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How do Experienced Learning Designers Differ from Novice Designers when they Design for Game-based Learning?

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KEY IMPLICATIONS

- Teachers' perspectives on games-based learning did not strongly differ in terms of teaching experiences. This means professional development training for game-based learning could be provided for teachers regardless of their years of teaching experiences.
- Teachers' restricted view of game-based learning showed the need for such professional development to include learning in terms of social practices (i.e., play), besides content acquisition.
- Adding games to classrooms requires adjusting or accommodating the relevant practices, which in turn depend on the goals of use.

BACKGROUND

Generally, schools in Singapore remain content-focused, an agenda that is misaligned with the needs of a 21st century education. In particular, competencies like problem solving, critical knowledge consumption and production, and efficient/effective teamwork are not nearly as central to educational testing as is content mastery. However, even if such a systemic policy shift was made tomorrow, students and teachers would not be prepared for the change in learning activity that would need to take place in order to address competencies over content.

FOCUS OF STUDY

This research project explores how to prepare teachers to better design learning experiences for students particularly for the development of game-based curricula.

KEY FINDINGS

Teachers' professional development backgrounds did not categorically affect their design of game-based learning curricula. Teachers, regardless of experience, considered the students' differing abilities as essential for developing curricula. To address this, they suggested that their role as teacher-facilitators would be essential in guiding students to learn via reflection on game play. Teachers focused on the game as a model, as an engaging activity, and as a means for introducing content.

SIGNIFICANCE OF FINDINGS

Implications for Practice

The supporting curricular materials for game based curricula should be adjusted to meet diverse student audiences.

Implications for Policy and Research

Further research should seek to inject research-based ideas into the ecosystem of teacher-led expertise in order to better meet the needs of 21st century competency education.

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Proposed Follow-up Activities

Improvements to professional development would be greatly accelerated with the development of a task force of teachers whose primary focus is on to improve how games can be used in Singapore classrooms.

PARTICIPANTS

Fourteen educators, 11 of whom are teachers, were involved in this study.

RESEARCH DESIGN

A case study approach (Stake, 1995) was employed in which cases were the designs and explanations of a game-based lesson plan created by recruited participants. The participants in this study were all educators, including six experienced and five pre-service, or "novice" teachers. The experienced teachers were either currently in-service or former teachers who at the time of the study were pursuing advanced education degrees. The less experienced teachers had not yet entered service formally, though some had served as "relief" teachers, supervising students in classrooms but not acting in full capacity as teachers. All of the less experienced participants had less one year of experience as relief teachers.

There were three steps in data collection. During the first step, participants were introduced to an educational card game Sovereign City, a custom-developed card game designed to align with a geography textbook's chapter on energy. In this step, participants learned how to play the game. In the next step, the design challenge, participants were asked to spend up to one hour to create a 45-minute lesson plan that included the game and addressed accompanying specific instructional objectives. Because none of the participants were geography teachers, they were also provided with copies of the geography textbook chapter that the game was based on to use as a reference. After designing the lesson plan participants were asked to explain their lesson plan in an interview. This interview was semi-structured, and focused on design considerations, identified/perceived affordances of the game and the constraints that teachers faced regarding game-based learning.

Each interview lasted between 30 and 60 minutes, was audio recorded and then transcribed. Interviewee responses were coded descriptively by two researchers, and the descriptive codes were combined within pre-determined themes: role/context, learning theory, and game perceived affordances.

REFERENCE

Stake, R. (1995). *The art of case research*. Thousand Oaks, CA: Sage.

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Request for more details

Please approach the Office of Education Research, National Institute of Education, Singapore to obtain a copy of the final report.