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BA COMPUTER GAMES DESIGN

GAMES FOR POSITIVE IMPACT

Gamification



Gamification

Lecture Contents

- 1 What Is Gamification?**
- 2 Game Based Learning vs Gamification**
- 3 Gamification of Learning**
- 4 Gamification in the Workplace**
- 5 Benefits of Gamification**
- 6 Gamification Streaks**
- 7 Examples**



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Games and Education

Games and Education

What is Gamification?



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[Growth Engineering: What is Gamification? \(3:59\) \[1\]](#)



WHAT IS GAMIFICATION?

Gamification can be described as a collection of methods and procedures for resolving issues by utilizing or putting **game mechanics** to use.

Games and game-like components can be used to **educate**, **entertain**, and **engage** people. **Points**, **badges**, and **leaderboards** are a few traditional game components that can assist with learning and motivation.

Gamification is the use of game-design features and gaming principles in situations that are not game-related. [2]



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(insert lesson title here)

WHAT IS GAMIFICATION?

In a paper published in 1980, “*What Makes Things Fun to Learn, A Study of Intrinsically Motivating Computer Games*,” Thomas W. Malone, a professor at MIT’s Sloan School of Business, discovered that youngsters might **learn through playing video games**.

Academics began to see the **potential of gaming** in 1982 as computer games have shown a **natural ability** to captivate players, and articles began to appear investigating potential beneficial applications for the technology. [2]



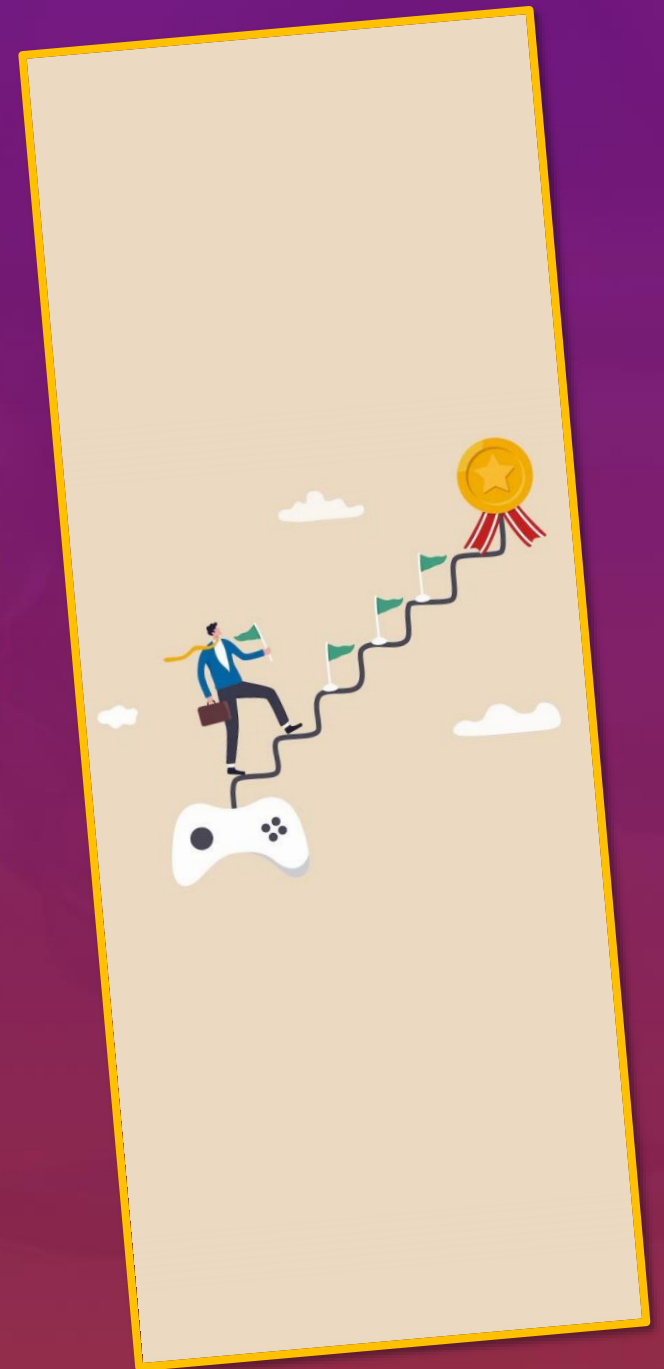
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(insert lesson title here)

WHAT IS GAMIFICATION?

