

***Design and Evaluation of an Online Workplace Promotion Decision Analysis
Training Game With Provided Simulation Context***

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Abstract

Appropriate appraisal methods and promotion conditions are one of the most important issues that companies must face in their sustainable development. The promotion decision team also faces the problem of different audit experiences and decision-making. This study designed a highly realistic remote educational game to simulate the promotion of a company manager as the theme of the game, and the learning activity is for learners to take on the role of a promotion decision team and complete the task of recommending candidates for promotion in the case company. *Gather Town* is used to design the simulation company scenario, and learners can use *Google Form* to explore and interact with the scenario, including interviewing colleagues from various departments to understand the information of each candidate, allowing learners to explore the simulation company scenario and finally do consensus analysis and discussion on decision making. The learners in this preliminary study were six adults in Taiwan, and the study was conducted to measure learning flow, anxiety, and motivation. According to the results, the learners' mean was significantly higher than the median 3 of the five-point Likert scale in all nine dimensions of flow. The mean on the two dimensions of clear goals and concentration was higher than 4.50, the mean for overall motivation was higher than 4.00 and the mean for overall anxiety was lower than 2.00. The preliminary results show that: the mechanism does not generate anxiety and enhances learners' flow, has a high concentration, and maintain high motivation to learn.

Keywords: Educational Game, Situated Learning, Scaffolding, Decision Analysis, Contextual, Online Distance Learning

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Introduction

Promotion within a company is often considered an effective way to manage the organization and motivate employees, so performance appraisal is most often the main basis for promotion reviews (Dries et al., 2008). Laurence Peter's "Peter's Principle" (1969) states, in an organization, every employee will be promoted to a position he is not qualified for. This means that when you use promotion as an incentive, this incompetence will occur. So the important goal of promotion is to make the most effective allocation of human resources and to put the right people in the right positions. Therefore, in recent years, personal potential and characteristics have been included by enterprises in the promotion assessment conditions as important indicators. This study designed the *Google Form* with an interactive mechanism, and potential assessment decision-making tool and proposed a new online digital game "*Who is the successor*" for the promotion decision-making analysis training in a simulation workplace situation. In terms of the company's environment simulation effect, the *Gather Town* platform is used to present the environment of various departments in the office on the second floor, including President Office, HR Manager Office, Business Department, Vice President Office, Conference Room, Lounge, and Promotion Conference Room. This game imports the relevant information of promotion candidates into the *Google Form* framework, and design scripted interactive dialogues to provide the simulation situational clues as scaffolding. The goal of this situational game is to enable learners to improve their decision-making analysis skills after learning through games. By players' visiting different departments, this game guide learners to organize scaffolding information into decision-making tools to achieve more organized decision-making thinking analysis, and then through peer discussions in the decision-making promotion group to achieve critical thinking and peer collaborative learning.

Methods

This study was initially tested by a pilot analysis. The participants were 6 adults over the age of 20 in Taiwan. They were free to form teams and sign up online, with 3 people on each team. Before the test, none of the participants had taken relevant courses using a similar online interactive game. The *Gather Town* game platform was used for the learners in the operation of the event to freely explore various simulated departments to collect reference materials for manager candidates. The task of the first-stage learners should complete the independent decision-making analysis, as shown in Figure 1, and the task of the second-stage learners needed to complete the collaborative analysis using the provided performance potential matrix (Traynor, Wellens, & Krishnamoorthy, 2021), as shown in Figure 2. After the completion, the two-stage decision analysis, peer collaborative learning, and critical thinking learning then be completed. Finally, a post-test questionnaire is administered, including questionnaires such as learning flow, learning anxiety, and learning motivation.



Figure 1. Players conducted information collection and decision analysis in the Gather Town -based game “Who is the successor”

