



REALITY

Worst game ever.

Gaming the Classroom

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Not goal



Goal



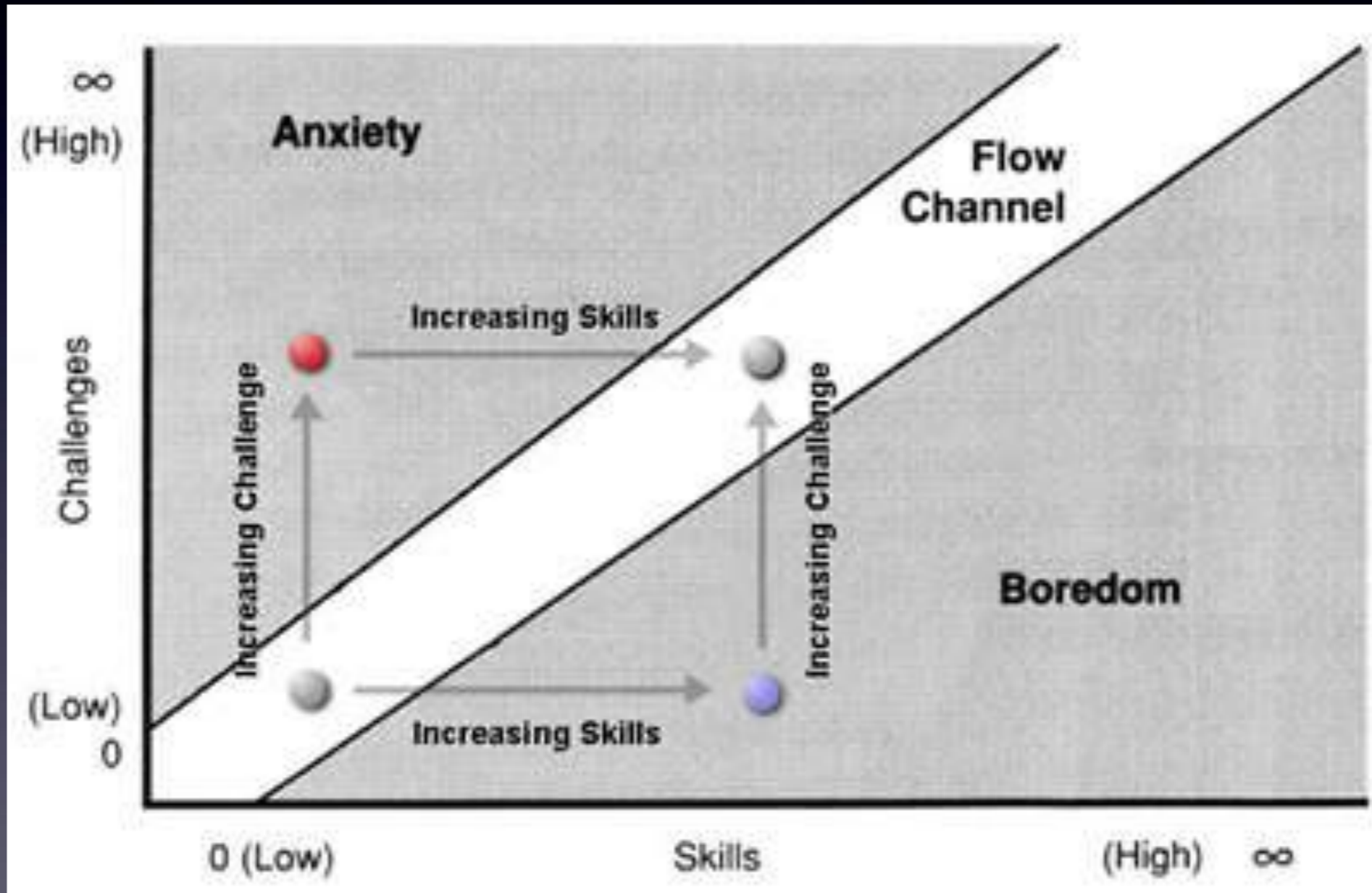
Engagement 101

- Autonomy
