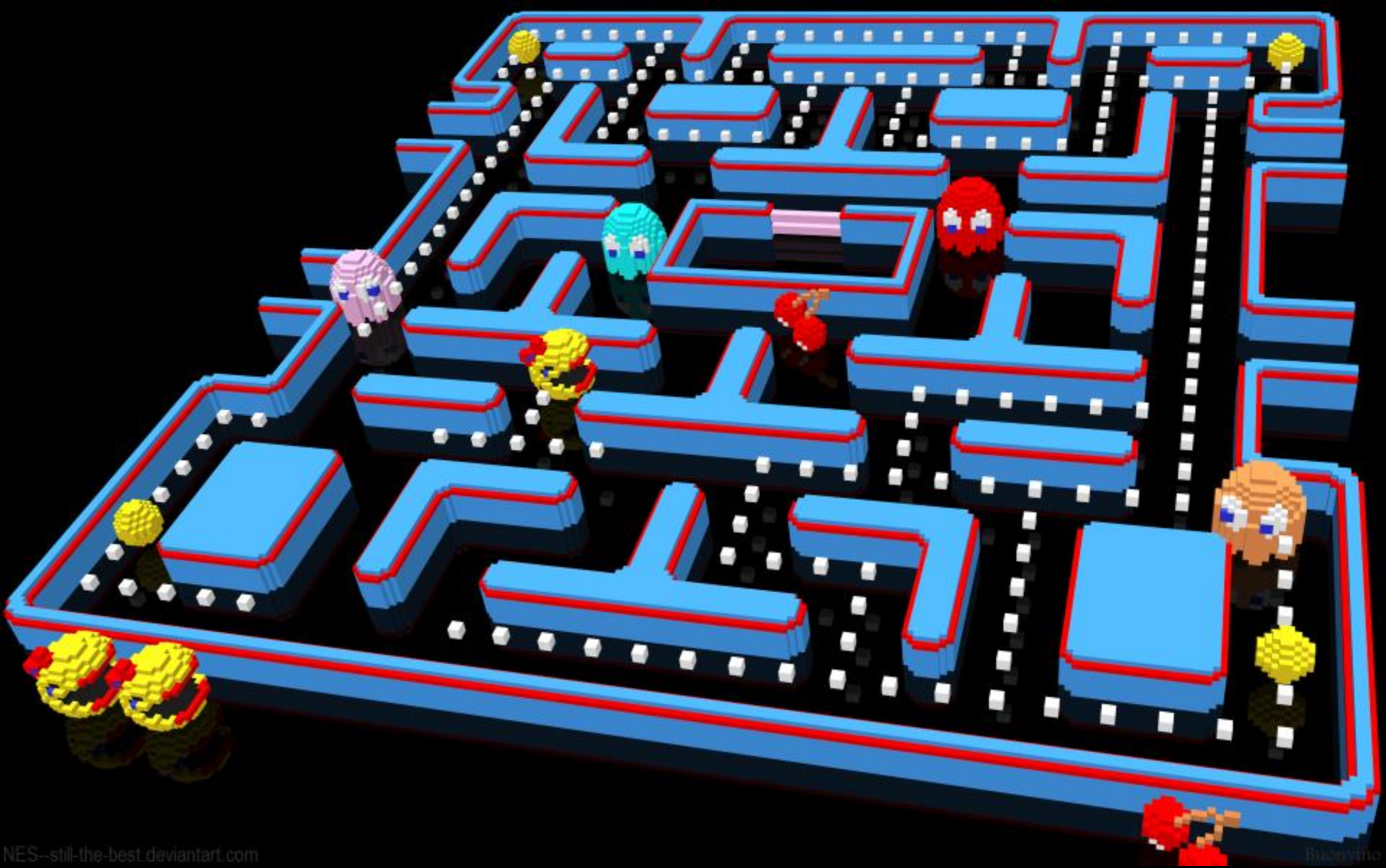




# Teaching Using Games

Alex Tamulis



NES--still-the-best.deviantart.com

Bucorino

# Gamification in the classroom



# Serious Gaming







Remember  
the **sandbox**?

Is he **learning**?





“It is paradoxical that many educators and parents still differentiate between a time for **learning** and a time for **play** without seeing the vital connection between them.”

Leo F. Buscaglia, USC



“The opposite of **work** is not **play**,  
it’s **depression.**”

-Stuart Brown,  
National Institute for Play





*Games*

*What is the  
difference?*

*Play*

# GAMES

Externally imposed rules  
Goals

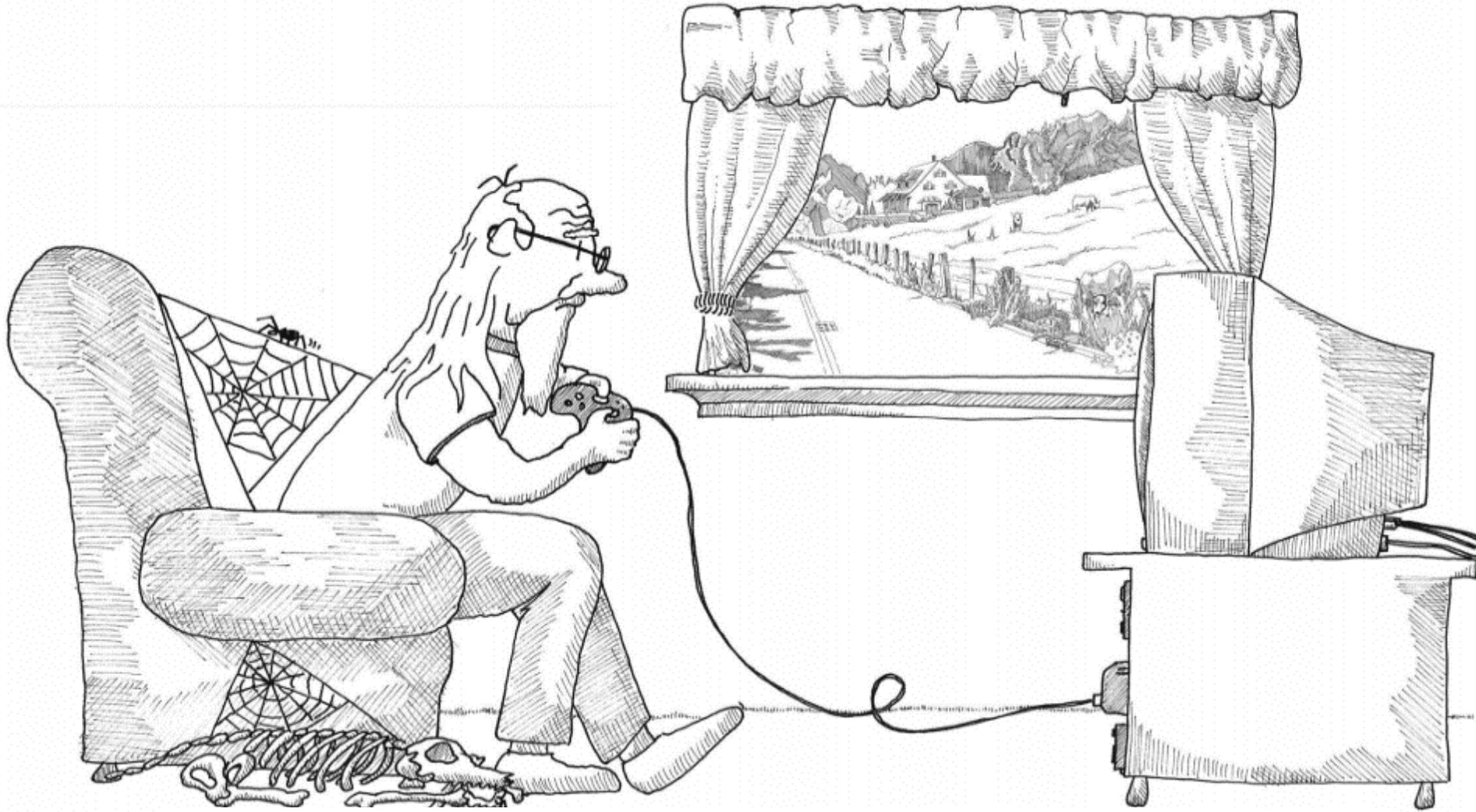
---

# PLAY

Freedom from all but  
personally imposed rules  
No goals

*We live in a world of systems, and choose whether to make a given system a game.*

games are systems built to help us learn patterns.



