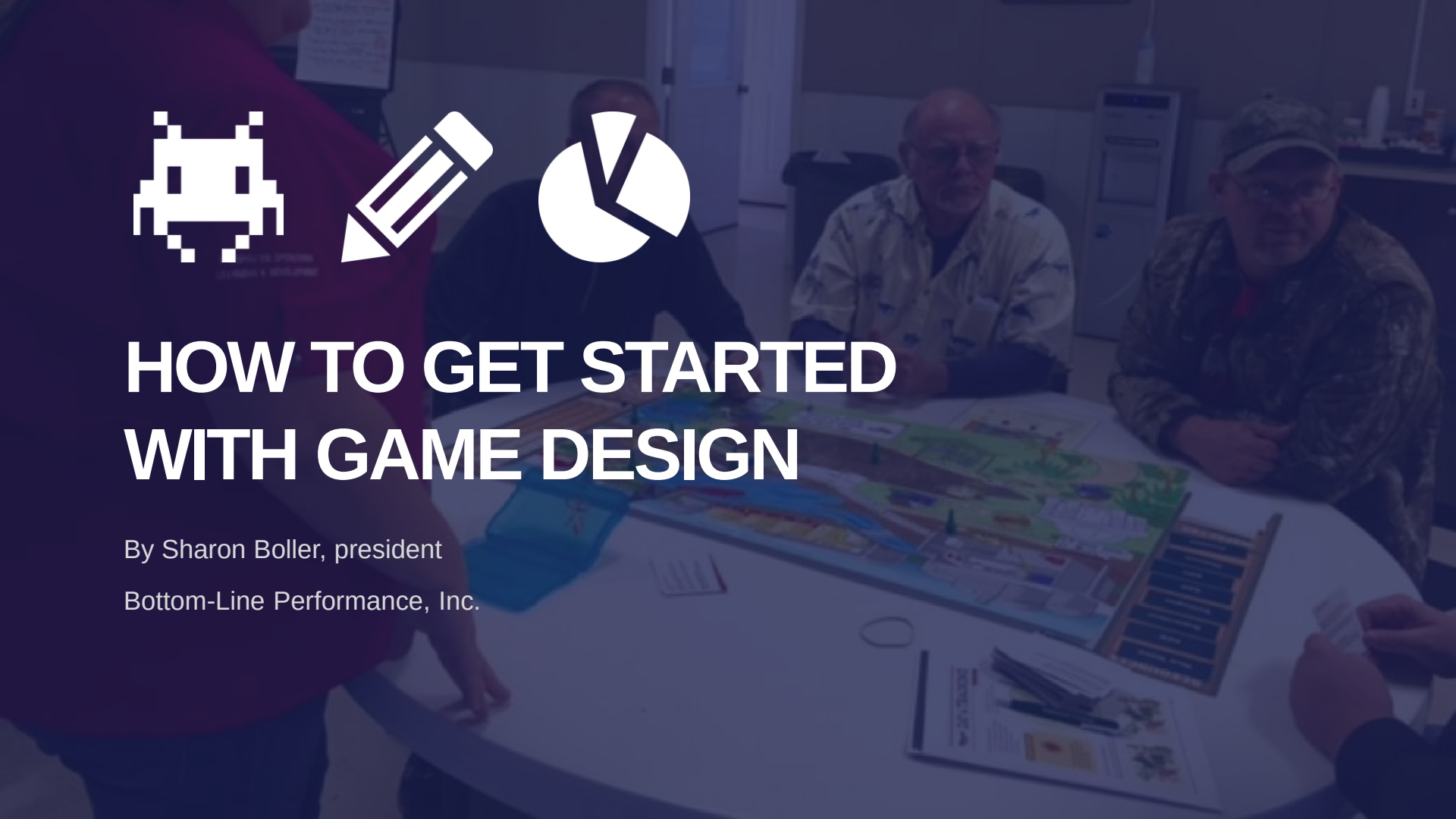


HOW TO GET STARTED WITH GAME DESIGN

By Sharon Boller, president

Bottom-Line Performance, Inc.

Me!

Author, game-lover(!), learner, instructional designer, game designer, dog-lover, Mom, wife, cyclist, hiker, and president, Bottom-Line Performance.

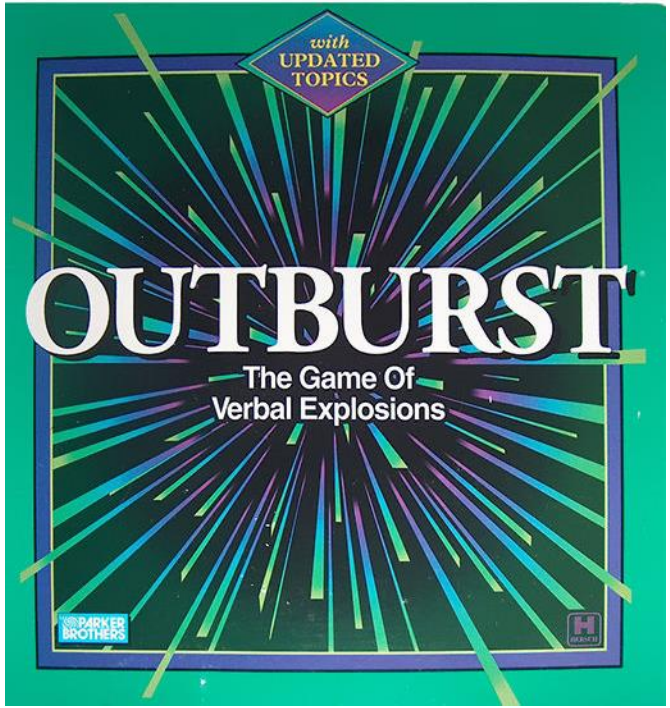
All slide contents within this presentation copyright of Bottom-Line Performance 2017

You?

Type your favorite game in the chat box.

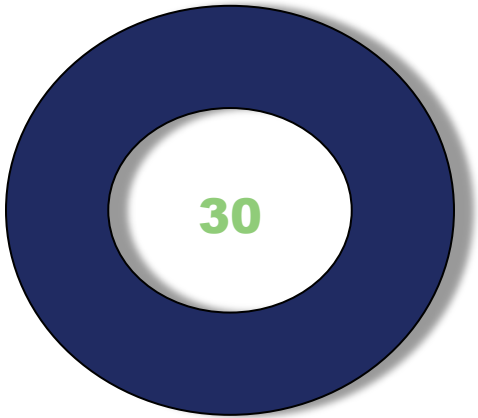
Let's Play a Game

1. Get a piece of scrap paper and a pen. Write numbers 1 – 14.
2. Take 30 seconds to think of the words that should be part of the definition of the word "game."
3. Write them down.
4. After 30 seconds, I will share the "right" 14 words. I'll poll the group and see who gets all 14 – or the closest to all 14.
5. These "winners" will get a chance to win a free book.



Game loosely based on Outburst

Correct Sequence



Correct Sequence

1. Activity
2. Explicit
3. Goal
4. Challenge
5. Rules
6. Players
7. Interactivity
8. Players
9. Game Environment
10. Feedback Mechanisms
11. Cues
12. Performing
13. Quantifiable outcome
14. Emotional reaction

How many did you get?

A GAME IS…

- An activity with an explicit **goal** or **challenge**
- **Rules** for players and the system (computer games)
- **Interactivity** with other players, the game environment (or both)
- **Feedback mechanisms** that provides players with **clear cues** on how they are performing.
- It results in a **quantifiable outcome** (you win, you lose, you hit the target, etc.) and often triggers an **emotional reaction** in players.

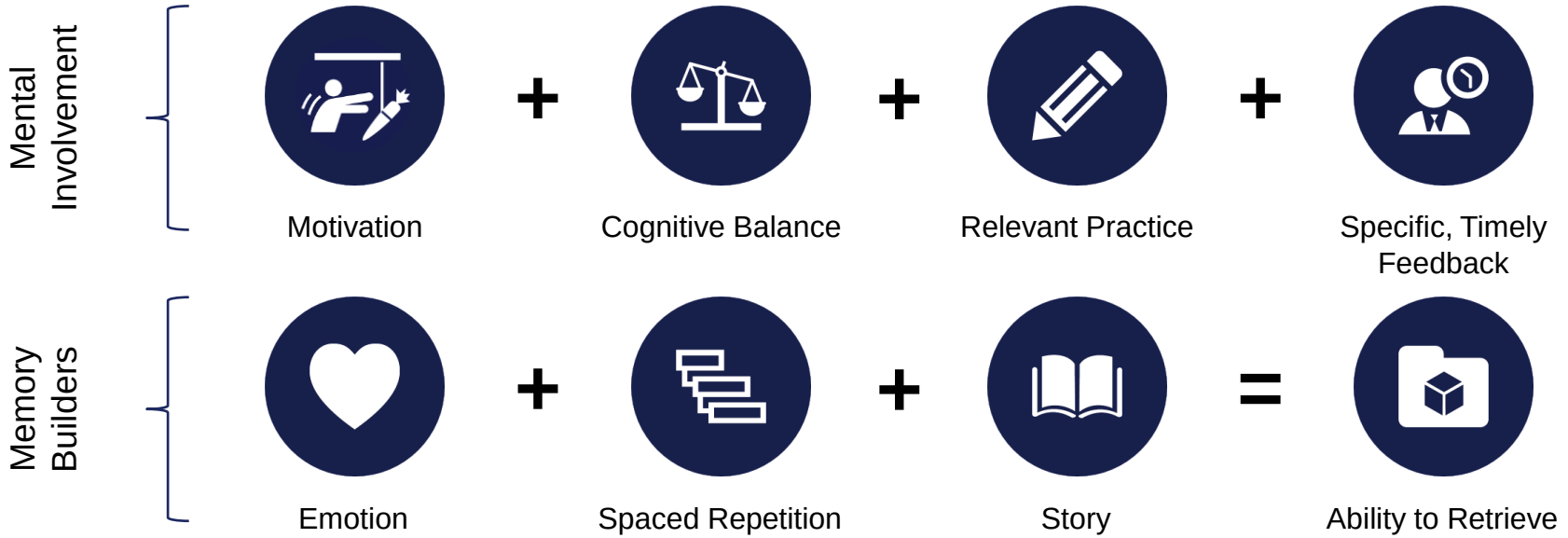
Webinar Agenda

1. Key challenges and common questions
2. Buy-in: How games and learning are linked
3. Know-how: Nine steps of learning game development – best practices/pitfalls
4. Time & Budget: Buy versus build

Key Challenges; Top Questions

Challenges	Most common questions?
Buy-in	How do I “sell” c-suite and managers on value of games? How do I convince learners a game is valuable?
Time to produce	How can I produce games quickly? Or…”how much time will it take me to produce a game?”
Budget (aka none)	What can I do for free…or very little cost?
Know-How	How do I get started? What skills do I need? How do I figure out what I can put into a game?