The idea of utilizing game **mechanics** and game **designs** in **non-game situations** to accomplish various goals while **boosting user engagement** and **motivation** gave rise to gamification, which began to take off in late 2010.

The gamification field has experienced **exponential growth** and improved organizational recognition, particularly in talent acquisition and retention strategy. This field has the potential to **save businesses millions of dollars** by mimicking instruction in a **compelling** and **engaging** setting. [2]





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Game Based Learning vs Gamification



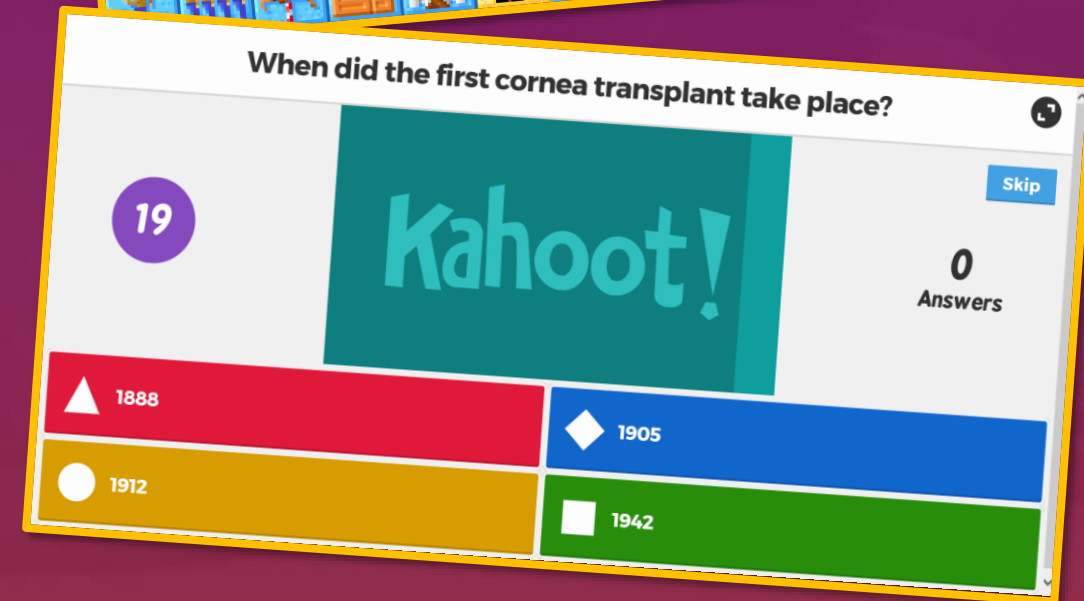
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GAME BASED LEARNING vs GAMIFICATION

It is important to note that the terms **game-based learning** and **gamification** are NOT interchangeable.

Game-based learning is a **strand of learning** in a **game context**, whereas **gamification** is an approach which affects an **entire body of learning**. [3]





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GAME BASED LEARNING vs GAMIFICATION

Game-based learning is an **interactive** method of engaging learners in educational content in the format of a game.

For example, students could learn the French words for colours through an **adapted game of Bingo** or learn about hurricane formation through an **online quiz**.

In both of these examples, learning is presented in a game format incorporating elements of competition, rewards and active engagement. [3]





GAME BASED LEARNING vs GAMIFICATION

Leaderboards and **whole class rewards** are used to **motivate**, **monitor** and **track the progress** of all learners but do not require the small strands of learning to be **game based**.

For example, a series of **traditionally taught lessons** become gamified if the teacher displays a **scoreboard** for work completed in class. **Badges** may be given out and pupils begin to compete for the most points earned in class upon completion of the work.

Game-based learning is applied to **specific items of learning**, whereas **gamification** is a whole module/syllabus approach using **rewards** to motivate learners to complete traditional types of learning. [3]



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Gamification of Learning



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GAMIFICATION OF LEARNING

Gamification in education blends **elements of gaming** with **educational content**. This creates an **immersive** experience.

Game mechanics such as **points, badges, levels, and leaderboards** tap into student's intrinsic motivation. This encourages **active participation** and **engagement**.

