



# REALITY

Worst game ever.

# Gaming the Classroom

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# Not goal



# Goal



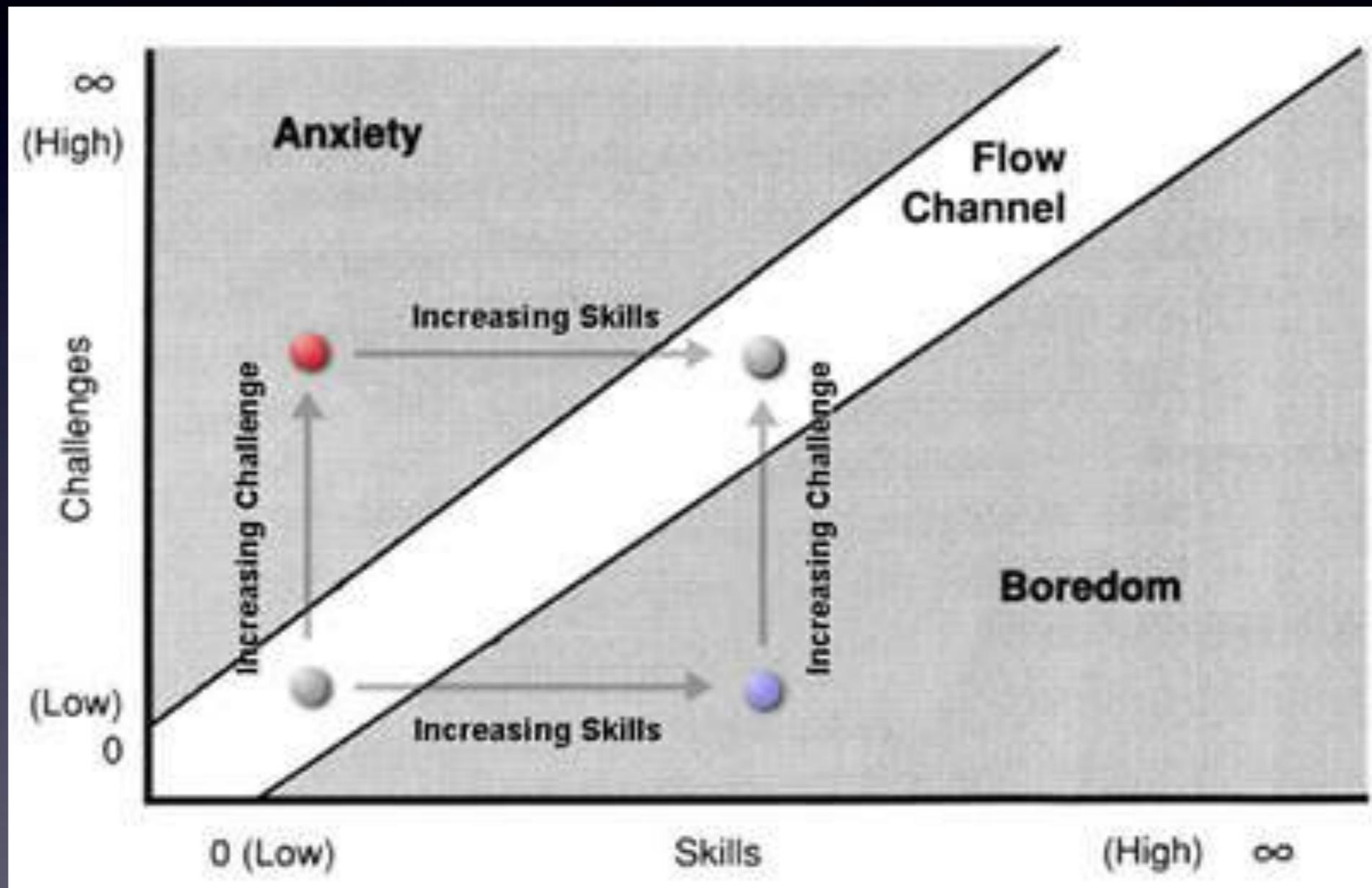
# Engagement 101

- Autonomy
- Competence
- Relatedness

# Autonomy



# Competence



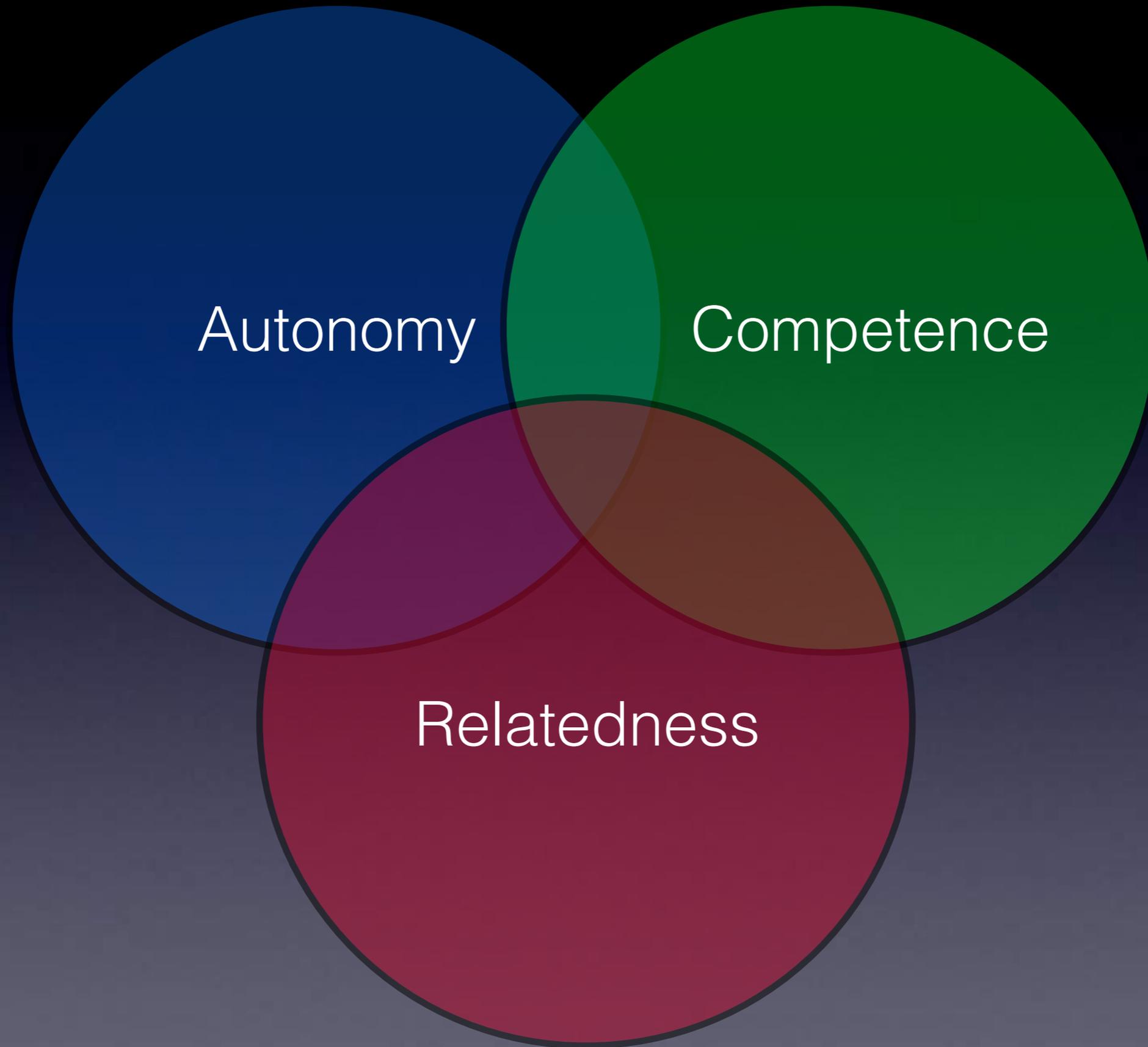
# Relatedness



# Relatedness / Purpose



42



Autonomy

Competence

Relatedness

# Engagement 102

- Stories