Buy-in: Games enable execution of the learning & remembering ”equation”



How games link to learning

We need….	Game Elements That Match
Motivation and Emotion	Game goals or challenges, competition (against time, the game itself, other teams), reward structures (leveling, points, achievements, acquisition of resources), story
Relevant practice	Connection between in-game challenge on on-the-job need, linkage between game rules and real-world constraints and environmental factors, reward structures that mirror real-world, levels w/in game, game loops
Feedback	Impact of choices on game progress and status, comparison against other players or against game. "Game loop" itself also supplies feedback as players experiment with different strategies and observe results.
Spaced repetition	Levels, replayability
Story	Narrative and characters (Note: not every game has story)

NOT “When are games…?”

INSTEAD “Which kind of games…?”

Which games when?

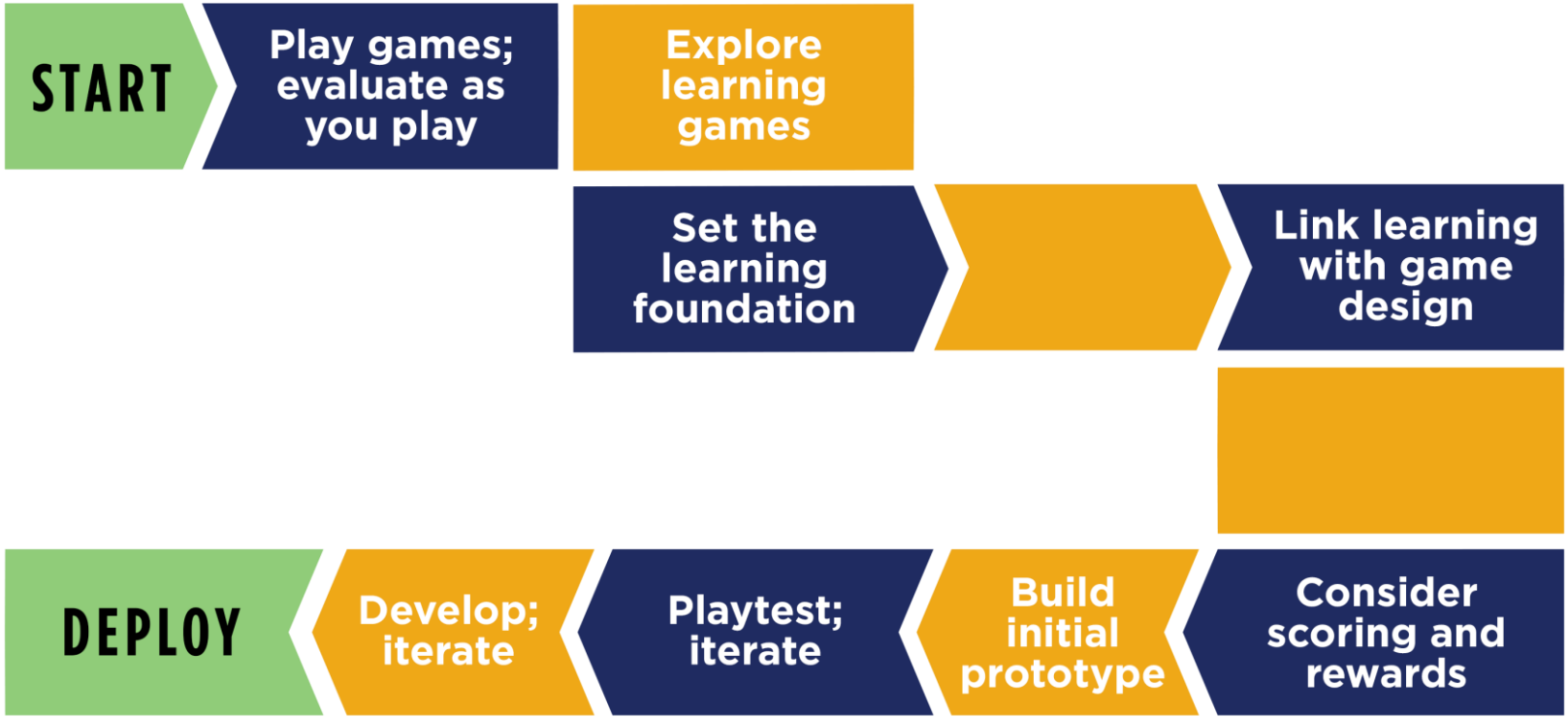
Our constraint	Games You Can Use….
Shared experience; need for the ah-ha	Simulation-type games, which can include improv games
Huge group of people	Improv games; experiential games where no game components or few game components are required
Single person; remote or virtual participation	Digital games and tools (Check out Jackbox Party Pack games for GREAT ideas in this genre. Sign up for a Steam account and play myriad of role playing games. Convert paper/pencil games (e.g. Outburst) into a learning game.
Team-based	Board games; simple simulations; digital games with leaderboards and social elements

Which games when?

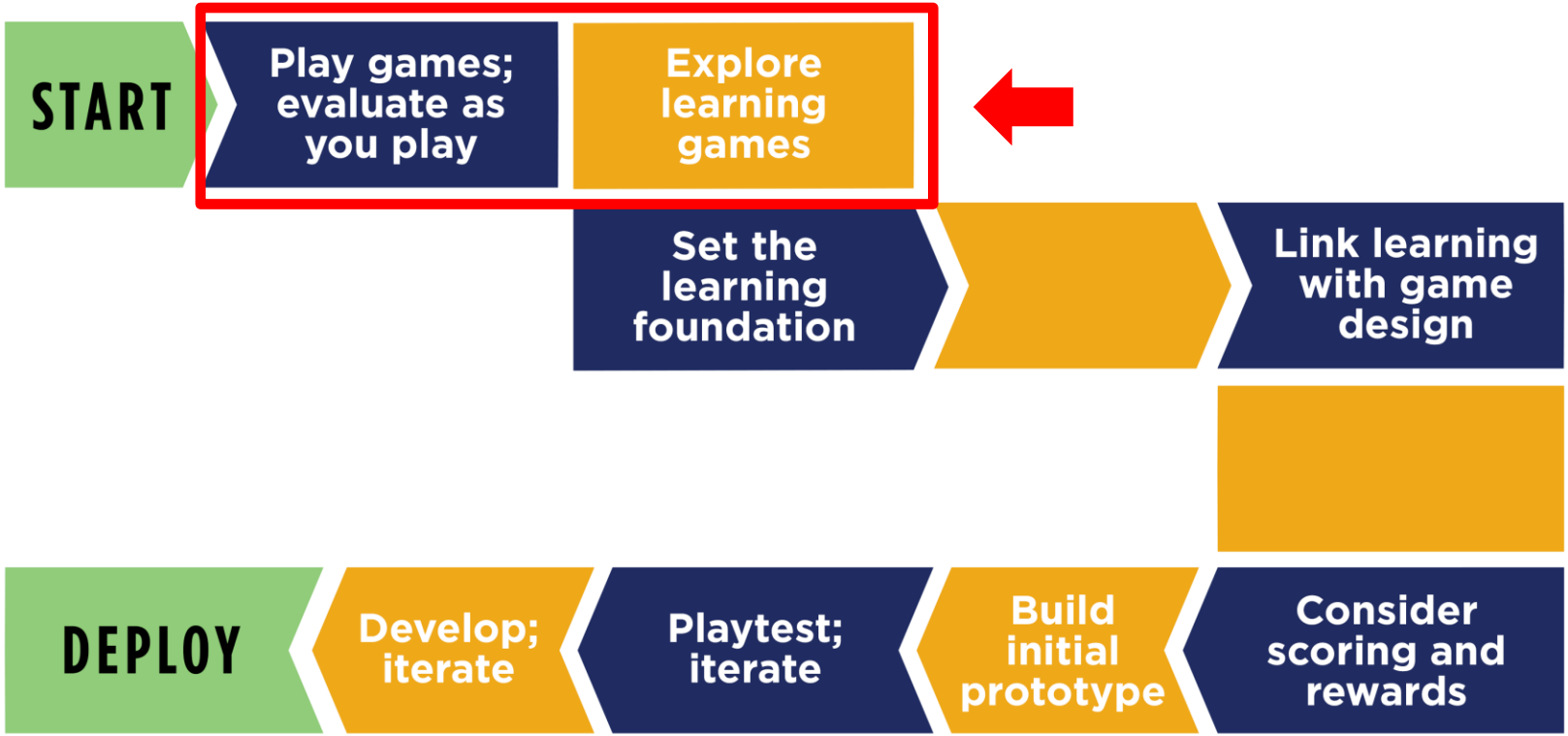
Our learning need	Game types and techniques you can use….
Drill and practice (memorization of knowledge)	Matching games, Q&A games, quiz-style games. Heavy focus on achievement and progression in these types of games, with increasing levels of difficulty included to maintain player interest in otherwise boring task.
Application practice	Decision-making games with a specific game goal of achieving sales, marketshare target, quality standard, turnover reduction, etc. (We're creating a cool one loosely based on "Deception: Murder in Hong Kong" right now. Quiz-style that uses scenarios and branched choices
Problem-solving, task execution under time limits	Time-based games, role-playing games, simulations with time constraints and "unplanned events" or "chance events"

SO… HOW DO YOU CREATE GAMES THAT HELP PEOPLE LEARN?