It also fosters a sense of **competition**, collaboration, and **accomplishment**. Ultimately, students will invest **more time and effort** into their studies. [5]



GAMIFICATION OF LEARNING

Gamification in education also provides a safe space for **trial and error**, allowing pupils to make mistakes and **learn from them**. [5]





GAMIFICATION OF LEARNING

Applying **gamification methods to learning** can have the following effects: [5]

- Enhancing knowledge retention
- Improving problem solving and critical thinking skills
- Transforming learning into a captivating experience



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Gamification in the Workplace



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GAMIFICATION IN THE WORKPLACE

Imagine if as an employee you could earn points and rewards for completing your workplace safety training. In this scenario, would you be more motivated to do so? This is how gamification is intended to work.

Applying classic game elements to activities that would normally have nothing to do with them in order to achieve specific objectives.

The concept of gamification is not entirely new – companies have been using gamified elements such as rewards, rankings or levels to motivate their employees in various ways for many years. [6]



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GAMIFICATION IN THE WORKPLACE

The main objective of gamification at work is to **make training activities more fun and enjoyable, motivate** employees, and increase **engagement** and **completion** rates.

According to a study by Mordor Intelligence, the gamification market reached a value of 10.19 million dollars in 2020, and that figure is expected to exceed **38 million dollars** by 2026.

The reason is simple – applying gamification to training processes **increases motivation, stimulates interaction between participants, and improves knowledge retention.** [6]





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GAMIFICATION IN THE WORKPLACE

Gamification is also ideal for **strengthening employee loyalty** and bringing about a lasting change in their **behavior**.

Furthermore, by integrating it into training, you can present learning as an **attractive, challenging** and **rewarding** endeavor, while providing employees with a **safe space** to put their skills and competencies into practice. [6]





GAMIFICATION IN THE WORKPLACE

Growth Engineering gives some statistics on gamification in the workplace (with links to its sources). According to their 2024 blog entry on gamification: [7]

- 90% of employees admit that gamification helps them to be more productive.
- Gamification can boost company productivity by 50%.
- Gamification can increase happiness in employees by 89%.
- 89% of individuals would spend longer on an app if it were gamified.
- Companies that implement gamification are 7x more profitable.



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Benefits of Gamification



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BENEFITS OF GAMIFICATION

There are many benefits to a game-driven teaching strategy. The top five benefits of gamification in learning according to The Access Group are: [5]

- 1. Boosts student engagement and motivation**
- 2. Makes learning more immersive and enjoyable**
- 3. Enhances retention and problem-solving skills**
- 4. Promotes a sense of achievement**
- 5. Builds a safe space for experimentation**



BENEFITS OF GAMIFICATION

Gamification in learning is **more than just a fun activity** - It has the ability to tap into the inner workings of our mind. These **psychological motivators** include:

Intrinsic motivation

By infusing challenges and granting **autonomy**, gamification ignites the **enjoyment** of learning. Imagine your students eagerly **taking charge** of their educational journey.

Extrinsic rewards

We all love to be **acknowledged and rewarded** for our efforts. Gamified learning incorporates extrinsic **rewards**. These include badges and points, giving students a sense of **accomplishment** and **recognition**. These rewards act as little boosts, pushing students to go the extra mile and achieve more. [5]



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Social Elements

We're **social** creatures, and gamified learning capitalises on this innate need for connection. **Leaderboards** and **collaborative projects** create a sense of belonging within the classroom. Students thrive in a supportive community where **healthy competition** and teamwork flourish.

Stickiness of Information

Ever wonder why certain things are easier to remember? Well, gamified learning holds the answer. Through repetition and engagement, information becomes more memorable. Students absorb knowledge as they interact with game-like activities. This ensures a deeper understanding of the subject matter. [5]



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Gamification Streaks



GAMIFICATION STREAKS

Streaks are a consecutive series of **actions** or **activities** performed **without interruption**. They represent a commitment to consistency in pursuing a particular goal or habit over time.

This makes streaks a robust **repetition mechanism**. They reward you **everytime** you complete an **action**, meaning you're more likely to keep doing it. This gives them an **addictive** quality.