- Toys
- Puzzles
- Games

# Stories



# Toys

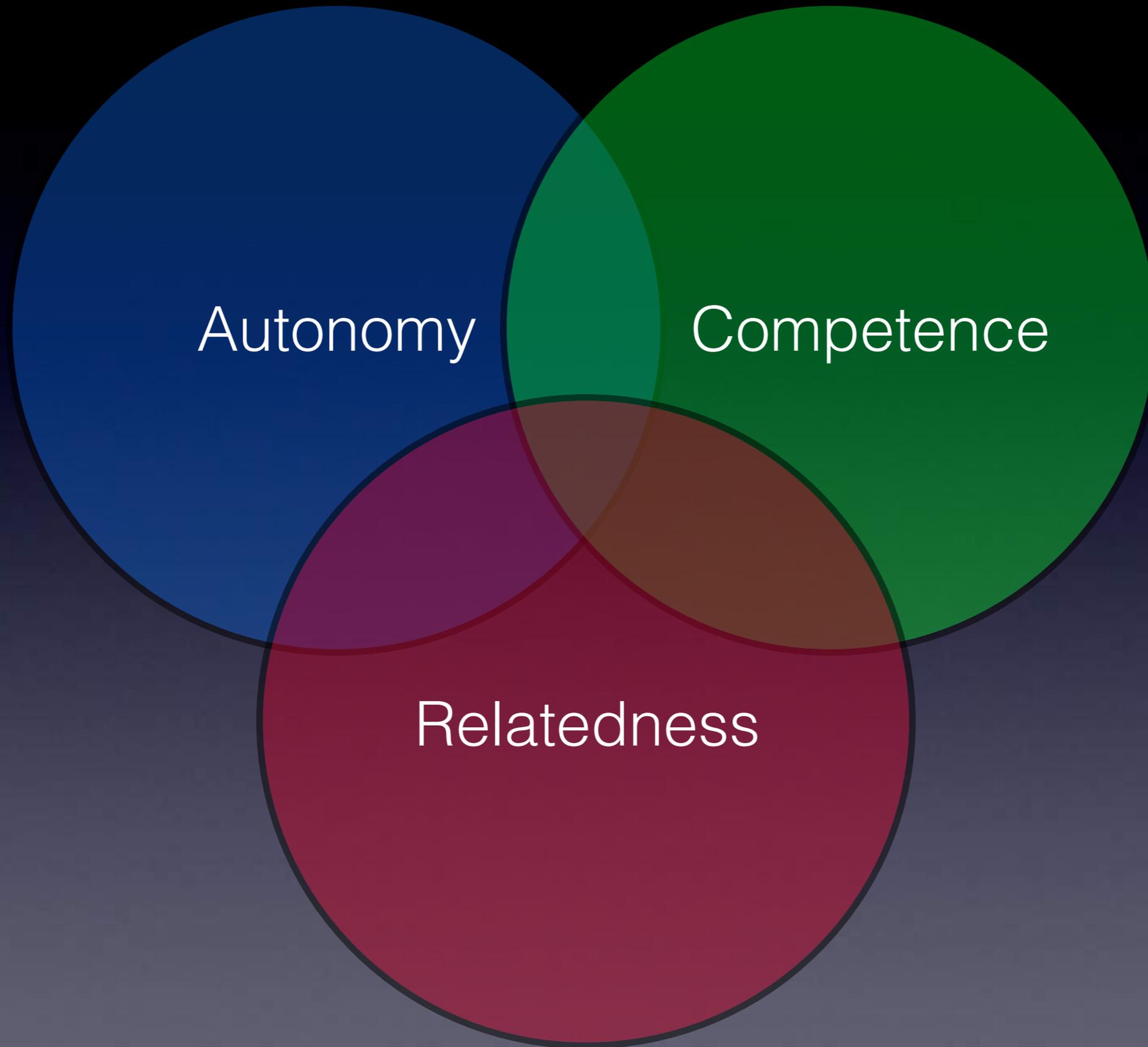


# Puzzles

<b>8</b>			<b>4</b>		<b>6</b>			<b>7</b>
						<b>4</b>		
	<b>1</b>					<b>6</b>	<b>5</b>	
<b>5</b>		<b>9</b>		<b>3</b>		<b>7</b>	<b>8</b>	
				<b>7</b>				
	<b>4</b>	<b>8</b>		<b>2</b>		<b>1</b>		<b>3</b>
	<b>5</b>	<b>2</b>					<b>9</b>	
		<b>1</b>						
<b>3</b>			<b>9</b>		<b>2</b>			<b>5</b>

