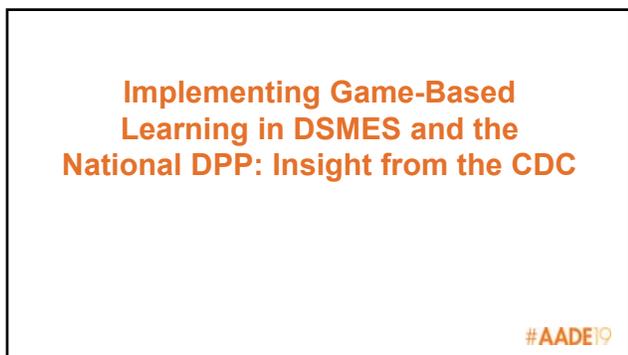


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Favorite Game: Scrabble

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Disclosure to Participants

- Notice of Requirements For Successful Completion
 - Please refer to learning goals and objectives
 - Learners must attend the full activity and complete the evaluation in order to claim continuing education credit/hours
- Conflict of Interest (COI) and Financial Relationship Disclosures:
 - Presenter: Betsy Rodriguez, PharmD, CDE – No COI/Financial Relationship to disclose
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Objectives

- Describe how to incorporate gaming strategies in DSMES services and the National DPP.
- Discuss how to “gamify” existing diabetes education tools and resources.
- Describe key behavioral insights used in games.
- Demonstrate gaming teaching strategies for diabetes educators and coaches.

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Learning by playing

The return of the child inside us!



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BACKGROUND & OVERVIEW

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Benefits of Games

- Activate your imagination
- Allow for “graceful failure”
- Increase engagement (mental, emotional and physical)
- Increase retention
- Increase self-efficacy
- Cross-cultural
- Fun

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Isn't this what we are looking for as diabetes specialists?



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Games help to:

- Explore
- Develop sense of belonging
- Stimulate curiosity
- Help develop contextual memory
- Unite people
- Give sense of safety

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Game play is one of the oldest forms of human learning.



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Games, Game Based Learning and Gamification

- Games
 - May or may not have set rules
 - Has winners
- Game based learning
 - Has defined learning objectives and rules
 - May or may not have winners
- Gamification
 - The use of game features
 - May focus on rewarding the completion of tasks
 - May or may not have winners

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Example



- Game – icebreaker to promote group bonding
- GBL – earn spaces by demonstrating food label reading skills
- Gamification –earn spaces for reaching milestones.

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Games Support Learning and Behavior Change Theories

- Adult learning theory
 - Learner autonomy, building on existing knowledge
- Modeling/Trial behavior
- Reinforcement/feedback
- Expectations
- Self-efficacy
- Extrinsic motivation

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Intellect and brain development

- Game deprivation limits intellect and intellectual development



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Power Word: Dopamine

Games stimulate an increase in midbrain dopamine to help store and recall information

Dopamine also helps with reinforcement – motivating an animal to do something again and again. Dopamine is what prompts a lab animal, for instance, to repeatedly press a lever to get tasty pellets of food. And it's part of why humans seek out another slice of pizza. Reward and reinforcement help us learn where to find important things such as food or water, so that we can go back for more. Dopamine even affects moods.

Paul Howard-Jones, Michèle Dill, Theo van Leeuwen & Bert De Gremel (2013) The potential relevance of cognitive neuroscience for the development and use of technology-enhanced learning, Learning, Media and Technology, 40(2), 131-151, DOI: [10.1080/17441019.2013.823241](https://doi.org/10.1080/17441019.2013.823241) #AADE19

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The game is a transformation force



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Object manipulation stimulates learning



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What is the evidence for diabetes education?

- Focus on online “serious games” and gamification.
 - Youth, health care professionals
 - Chronic disease management/rehab, physical activity and mental health
- Outcomes
 - Positive impacts on engagement, behavior, satisfaction and self-efficacy
 - Mixed results on cognitive outcomes
 - Some evidence for improvement in A1c

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Limitations of the Evidence

- What counts as a game?
- Which strategies are appropriate to achieve the desired outcomes (knowledge vs behavior change vs retention)?
- Lack of studies over time.
- Lack of studies in adults
- Lack of studies on analog games
- Falling into disuse, once their novelty “wears off”

Supplement evidence based educational strategies with games suited to the needs of your participants. Evaluate your game strategies.

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IMPLEMENTING GAMING PRINCIPLES

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More principles of games

- Make it personal – engage emotionally
- Make it recognizable
- Make the interface learnable and fun
- Use scaffolding to create incremental challenges
- Don't make the game too easy or too hard
- Show progress
- Allow for choice
- Surprise and delight

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Strategies for Implementing Games

- Understand your patients.
- Understand your learning objectives.
- Identify a specific content area or learner issue you want to address (learning, participation, retention).
- Learning is always the center - choose learning over performance.
 - Choose: Find the total calories and carbohydrates on the nutrition facts label
 - Instead of: Be the first to identify the parts of the food label

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Strategies for Implementing Games

- Build on existing games
 - Use the vocabulary of the game
- Keep it simple
- Involve learners in creating/changing the games



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Strategies for Implementing Games

- Use competition to promote participation and cooperation
 - Provide social recognition through informal points/achivements
- Give people more than one life
- Go from an easy win to a boss battle (incremental challenges)

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Evaluation

- Let your objectives guide your evaluation
 - Did you get the outcomes you wanted?
- Use observations, surveys/interviews, and learner outcomes
- Refine your game strategies
- Share your success!

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NATIONAL DPP RETENTION TOOL

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What did we learn about retention?

- Need to keep people engaged throughout
 - Send "Weekly reminders that surprise and delight"
 - Be responsive to needs - tailor
 - Show you understand challenges
 - Shine light on successes
 - Give opportunities to commit to small actions when highly motivated
 - Help people track
 - Make it fun – games, quizzes



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Developed 10 DIGITAL Modules



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CDC Research and Development of Digital Resources to Maximize DPP Retention

Friday, August 9
2:30 PM

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Based on what you heard today:

Will you use game based teaching strategies/gamification in your DSMES sessions?

What elements do you find the most effective?

What is the big “wow” moment?

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Takeaway

- Learning must be varied, entertaining and cooperative in order to get to meaningful learning.

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Takeaway

Sesame Street was based on a simple fact: if you can keep the attention of children, you can educate them.



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Takeaway

- Don't reinvent the wheel of fortune – use what already works.
- Think outside the trivia box – test more than just the facts.
- Step away from the blackboard – Let the contestants do the teaching.

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Conclusion

- Game play in education can be a powerful strategy when implemented properly, as it can enhance an education program, and achieve learning objectives by influencing the behavior of participants.

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PROJECT VISION framework

- DSMES is the art and science of diabetes management
- Elevate OUR role as an expert at the clinical and behavioral aspects of diabetes care
- **Focus on Behavioral Health:** Supporting the emotional well-being of the whole person with diabetes must be a foundational element of the care we provide
- **Leverage Technology:** Diabetes educators will be technology experts and data interpreters, trainers and consultants driving care.

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Resources

https://www.diabeteseducator.org/docs/default-source/new-and-publications/AADE-In-Practice/AIP-Tip-Sheets/aip_7_2_egras_tips.pdf

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QUESTIONS?

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