9 Learning Game Design Steps



9 Learning Game Design Steps



1. Play games; evaluate as you play

Use the chat window:

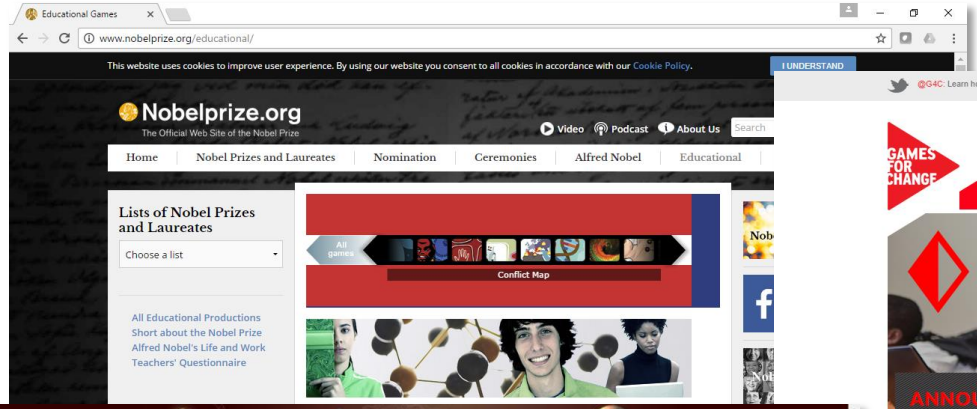
What’s the last game you played?

How many times/month do you play a game?

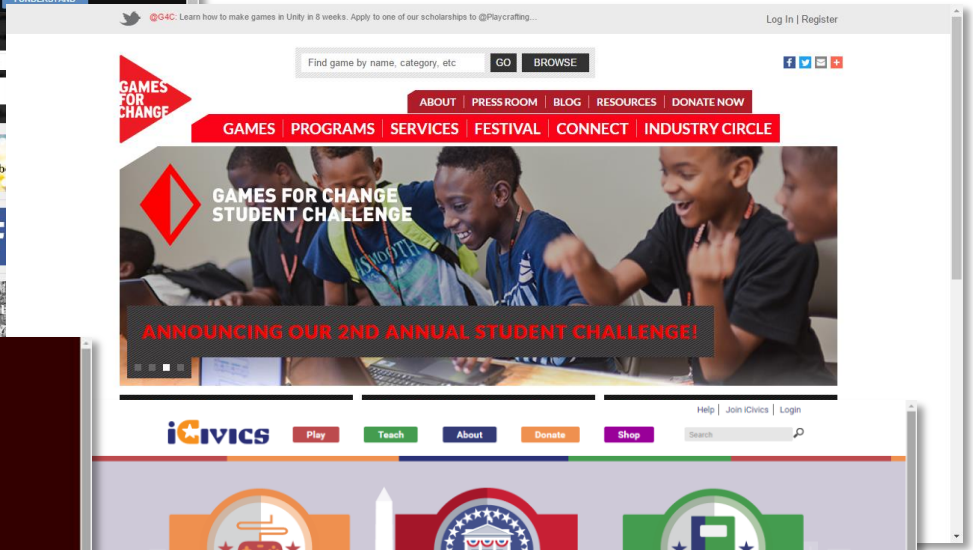
Things to Evaluate

Game component	Things to evaluate
Game Goal	Is it challenging? Do you like it?
Core dynamic(s)	How do you achieve the goal…collecting things, exploration, racing to the finish, territory acquisition? Is THAT fun?
Game mechanics	Do the rules contribute to your enjoyment? Are they too complex? Too easy?
Game elements	What game elements are part of this game and how do they enhance it?
Feedback	How do I know how I am doing? Is it effective?

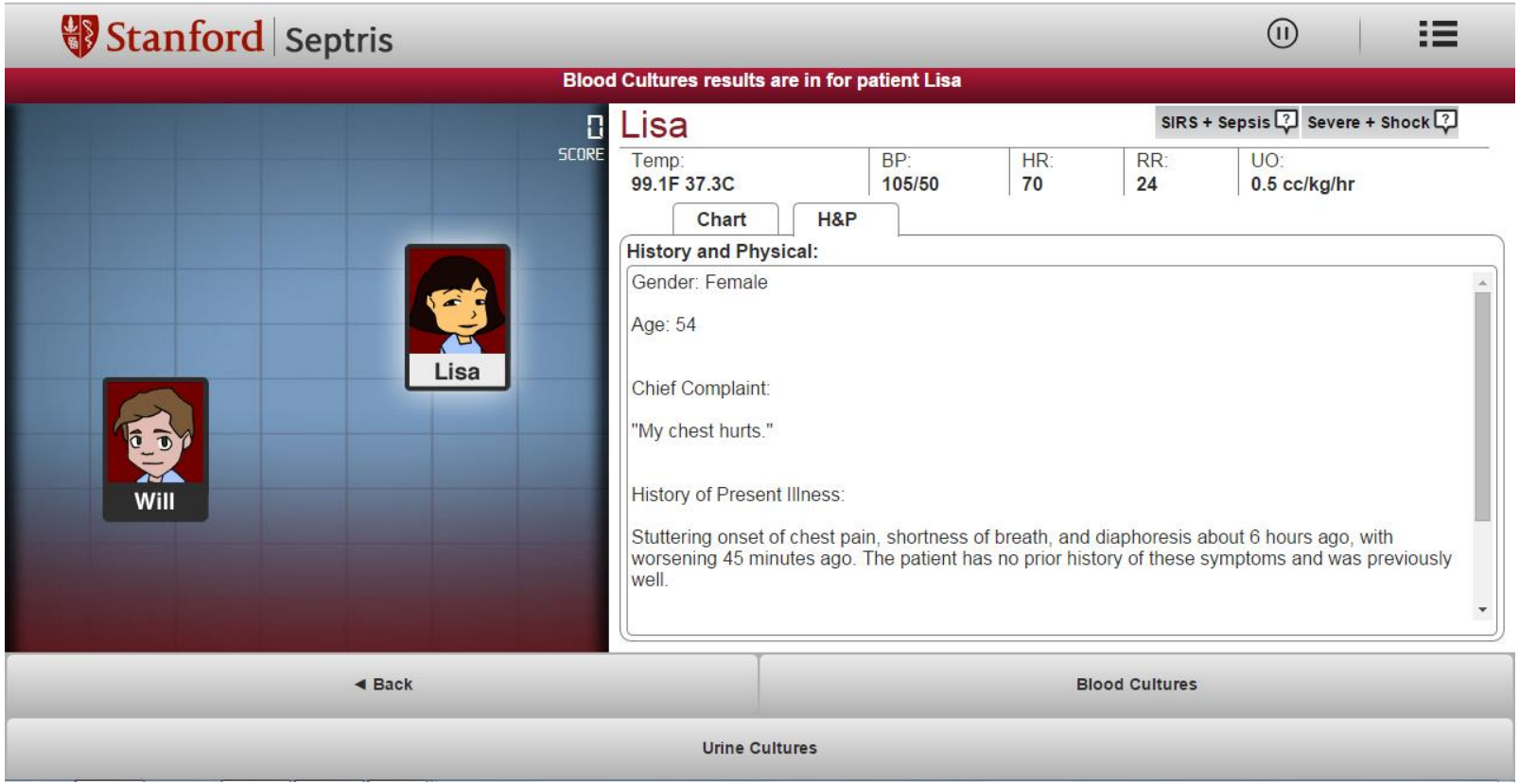
2. Explore learning games


Educational Games
www.nobelprize.org/educational/
This website uses cookies to improve user experience. By using our website you consent to all cookies in accordance with our Cookie Policy.
I UNDERSTAND
Nobelprize.org
The Official Web Site of the Nobel Prize
Video
Podcast
About Us
Search
Home
Nobel Prizes and Laureates
Nomination
Ceremonies
Alfred Nobel
Educational
Lists of Nobel Prizes and Laureates
Choose a list
All Educational Productions
Short about the Nobel Prize
Alfred Nobel's Life and Work
Teachers' Questionnaire
All games
Conflict Map

anatomy arcade
HOME
GAMES
LINKS
ABOUT US
STORE
SPONSORS
VIDEOS
GAMES BY BODY SYSTEM
Skeletal
Articular
Muscular
Circulatory
Respiratory
Nervous
Digestive
Endocrine
General
GAMES BY TYPE
Signature
Jigsaws
Crosswords
Word Search
Match Two
Animation
WHAT'S THIS
Anatomy Arcade makes basic human anatomy come ALIVE through awesome free flash games, interactives and videos.
Anatomy Arcade is perfect for the novice teenager in the classroom, right through to students and professionals of health care looking for a fun way to revise.
Find us on Facebook
WHAT'S HOT
POKE A MUSCLE
WHACK A BONE
WHACK A BONE
WHAT'S NEW
WHACK A BONE
MATCH A BRAIN
WHAT'S COMING
With the help of Media Saints, we plan on
Join the NEWSLETTER
Contact Us
NEWS
Wednesday 28-November-2012
Whack-A-Bone for the iPad.
At long last, Anatomy Arcade bursts onto the App Store with an all new and exciting version of Whack-A-Bone made purposely for the iPad.
More.
spg
New York City is calling
Save up to 15% off at Sheraton, Westin, W Hotels and more.
BOOK NOW
Whack-A-Bone - The St...
spg
Phoenix is calling
Save up to 15% off at Sheraton, Westin, W Hotels and more.
BOOK NOW


@G4C: Learn how to make games in Unity in 8 weeks. Apply to one of our scholarships to @Playcrafting...
Log In | Register
Find game by name, category, etc
GO
BROWSE
GAMES FOR CHANGE
ABOUT
PRESS ROOM
BLOG
RESOURCES
DONATE NOW
GAMES
PROGRAMS
SERVICES
FESTIVAL
CONNECT
INDUSTRY CIRCLE
GAMES FOR CHANGE STUDENT CHALLENGE
ANNOUNCING OUR 2ND ANNUAL STUDENT CHALLENGE!