- Competence
- Relatedness

Autonomy



Competence



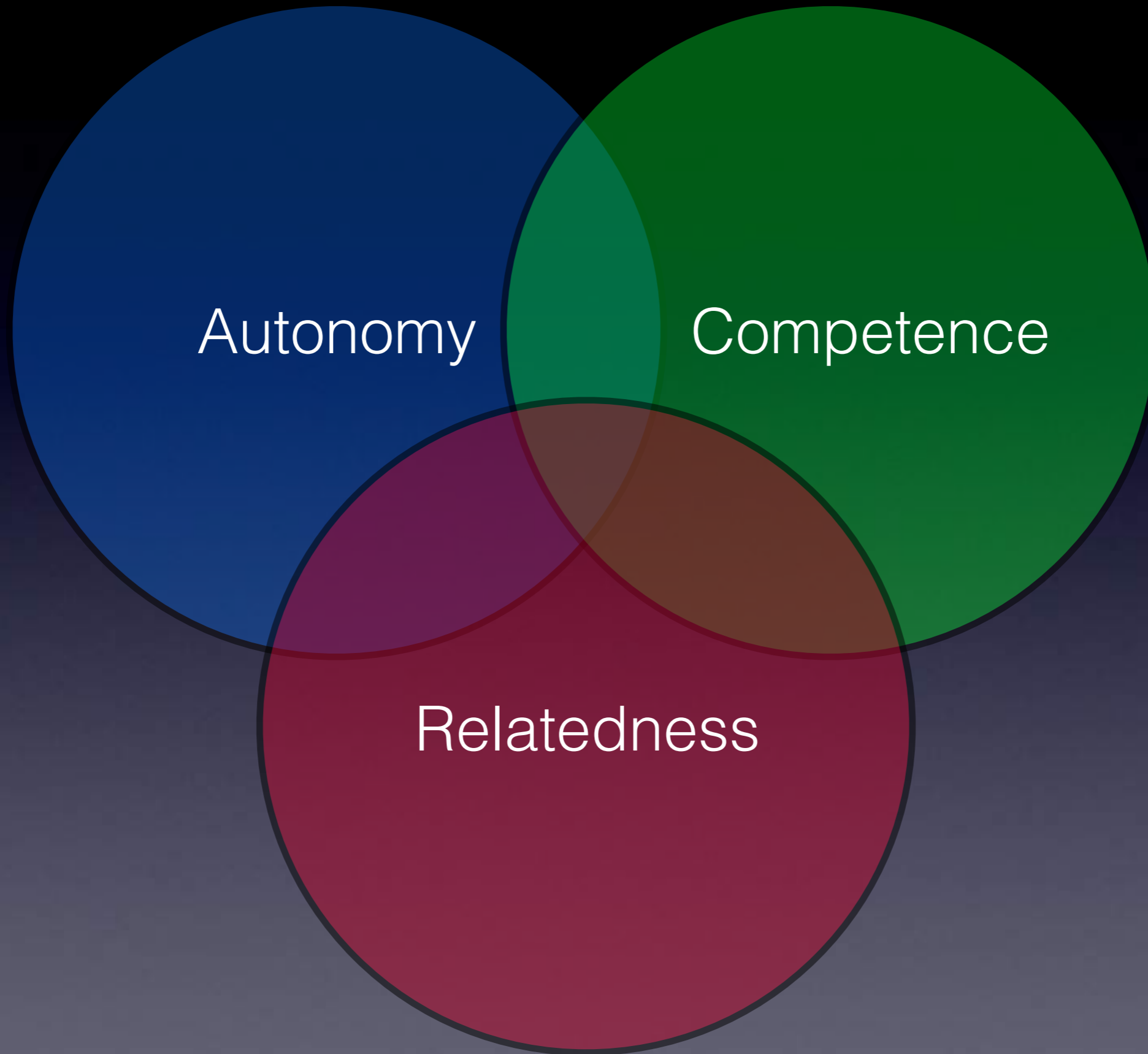
Relatedness



Relatedness / Purpose



42



Autonomy

Competence

Relatedness

Engagement 102

- Stories
- Toys
