

# ADHD and Gaming:

## Applying Game Design to Everyday Life

**Presentation by Bradley Smith II**

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### Premise

Gaming is becoming a near-universal pastime in the United States. Research shows that people with ADHD are more likely to play video games and for longer hours. Video Game addiction is strongly correlated with ADHD.

Games have developed over time to include more and more mechanics that keep gamer's attention. While real life cannot directly compete with highly stimulating games, borrowing some ideas from gaming can help bridge the gap.

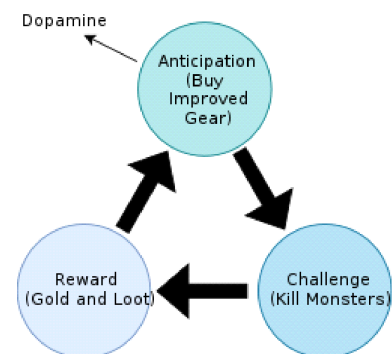
### Notable Game Mechanics and Elements

**Core Gameplay Loop** – Most successful games have a formula of taking an action, receiving a reward, and then using the reward towards taking the original action. This is also known as a compulsion loop because of how much the positive reinforcement encourages habitual use. Throwing in new elements periodically helps sustain the loop. Video games are excellent at providing a familiar structure but adding variety to prevent boredom.

**Feedback:** Games tell you immediately whether you did an action correctly or not. Delays in response and ambiguity of outcome are huge obstacles for ADHD minds. Example: Did I do well on this homework? Instead of waiting days to find out a game will tell you in seconds. Your current status within the game is always displayed on-screen so you can plan accordingly.

**Quest Log:** Large roleplaying games with many different options most resemble the competing priorities of everyday life. Instead of making players memorize what they should be doing, they can get distracted and switch tasks often because what to do and where to go is automatically written down in a journal or tracked on a map. Quests are also broken down into the most immediate next step. These are executive function aids.

**Rewards:** Playing video games themselves can be rewarding but to keep player's interest, in-game rewards are spread out. Small rewards help reinforce behaviors the game designer aims for. Rewards are not just limited to things. A sense of accomplishment and encouragement can



come from things like unlockable achievements, winning against other players, high scores, or fanfare from music and graphics. (Victory!!!)

**Loot Boxes:** Psychological research has long shown that humans motivate much more when given inconsistent rewards (Concept: Skinner Boxes/Random Reinforcements). Some modern games have taken this to a predatory level where playing the game is exchanged for a \*chance\* at getting a reward. When real-world currency plays a part it is indistinguishable from gambling. Some countries have passed legislation to limit these elements in games.

**Challenge and Progression:** Games aim towards the optimal amount of challenge for players. Tutorials help build confidence and mastery. Single-player games often have difficulty settings or the ability to reload. In multiplayer games ranking systems ensure that players will match up with opponents of about the same skill to ensure they both win and lose. Progression systems are very helpful for keeping players engaged and rewarding on their own. Seeing tangible measurements of your progress is very helpful for ADHD to persist on tasks. Very addicting games have you progressing at so many different things you are “almost there” to something new at all times.

## Practical applications

- **Quest Log**
  - Breaking things down is already a well-known strategy for ADHD yet it can be challenging to do when overwhelmed. Quests in games do a good job of giving you the next step and the overall objective without worrying the player about every step in between. It helps offset a common ADHD habit of trying to figure out every step of a project before starting.
  - Build a themed Journal/Planner. Incorporate your interests and strategize when and how you use it.
  - Set up clear objectives and remove ambiguity
- **Bonus Missions**
  - Setting the bar low can be helpful for getting started but that doesn't mean you have to settle for lesser results. Give yourself optional incentives to keep going. For example, your mission can be to exercise for just 5 or 10 minutes but exercising longer should be worth bonus points.
- **Partial Credit**
  - Games usually give you some small reward even if you don't do well. If you put forth effort it's important to both reinforce what you did do but also acknowledge that you could have gotten more. This approach helps with black-and-white thinking. Trying at something and getting frustrated or distracted and then seeing it as a complete failure.
- **Build Core Loops**
  - Where possible have everyday tasks lead into each other. (Habit Stacking)

