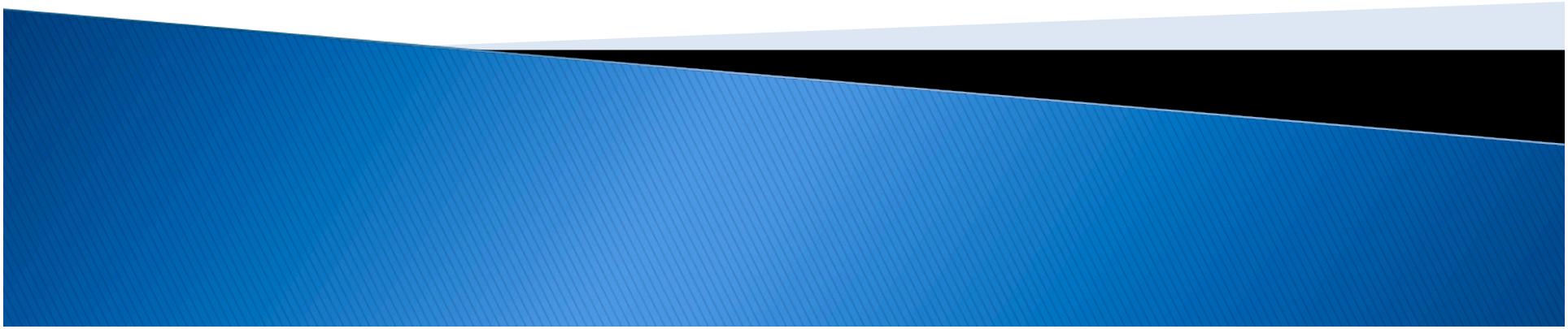
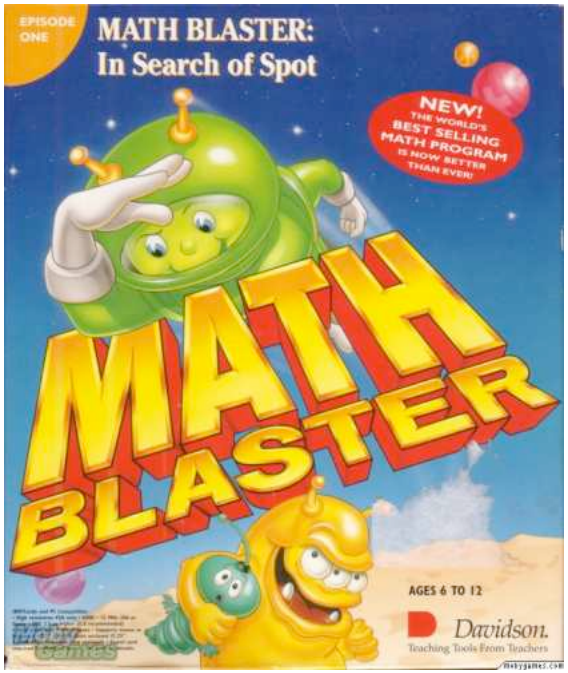
The Design of Educational Games

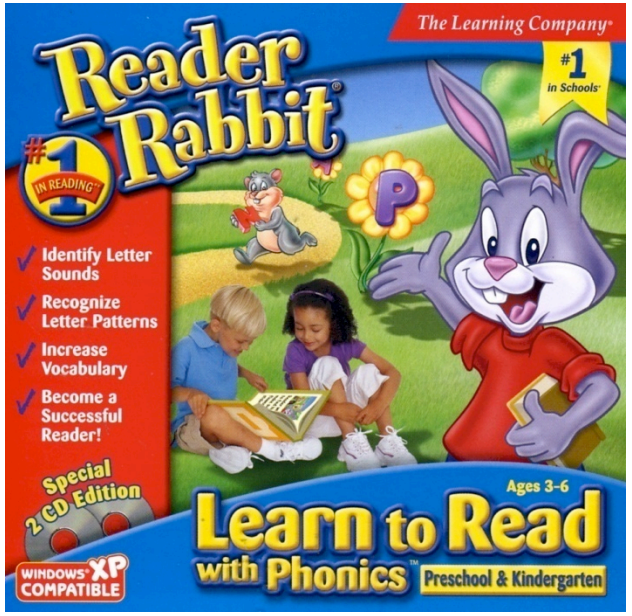
Timothy Ballew, MA



The sordid past of educational gaming…

- “Edutainment” seems to be a title given to any multimedia device that is considered to have educational potential
  - Scores of low-grade titles fill the bargain bins at retailers across the world
  - Most are unrecognizable, picked up by unsuspecting parents to unwittingly torture their children
  - However, a few titles remain etched in our memory for one reason or another…


EPISODE ONE
MATH BLASTER:
In Search of Spot
NEW!
THE WORLD'S BEST SELLING MATH PROGRAM IS NOW BETTER THAN EVER!
MATH BLASTER
AGES 6 TO 12
Davidson.
Teaching Tools From Teachers


The Learning Company
Reader Rabbit
#1 IN READING
#1 in Schools
Identify Letter Sounds
Recognize Letter Patterns
Increase Vocabulary
Become a Successful Reader!
Special 2 CD Edition
Ages 3-6
Learn to Read with Phonics
Preschool & Kindergarten
WINDOWS XP COMPATIBLE

censored

Design features of good educational games…

- Malone (1981)
  - Challenge – One of the most important determinants of fun in any type of video game.
    - Too easy, the game is not fun
    - Too hard, the game is frustrating
  - Curiosity – A primary motivating factor in educational games.
    - A motivating game (intrinsic or extrinsic) will be played more often and enjoyed more thoroughly than a similar game lacking motivational aspects (Garris et al., 2002).

Design features of good educational games…

- Malone (1981, cont'd)
  - Fantasy – This refers to an environment "that evokes mental images of physical or social situations not actually present (Habgood et al., 2005)".
    - Performance in an exogenous fantasy environment does not depend on learned skills, nor do the skills learned depend on the environment.
    - Performance in an endogenous fantasy environment depends on the skills learned and the skills learned depend on the environment.

Design features of good educational games…

- Paras and Bizzocchi (2005)
  - Reflection – Players must be given time to reflect on what they have learned.
    - This is problematic, as players rarely reflect on learning that is taking place while in a state of flow.

A level design demonstration using Little Big Planet…

- Many retail games now include powerful level editors
  - These can and have been used by gamers to create levels far beyond what the original designers imagined
  - There is a great potential for educational game design in these editors

Sackboy...

Questions?

Timothy Ballew, MA
Conta[redacted]g.com