- Puzzles
- Games

Stories



Toys

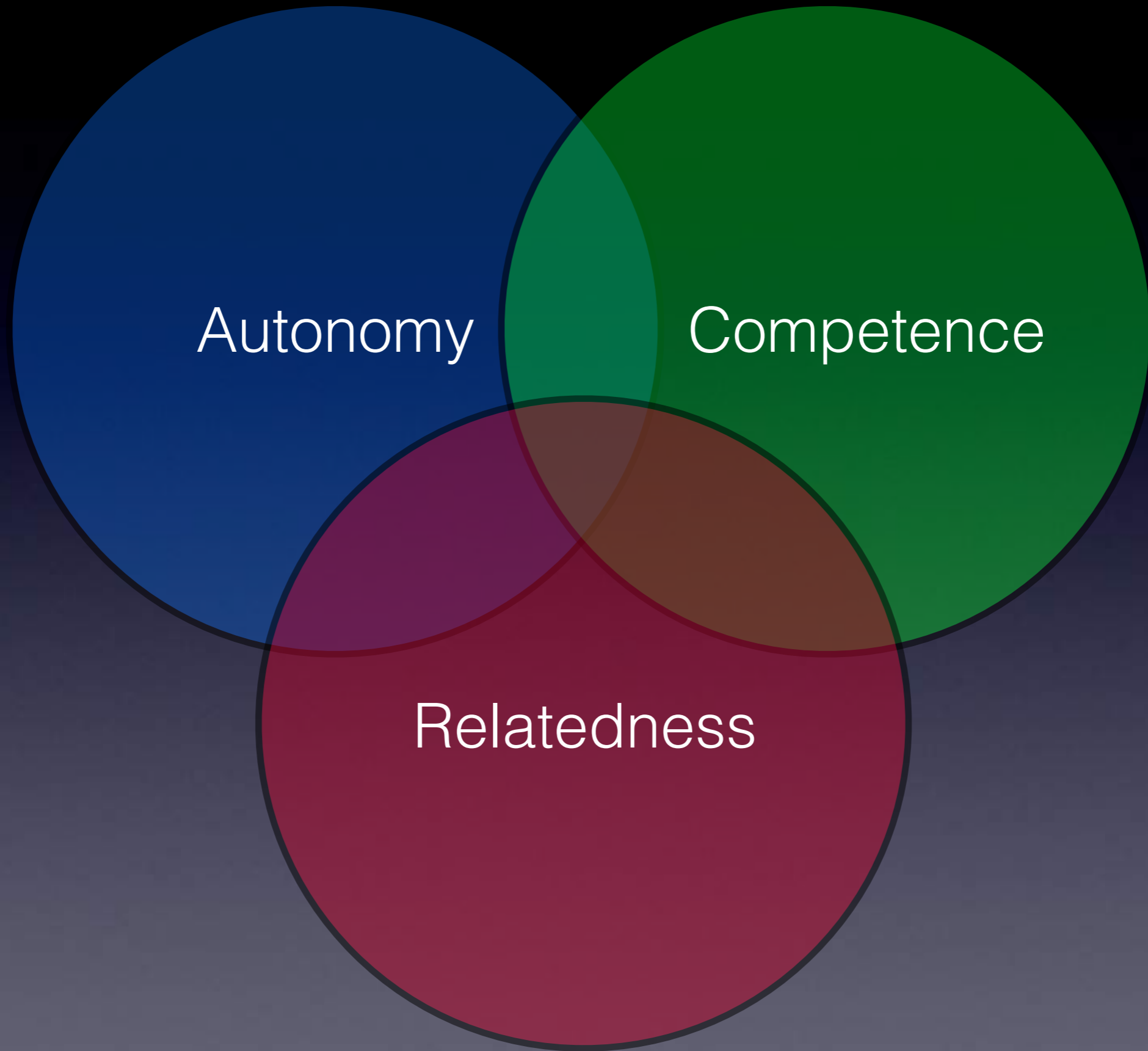


Puzzles

8			4		6			7
						4		
	1					6	5	
5		9		3		7	8	
				7				
	4	8		2		1		3
	5	2					9	
		1						
3			9		2			5