Help | Join iCivics | Login
iCIVICS
Play
Teach
About
Donate
Shop
Search
Don't just learn civics - play civics! Run for president. Pass new laws. Argue real cases.
PLAY
Be the president! Do you have what it takes to run the country? Play Executive Command.
LEAD
Find free resources, tools, and support for informed and engaging civic learning!
TEACH
2017
FAST COMPANY TOP 10 MOST INNOVATIVE COMPANIES IN EDUCATION, iCIVICS

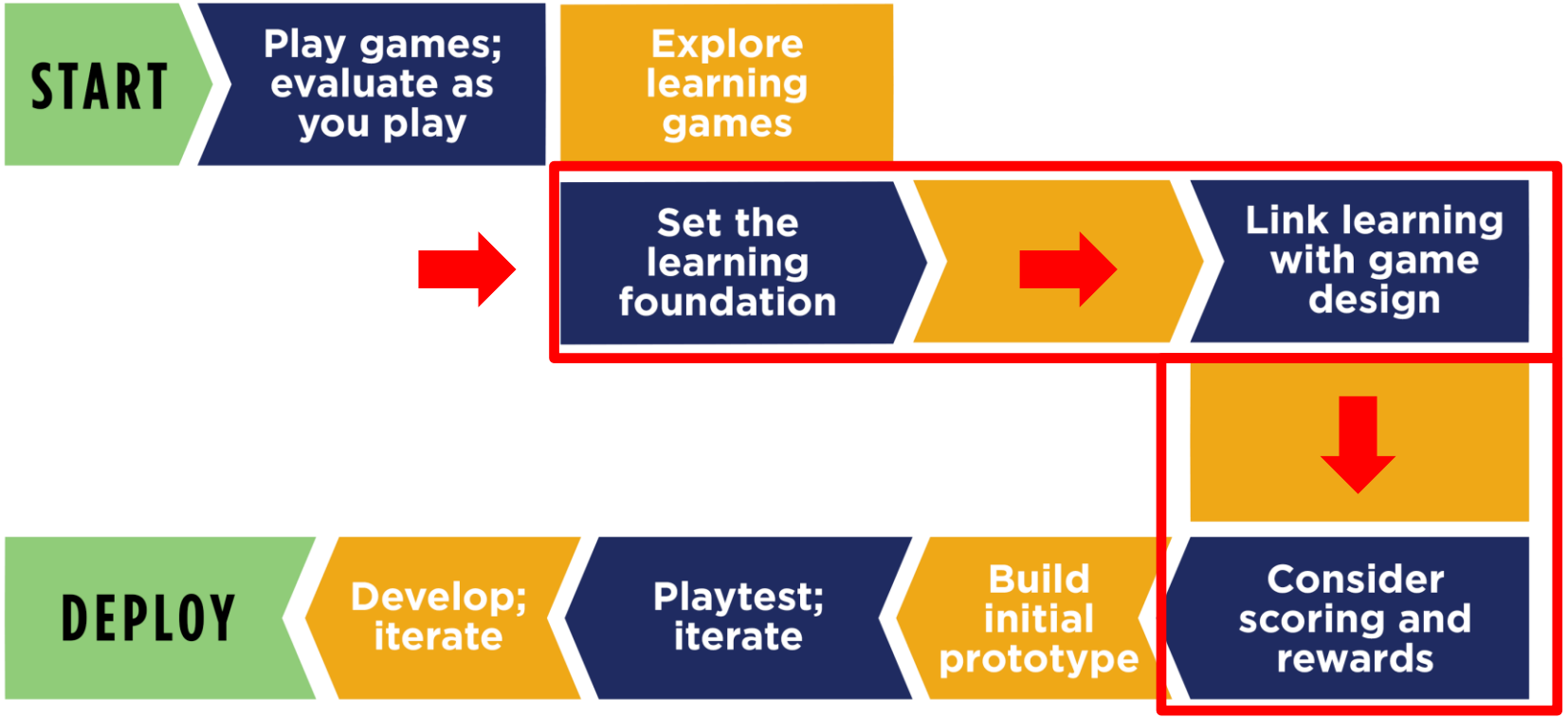


http://med.stanford.edu/septris/game/SeptrisTitle.html

Things to Evaluate

Game component	Things to evaluate
Game Goal	Is it challenging? Do you like it?
Instructional Goal	What are you supposed to be learning?
Core dynamic(s)	Do the core dynamics link well to the learning goal/needs?
Game mechanics	Do the rules support the learning? Detract from it?
Game elements	What game elements are part of this game and how do they enhance the learning experience? Detract from it?
Feedback	How do I know how I am doing? Is it useful from a learning perspective?

Steps Three, Four, and Five



Buy-in: Always start with the problem or opportunity – and how much it costs to NOT solve it or how much $$ can be gained

Sally is an independent distributor rep for ACME. She sells over $1M of product for ACME per year, and she's one of about 3000 independent distributor reps.

If Sally would sell 10 parts per customer instead of 8 parts per customer, it would increase her annual by $250K – which is nice for Sally since it increases her commission earnings. If ACME had at least 250 of its 3000 independent reps doing the same thing, revenue would increase by $62.5M!!! (250K x 250)

The biggest reason independent reps don't sell more parts per customer? They lack awareness of all the product applications embedded into a single electronic device – and which technologies are associated with any given application.

Set the learning foundation

Business Need	Instructional Goal	Player Persona	Learning Objectives
Increase parts sold per customer	Link relevant product families to variety of applications and technologies	**Key challenge**: day is spent on the go **Key value**: Being a credible voice and hitting goals	Define each customer type and identify applications relevant to each one.

Set the learning foundation

Business Need	Instructional Goal	Player Persona	Learning Objectives
Increase parts sold per customer	Link relevant product families to variety of applications and technologies	**Key challenge**: day is spent on the go **Key value**: Being a credible voice and hitting goals	Define each customer type and identify applications relevant to each one.

Set the learning foundation

Business Need	Instructional Goal	Player Persona	Learning Objectives
Increase parts sold per customer	Link relevant product families to variety of applications and technologies	**Key challenge**: day is spent on the go **Key value**: Being a credible voice and hitting goals	Define each customer type and identify applications relevant to each one.

Player Personas

- Go deeper than “audience analysis.”
- Paint a picture of the player and the constraints, challenges, and values of that player.
- Help you visualize who is playing your game.

"Show me how to use info within a sales call. Keep it simple. Make it easy to access and use."

Challenges
- Getting it all done in a day.
- Keeping up with the new stuff.

Values
- Knowing her product helps patients feel better.
- Being a credible voice to HCP
- Hitting her goals

Personal Profile
Stephanie is 41; she has 2 kids and is constantly on-the-go between her job and her kids' activities.

She's been with Axis Pharma for 10 years, all of them as a sales rep. She's repped products in CV area as well as GI. She's a seasoned pro and proud of her skills as a rep.

Sales Call Flow
There is a "ladder approach" to selling her product. The first 2-3 calls focus on the product category; the second 2-3 calls focus on the product itself. There is a specific call objective and message for EACH type of call. Getting up the ladder in a new account takes weeks to months. Call durations vary from 5 minutes to 20 minutes, depending on the objective and the HCP's time available.

A Day in Her Life
Days are long. She's up at 6:00. The work day starts at 7:30; it may end around 10 p.m. when she wraps up a dinner meeting, emails, or inputting notes into Salesforce.

Her territory is urban; she can make up to 8 calls in the day. Call durations range from 5 to 20 minutes, depending on the sales call objective and the HCP.

Devices & Gaming
She starts/ends the day with her laptop. Her phone is her go-to during the day for email/VM, Googling. Tablet is used mostly during sales calls.

She enjoys quick mobile games that can be used as "time fillers." She and her family also enjoy an occasional board game or card game that are simple to learn/play. They can enjoy spending an hour or two playing a game together when they play, which is probably about 1x/month.

How is this DIFFERENT from the audience analysis you currently do?

"Show me how to use info within a sales call. Keep it simple. Make it easy to access and use."

Challenges
- Getting it all done in a day.
- Keeping up with the new stuff.

Values
- Knowing her product helps patients feel better.
- Being a credible voice to HCP
- Hitting her goals

Personal Profile
Stephanie is 41; she has 2 kids and is constantly on-the-go between her job and her kids' activities.

She's been with Axis Pharma for 10 years, all of them as a sales rep. She's repped products in CV area as well as GI. She's a seasoned pro and proud of her skills as a rep.

Sales Call Flow
There is a "ladder approach" to selling her product. The first 2-3 calls focus on the product category; the second 2-3 calls focus on the product itself. There is a specific call objective and message for EACH type of call. Getting up the ladder in a new account takes weeks to months. Call durations vary from 5 minutes to 20 minutes, depending on the objective and the HCP's time available.

A Day in Her Life
Days are long. She's up at 6:00. The work day starts at 7:30; it may end around 10 p.m. when she wraps up a dinner meeting, emails, or inputting notes into Salesforce.

Her territory is urban; she can make up to 8 calls in the day. Call durations range from 5 to 20 minutes, depending on the sales call objective and the HCP.

Devices & Gaming
She starts/ends the day with her laptop. Her phone is her go-to during the day for email/VM, Googling. Tablet is used mostly during sales calls.

She enjoys quick mobile games that can be used as "time fillers." She and her family also enjoy an occasional board game or card game that are simple to learn/play. They can enjoy spending an hour or two playing a game together when they play, which is probably about 1x/month.

How is this DIFFERENT from the audience analysis you currently do?

"Show me how to use info within a sales call. Keep it simple. Make it easy to access and use."

Challenges
- Getting it all done in a day.
- Keeping up with the new stuff.

Values
- Knowing her product helps patients feel better.
- Being a credible voice to HCP
- Hitting her goals

Personal Profile
Stephanie is 41; she has 2 kids and is constantly on-the-go between her job and her kids' activities.

She's been with Axis Pharma for 10 years, all of them as a sales rep. She's repped products in CV area as well as GI. She's a seasoned pro and proud of her skills as a rep.

Sales Call Flow
There is a "ladder approach" to selling her product. The first 2-3 calls focus on the product category; the second 2-3 calls focus on the product itself. There is a specific call objective and message for EACH type of call. Getting up the ladder in a new account takes weeks to months. Call durations vary from 5 minutes to 20 minutes, depending on the objective and the HCP's time available.

A Day in Her Life
Days are long. She's up at 6:00. The work day starts at 7:30; it may end around 10 p.m. when she wraps up a dinner meeting, emails, or inputting notes into Salesforce.