- Games are excellent at having a familiar structure while also adding in variety. Set up routines that have an easy-to-follow overall structure but have some variations to prevent them from getting monotonous.
- Example: An exercise routine at the same time/place but rotate the activity.
- **Achievements:** In most games, achievements don't get you in-game rewards instead they give you a badge of honor that you completed something difficult. Real-life achievements for keeping a streak going, or hitting a high score can be really effective but some reframing might be necessary. I've heard from many clients that achievements that are easy/anyone can do are not very motivating. Since ADHDers struggle mightily with everyday tasks and consistency. Just doing "normal" things may not seem like an achievement but if you compare it to other people like you it definitely is impressive! They are meant to be hard, not hitting the mark is not a failure. Examples:
  - Being on time every day for X weeks.
  - Restarting an old project or hobby
  - Turning in an assignment a week early!
- **Progression System:** Build ways to tangibly track your progress. Oftentimes ADHD brains get impatient waiting for the natural payoffs. Having a visual representation of your effort can be helpful. Model after a game you are familiar with. Earn skill points, and level up. Make tracking quick.
- **Use Music and Sound:** Music, sound effects, and ambiance all play a part in keeping games engaging and persisting with tasks. Try pairing different types of music with different tasks. I recommend fast-paced or heroic music that doesn't have lyrics for frustrating tasks. Soundscapes can be helpful for high-focus tasks like writing.
- **Adjust Difficulty** - ADHDers often get very discouraged when they fall short of their goals and feel like they failed instead of considering the difficulty might have been too high at this moment in time. Manage expectations and find ways to make it easier on yourself.
- **Bounties** - For a family or roommates. Set up a Wanted board of tasks that never seem to get done. Add rewards or a competition for who can get the most done.
- **Rewards** - Our minds have proven to be motivated better with inconsistent rewards. Games just give you rewards. Deciding to give yourself a reward after you do something can also feel cheesy or unearned. Establish these things ahead of time. Examples:
  - Roll a 20-sided die after completing a task and give yourself a reward on a 20 (adjust the odds as desired).
  - After finishing the task, roll to see if you get a reward. Compile a list of things both big and small rewards and randomly pick what you win after completing a difficult task.
  - Spin a custom wheel of fortune
  - Tip for adults: Time spent doing a hobby or playing games is a good reward even if you just do them anyway. It feels much better when it is explicitly earned.

- **Creating a Storyline** - Find imaginative ways to connect how your current challenges are benefitting you for larger life goals. Overcoming adversity is what heroic stories are all about. Respect the difficulty level ADHD adds including the mental battle that others don't see. Create your own metaphors.
- **Collaboration and Competition** – Set up goals with peers, especially those with ADHD, to build a sense of teamwork and challenge each other. You don't have to be working on the same things. Friendly competition can also be highly motivating for some. You can even put stakes on it! Whoever does the most gets to pick what to eat or a movie to watch.

## Gamified Tools List:

Habitica – Habit and To-Do List themed like an RPG game. Join with friends to get stuff done!

Finch – Self-Care Pet – Accomplishing daily goals earns rewards for your bird pet.

Duolingo – Uses a variety of gaming elements for learning a language.

Do It Now – RPG To-Do List

Daylio – Journaling App that uses icons to quickly track your day. Also uses streaks and achievements.

Goblin Tools – A website that uses AI to break down tasks automatically. Good for getting a general idea of where to start when stuck on something. Helpful for turning open ended tasks into a list.

**Note:** The game aspects can help with getting started but don't expect them to just keep working unless you invest into getting some of the rewards/achievements/streaks.

## The Darker Side of ADHD and Gaming

A 2023 study in Korea suggested that people with video game addiction should be screened for ADHD because the correlation is so strong. It also showed that participants who reported their gaming as an issue said that games were a way to gain achievements and cope with negative emotions. The general group said they played games for entertainment. (Hong, 2023)

When gaming becomes problematic it is often used as an escape, not because they are so fun. Since games are designed to keep players engaged and provide constant feedback, ADHD gamers can retreat to a world where they do not feel like they are underperforming.

Gaming can reinforce perfectionism and make ambiguity or feeling unprepared in the real world more frustrating. The slightest setback can feel like a failure. Building confidence and embracing ADHD are key.

My goal with clients is to help them feel more capable in their everyday lives and return games to something they do for enjoyment.

## Citations and Further Reading

**Recommended:** HealthyGamerGG on YouTube and Twitch. <https://www.healthygamer.gg/>

Dr. Kanojia is a Harvard-trained psychiatrist and video game addiction specialist. His channel features a lot of content about ADHD.

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(I hope I don't lose many points for these citations not being formatted consistently)