And fun is a neurochemical reward to encourage us to keep trying.

This is what  
engagement  
looks like.





Are *they*  
learning?





This is what  
**school**  
looks like.

Ford )



*Are they*  
learning?





# Video Games



# The Gaming Phenomenon



- Annual Sales: **\$75 billion**
- **65%+** of all people play electronic games
- Call of Duty: Modern Warfare 3 generated **\$400 million+** on 1<sup>st</sup> *day* of sales
- Every week, **3 BILLION HOURS** of videogames are played



The average age  
of a game player  
is

34

The percentage of  
women who are video  
game players is

40%







Videos Game sales  
in 2016 generated

**\$10.5 billion**



Between 5<sup>th</sup> grade and graduation, students will spend **10,080 hours in the classroom.**



The average young person will spend **10,000 hours**, by the time they're 21, playing video games.

Jane McGonigal, Institute for the Future



**“Gamer” stereotypes are no longer accurate**



**REALITY**

Worst game ever.



Today's active generation has grown up associating  
**CHALLENGE** with **FUN**



# Definition of Gamification

**ga·mi·fi·ca·tion** [gay-muh-fi-kay-shuhn]  
integrating game dynamics into your site,  
service, community, content or campaign,  
in order to drive participation.  
(see Bunchball)



macmillan  
education

# Gamification ≠ Games

**Adding a couple of Flash games to your  
EFL site or Blog  
Is *NOT* Gamification**

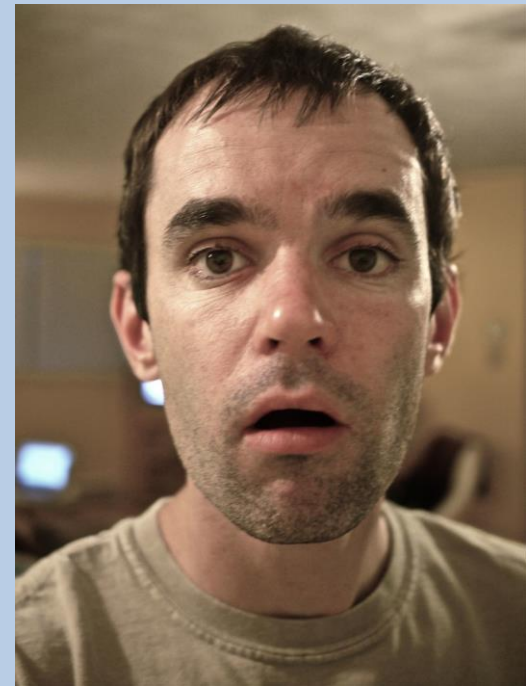
Gamification is a  
**Comprehensive Motivational  
Ecosystem** which encourages repeat use  
and renewed effort, resulting in an increase in  
the desired behavior.

# *What* is gamification good for?

Get people to do something that they may not obviously *want* to do...

...in a predictable way...

without the use of force.



# Gamification Job #1 : engage audiences



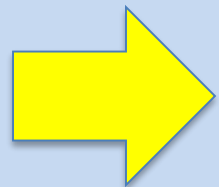


# What does this mean?

- Gaming transcends content
- FUN and the THEME around fun are not necessarily connected
  - therefore...

**ANYTHING *can* be fun if designed well**

# “Piano Stairs” Experiment, Stockholm



**+66%** stairs usage after gamification

# “Piano Stairs” Experiment, Stockholm



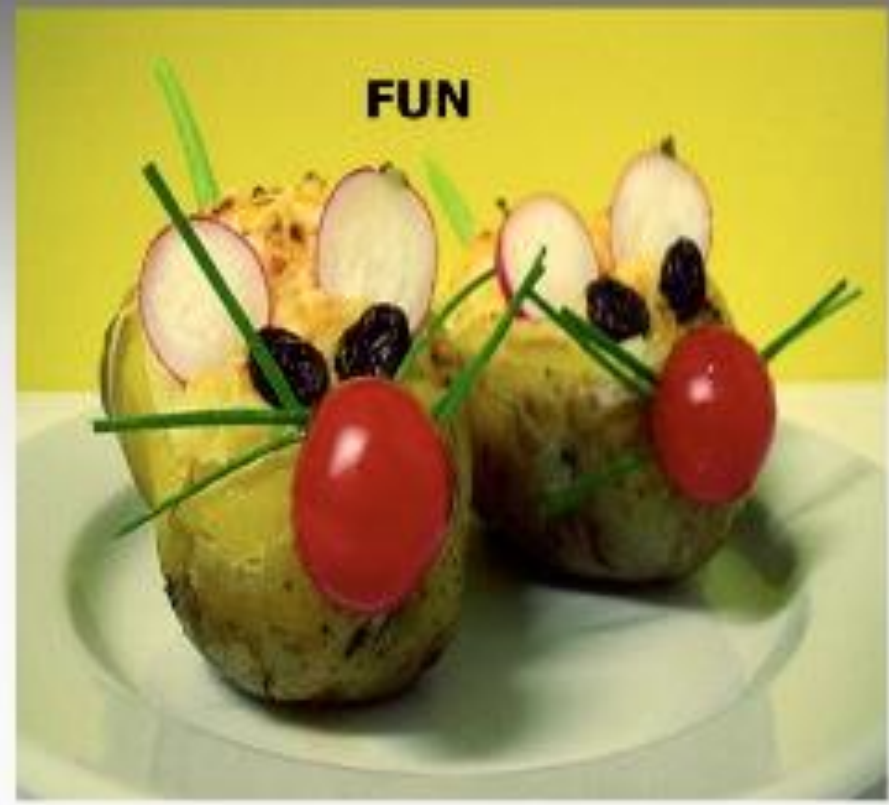


# “Bottle Bank Arcade” Experiment, Stockholm



- Bottle Bank Arcade 24-hour use: 200+
- Nearby “standard” bank 24-hour use: 2

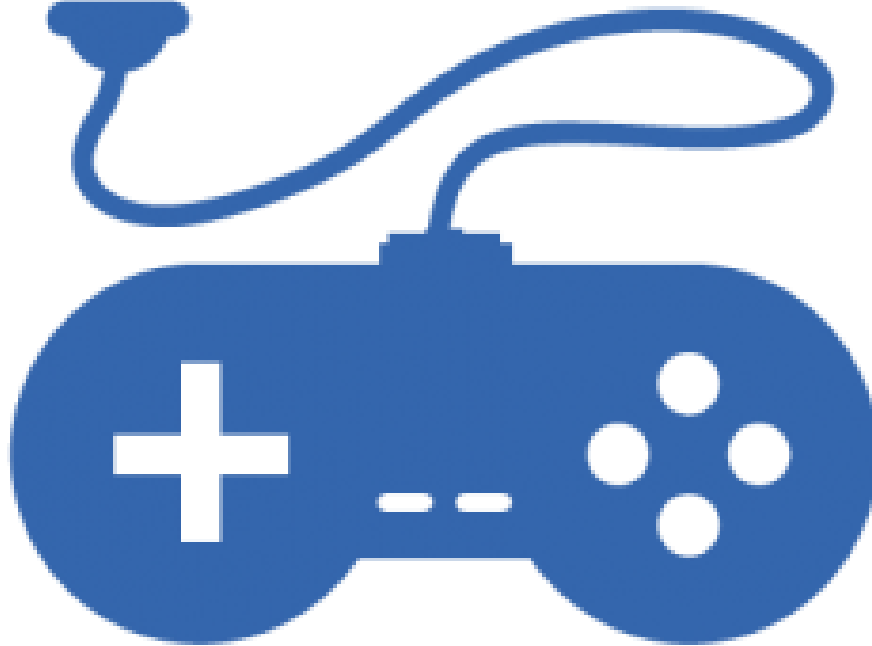
**ANYTHING** *can* be fun if designed well  
...even vegetables...