Her territory is urban; she can make up to 8 calls in the day. Call durations range from 5 to 20 minutes, depending on the sales call objective and the HCP.

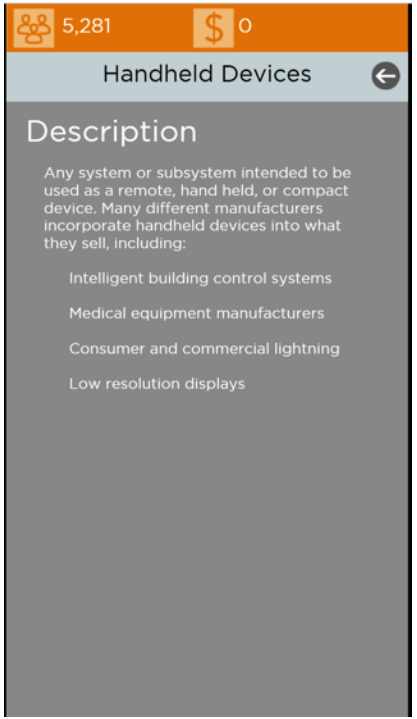
Devices & Gaming
She starts/ends the day with her laptop. Her phone is her go-to during the day for email/VM, Googling. Tablet is used mostly during sales calls.

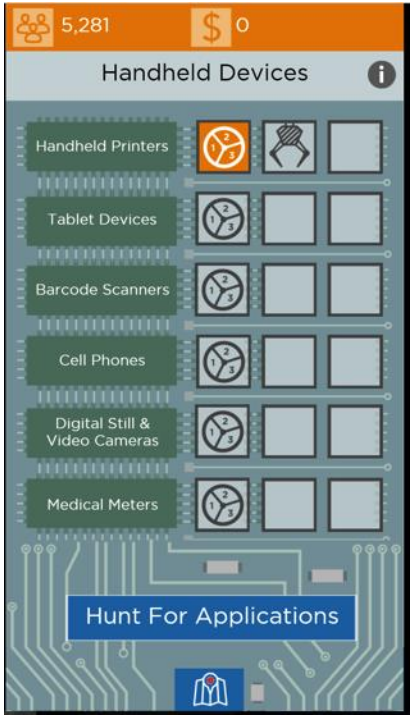
She enjoys quick mobile games that can be used as "time fillers." She and her family also enjoy an occasional board game or card game that are simple to learn/play. They can enjoy spending an hour or two playing a game together when they play, which is probably about 1x/month.

Set the learning foundation

Business Need	Instructional Goal	Player Persona	Learning Objectives
Increase parts sold per customer	Link relevant product families to variety of applications and technologies	**Key challenge**: day is spent on the go **Key value**: Being a credible voice and hitting goals	Define each customer type and identify applications relevant to each one.

Learning + Game Design

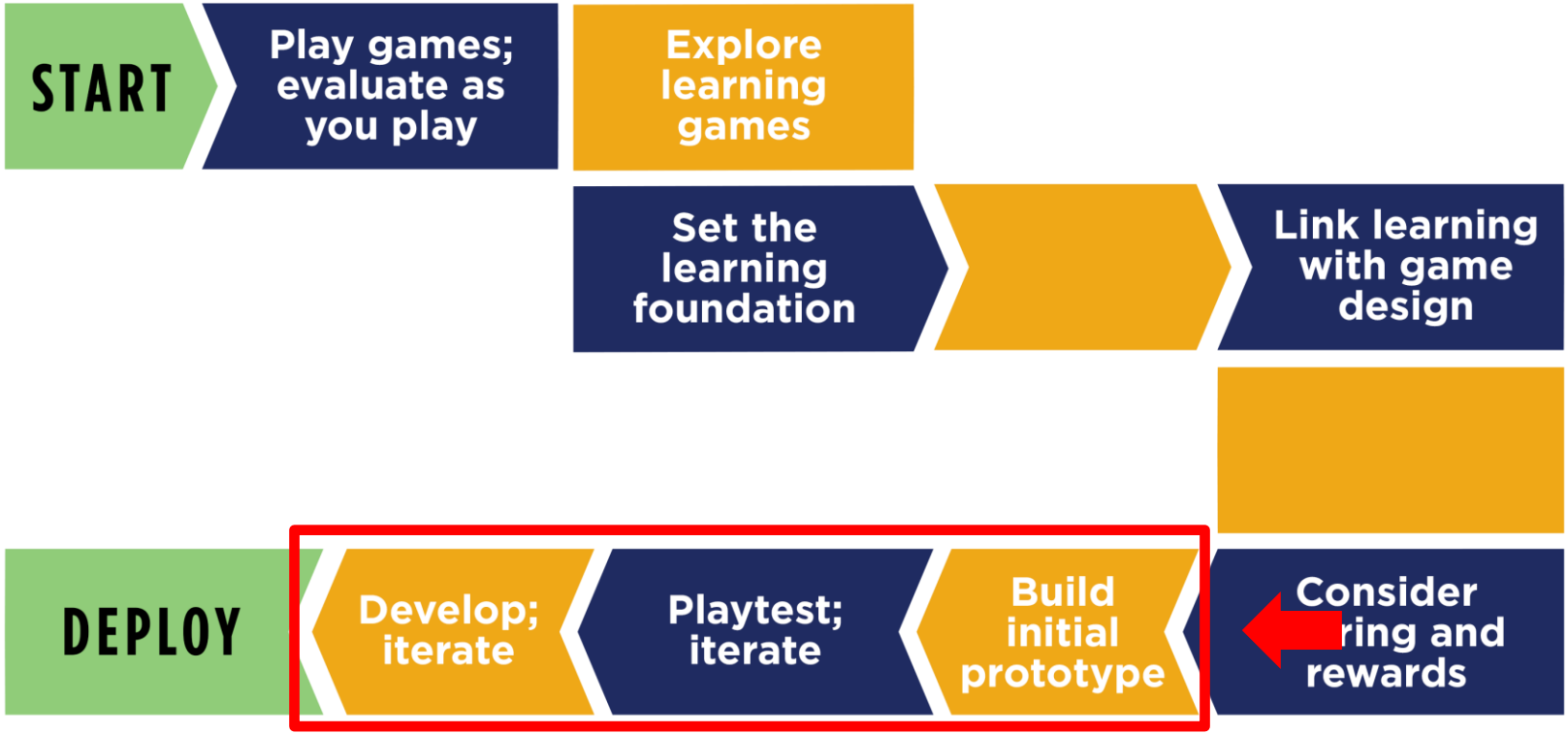




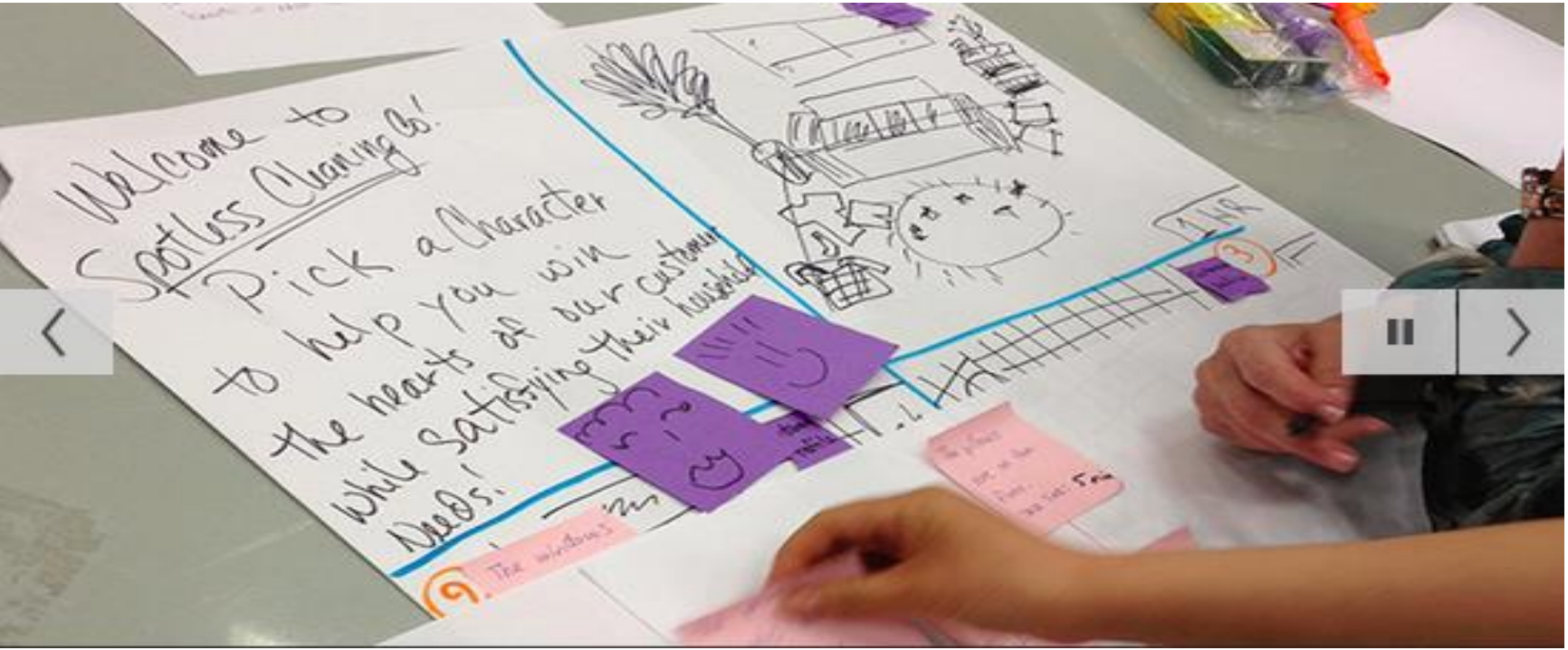
Game design decisions linked to learning needs:

Game design decision	Related learning design need
“Build” and “exploration core dynamics	Correlate to sales reps’ real-world context of building sales territories and having several opps in progress at once.
Mini-games	Focus on need to link technologies to applications and then applications to product families.
Use of treasury and population as scoring mechanisms	Good equivalency to $$ goals and targets in reps’ real world jobs.
Leaderboards and levels	Provide a social and competitive component; show achievement and mastery.