Games





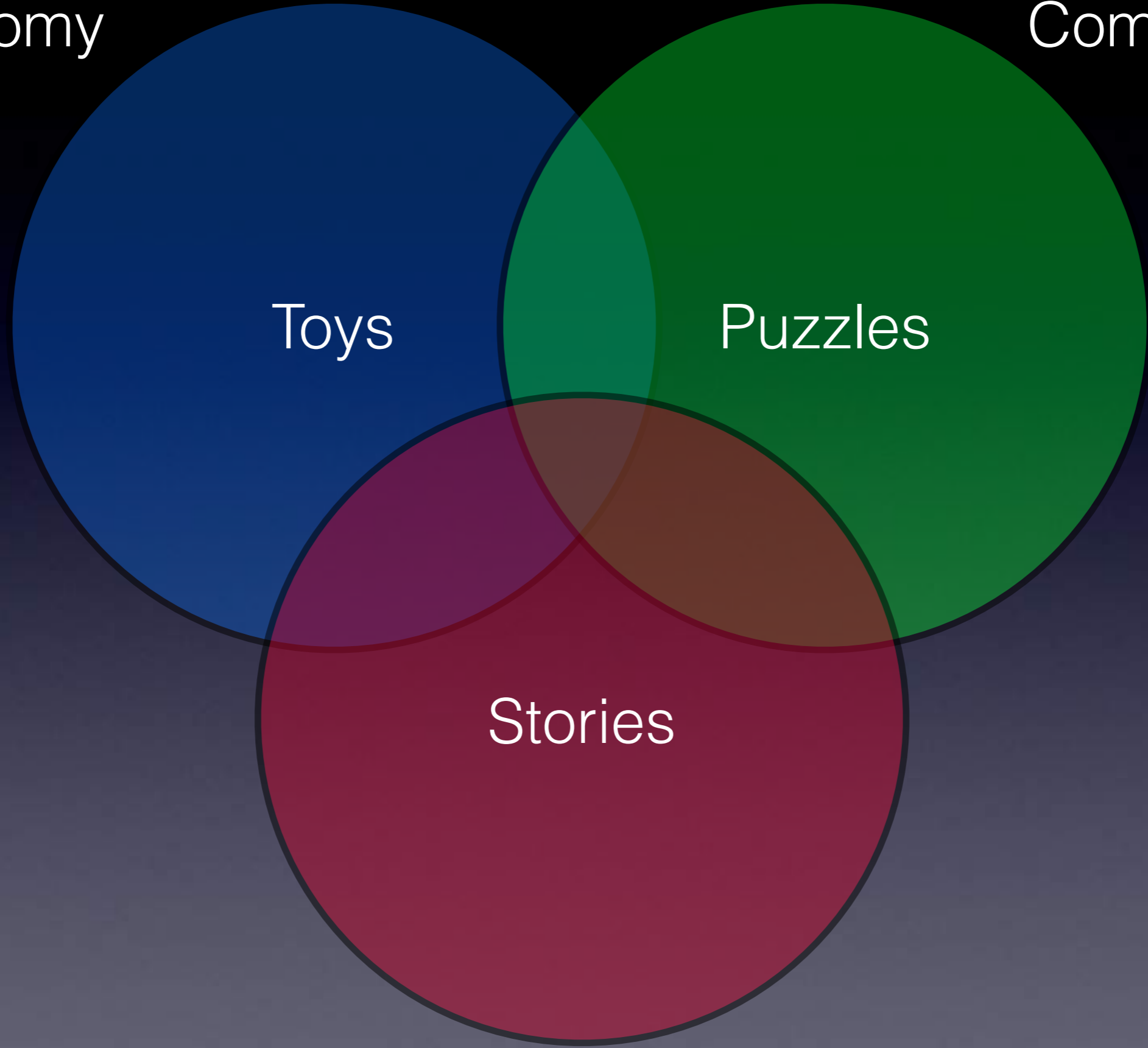
Autonomy

Competence

Relatedness

Autonomy

Competence



Toys