... and even **education!**



# Gamification Basics





# Bartle's Player Types

achiever

killer

socializer

explorer

# Bartle's Player Types

achiever

Puzzle Games

killer

Monopoly

socializer

Farmville

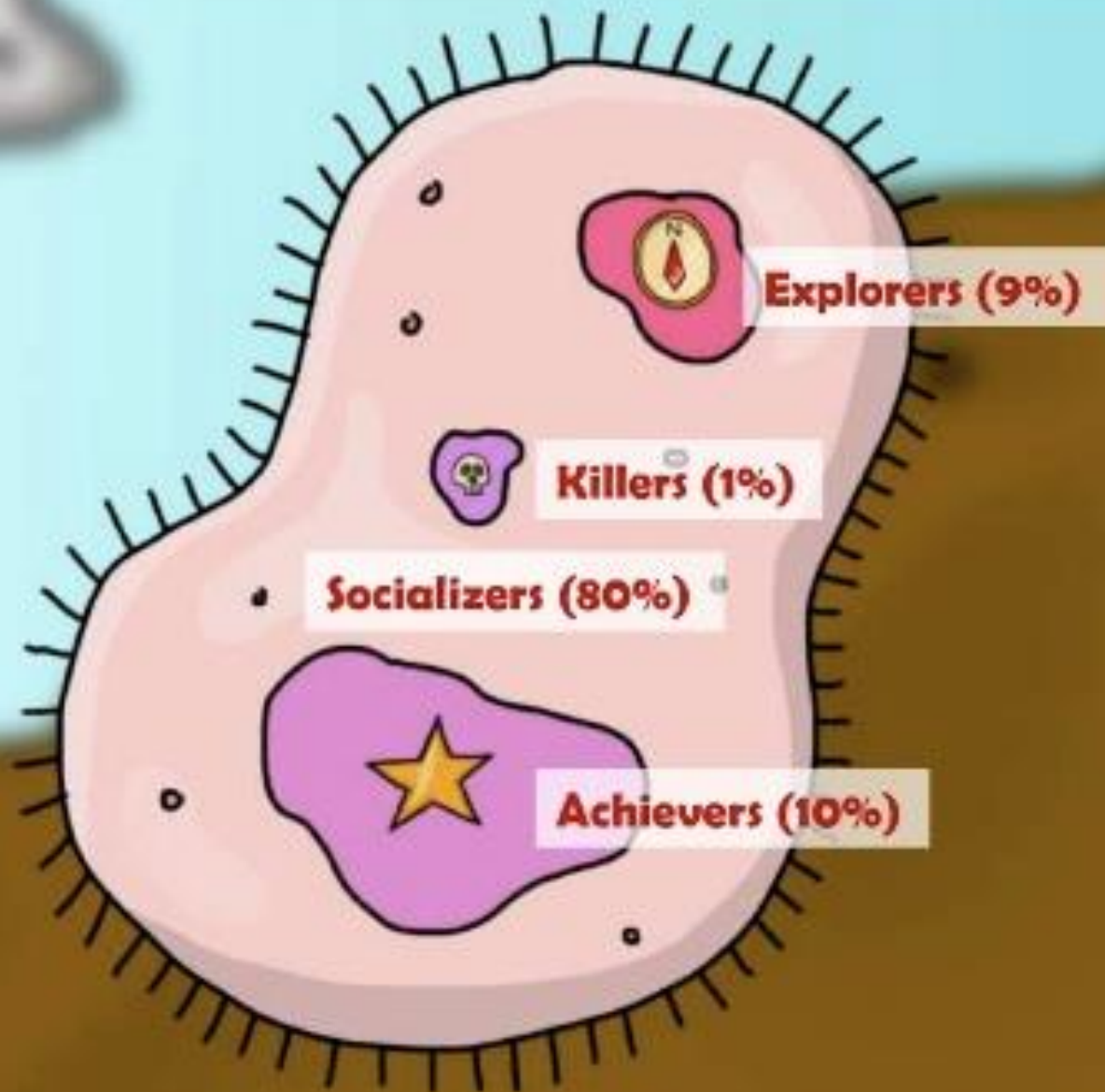
explorer

Minecraft

# Player Types





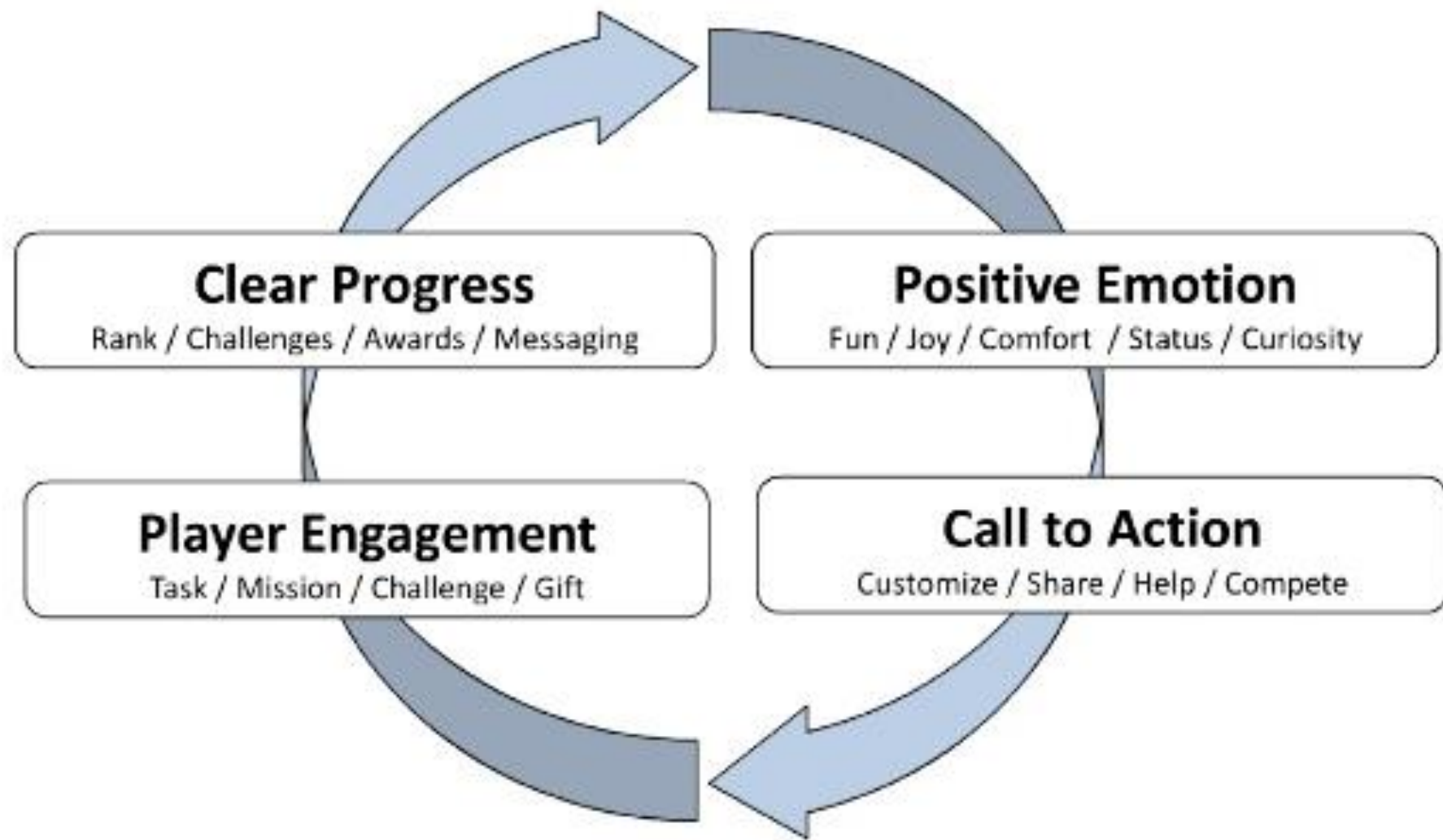


**Most of us (80%) are Socializers; hence the popularity of CARD GAMES  
In the past and GAMING OVER SOCIAL NETWORKS today**

