GAMES!
Active Learning At Your Fingertips

THE GAME AGENCY
Introduction

Karl Kapp
Professor of Instructional Technology, Bloomsburg University, Author “Gamification of Learning and Instruction” co-author “Play to Learn”

Stephen Baer
Managing Partner, The Game Agency
Forbes Magazine Gaming Columnist
Former Director of Marketing, Atari
Agenda

During this talk, we will…

1. Explore why training games are effective
2. Map learning objectives to game mechanics
3. Explore game building & analytics tools
4. Have some fun!
Don’t Be Shy
what are your favorite games?
All of These Can Be Training Games

PAC-MAN

Fruit Ninja

The Oregon Trail

Words with friends

Monopoly

The Sims

Scrabble

Temple Run

Scrabble

Minecraft

Escape the Room

Mass Effect

Trivial Pursuit

Reigns

doodle jump

Wheel of Fortune

Fortnite

The Legend of Zelda
What Do These Games Have In Common?

**Rules**
- 3 strikes
- 3 outs
- 9 innings

**Strategy**
- curve balls
- bunting
- stealing

**Goal**
Most runs at the end of the game win!
The Perfect Marriage

Brains + Games =

• Safe Practice Playground
• Active Learning
• Higher Knowledge & Retention
What does the research say?

FUN BEFORE LEARNING

STEALTHILY ENGAGE THE PLAYER

What does the research say?

ALIGN GAMEPLAY EXPERIENCE WITH PERFORMANCE OBJECTIVE

What does the research say?

In-game experience must drive learning

<table>
<thead>
<tr>
<th>Question</th>
<th>Avg. Time</th>
<th>Correct</th>
<th>Incorrect</th>
<th>Attempts</th>
<th>1st Attempt</th>
<th>2nd Attempt</th>
<th>3rd Attempt</th>
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<td>33.33%</td>
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<td>✓</td>
<td>✓</td>
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<td>✗</td>
<td>✓</td>
<td>✗</td>
</tr>
<tr>
<td>How many America...</td>
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<td>3</td>
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<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>How many workers ...</td>
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<td>100.00%</td>
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<td>✓</td>
<td>✗</td>
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<td>3</td>
<td>✗</td>
<td>✓</td>
<td>✓</td>
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<td>What percentage of ...</td>
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<td>3</td>
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<td>✓</td>
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<tr>
<td>Which of these are t...</td>
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<td>0.00%</td>
<td>3</td>
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<tr>
<td>Which of these state...</td>
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<td>66.67%</td>
<td>3</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
</tr>
</tbody>
</table>

What does the research say?

A GOOD GAME SHOULD GRADUALLY INCREASE IN DIFFICULTY

What does the research say?

PROVIDING IN-GAME FEEDBACK IS CRITICAL FOR KNOWLEDGE GROWTH

What does the research say?

CREATE CONNECTION WITH LEARNERS THROUGH PROGRESS & ENCOURAGE REPLAY

Before creating a game I always ask...

1. What performance problem are you trying to solve?
2. What is the root of your performance problem?
3. What skills will solve that performance problem?
4. Can a game teach and reinforce those skill?
Not All Games Are Created Equal
Performance Objective

Knowledge
- Memorization
  - Game
  - fast paced quick recall and response testing with correct and incorrect responses

Comprehension
- Judgment
  - Game
  - question and answers with correct and incorrect responses

Application
- Consequence
  - Game
  - cause-and-effect based on decisions (good, bad, best)

Analysis
- Strategy
  - Game
  - puzzles, challenges, solution driven experience

Evaluation
- Simulation
  - Game
  - simulated, immersive environments, free roaming, collaborative (multi-player)

Skillsets
- Describe
- Find
- Identify
- List
- Match
- Recall
- Recognize
- Estimate
- Explain
- Infer
- Interpret
- Predict
- Relate
- Select
- Administer
- Calculate
- Change
- Prepare
- Produce
- Relate
- Solve
- Appraise
- Categorize
- Classify
- Compare
- Conclude
- Differentiate
- Prioritize
- Anticipate
- Assemble
- Construct
- Design
- Formulate
- Invent
- Prepare

Source: Karl Kapp / Allen Interactions / The Game Agency
Why Are Training Games Effective?

**Meaningful**
Turning your audience into active learners

**Motivational**
Engaging your audience again and again

**Memorable**
Driving improved knowledge and retention
It’s…"GAME TIME"
Let’s Play

BOOM
SHAKALAKA
Count to 3 and show/say what your imaginary playing card is

Listen for patterns in what your partner says

Yell BOOM SHAKALAKA when you match
What Did We Just Experience?