In this respect, streaks are useful for establishing and maintaining a **regular routine**. This makes them easy to apply to areas like **learning**, **exercise** and **productivity**. [8]



GAMIFICATION STREAKS

For example, here are some **targets** you might set yourself: [8]

- Learn a **new word** in a foreign language **for 30 days straight**
- **Exercise** for 40 minutes a day **for 14 days straight**
- **Prepare a new dish** every day for **10 days straight**
- **Quit smoking** for **six weeks**



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Note the last example. Streaks can also be used **to track abstinence** or a **lack** of activity.



GAMIFICATION STREAKS

Whatever your goal, streaks are useful because they provide a **visual representation** of your progress. This has been proven to **increase effort** and commitment.

Naturally enough, **longer streaks are harder to maintain**. But once a streak is broken, it's broken. You'll have to **start again** at the very beginning. [8]





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GAMIFICATION STREAKS

Streaks are typically tracked in your head, in **calendars**, **journals** or productivity **apps**.

In some cases, they are 'baked in' to software solutions. This is true with apps like **Duolingo** and **Candy Crush**. [8]





GAMIFICATION STREAKS

A **learning streak** occurs when an individual pursues a specific learning activity or goal over an unbroken sequence of days. It's a commitment to consistent learning or skill development.

For instance, a musician might commit **to playing an instrument every day** for a set period, in order to improve their **proficiency**.

Likewise, a programmer might set themselves daily **coding challenges** and a chess player may seek to solve a set number of **puzzles per day**.



GAMIFICATION STREAKS

Streaks are effective because they pull on a wide range of psychological levers and cognitive biases. They work because we crave **consistency**.

Here are some key aspects of behavioural psychology that inform the use of streaks:



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LOSS AVERSION

Did you know that we're more motivated by the **fear of losing something** than the prospect of **gaining something of equal value**? Generally people feel that it's better not to lose £10 than it is to find £10.

Breaking a streak means that a user will **lose all their progress** and will have to **start again** from scratch. For many users that's a terrifying thought! [8]



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CONSISTENCY BIAS

We have a natural tendency towards **steadiness and stability**. In fact, we have an instinctual desire to remain **consistent** with our previous actions and beliefs.

Streaks leverage this by encouraging **regular activity**, which helps us to form a consistent self-image. [8]



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Here are some key aspects of behavioural psychology that inform the use of streaks:

GOAL GRADIENT EFFECT

Clark Hull's research back in 1932 found that the **closer** we get to achieving our goals, the **harder we are willing to work**.

As people invest in their streaks, their commitment and activity will **increase**. After all, nobody wants to break their streak on day 9 out of 10! [8]



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Here are some key aspects of behavioural psychology that inform the use of streaks:

VISUAL PROGRESS

Streaks provide a **visual representation** of progress towards a goal. At any stage, you know **exactly** how close you are to your next achievement.

It's rare that goals are communicated to us in such a tangible and **easy to understand** manner, so this can be a **powerful motivator**. [8]



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Here are some key aspects of behavioural psychology that inform the use of streaks:

INCREASED COMPETENCE

As we maintain our streaks, we simultaneously build our **competence** and **confidence**.

This increases our **sense of belief** and creates a **rewarding** feedback loop. It may even trigger the release of **dopamine** which can help to motivate further activity. [8]



GAMIFICATION STREAKS

With so many **psychological factors** at play, it is unsurprising that **streaks** are so effective when used to motivate and incentivise.

Utilising streaks within **group learning tasks** can help to encourage **social comparisons** that fuel healthy **competition**.

Furthermore, asking your learners to **publicly commit** to their streaks creates cognitive dissonance if they fail to follow through. Public commitments are considerably **more effective** than private declarations. [8]



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Examples



EXAMPLES

Numeracy and Literacy:

<i>Grannys Garden</i>	(4Mation, 1983)	(<i>BeebEm</i>)
<i>Yellow Brick Road</i>	(Margaret Cross & Dave McKeran, circa 1985)	(<i>BeebEm</i>)
<i>Teashop</i>	(Anita Straker, 1983)	(<i>BeebEm</i>)
<i>HS Software</i>		
<i>Reading Packs 1-4</i>	(HS Software, circa 1984)	(<i>BeebEm</i>)

Engagement with Learning:

<i>Gaming Heroes team Quiz</i> (2024)		(<i>Classroom activity</i>)
<i>Duolingo</i>	(Duolingo Inc., 2011)	(<i>App – PC</i>)



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