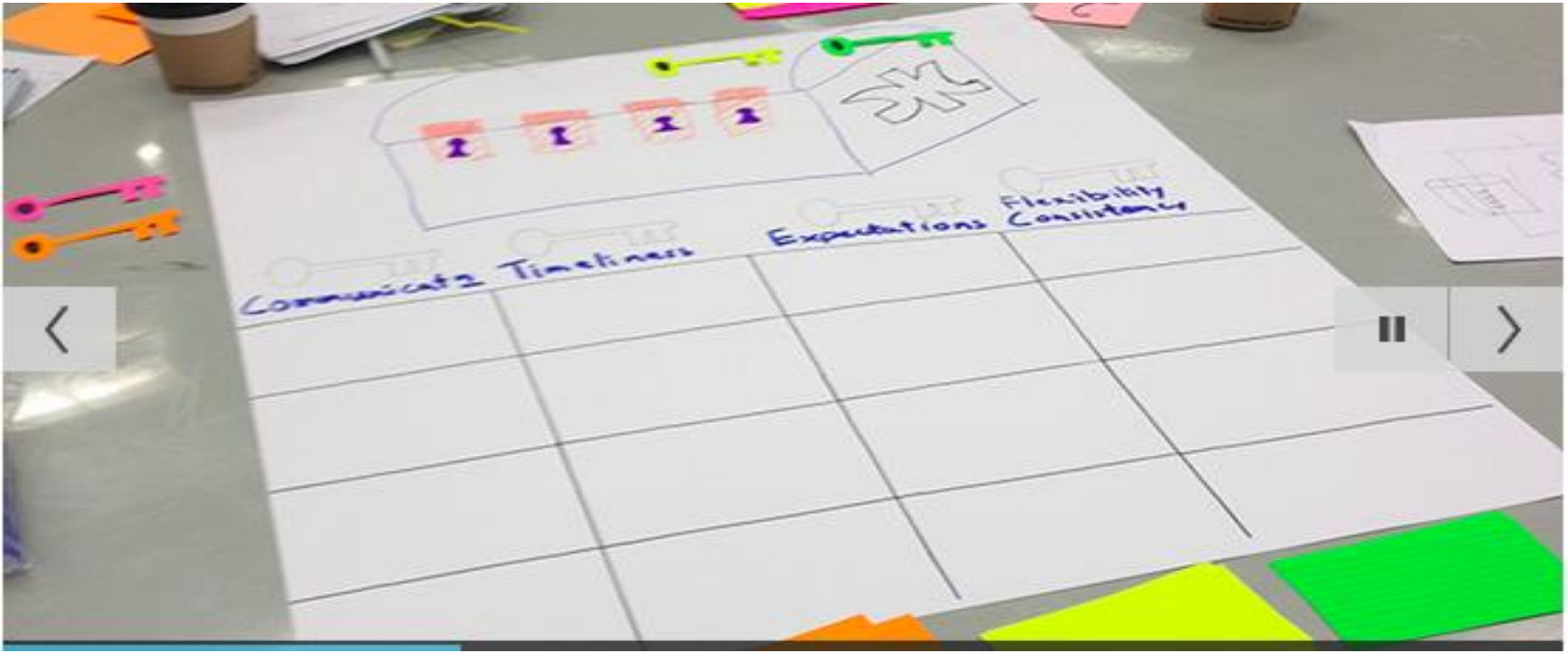
Steps Six, Seven, and Eight



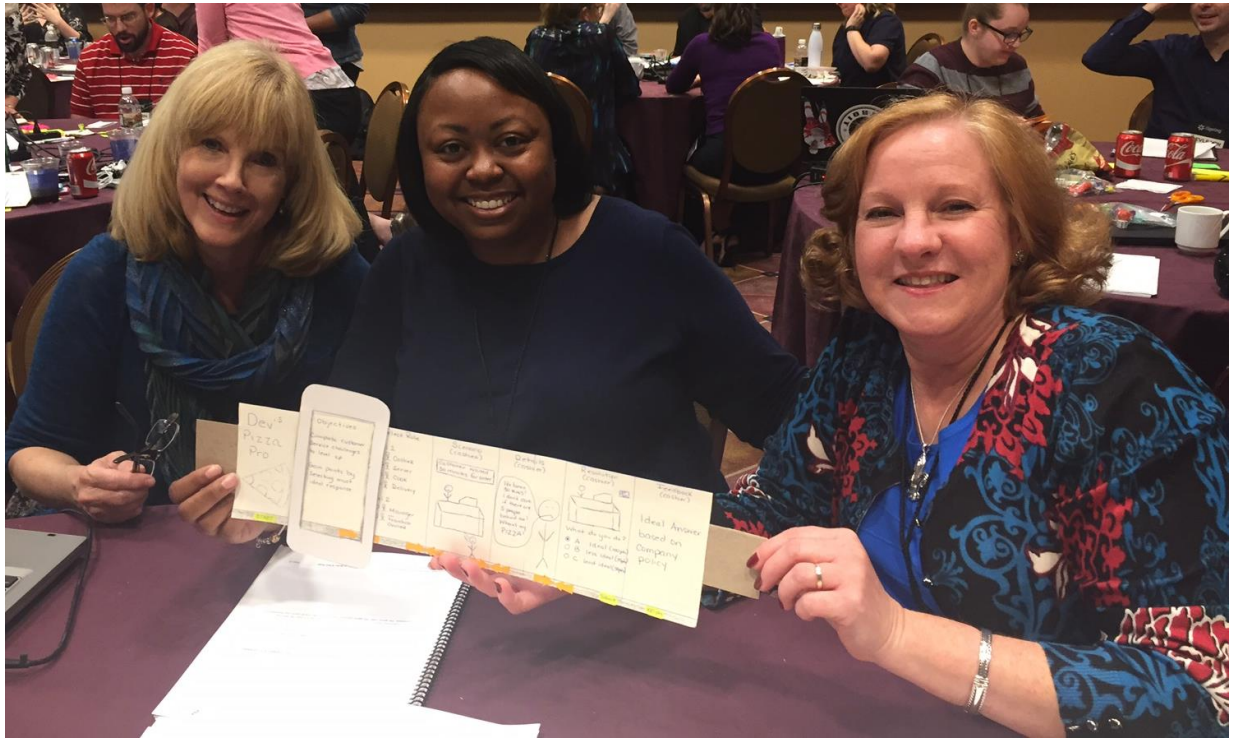
Prototype example

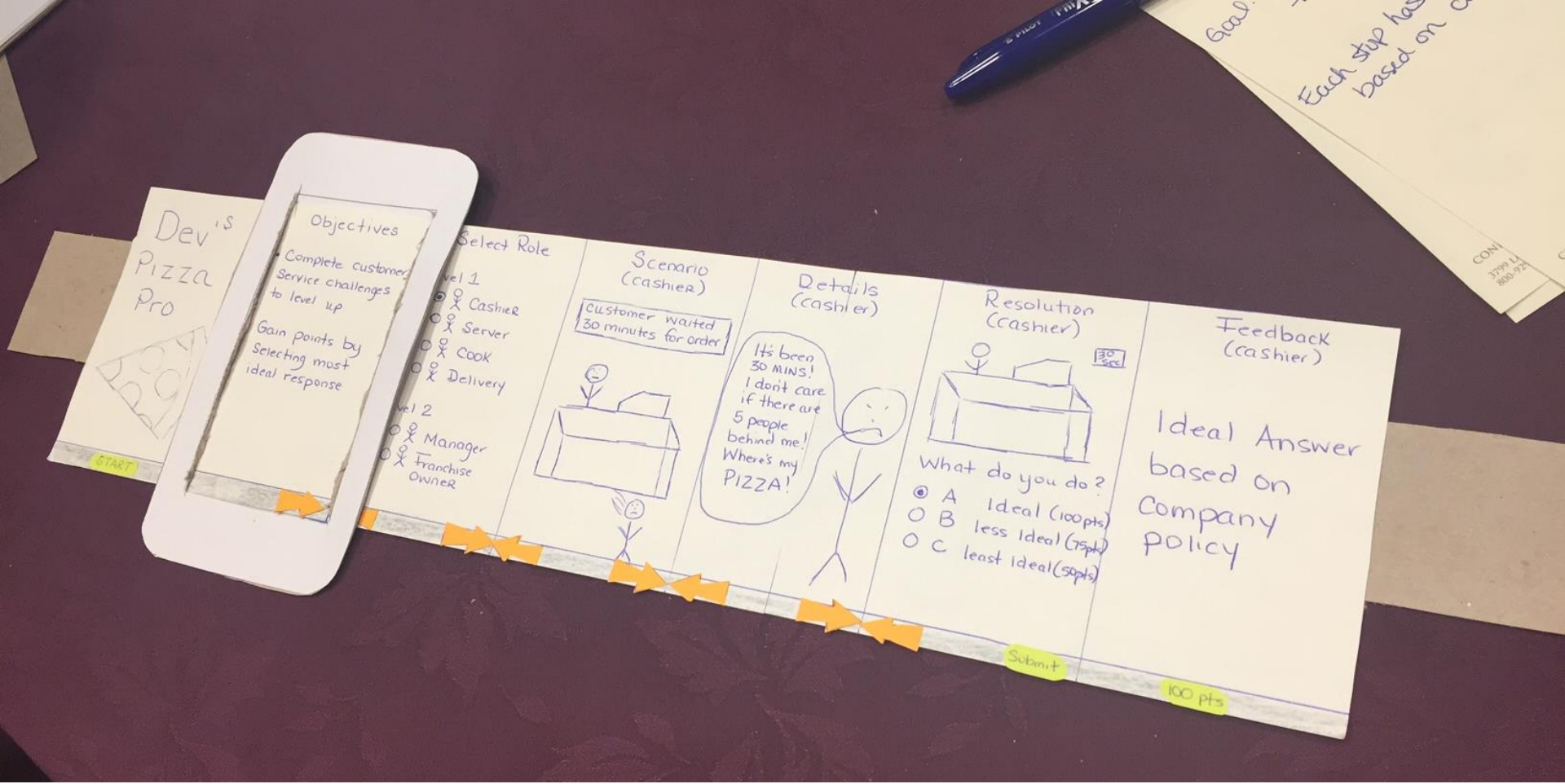


Prototype example



Digital Prototype Example




Dev's Pizza Pro
Objectives
Complete customer service challenges to level up
Gain points by selecting most ideal response
START
Select Role
Level 1
Cashier
Server
Cook
Delivery
Level 2
Manager
Franchise Owner
Scenario (cashier)
Customer waited 30 minutes for order
Details (cashier)
It's been 30 MINS! I don't care if there are 5 people behind me! Where's my PIZZA!
Resolution (cashier)
30 sec
What do you do?
A Ideal (100 pts)
B less Ideal (75 pts)
C least Ideal (50 pts)
Feedback (cashier)
Ideal Answer based on Company policy
Submit
100 pts

You learn a lot from a paper prototype….

