Getting Serious About Serious Games: Best Practices for Computer Games in Reading Classrooms

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In this article, myths about computer games are debunked and guidelines are presented from which students may derive greater benefits.

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In this article, myths about computer games are debunked and guidelines are presented from which students may derive greater benefits.

- Computer games that support reading acquisition are already present in primary classrooms.
- It is necessary to understand how we can adjust our expectancies and practices to make optimum use of this technology.

Focusing on computer games in the elementary reading classroom

- Computer games have become universal in elementary

classrooms.
- By the early 2000s, 80% of elementary teachers in highly developed countries reported using computers for instructional reading support.
- The way computer programs are implemented makes a significant difference to student learning, with teacher-student interactions being critical.

Computer games for literacy learning

- Computer games are a subset of computer-assisted instruction (CAI).
- Computer games have specific goals, interactive elements, and can be rewarding for the participant.
- For serious games that are played in school, the goal is to learn, rather than purely entertainment.
- Serious games are usually self-contained and supplement the core curriculum through individualised drills, adaptive practice, and assessment.

How teachers implement computer games

- The value of integrating technology lies in how, not whether, it is used.
- Students benefit when teachers make thoughtful decisions about technology.
- Attention to implementation is needed.

The study

The study presents myths about the use of computer games for reading.

Myth 1

Students are always highly motivated to play computer games for reading. Students will be more engaged in literacy tasks with technology than with traditional formats such as pen and paper.

- The novelty of new games often evokes a short-term or situational interest.
- Games were not found to be more motivating than traditional instruction.
- Frequent computer game play in reading has been associated with lower reading interest.

Teachers' supporting motivation for serious games in reading

- Motivation stems from three basic needs: autonomy, competence, and relatedness.
- Teachers should explicitly inform students that although a learning game may be fun, it is a different type of game than those played outside school because the goal is to learn; unless students understand that competency is the goal, playing for fun will be the default aim.
- Teachers can model and encourage students to develop learning goals.
- We recommend that teachers present goals near the playing area and revisit them as a daily ritual before playing to maintain students' focus on learning.
- We recommend two types of peer collaboration: many games can be played with partners sharing one screen, while students benefit from having others witness their success in learning games.

Myth 2

Students are digital natives, which means they can jump right into a game with little instruction. Today's students, born immersed into digital technology, approach technology differently than previous generations.

- Generational status does not ensure technological competence.
- Experience and education are more important than age.

Teachers' support of students' skill in using games for literacy learning

- Teachers should introduce a target literacy concept without technology. Only after students demonstrate some competence should a computer game be introduced for practice and reinforcement.
- It is ideal for teachers to not only demonstrate how to use the game but also help students to connect the game with previous learning.

Myth 3

Computer games are interactive by design. Because games require players to make decisions, playing games should be interactive.

- Student use determines interactivity; games are only interactive when used mindfully.

Teachers' facilitation of students' mastery mind-set when playing computer games

- Modelling how to interact mindfully with serious games is essential for learning.
- The most essential step is coaching students to slow down during play and reflect on their choices.
- Teachers can think aloud when introducing a learning game.

Myth 4

Students readily transfer learning from games to their reading and writing. As teachers, we expect that literacy skills generalise between digital and analogue situations.

- Transfer cannot be assumed. This in one of the greatest challenges for game-based learning.
- Learning with computer games can be inert knowledge, which means students' only have that knowledge within a game context.
- Learning from games can be intuitive, meaning that it can be applied but not verbalised by learners.

Helping learning transfer beyond the game environment

- It is fundamental for teachers to be well informed of exactly what type of learning their students are practicing in a game. Teachers should play the game in student mode to fully understand the types of tasks given.
- Teachers should work to embed serious games into their overall instructional framework, rather than isolating games in a discrete centre or computer lab activity.
- Computer games can be embedded within a 45-minute lesson.

Myth 5

When students play learning games, teachers are freed up to support others. Computer games serve the dual purpose of teaching and classroom management.

- The teacher needs to be actively involved in all steps of the process: modelling, goal setting, tracking, and integrating instruction.

Implementing computer games to support learning and relieve demands on teachers' instructional time

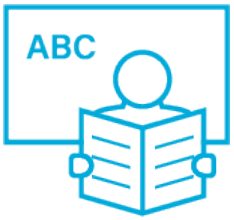
- Although we advocate students experience adult interaction to fully benefit from computer games, that

adult does not need to be the teacher.
- To facilitate students moving their knowledge from intuitive to generative, it is essential that students verbalise their learning. Adults should engage students in discussions about what they are learning in game play and ask insightful questions to help students connect learning to book reading.

Myth 6

Research-based computer games provide individualised instruction for struggling readers.

- Teachers provide instruction and games provide practice opportunities.
- Learning games can provide individualised practice for struggling readers.



Implications

When using serious games in early reading instruction, teachers should gain confidence in their content and pedagogical knowledge, carefully investigating the potential gains from the technology. We encourage teachers to critically analyse the limitations of serious games for reading, and before implementing, decide the extent to which such games are aligned with their pedagogical and content goals.

How to acquire increased benefits from serious games

1. Teachers should tell students explicitly that serious computer games are for learning.

2. Instruction for concepts should always be given before students practice them in a game.
3. Classroom structure should be organised so computer games are integrated with other literacy activities.
4. ‘Think-alouds’ should be used to model how to develop a mastery mind-set when playing games, such as how to slow down and what to do when a mistake is made.
5. Students should set skill-based learning goals before playing games.
6. Teachers should set up a tracking system to monitor students’ progress within games.
7. When students are playing games, questions should be asked to encourage thinking about the decisions they make.
8. Student should be allowed to work with peers when playing literacy games.
9. After game play, students should be encouraged to share one concept that they learned through the game.
10. Volunteers or paraprofessionals could be engaged to provide technical help, ask questions during game play, manage goal-setting, and track progress.