# Games





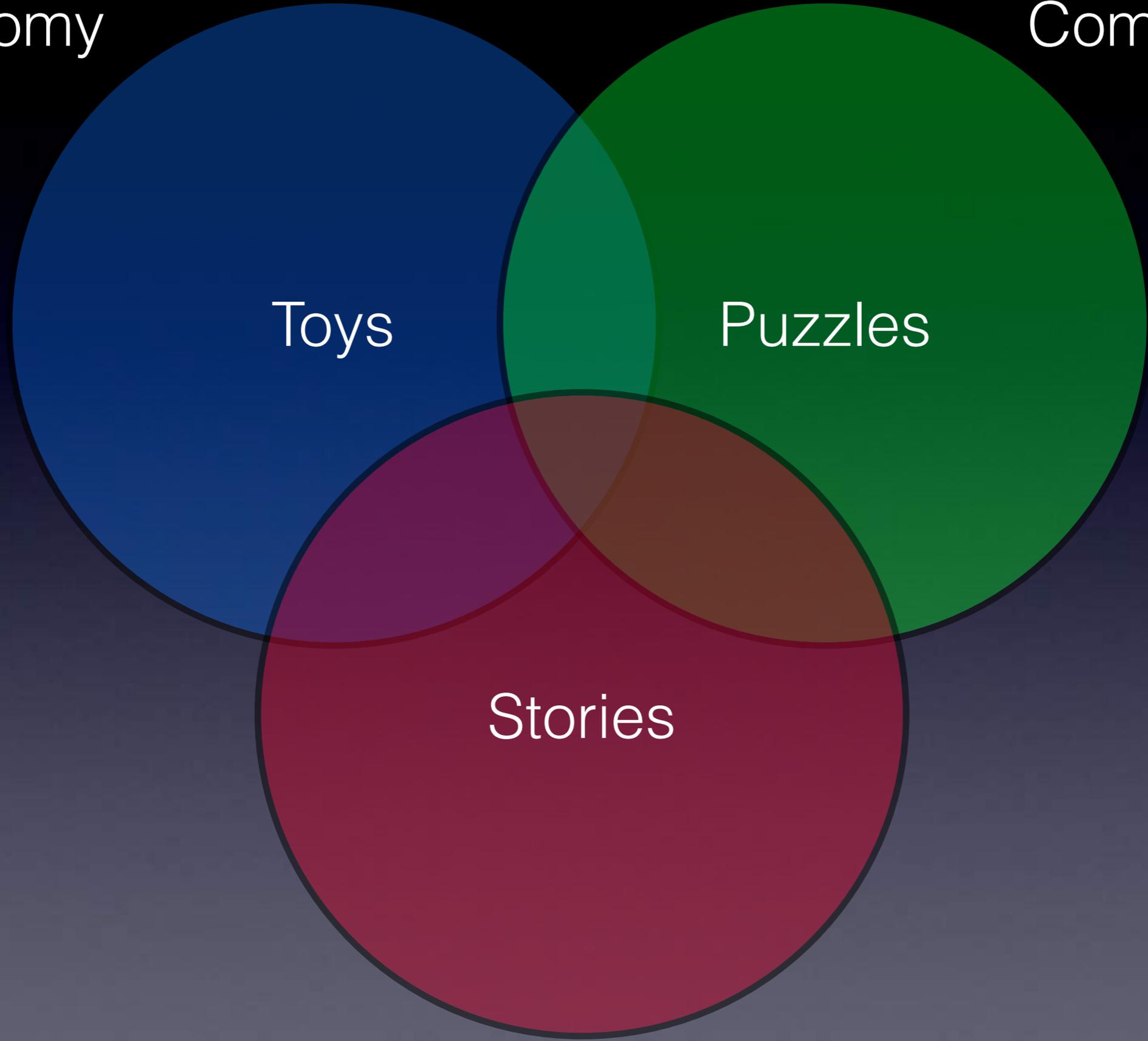
Autonomy

Competence

Relatedness

Autonomy

Competence



Toys

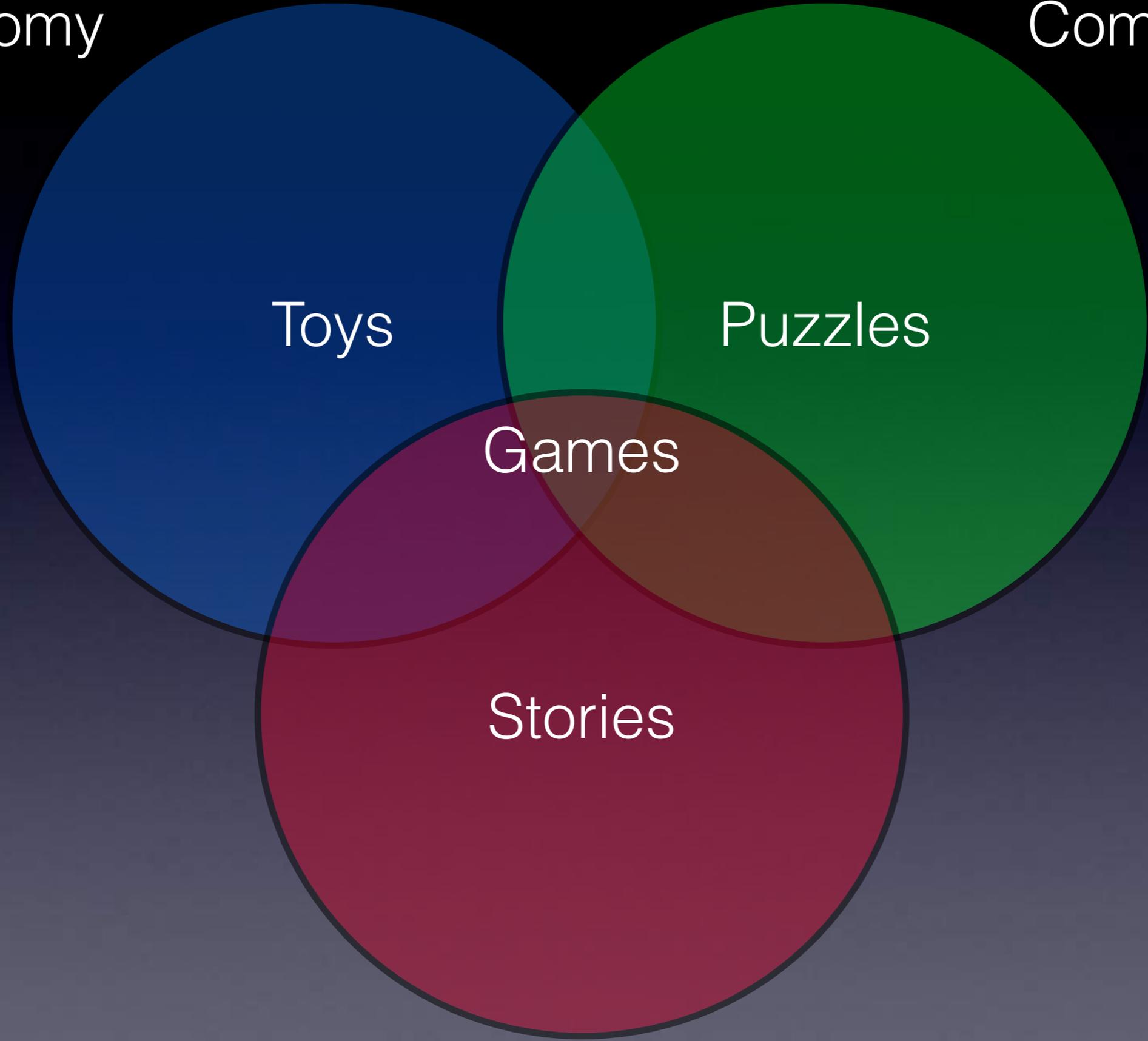
Puzzles

Stories

Relatedness

Autonomy

Competence



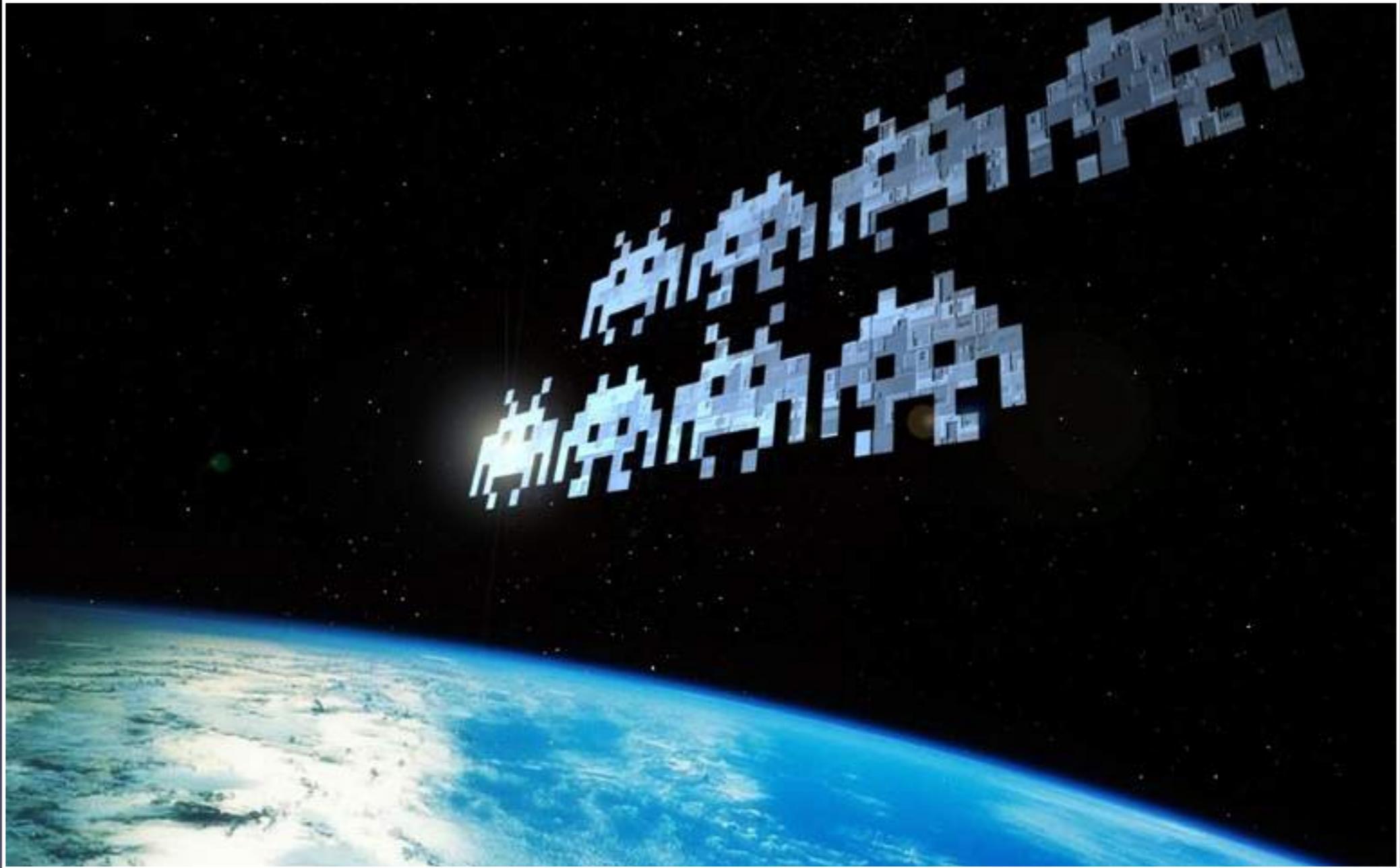
Toys

Puzzles

Games

Stories

Relatedness



# Day 1

You all have an A and must not screw up or that grade will go down and could fail.

- or -

You all have an F and must work hard to achieve a higher grade and succeed.

# Points

Start at 0.

Students earn points by demonstrating correct mathematical thinking.

Incorrect mathematics loses earned point (“=”).

# Points

## GOAL

**The game** is played over several rounds. In each round, each player chooses one of seven different roles and, thereby, offers *all* players, in clockwise order, the action associated with that role.

So, for example, with the settler, players can place new plantations, on which, with the help of the craftsman, players can produce goods. Players can then sell these goods to the trading house with the trader or, with the captain, ship them to the old world. With the money earned from such sales, the players. with the builder, may build buildings in the city, and so on.

The player who best manages the changing roles with their associated actions and special privileges, will achieve the greatest prosperity and the highest respect and, thereby, win the game.