- How effective your game is at helping people learn what you want them to learn.
- How engaging the game will be to learners. Is it “fun enough”?
- Effectiveness of the game elements.
- How clear the rules are *and* how they affect the fun and the learning.
- The cognitive load on the learner – too high, too low, just right?
- How complex/ expensive the game will be to produce.

They are easy to create

- Paper
- Scissors
- Crayons or markers
- Tape

Playtesting: Your “review” process

1. Concept Test (paper prototype)
2. Outside Development Team
3. Beta Test with Target Audience

Play-Testing Questions to Use

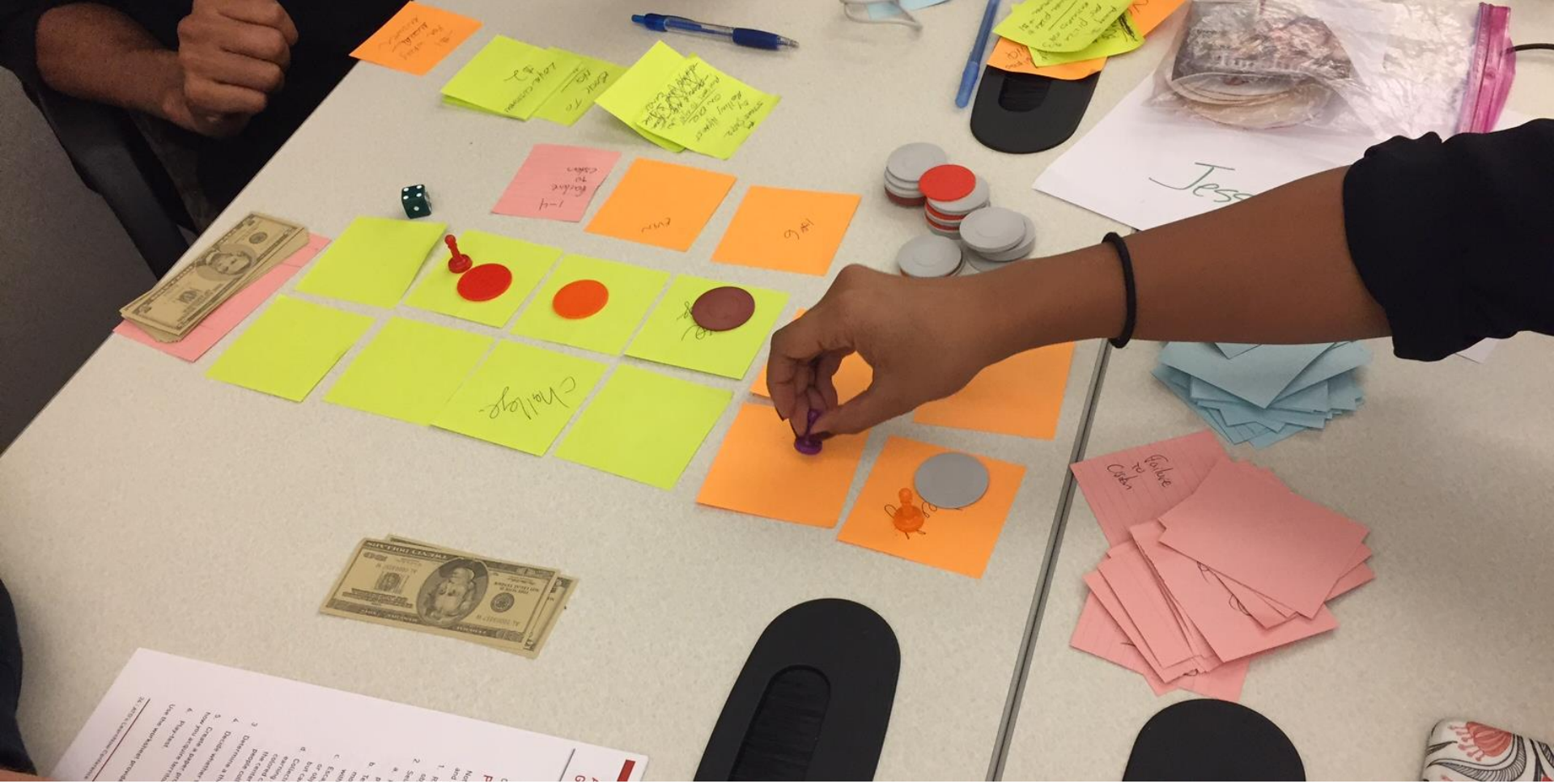
	What did you like the best about the game play you did today?
Tester 1	
Tester 2	
Tester 3	
Tester 4	
Tester 5	
Tester 6	

Play Testing Questions to Use

	What didn't you like – and why?
Tester 1	
Tester 2	
Tester 3	
Tester 4	
Tester 5	
Tester 6	

Play Testing Questions to Use

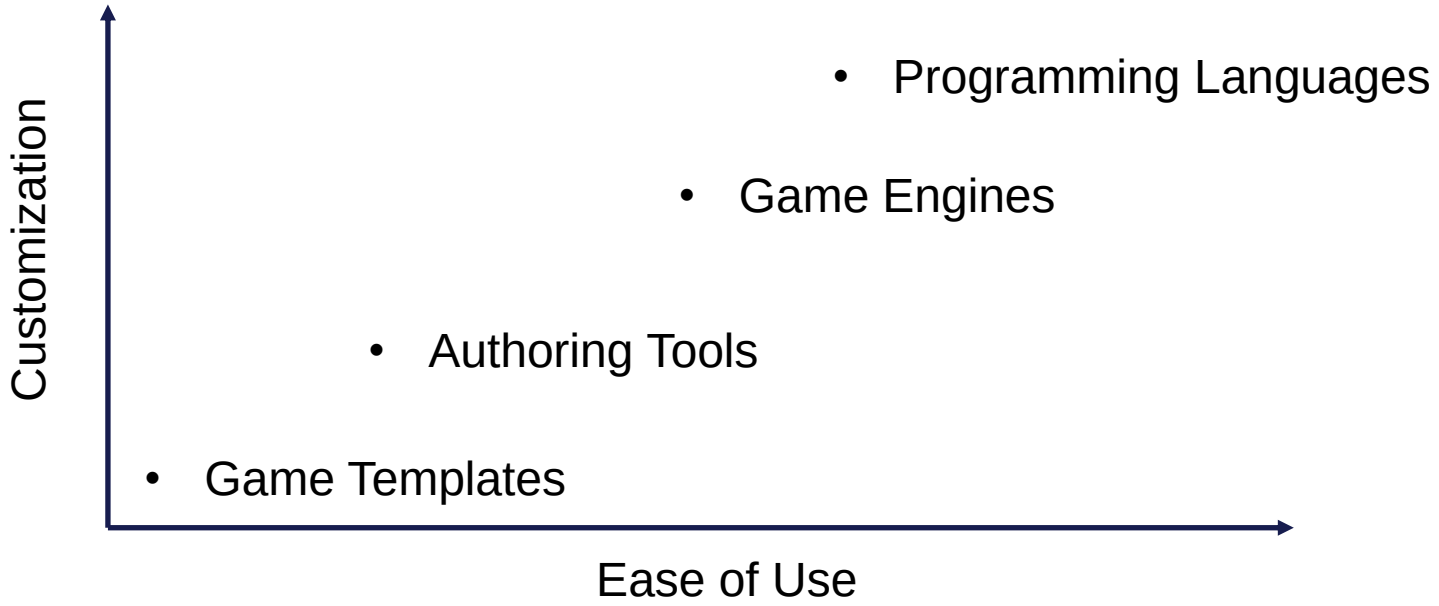
Question	Rate GAME NAME High/Medium/Low on these attributes. Explain your ratings.		
	Fun I had playing	**Clarity – knew what to do**	**Value in helping me learn applications associated w/ customer type**
Tester 1			
Tester 2			
Tester 3			
Tester 4			
Tester 5			
Tester 6			



Develop and Iterate: Who's on the Team?

