Educational Research via Playtesting

Innovative Approaches to Data Gathering and Analysis

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Overview

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- Game development
- Player Experience
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What are we playing now?
An interactive entertainment playable on a computer based electronic device.

**Computer Game** – played on a computer (PC, Mac, etc.)

**Video Game** – Played on a special purpose device dedicated to playing games.

We can vary these definitions a bit.

What is a Video Game?
Computer games are enabled by software, but are more than that.

A game can include design, art, music, interaction, sets, props, narrative, actors, a script.
Computer Games/Video Games
What do we not think of as a computer game?

- Solitaire
- Chess

These games do not need a computer in order to be played.
Game development:
- the creation of a computer game.

1. Design
2. Create assets including software
3. Play – any good? Bugs?
4. Iterate
A computer game is not a software product.

It is a media product, like a TV show or motion picture.

It contains software as a component, like a car.

So, when our movie is complete, how do we test it?
We have people watch it!

Called a **test screening**.
We run the film, sometimes without special effects, music, sound effects, or other post production features.

We ask the audience questions about the film. We sometimes have the cast or director there for the audience to interrogate. We sometimes watch the audience watch the film. Some groups even measure audience reactions using blood pressure/skin response.
Why?

To find out if our film is hitting its target.

These are commercial items. The film has a target audience and is intended to tell a specific story in a specific manner.

If it is failing, we need to know early and know why.

Test Screening
We apply similar techniques to videogames.

How does this apply to Games?
Games focus on the player experience.

The Player Experience
In the game industry we do a **play test**.

*compare/contrast w/ what we do in the classroom...*

We select a small sample of our target audience to play the game.

We watch them play.

We ask them about their experience.
Is the game too easy (hard)?
Is the game easy to learn?
Are the controls intuitive (and typical)?
Is the interface clear and simple?
Is the art interesting?
Is the music appropriate and appealing?
Are the sound effects effective?
Is the story interesting?

Is the game FUN?

Play Testing
Play testing concerns itself with matters of opinion and judgment, not fact.

What is *fun*, exactly?

What one player likes another may dislike. How will we resolve these issues?
How do we conduct a play test?

First, select a competent Test Administrator (TA) to be in charge.

TA selects 3-10 test subjects with the correct demographics.
- Will be paid
- Will sign release forms (minors have parents sign)
The TA prepares a set of questions to serve as a pre/post test.
- Some dummy (unrelated) questions.

TA prepares a site where the game can be played.
- Include a setup to do a short presentation
- Computers and installed games
- Set up for video and sound recording
Subjects are brought into the testing area.
- Are asked the pre-test questions.
- Are given the game instructions
- Are introduced to the game (short talk)

And then are asked to play it.
TA or delegate observes the play as it proceeds and notes player reactions.

Play proceeds for 15 minutes followed by a break.

TA and player can exchange questions and answers.

Play for another 15 minutes.

Post test questions.
Post test questions

- Best parts
- Worst parts (why?)
- How easy to play?
- Confusing parts
- Exciting parts
- Make sure releases are signed, pay the players, and excuse them.
NOW turn off the video, label and seal it. The dev. team can watch it but cannot copy it or send it across the Internet, and must return it.

Members of the development team can be at the play test but must not interact with the players, at least until the video is off and data ceases to be collected.

Repeat testing cannot use the same subjects.
A report is made by synthesizing all of the information seen during the test.

Should be informative to the development team, so translation from player language to developer language may be needed.
Note all times a player verbalizes and what is happening.
Note player successes and failures and their reaction to them.

Note well where the player stops playing!
Our Turn
Exercise:
We are going to test a game.

- I'm looking for one volunteer to be the tester. This person will come up the front to play the game for a short time.

- The rest of the participants will be test administrators. You will need a piece of paper for taking observation notes (don't rely on memory).

The game can be found at: www.minkhollow.ca/mackays
We’re going to play ‘War of the Swirls’

First we will read the ‘How to Play’ page.
Then we will have the tester play while the rest of us observe.
Tester Pre-test:

- Have you played a web based game before?
- Which one (or 2)?
- How often?
- What browser do you use?
- Do you own an iPad?
WAR OF THE SWIRLS
SAVING THE WORLD TAKES ICE CREAM
Now have the player begin to play.

The TAs must observe the group, noting important aspects of play. Write down the observations.

Play for 5 minutes, then stop.
Post-test:
How far did you get in the game?
Was it easy to play?
What was the best part of the game?
Was there a frustrating aspect? What was it?
Did you have fun? Would you play again?
In a real testing session:

• Conduct a 2-3 minute cool down session, allowing the players to make any comments they choose. Take note of these comments.
• Afterwards, if it is wanted, the developers are here and you can speak to them.
• Hand in the reports first.
Back to School
How can we apply concepts of Playtesting to Classroom research?
1. Is the game too easy (hard)?
2. Is the game easy to learn?
3. Are the controls intuitive (and typical)?
4. Is the interface clear and simple?
5. Is the art interesting?
6. Is the music appropriate and appealing?
7. Are the sound effects effective?
8. Is the story interesting?
9. Is the game FUN?
1. Is the game too easy (hard)?
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3. Are the controls intuitive (and typical)?
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6. Is the music appropriate and appealing?
7. Are the sound effects effective?
8. Is the story interesting?

9. Is the game FUN?
1. Is the **lesson** too easy (hard)?
2. Is the **lesson** easy to learn?
3. Are the **exercises** intuitive (and typical)?
4. Is the interface clear and simple?
5. Are the **visualizations** interesting?
6. Is **audio (verbal) component** appropriate and appealing?
7. Is there a worthwhile **written** component?
8. Is the story interesting?

9. Is the activity **FUN**?
How can we use playtesting ideas to inform our teaching?

SHOULD we consider "fun" in our lessons?

What can be gained by examining instruction to assess

• levels of difficulty
• intuitiveness
• interface issues

What can we learn by looking at how learners interact with our instruction?

Take-Aways
Educational research is supported by a well-defined collection of methodologies, but are there methodologies elsewhere that can provide fresh perspectives? The use of videogames in learning is becoming more accepted, but are there other things we can learn from games?

There are fundamental differences between games and instruction such as the fact that one seeks primarily to entertain and the other to enlighten or educate, it turns out that the practices, processes, and theories behind playtesting games can in fact inform aspects of pedagogy - particularly those that relate to engagement.

In game design, the primary focus is on the player experience and there has been considerable research into ways to assess and measure the player experience through playtesting. Playtesting is concerned with such things as whether or not the game is fun, which parts are too easy or hard, and whether and when people become bored. All of these properties have relevance to teaching and learning even though they may not appear to be directly connected with meeting learning objectives. Rather, playtesting is concerned with the motivation of the player/student to continue the particular course of learning, which speaks to the success of the methodology in capturing the student’s imagination. Sometimes, simply taking a novel approach to evaluation can yield insights that were not uncovered by more common approaches. This presentation will provide a brief overview of formal playtesting procedures and highlight ways these approaches could be used in the classroom as well as how this could inform pedagogy.


Resources