**The winner is the player who earns the most victory points.**

# Points

VP = Victory points

PP = Prestige points

GP = Gold points

MP =

## GOAL

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VP = Victory points

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GP = Gold points

MP = Math points

## GOAL

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# Levels

A

B

C

D

F

# Levels

A

F5

B

F4

C

F3

D

F2

F

F1

Comp

ence



# Goals

MP needed for next level

110% effort -> 110% MP

**Autonomy**

# Recap

Make grading positive, not punitive

Grading should be clear

Grades should show progress

Provide achievable goals with options

Things I've done....

Group quizzes

**Relatedness**

# Things I've done....

Random group quizzes (roll die)

**Autonomy**

# Things I've done....

Use of online homework for mastery  
(MapleTA, WeBWork, WebAssign,  
KhanAcademy)

Competence

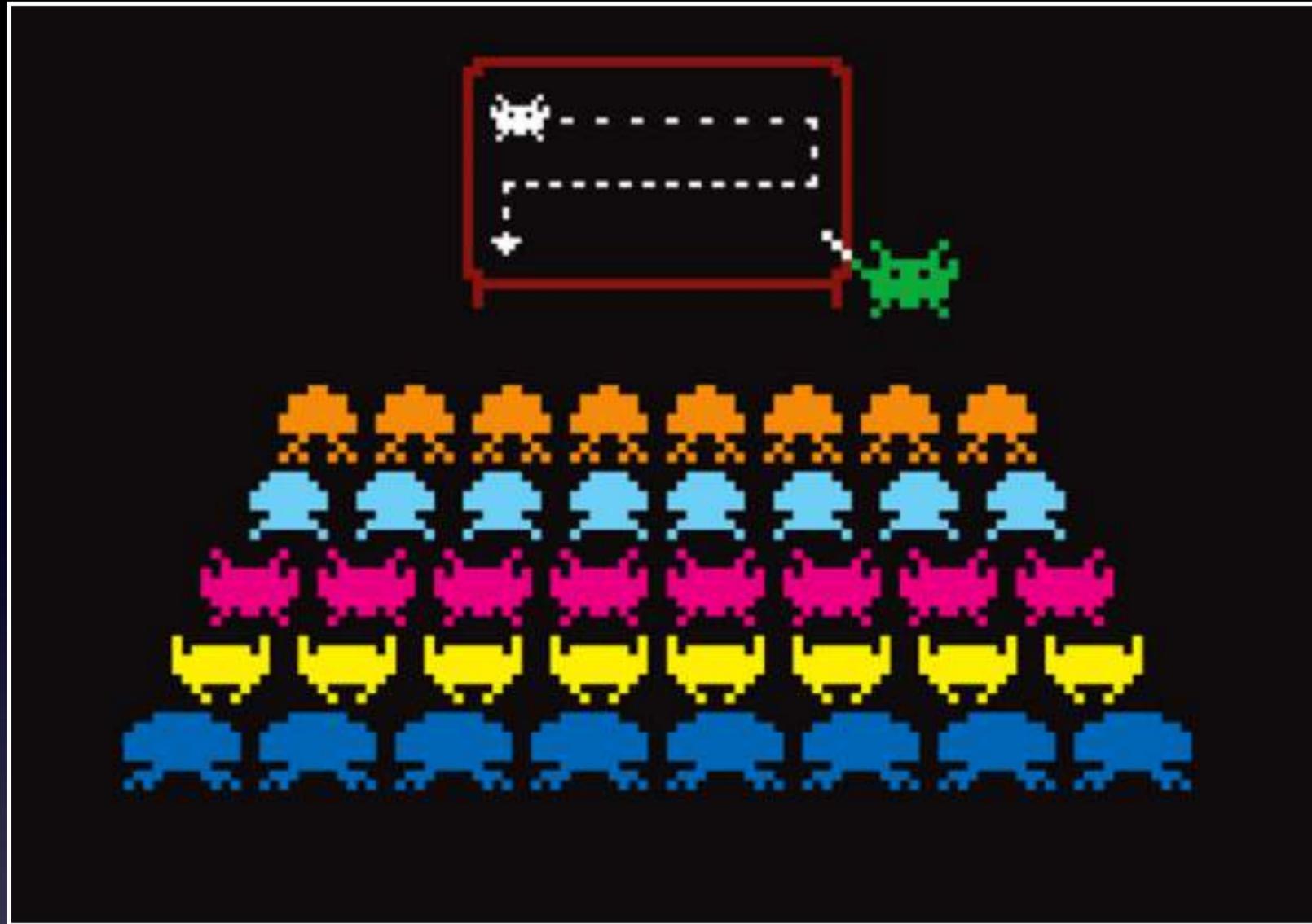
# Things I've done....

