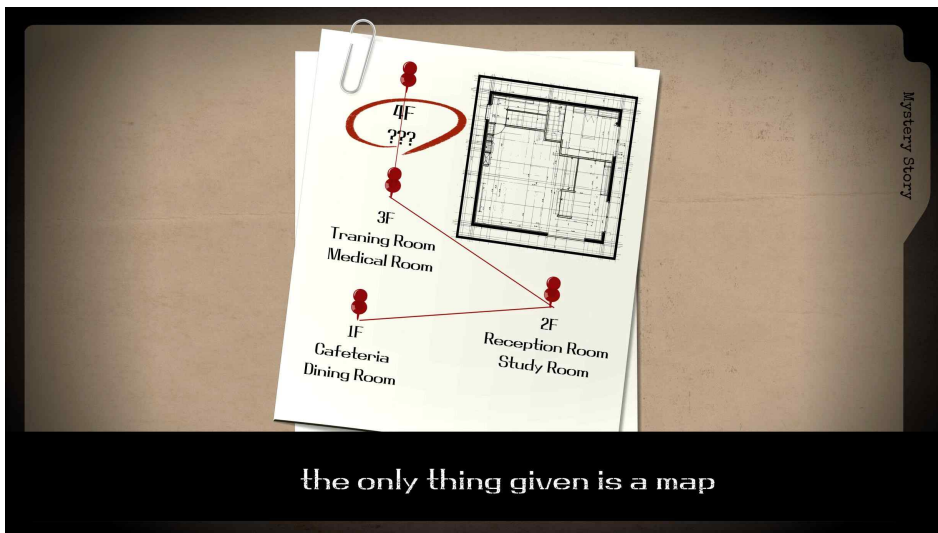
Scenarios for the Room Escape game are as follows.

e. Game Scenario



This game is a mystery adventure game that escaping job rooms for the exit key.

Through this game, you can experience 6 different kinds of jobs that correspond to each rooms theme. (the Part-time Job at the cafe restaurant, Diplomat, Soldier, Doctor and Business-person)



As soon as participants access to the game, through the VR, 'Experiencing Jobs' game starts.



You are trapped in a huge castle!

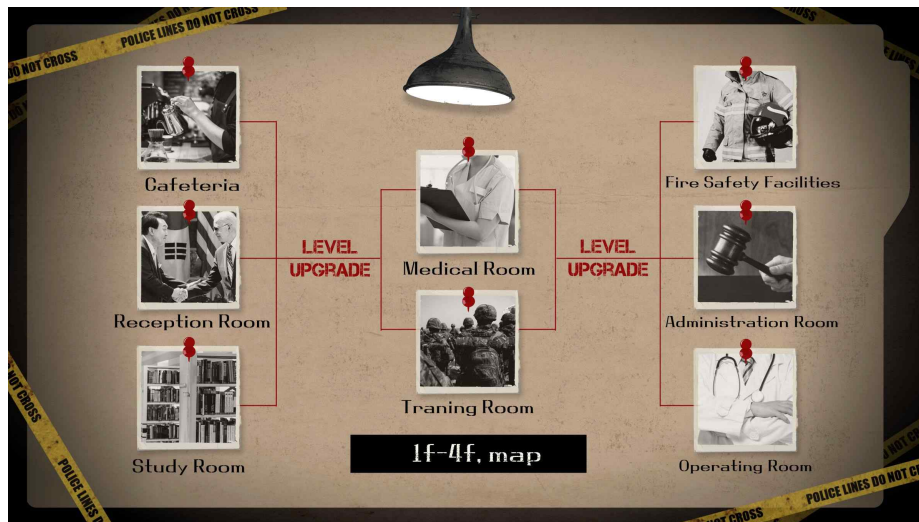
At that moment you are confusing, a castle map spreads in front of you. The first floor is cafe and restaurant, second is embassy and troops, third is hospital and company. But some how, the top floor is be veiled. So you can guess maybe that top floor is the exits!



Let's see the military room as an example.

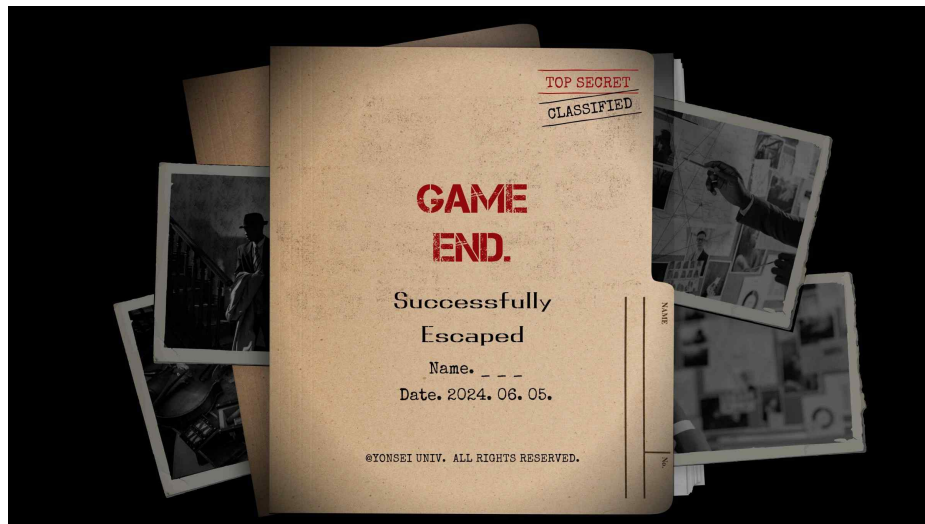
As soon as you come in the military room, you became a soldier. And there is three things. Gun, Grenade, wire entanglement. Using these things, you have to clear each mission. Then, you can escape this room.

Like this you will go through all the rooms while experiencing each jobs.



And in the last company room, you can even run whatever you want as business! Among some choices, Restaurant business, Technical business, Education etc, you can pick whatever you want to experience and work on programs.

When you finish all job rooms, you will be given the key. Then you can escape the castle!



d. Experimental Model(2)

If all the participants finish playing in this way, we will have a survey and interview time for each participant through the first post-test. The main things to look at are the degree of resolution of career concerns and the degree of change of oneself before and after participation.

However, the second post-mortem examination in a year will be the focus of our group, and the difference between the control group and the experimental group will be measured and tracked. The main criteria are to compare the current situation, such as the recidivism rate between groups, the period of recidivism from the first offender to

the recidivism, and the employment rate. We will look further at the detailed conclusion in Expected Results.

III. Expected Results

– Expected Effects of the Experiment

The experimental group is participation group in the game.

The controlled group is non-participation group in the game.

- a. The second offender term of the experimental group will be longer than the controlled group.
- b. Decreasing second conviction rate for juvenile offenders.
- c. The employment rate of the experimental group will be higher than the controlled group.
- d. Contributing juvenile delinquents to work a lawful avocation.
- e. Reform juvenile delinquents and Integrate with the local community.

IV. Conclusion – Implication on a Glocal Scale

– Global Dimension

- a. If the project cooperation with the global company, we can provide the global internship program for juvenile delinquents. Also broadening the scope of opportunity for their careers.
- b. It is practicable SDGs 16. Peace, Justice and Strong institutions.

– Local Dimension

- a. Through the job experiencing program to correlate with the characteristics of local industry, we can create economy opportunities in the local.
- b. Promote juvenile to contribute local economy.
- c. Also activate the local economy.
- d. Improvement the local juvenile environment.

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