**Performance Objective**

**Game Mechanic**
- **Knowledge**
  - Memorization
    - Game
    - fast paced quick recall and response testing with correct and incorrect responses
  - Description:
    - Describe
    - Find
    - Identify
    - List
    - Match
    - Recall
    - Recognize

**Comprehension**
- Judgment
  - Game
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  - Formulate
  - Invent
  - Prepare

*Source: Allen Interactions*
Aligning Performance Objectives with Games

<table>
<thead>
<tr>
<th>Knowledge</th>
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<tr>
<td>Evaluation</td>
<td>Sims</td>
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<tr>
<td>Analysis</td>
<td>Strategy</td>
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<td>Application</td>
<td>Consequence</td>
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<tr>
<td>Comprehension</td>
<td>Judgment</td>
</tr>
</tbody>
</table>

**SKILLS**
- Describe
- List
- Find
- Match
- Identify
- Recall

**KNOWLEDGE**

**APPLICATION**

- Aligning Performance Objectives with Games
Aligning Performance Objectives w/ Games

- Sims
- Strategy
- Consequence
- Memorization

- Evaluation
- Analysis
- Application
- Comprehension

- Knowledge

- Skills:
  - Estimate
  - Predict
  - Explain
  - Relate
  - Interpret
  - Select
Aligning Performance Objectives w/ Games

SKILLS
- Calculate
- Change
- Produce
- Relate
- Prepare
- Solve

KNOWLEDGE
- Sims
- Strategy
- Consequence
- Judgment
- Memorization

APPLICATION

ANALYSIS
Aligning Performance Objectives w/ Games

<table>
<thead>
<tr>
<th>SKILLS</th>
<th>Sims</th>
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<td>Appraise</td>
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<tr>
<td>Compare</td>
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<tr>
<td>Categorize</td>
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<td>Differentiate</td>
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<td><strong>Consequence</strong></td>
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<td><strong>Judgment</strong></td>
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<tr>
<td></td>
<td><strong>Memorization</strong></td>
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</table>

**ANALYSIS**

**APPLICATION**

**COMPREHENSION**

**KNOWLEDGE**

ANALYSIS

**Step 1:** Aligning Performance Objectives w/ Games

**Step 2:** Evaluating Knowledge, Comprehension, Application, and Evaluation

**Step 3:** Applying Skills: Appraise, Compare, Categorize, Differentiate, Prioritize
Aligning Performance Objectives w/ Games

EVALUATION

Simulation

ANALYSIS

Strategy

APPLICATION

Consequence

COMPREHENSION

Judgment

KNOWLEDGE

Memorization

SKILLS

Assess

Construct

Measure

Predict

Design

Summarize
revenue earned every day from in-game purchases

$590,000
Data... Data... Data...

### Player Stats

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<tr>
<th>Player</th>
<th>E-Mail Address</th>
<th>Rank</th>
<th>High Score</th>
<th>Total Sessions</th>
<th>Avg. Session Duration</th>
<th>Questions Correct</th>
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<th>Total Quiz</th>
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### Question Stats

**Acknowledging a document means:**
- **1st Attempt**: 0.08
  - Correct: 87.50%
  - Incorrect: 12.50%
- **2nd Attempt**: 0.08
  - Correct: 81.00%
  - Incorrect: 19.00%
- **3rd Attempt**: 100.00%
  - Correct: 100.00%
  - Incorrect: 0.00%

CSC enables an efficient and consistent way to receive, store, and ____ legal information.
- **1st Attempt**: 0.09
  - Correct: 50.00%
  - Incorrect: 50.00%
- **2nd Attempt**: 33.33%
  - Correct: 33.33%
  - Incorrect: 66.67%
- **3rd Attempt**: 100.00%
  - Correct: 100.00%
  - Incorrect: 0.00%

CSC is a department within the State Farm Insurance Claims Department.
- **1st Attempt**: 78%
  - Correct: 78.00%
  - Incorrect: 22.00%
- **2nd Attempt**: 60.00%
  - Correct: 60.00%
  - Incorrect: 40.00%
- **3rd Attempt**: 100.00%
  - Correct: 100.00%
  - Incorrect: 0.00%

### Sessions

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</table>
Thank You!

Karl Kapp
Professor, Instructional Technology
karlkapp@gmail.com
@kkapp
www.karlkapp.com
Bloomsburg University
Wisdom Learning Group

Stephen Baer
Managing Partner, The Game Agency
stephen.baer@thegameagency.com
(917) 453-3285
TheGameAgency.com
TheTrainingArcade.com
MotivateCloud.com