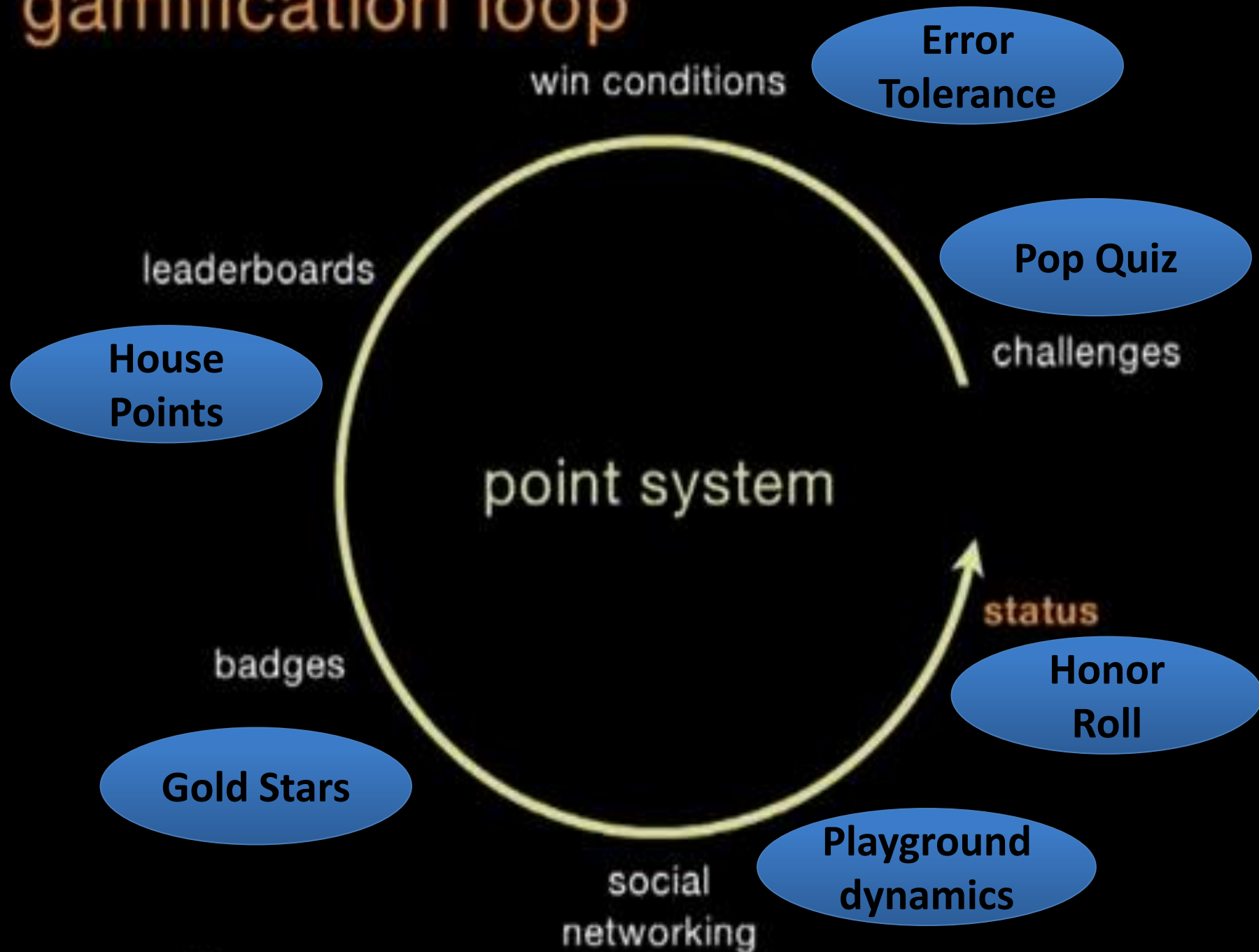
# gamification loop



# ENGAGEMENT FRAMEWORK LOOP

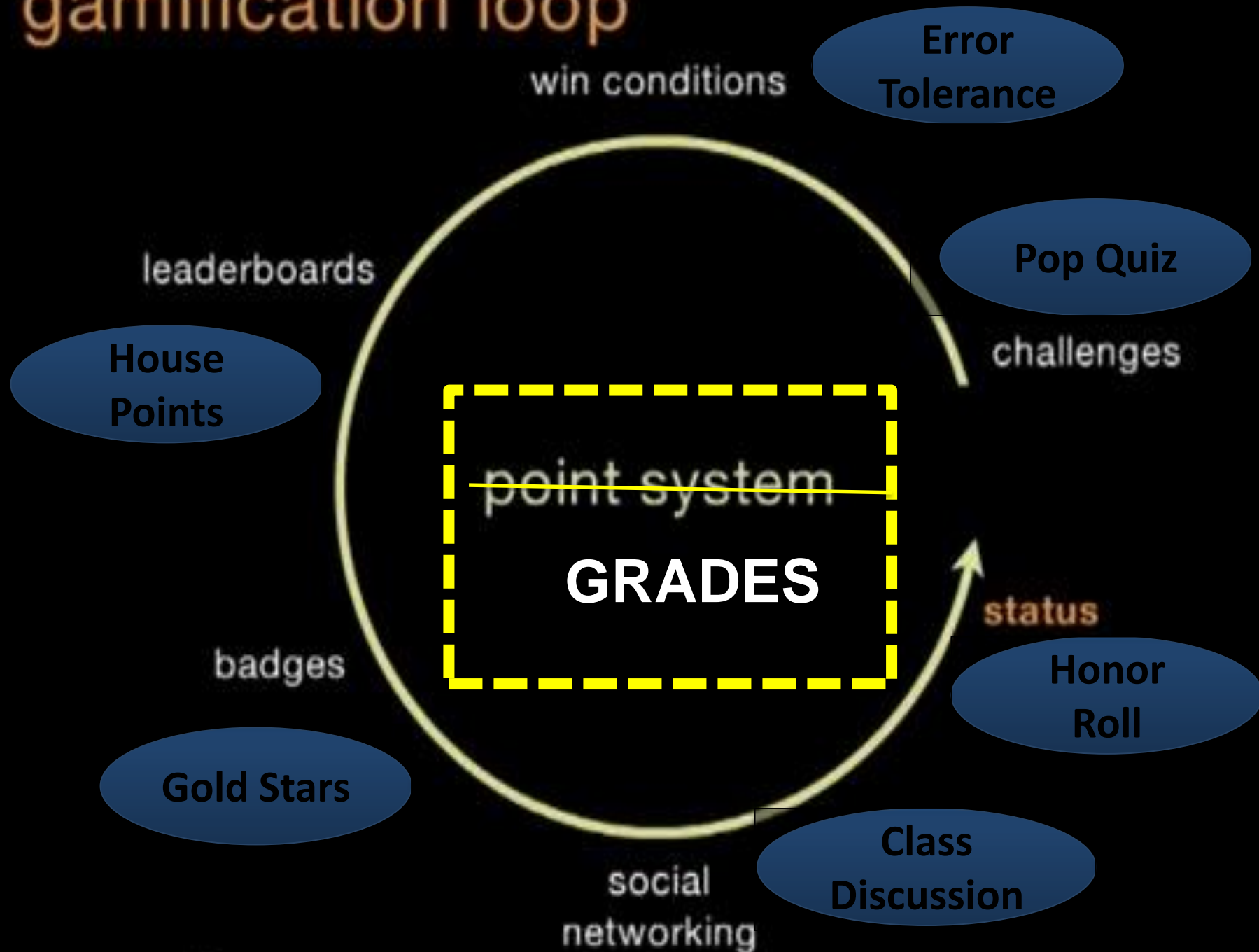


# gamification loop





# gamification loop



# Grades vs. Points

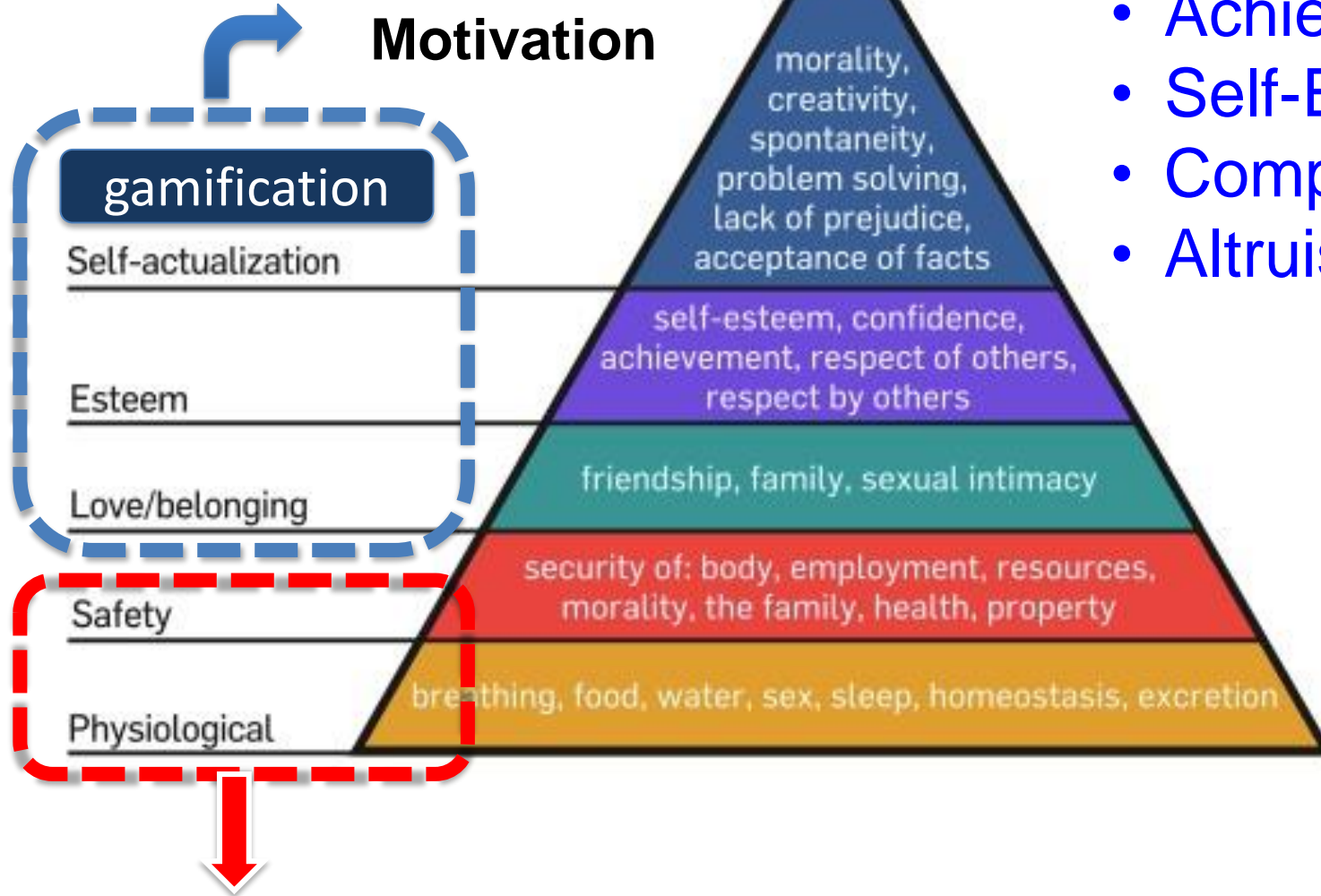
<b>Errors</b>	<b>Penalized</b>	<b>Way to get to next level</b>
<b>20% → 40%</b>	<b>You still fail the test</b>	<b>Congrats on 2x Score!</b>
<b>Emotion</b>	<b>Fear / Stress</b>	<b>Challenge</b>
<b>Reaction</b>	<b>I'm stupid</b>	<b>I know I can do better</b>

A points-based system is the starting gate for a learning environment that encourages engagement rather than penalize failure.

# Gamification and Motivation



## Intrinsic Motivation



- Status
- Achievement
- Self-Expression
- Competition
- Altruism



# Points Systems

- XP (experience points). Everything you do adds to your cumulative points total.