Honor code  
(with added social component)

**Relatedness**

# Things for future...(?)

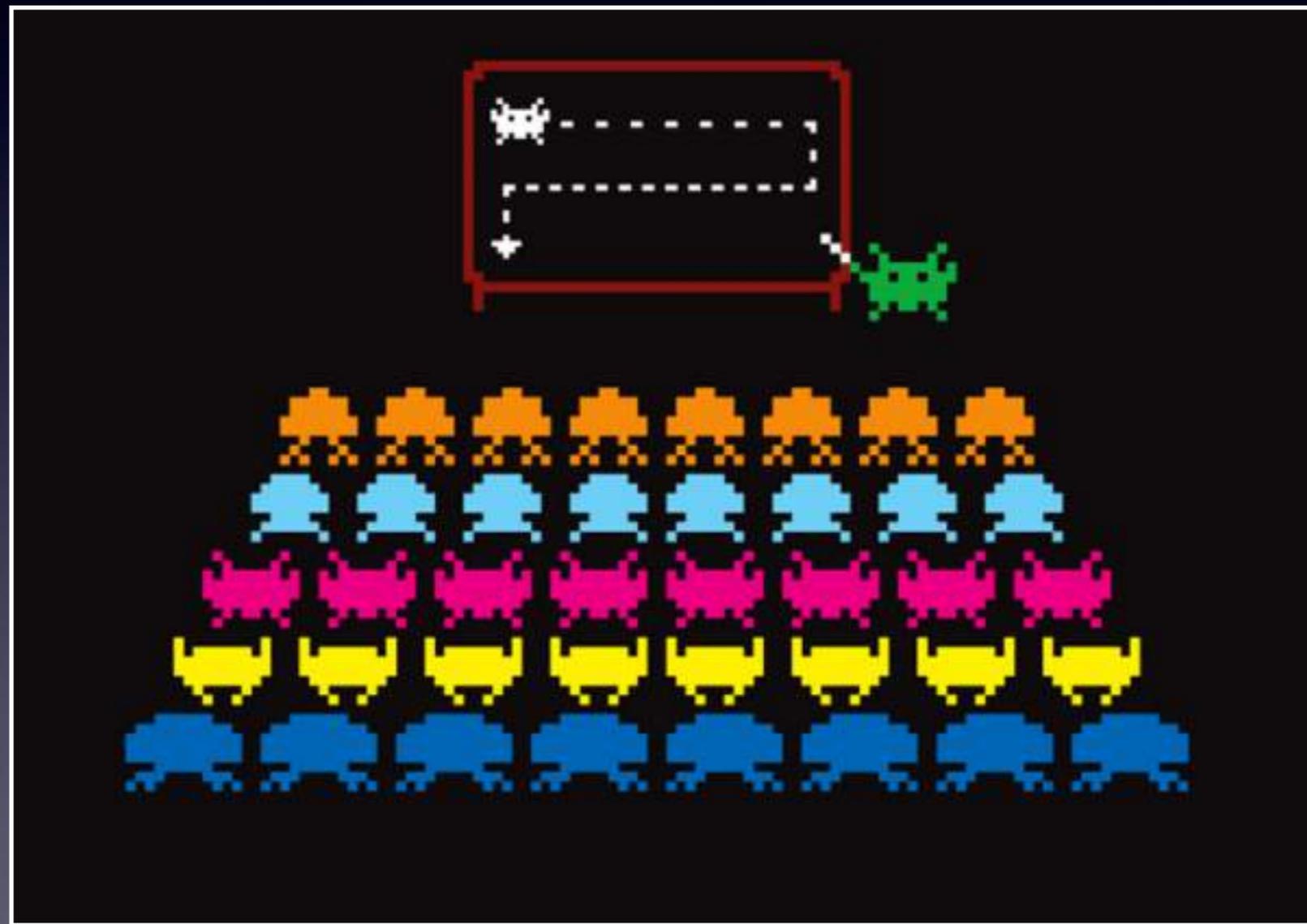
- Cumulative MP (??/300)
- AP vs CP
- Point conversions: 1 TP = 10 MP
- Lowest category is grade
- Quiz structure dictated by die roll  
(1d4: 1=individual, 2=pairs, 3-4=group)
- Only grade final, but HW/Quizzes give bonuses



Fun is just another  
word for learning.