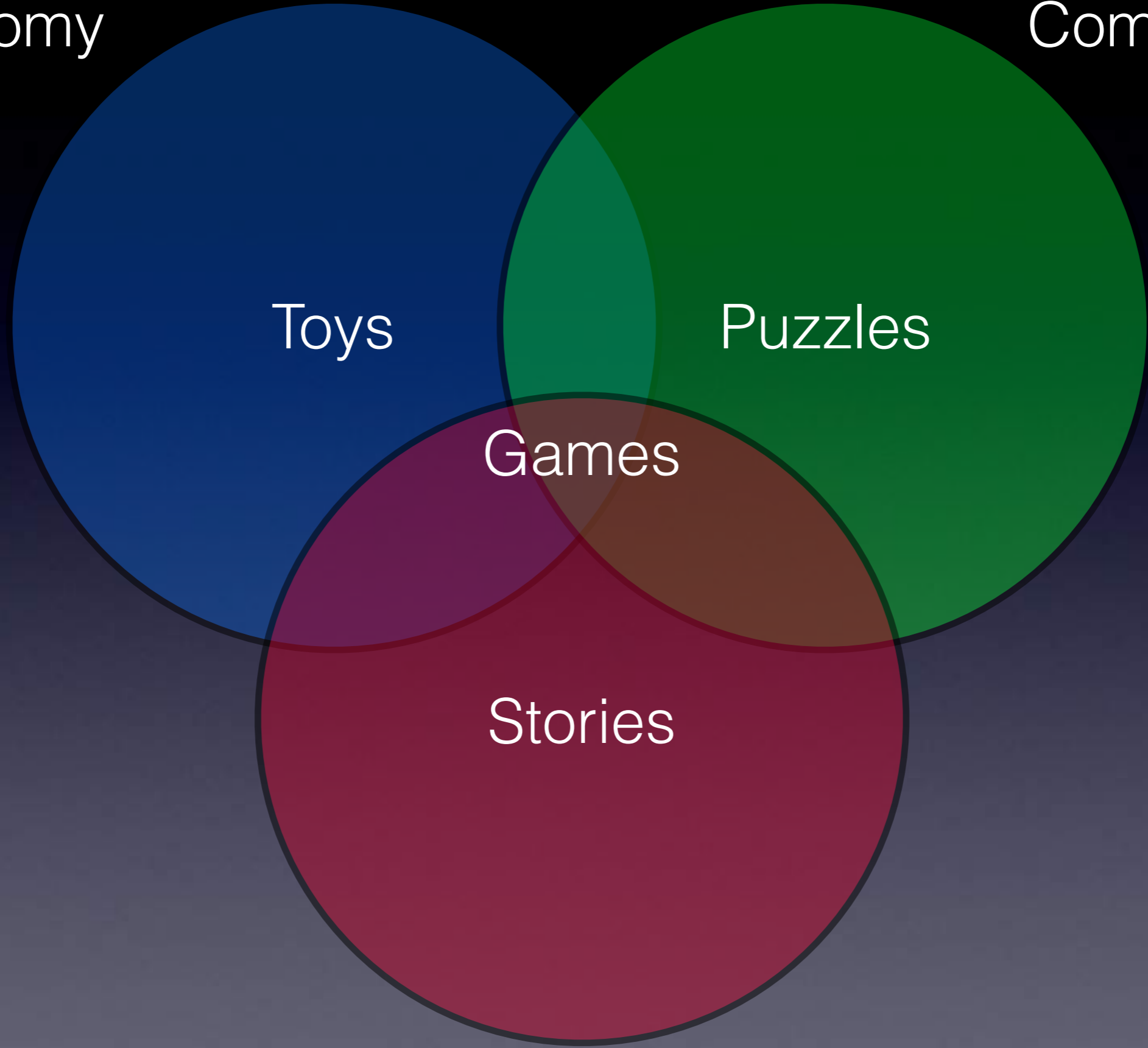
Puzzles

Stories

Relatedness

Autonomy

Competence



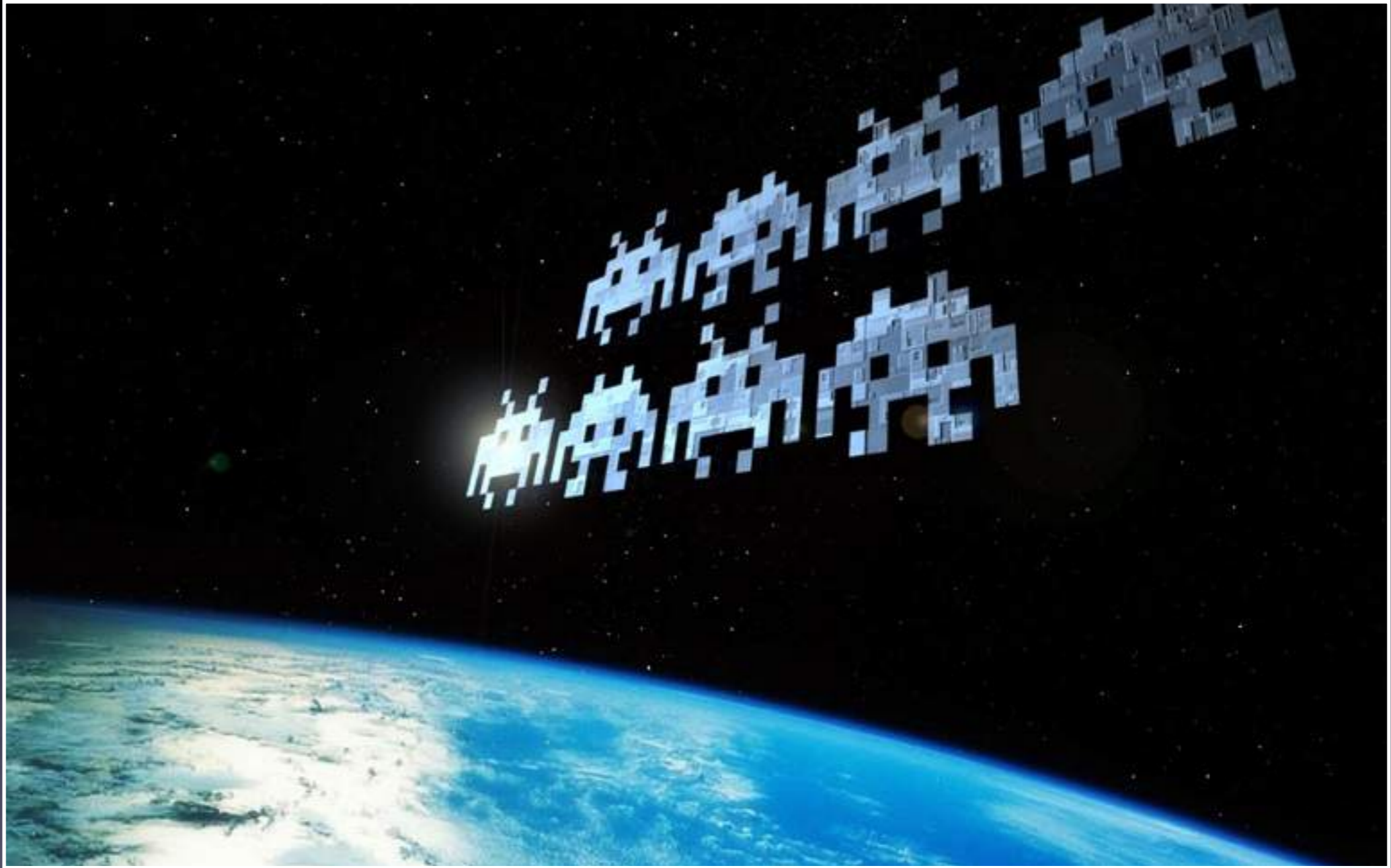
Toys

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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Points