  - Allows you to calibrate the *relative* values of actions by the user (award more points to the tasks you want to incentivize)
  - You are always moving forward; never slipping back
- Reward activity / effort / assiduousness; not purely achievement per se



**Carlos Henrique...** actualizó la foto de su perfil ...



**Denis Cha** ha ganado la insignia Opinion Leader ..



**Denis Cha** puntuó 2100 puntos en el **Red Tails: Change Up The Strategy** Video



**Haisa Brandão** puntuó 2070 puntos en el **John Carter: White Apes** Video Booster.

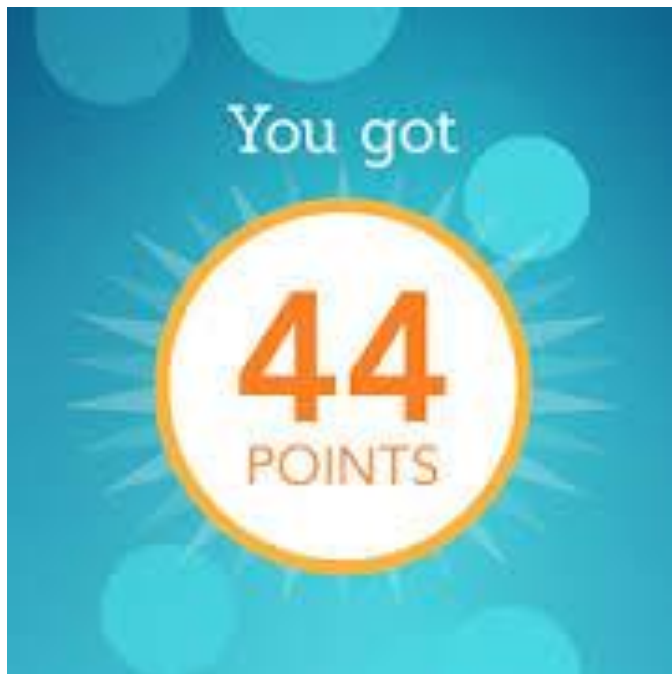


**Li.a** puntuó 2610 puntos en el **Lana Del Rey: Video Games** Video Booster.

## **EARN POINTS BY:**

- Creating Profile
- Posting photo
- Completing Content units
- Playing Practice Games
- Posting Comments
- Making Friends
- Reaching Levels
- Winning Badges