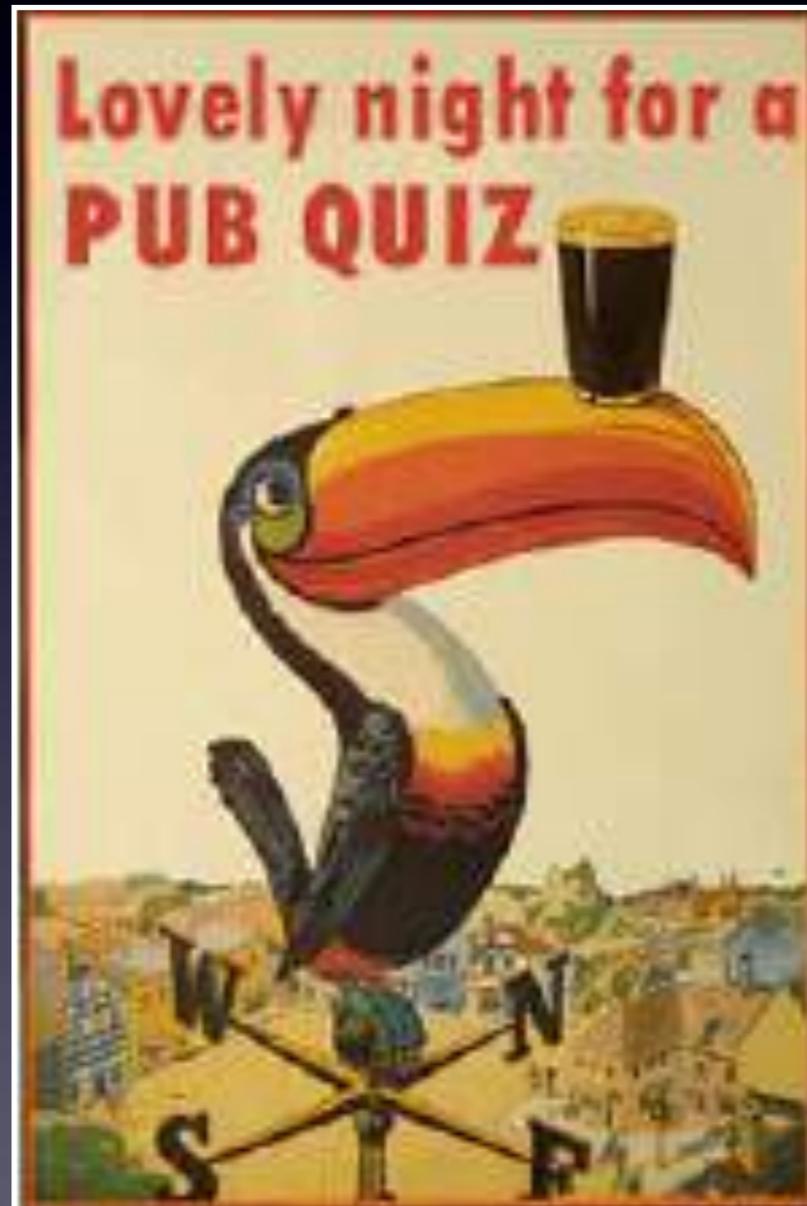
Raph Koster, game designer

Fun is just another word for learning through *interesting challenges*.



Sebastian Deterding, game designer

# Pub Quiz



# ~~Pub Quiz~~ Review Days

1. Math

2. Math

3. Math

4. Math

5. Math

6. Math

# Review Days

1. Math

2. GEOGRAPHY

3. Math

4. POP CULTURE

5. Math

6. SPORTS/GAMES

# Review Days

FINAL QUESTION .... Place your wagers.

Prize?

# Caveats

“Gamification”  
(points, badges, achievements)

## Hlas » Achievements



Challenge Patches



Black Hole Badges



Sun Badges



Earth Badges x 2



Moon Badges x 5



Meteorite Badges x

Meteorite badges are common and easy to earn when just getting started.

### Badges Earned

#### Cypress

Last achieved 27 days ago



#### Picking Up Steam

100

x16

Last achieved 2 months ago in *New definitions 1* and also in...



#### Nice Streak

x4

Last achieved 2 months ago in *Division 0.5* and also in...

#### Awesome Streak

Last achieved 6 months ago in *Absolute value*



#### Great Streak

Last achieved 6 months ago in *Absolute value*



#### Making Progress

Last achieved about a year ago

1000

#### Ten to the Fourth

Last achieved about a year ago



#### Just Getting Started

Last achieved about a year ago

100

# Caveats

“Gamification”  
(points, badges, achievements)

Leaderboards

**Biohazard 5**

Which of the following scenarios best describes the process of translocation?

Choose one answer:

- a. A flower seeds float from one field
- b. The pollen is held together
- c. Bacteria from the soil enter one
- d. Pollen of your egg is one field
- e. Seed for thought



**Gene**



LEVEL	NAME	EXP	GRADE
Level Three	Genetics	1,800	A
Level Seven	Human Genome	1,800	A-
Level Ten	Bur Oak	1,740	B+
Level Nine	Nature	1,800	B
Level Eight	Nature	1,800	B-
Level Seven	Nature	1,340	C+
Level Six	Nature	1,400	C
Level Five	Genetic Disease	1,400	C-
Level Four	US Code	1,200	D+
Level Three	Nature	1,200	D
Level Two	Genetics	1,200	D-
Level One	Genetic Disease	0	F

Paul Andersen - "Classroom Game Design"

# Caveats

“Gamification”  
(points, badges, achievements)

Leaderboards

Control is bad  
(meaningful engagement is good)

# Why games?

Rely on formal system of rules

Require mastery of skills

Failure is a normal part of learning

# Why ~~games~~ math?

Rely on formal system of rules

Require mastery of skills

Failure is a normal part of learning

# Why ~~games~~ math?

Rely on formal system of rules

Require mastery of skills

Failure is a normal part of learning

12+ years of rules before you get to play

# More resources

- Sebastian Deterding  
<http://codingconduct.cc/>
- Lee Sheldon  
<http://gamingtheclassroom.wordpress.com/>
- Raph Koster  
*Theory of Fun for Game Design*