- Project Manager
- Instructional Designer
- Writer
- Game Designer(s)
- Artist(s)
- Programmer(s) (digital games)

Build vs. Buy

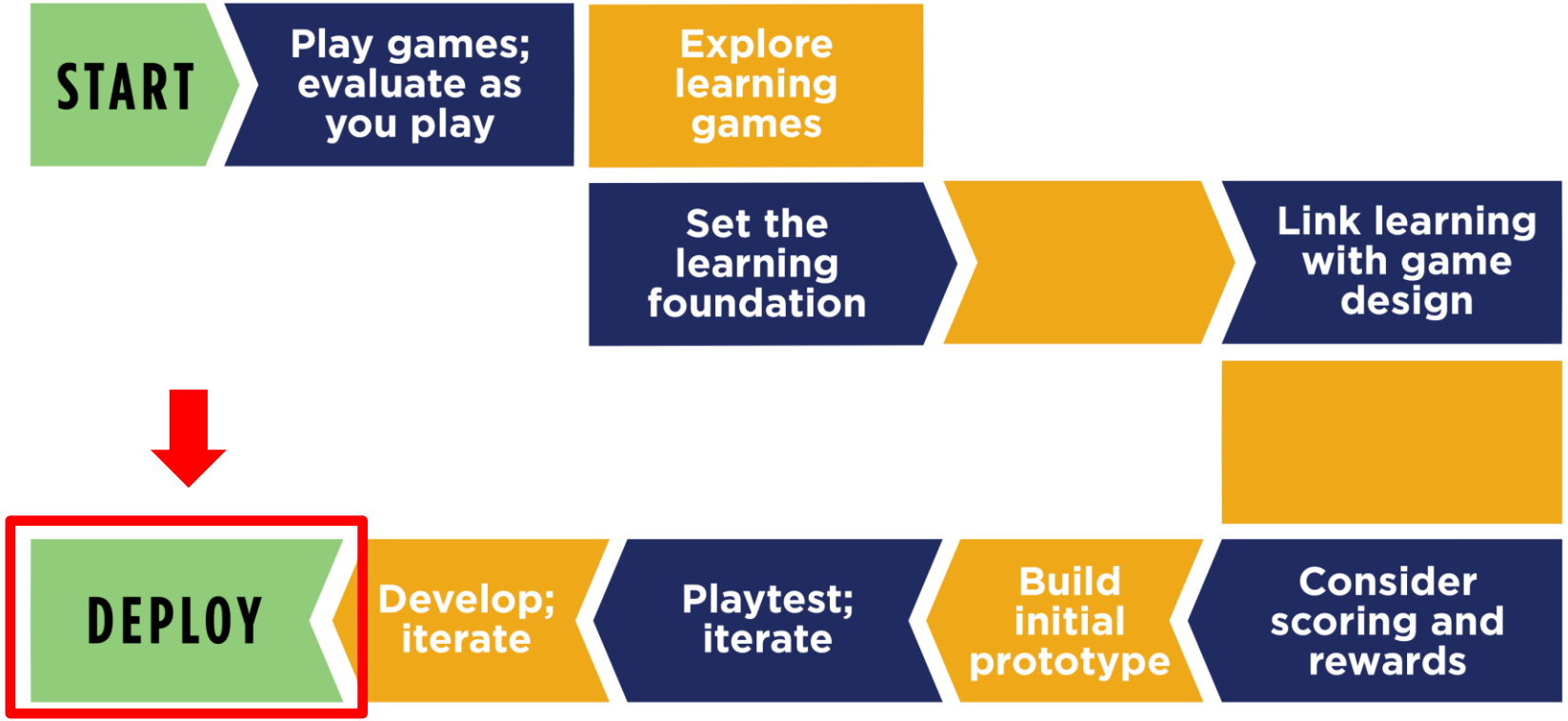

Customization
Ease of Use
• Programming Languages
• Game Engines
• Authoring Tools
• Game Templates

DIY* resources

Build It Yourself	Tools and Templates
• Google “Game making resources” LOADS of stuff comes up such as this: • https://boardgamegeek.com/thread/933849/designers-resources-list	• Thaigi – tons of FREE game ideas on his site!! Relatively low-cost options: • eLearning Brothers templates for simple games • Knowledge Guru platform • C3 Softworks

*Factor your time into “free.” You are NOT free. You cost your company $$.

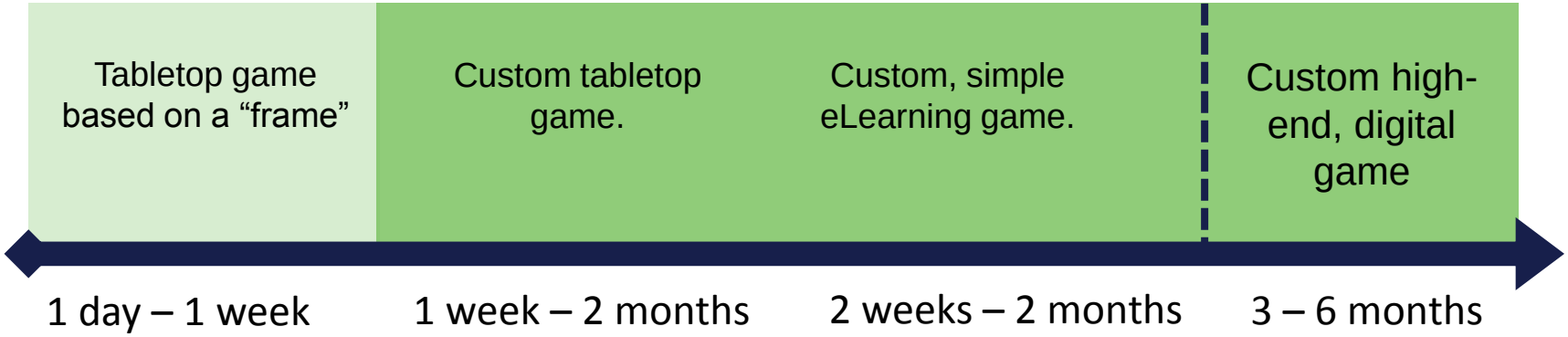
Step Nine: Deploy



What’s Required for Success

Meaningful, relevant game experience + **Comprehensive logistics plan** + **Marketing and communication plan**

Time to Produce?



1. Tabletop games based on a frame can be done in 8 to 24 hours’ time.
2. Custom tabletop games can be done in 20 hours to 200 hours time.
3. Simple digital games can be done in <40 hours.
4. Custom, high-end games >400 hours

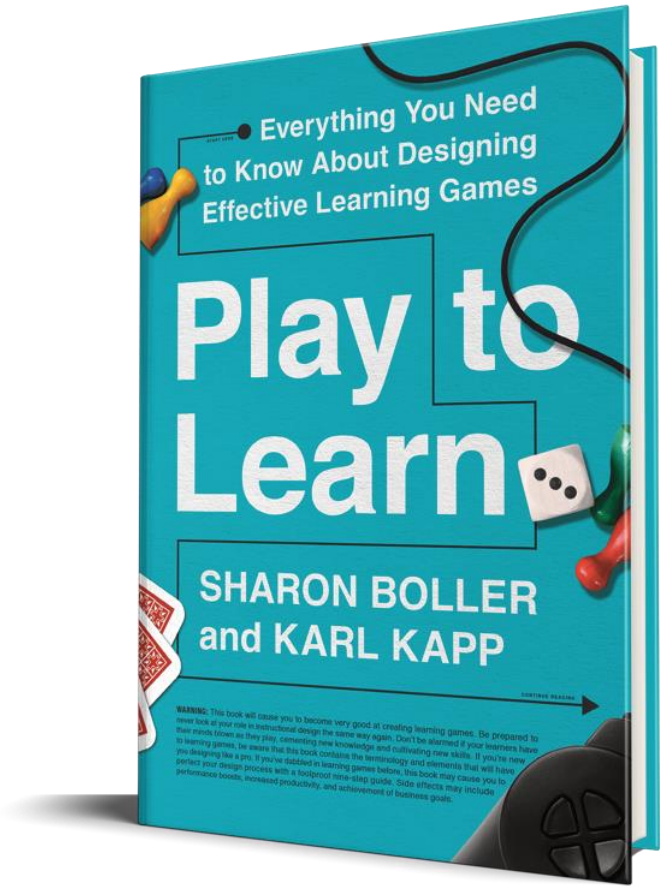
QUESTIONS?

Get your copy!

25% sale going on right now!

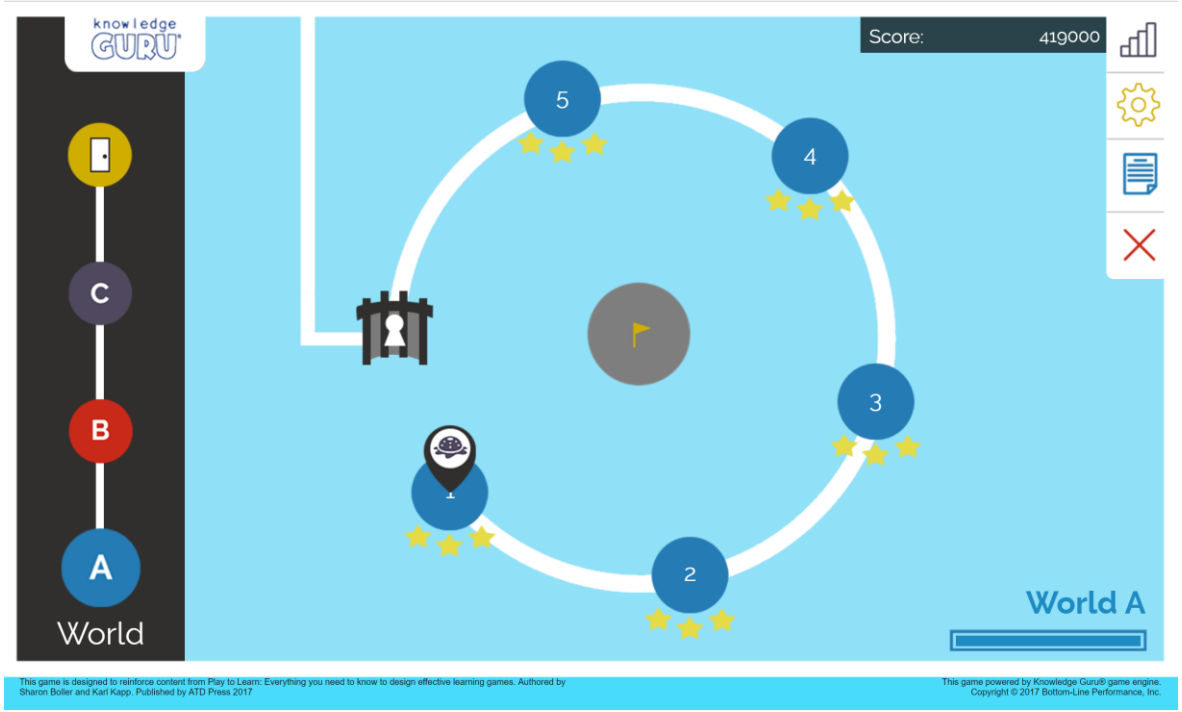
Use code MIDSUMMER17

www.td.org/Publications/Books/Play-to-Learn



Play a Game!

Play this game created for ATD in conjunction with game design book and workshop. (Your info gets deleted after 3 months☺)



kguru.co/ATDGameDesignGuru/

Join us in Chicago!

September 20 – 21

Register:
https://www.td.org/Events/Learnnow-Game-Design

Thank You

sharon@bottomlineperformance.com

Twitter: @Sharon_Boller

www.**bottomlineperformance**.com