1 <sup>st</sup> place	25 points
2 <sup>nd</sup> place	18 points
3 <sup>rd</sup> place	15 points
4 <sup>th</sup> place	12 points
5 <sup>th</sup> place	10 points
6 <sup>th</sup> place	8 points
7 <sup>th</sup> place	6 points
8 <sup>th</sup> place	4 points
9 <sup>th</sup> place	2 points
10 <sup>th</sup> place	1 point



Team 1	Team 2	Team 3	Team 4
10	15	<u>20</u>	10

# Unlocked Achievements

Achievement	Who	Unlocked when	Level
Total Class Attendance	All the class	Everyone comes to class	+1 (per lesson)
Total Attendance	Individual students	1 month without missed a class	+1 (per month)
Homework	All the class	Everyone completes all their homework	+1 (each time)
Homework	Individual students	1 month completing all the homework	+1 (per month)
Correct	Individual students	A student answers all the questions in an exercise correctly	+1 (each time)
All correct	All the class	All the class answer all of the questions in an exercise correctly	+1 (each time)
etc.			



# Badges

- Not an end in themselves, but useful as “social update / social proof”
- Design matters (visual and motivational)
- Needs to bear a relationship to the content and to the desired actions

# BADGES



**badges** = visual representations of a **skill** or **achievement**



You have unlocked 16 new Badges!

Point mouse on Badges for more information




# Leaderboards

- Not only about Achievers
- Socializing matters
- Make leaderboards *relative to your social framework of reference* → you see “levelling up” as achievable and personal.

# LEADERBOARD

Today    This Week    Last Week    Month    Year

Resolutions    Quick Resolutions        Score



15    8 (55%)    6 (40%)    57



12    4 (33%)    7 (58%)    48



8    4 (38%)    5 (63%)    30



# Levels

- Make early level progress easily achievable
- Staggered; increasing difficulty
- As with points, progress reflects effort / persistence, not pure proficiency

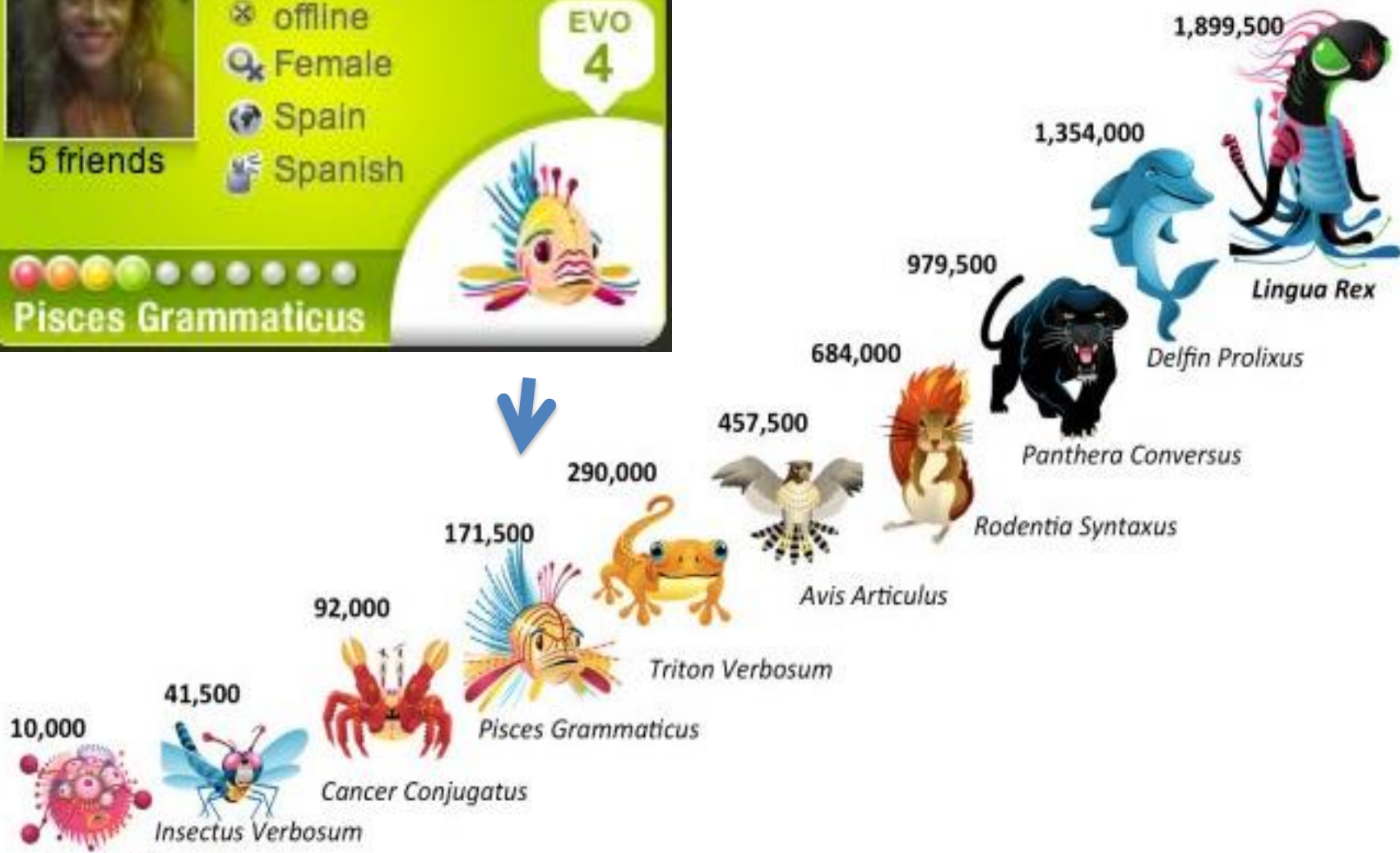
**Sole**

- offline
- Female
- Spain
- Spanish

5 friends

EVO 4

Pisces Grammaticus



# Social Networking

- Gives conversations an anchor → content
- Facilitates making friends
- Allows personalization
- Gives friendmaking *status* → badges, rewards

# Benefits

- Engagement
- Attention Span
- Mental Flexibility
- Competition
- Collaboration
- Urgent Optimism
- Social Fabric
- Blissful Productivity
- Epic Meaning





# Letter Grade Distribution



Blunt, Richard, Ph.D. (2009)

Does Game-Based Learning Work? Results from Three Studies

[trickdunn.squarespace.com/storage/blunt\\_game\\_studies.pdf](http://trickdunn.squarespace.com/storage/blunt_game_studies.pdf)

