Inspiring Creativity through a Creativity Game of Players as Game Story Designers: A Metacognitive Approach

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Abstract: There have been tremendous ways of developing creativity, yet instead of traditionally formal instruction, games are the best media to spur creativity, as creativity can easily and spontaneously be evoked through games. On the other hand, metacognition is a good way to promote creative thinking, as metacognition which contains the abilities such as self-planning, self-monitoring, and self-evaluation can foster creative-relevant cognitive processes. Games are exactly the ideal platform that provides a playful context for metacognitive awareness prompting creative processes. Based on the advantages of games and that design is a creativity-relevant cognitive and constructive process, this research adopts the means of digital game-based learning (DGBL) to propose a metacognitive approach to inspiring creativity through a creativity game of players as game story designers.

Keywords: creativity assessment, game story design, game story creativity, creativity

Introduction

Creativity has been widely acknowledged as one of appreciated 3Cs today-*creativity, curiosity, and courtesy*. Many studies revealed that creativity is associated with and also facilitates divergent thinking, critical thinking, flexibility, and so forth, which are the vital elements to promote learning. However, is creativity inborn or acquired? Creativity, like other potentials, demands inspiration and practice to receive its whole-scale development. There have been tremendous ways of developing creativity, yet instead of traditionally formal instruction, games are the best media to spur creativity, as creativity can easily and spontaneously be evoked through games.

1. Purpose and Significance of the Proposed Research

Based on the advantages of games and that design is a creativity-relevant cognitive and constructive process, this research adopts the means of digital game-based learning (DGBL) to propose a metacognitive approach to inspiring creativity through a creativity game of players as game story designers. The purpose of this research contains three aspects. First of all, this research attempts to explore what kind of creativity assessment is appropriate for game story design. Second, this research investigates the effects of inspiring creativity through a game of players as game story designers. Third, this research tries to understand in which game story constructs were the students good at and short of creativity?

The significance of this research is that this research proposes an entertaining and metacognitive approach to inspiring creativity in replace of traditionally formal instruction of creativity. Besides, the devised creativity game can prompt players' creativity-awareness for distinctive game story constructs and creativity dimensions. This research provides valuable information for game design course instructors as well as game story design evaluators.

2. Literature Review

This research is based on the integrated rationales of game, creativity, and metacognition. Some selected literatures are briefly discussed as follows.

2.1 Game and Creativity

The literature has widely discussed the relationship between games and creativity. Some major advantages of games are described as follows. First of all, game play is a wonderful source of relaxation and stimulation for the brain and body-a sure and fun way to develop the ability of creativity [3]. Second, game play can arouse curiosity which leads to discovery and creativity [3]. Third, creativity can be activated by intrinsic motivation through games [5]. Fourth, games can stimulate divergent thinking which promotes creative learning [2].

Noticeably, game play as engagement fosters the cognitive and affective dimensions of the creative process, as well as the development of domain-relevant skills and creativity-relevant skills [5]. There are five creativity-relevant cognitive processes: problem framing, divergent thinking, mental transformations, practice with alternative solutions, and evaluative ability. Through game play, these creativity-relevant cognitive processes can be facilitated in learning. Evidently, games not only a brilliant means to mediate learning but also a fantastic catalyst to boost up creativity. Thus, games are the best approach to an enjoyable learning environment prompting creativity which in return inspires creative learning.

2.2 Game and Metacognition

The literature has extensively discussed over metacognition in the past decades. Metacognition refers to the ability or awareness of understand and monitor one's own thoughts [4]; simply put, thinking about one's thinking. Many studies have reported that metacognitive awareness can be fostered with proper instructional strategies. Likewise, the conditions that have been proven to foster metacognitive awareness through instructional strategies are similar to the conditions established in games [6]. Differently, games provides a context in which players can enjoy a playful activity. Using games to prompt metacognitive awareness can encourage motivation, promote engagement, and increase pleasure-an ideal means much better than formal instruction.

2.3 Metacognition and Creativity

Creativity involves f innovation, imagination, uniqueness, etc. Many studies have explored how to promote creativity through a variety of means and strategies. It has been demonstrated that metacognition is a good way to promote creative thinking, as metacognition which contains the abilities such as self-planning, self-monitoring, and self-evaluation can foster creative-relevant cognitive processes [1, 5].

3. Implementation of Game Story Players as Designers Approach

Grounded on the rationale of the triangular relationships of creativity, metacognition, and games, game story constructs and six types of creativity are presented in a metaphorical way in the devised creativity game, requiring players as game designers for inside-game- story players. Through designing, it stimulates players' metacognitive awareness that simultaneously prompts creativity awareness.

4. Method

4.1 Research Design

This research consists of three phases. In the first phrase, a creativity assessment rubric for game story design is developed and tested its validity and reliability. In the second phrase, a standard creativity test is selected and used to pretest and posttest a control group that is treated with a learning system containing selected instructional materials on creativity. For the experiment group, a questionnaire is used to pretest the participants' knowledge of creativity for game story design, and then the creativity game proposed by this research is conducted on the participants. In the third phase, the game story design projected done by the experiment group at the end of the semester will be assessed with the devised assessment rubric by three raters. Two groups will be compared in terms of different instructional treatments.

4.2 Preliminary Research Questions

Three research questions are formulated as follow: First, in which game story constructs are the students good at and short of creativity? Second, whether the proposed game treatment better promotes creativity? Third, how do the students view such a metacognitive approach to creativity inspiration?

5. Preliminary Research Work Achieved and Future Work

This proposed research has come to the phase of pilot study. An analytic rubric of game story creativity has been devised and the paper of rubric design has been accepted in the 2012 International Conference of Computers in Education. Based on the analytic rubric, initial ratings have been conducted and the validity and reliability of the analytic rubric are being examined. Besides, the game structure diagram of the creativity game as well as a questionnaire has been initially drawn. Future work will focus on the development of the creativity game and the evaluation of its effectiveness.

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