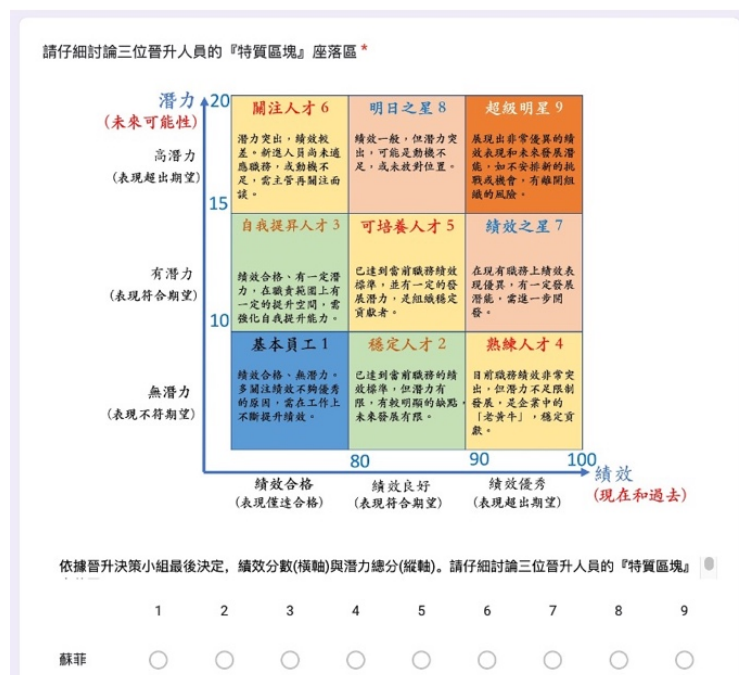


Figure 2. Collaborative Analysis using the Performance Potential Matrix

Results and Discussions

In this study, nonparametric statistics analysis was carried out for each dimension, and the results of the Mann-Whitney U-test are presented in Table 1, which was the descriptive statistical analysis of the flow state of the learners after completing the two-stage tasks. Overall flow ($M=4.18$, $SD=0.31$) was significantly higher than the median of the scale (i.e., 3). Flow antecedents ($M=4.27$, $SD=0.33$), flow experience ($M=4.11$, $SD=0.43$), and the mean values of flow in all dimensions were all higher than the median of the scale (i.e., 3). Among them, the average value of the three dimensions of clear goals, sense of self-control, and concentration are as high as 4.50 or more. The overall game design that represents the scripted Google Form interactive mechanism allowed learners to be more aware of the goals of the activity and have a high sense of self-control, resulting in a high flow experience (Cross & Edmonds, 2003), and actively participated in the completion of game tasks. Thereby improving the goal of online learning concentration. Table 2 is the descriptive statistical analysis of learners' anxiety performance and learning motivation. The overall learning anxiety ($M=1.98$, $SD=0.44$) was significantly lower than the median of the scale (i.e., 3). Overall learning motivation ($M=4.33$, $SD=0.52$) was significantly higher than 3.

Appropriate low anxiety and high learning motivation are important indicators of sustained flow in game activities.

Table 1. *The mean and standard deviation of learners' flow*
(n=6)

Dimension	M	SD	Z	Sig.
Overall Flow	4.18	0.31	2.20*	0.028
Flow antecedents	4.27	0.33	2.20*	0.028
Challenge-skill balance	4.17	0.52	2.23*	0.026
Goals of an activity	4.67	0.41	2.23*	0.026
Unambiguous Feedback	3.67	0.41	2.07*	0.038
Control	4.50	0.45	2.22*	0.026
Action–awareness merging	4.33	0.52	2.23*	0.026
Flow experience	4.11	0.43	2.21*	0.027
Concentration	4.50	0.57	2.23*	0.026
Time distortion	3.92	0.74	2.03*	0.042
Autotelic experience	4.17	0.68	2.21*	0.027
Loss of self-consciousness	3.83	0.52	2.06*	0.039

* $p < 0.05$

Table 2. *The mean and standard deviation of learners' anxiety and motivation*
(n=6)

	M	SD	Z	Sig.
learning anxiety	1.98	0.44	-2.20*	0.028
learning motivation	4.33	0.52	2.21*	0.030

* $p < 0.05$

Conclusions and Limitations

This study developed a simulated workplace promotion decision-making training online digital game "*Who is the successor*" with the theme of the company's annual personnel promotion. Use the scripted *Google Form* interactive mechanism to simulate the dialogue and exploration between members of the "promotion decision-making group" and colleagues in various departments and conduct decision-making analysis and make decision-making consensus. Based on the above initial data analysis, there were significant differences in flow performance, learning motivation, and learning anxiety scores with the medium of the scale (i.e., 3). Preliminary results show that this research uses experiential learning in a simulation situation, and the introduction of the scripted *Google Form* interactive mechanism could maintain a high level of learning motivation, reduce learning anxiety, and improve the flow of online learners in the learning process, so as to help learners develop more high-level decision-making thinking skills (Anwar & Abdullah, 2021). More sample sizes can be added for future studies. It is also suggested for in-depth analysis of the effectiveness of scaffolding, game fidelity, the usefulness of the game, and critical thinking process on the online learning of scripted *Google Form* interactive mechanism.

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