# Junior 5 - Speed Writing October - December 2012

<b>Leader Board</b>	<b>19/10</b>	<b>26/10</b>	<b>9/11</b>	<b>16/11</b>	<b>23/11</b>	<b>Best Level</b>
<b>María V</b>	<b>91</b>	<b>126</b>	<b>164</b>	<b>246</b>	<b>306</b>	<b>11</b>
<b>Álex L</b>	<b>105</b>	<b>178</b>	<b>169</b>	<b>269</b>	<b>-</b>	<b>10</b>
<b>Júlia B</b>	<b>129</b>	<b>172</b>	<b>149</b>	<b>229</b>	<b>266</b>	<b>10</b>
<b>María D</b>	<b>135</b>	<b>142</b>	<b>50</b>	<b>252</b>	<b>224</b>	<b>10</b>
<b>Marc R</b>	<b>109</b>	<b>148</b>	<b>160</b>	<b>233</b>	<b>242</b>	<b>9</b>
<b>Irene M</b>	<b>89</b>	<b>139</b>	<b>91</b>	<b>231</b>	<b>161</b>	<b>9</b>
<b>Patricia W</b>	<b>111</b>	<b>132</b>	<b>88</b>	<b>231</b>	<b>218</b>	<b>9</b>
<b>Nacho L</b>	<b>103</b>	<b>118</b>	<b>153</b>	<b>226</b>	<b>242</b>	<b>9</b>
<b>Mateo I</b>	<b>69</b>	<b>87</b>	<b>163</b>	<b>226</b>	<b>203</b>	<b>9</b>
<b>Julie F</b>	<b>80</b>	<b>145</b>	<b>100</b>	<b>202</b>	<b>151</b>	<b>8</b>
<b>Marina E</b>	<b>119</b>	<b>109</b>	<b>112</b>	<b>185</b>	<b>151</b>	<b>7</b>
<b>Ines M</b>	<b>112</b>	<b>67</b>	<b>67</b>	<b>181</b>	<b>161</b>	<b>7</b>
<b>Paula C</b>	<b>74</b>	<b>95</b>	<b>62</b>	<b>155</b>	<b>145</b>	<b>6</b>

## Junior 5 - Speed Writing October - December 2012

<b>Leader Board</b>	<b>19/10</b>	<b>26/10</b>	<b>9/11</b>	<b>16/11</b>	<b>23/11</b>	<b>Best Level</b>
<b>María V</b>	91	126	164	246	306	11
<b>Alex L</b>	105	178	169	269	-	10
<b>Júlia B</b>	129	172	149	229	266	10
<b>María D</b>	135	142	50	252	224	10
<b>Marc R</b>	109	148	160	233	242	9
<b>Irene M</b>	89	139	91	231	161	9
<b>Patricia W</b>	111	132	88	231	218	9
<b>Nacho L</b>	103	118	153	226	242	9
<b>Mateo I</b>	69	87	163	226	203	9
<b>Julie F</b>	80	145	100	202	151	8
<b>Marina E</b>	119	109	112	185	151	7
<b>Ines M</b>	112	67	67	181	161	7
<b>Paula C</b>	74	95	62	155	145	6

### Leaderboards

It's common for participants at lower levels in a leaderboard to become demotivated – this happened and can be seen left.

5 out of the 13 learners started to feel that writing a lot didn't really matter and that they could not catch up to the others.

I tried to help counter this by making more than one way of 'winning' the game. To some extent, adding 'Achievement' badges helped do this and those learners who had lost interest started to participate with enthusiasm again.

Towards the end of term though, the same learners, and one more (Marina) has started to lose interest again, so I did not continue the speed-writing in the second term.

**Writing Achievement**



**Most original**

**Writing Achievement**



**Fewest mistakes**

**Writing Achievement**



**Very creative!**

**Writing Achievement**



**Best introduction**

# Gamifying Writing



Once upon a time, in a land full of mountains, next to a river, there lived a group of pirates who wore helmets with horns on them.

One day, the king of the pirates set a quest for the others: to find the mythical gigantic tree octopus.

The prize, he told them, would be a golden cup, and the pirates would also hold a party and cook the tree octopus in the special silver cooking pot...

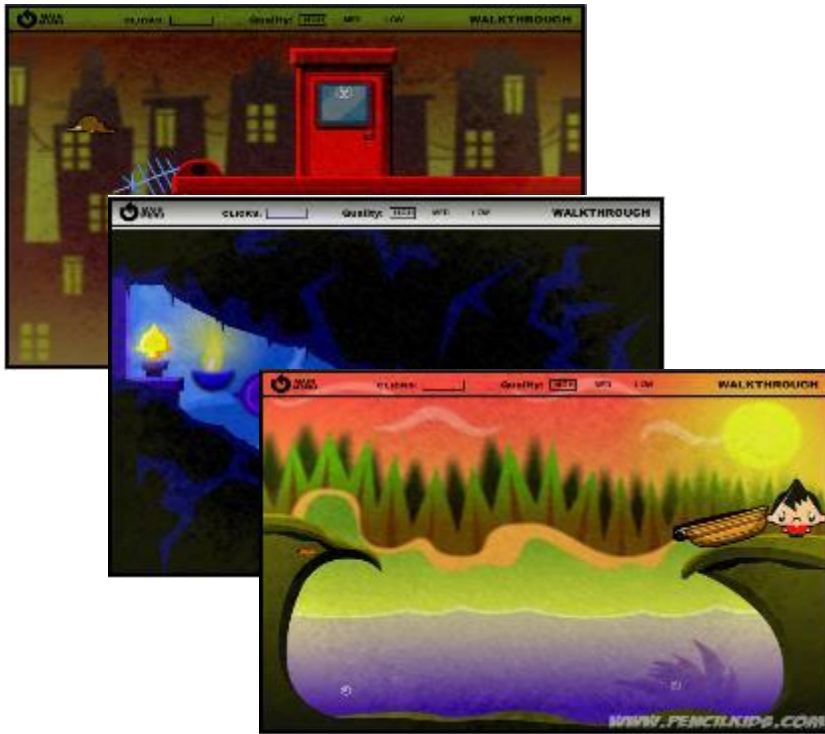


Available on the  
App Store

ROXY'S  
Story Cubes®



# Gamifying Speaking



## Demand High ELT

HOME ARTICLES & DISCUSSIONS OBSERVATION TASKS PRESENTATION

READY-TO-GO SEMINARS



<http://demandhighelt.wordpress.com/>

<http://pencilkids.com/droppygame.html>



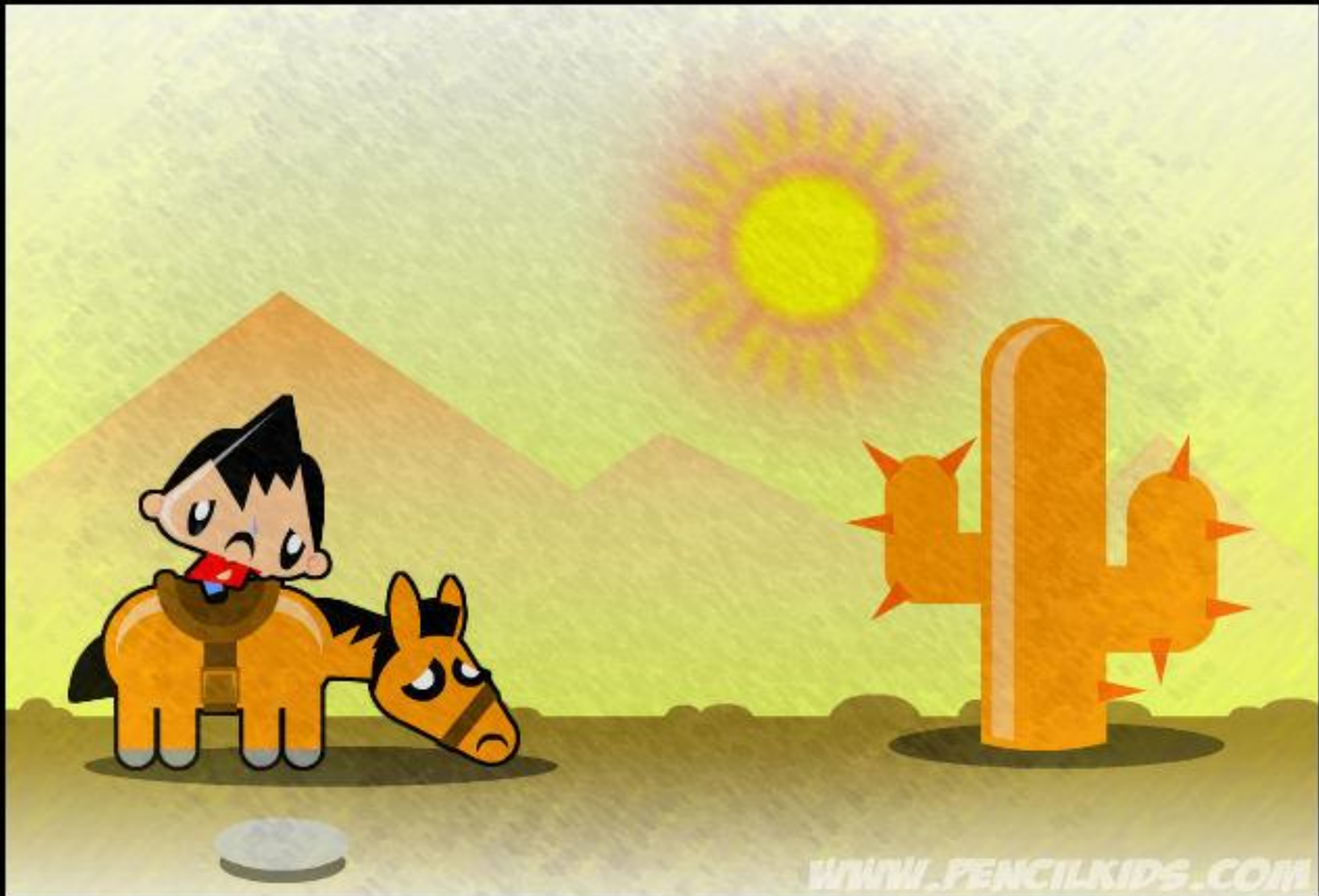
Now describe the five images to your partner as best you can

Can you explain to your partner...

What has happened?



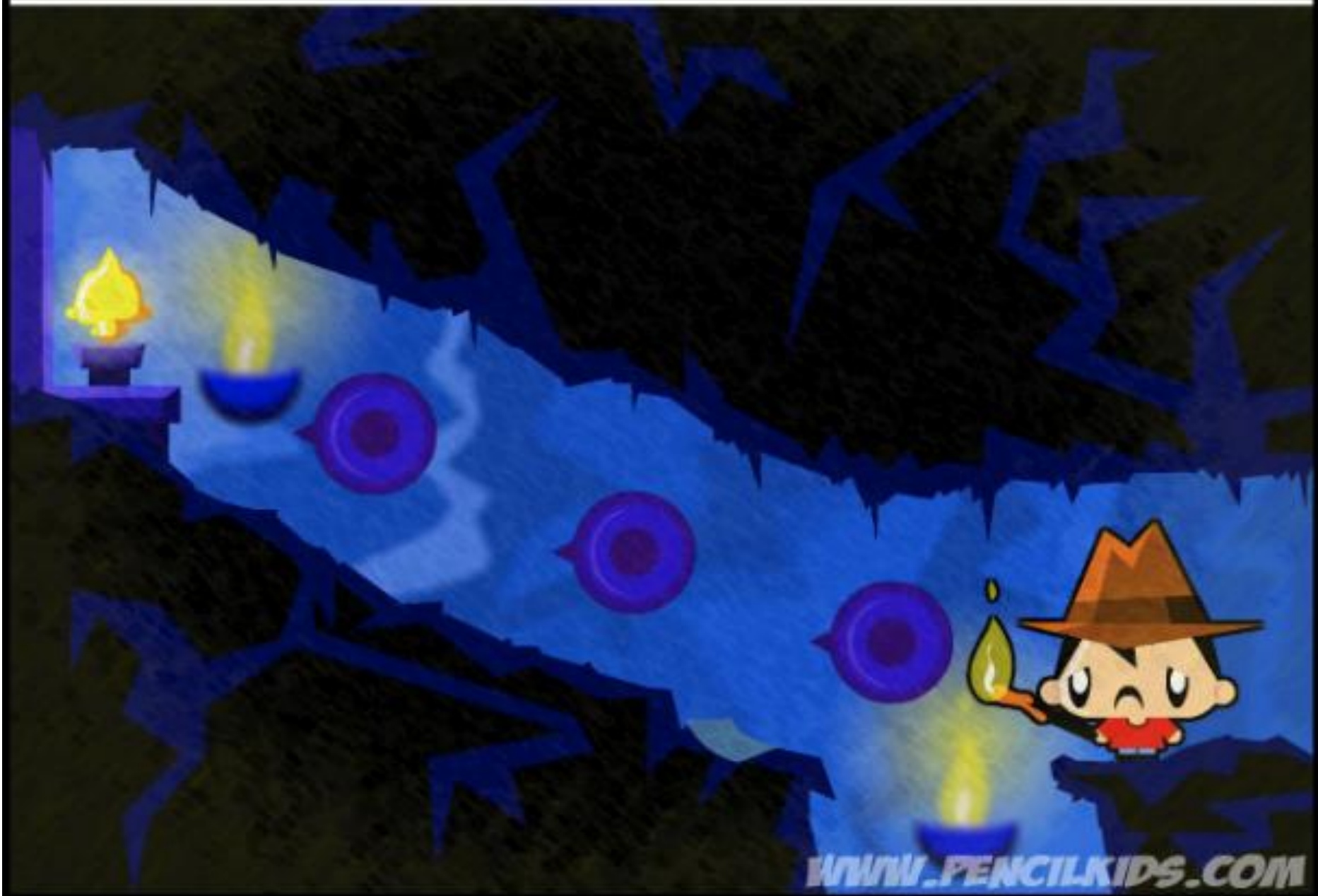




***What has happened?***







***What has happened?***



## In summary



**Gamification  
can help...**

...to encourage  
students **to do  
something  
they don't  
want to do...**

...or to do  
something  
they **think they  
don't want to do**



# ChicagoQuest

A middle school where board games, card games, Minecraft and portal all make space for students to learn.



- Designed to build competencies in 21<sup>st</sup> century skills such as problem-solving, creativity, collaboration and resourcefulness
- Based on research and practice that support the use of digital media, game theory, and design principles to support student's engagement in learning

# How Games Can Be Used In Schools

## Authoring Platforms

Game is used to produce an artifact, be it another game, a model, visual text, or written text.



Students create ancient city using *Minecraft*



# Free Online Educational Games

- [www.roomrecess.com](http://www.roomrecess.com)

Developed by an elementary school teacher, Room Recess offers games that focus on math, language arts, spelling, reading, and basic problem solving with fun titles like “Zombie Paint” and “Tic Math Toe”

- [www.mathchimp.com](http://www.mathchimp.com)

Aligned with Common Core Standards, this site offers over 200 free math games, printable worksheets, and videos for students from 1st to 8th grade

- [www.smart-kit.com](http://www.smart-kit.com)

Great for all ages, this site offers fun games that focus on quick thinking, logic, math, brainteasers, physics and more

For more information  
Please contact

**ALEX TAMULIS**  
ACADEMIC CONSULTANT

# Thank you

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A MACMILLAN SCIENCE AND EDUCATION DIVISION



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