VP = Victory points

PP = Prestige points

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

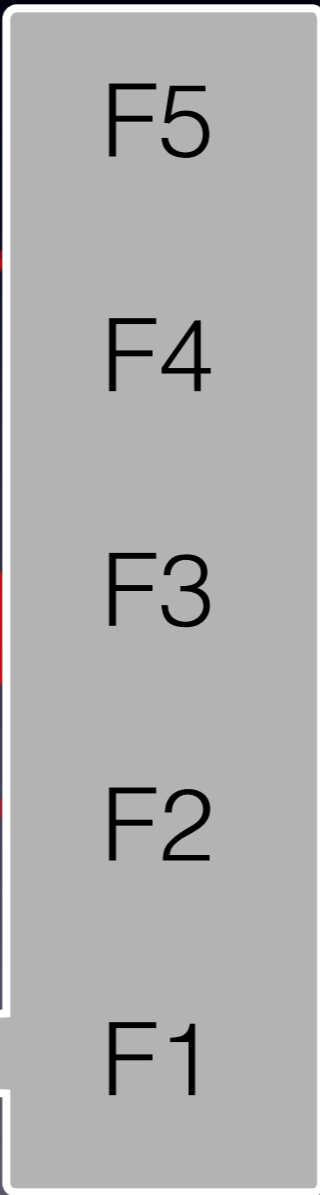
F2

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

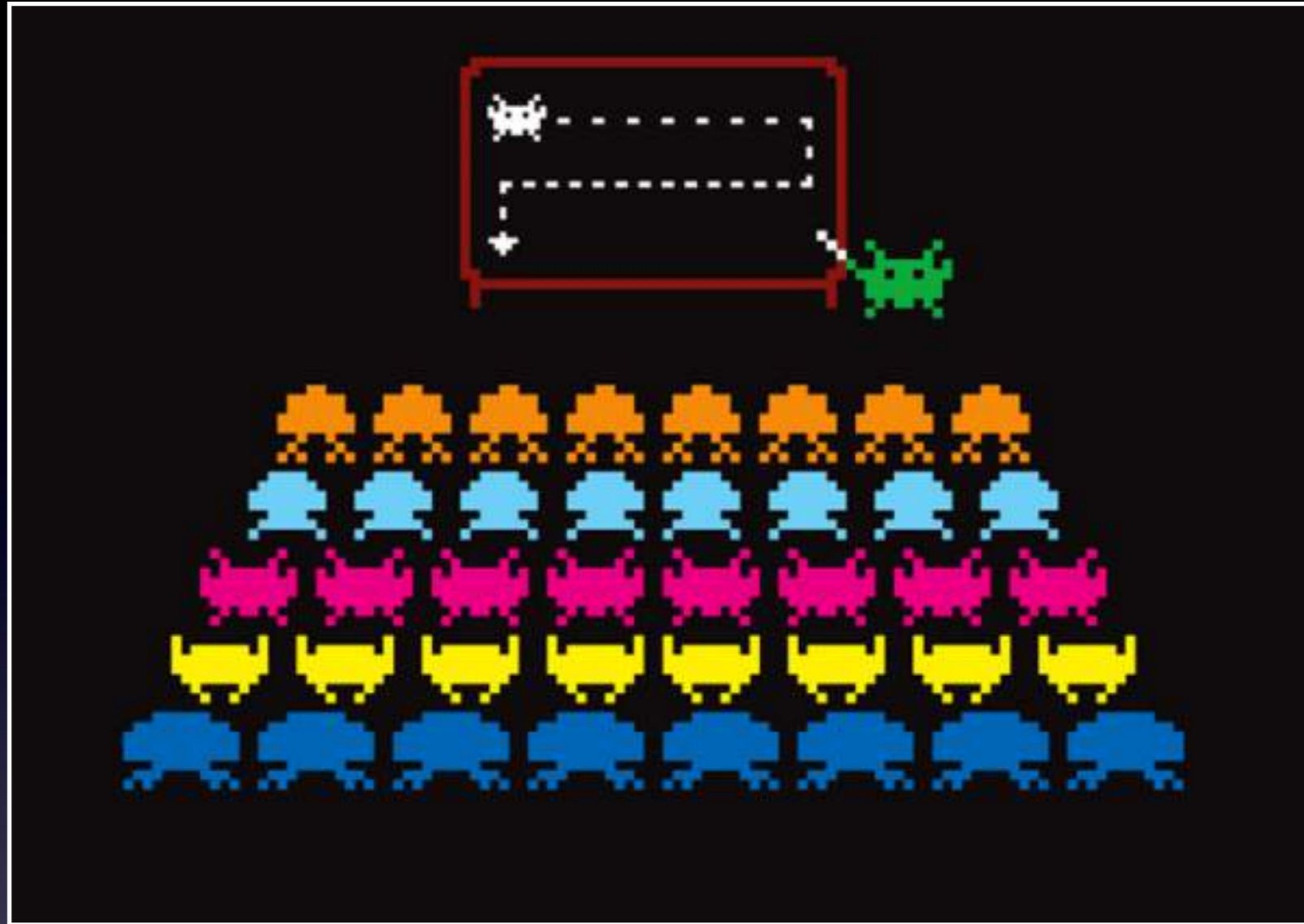
Things I've done....

Honor code
(with added social component)

Relatedness

Things for future...(?)

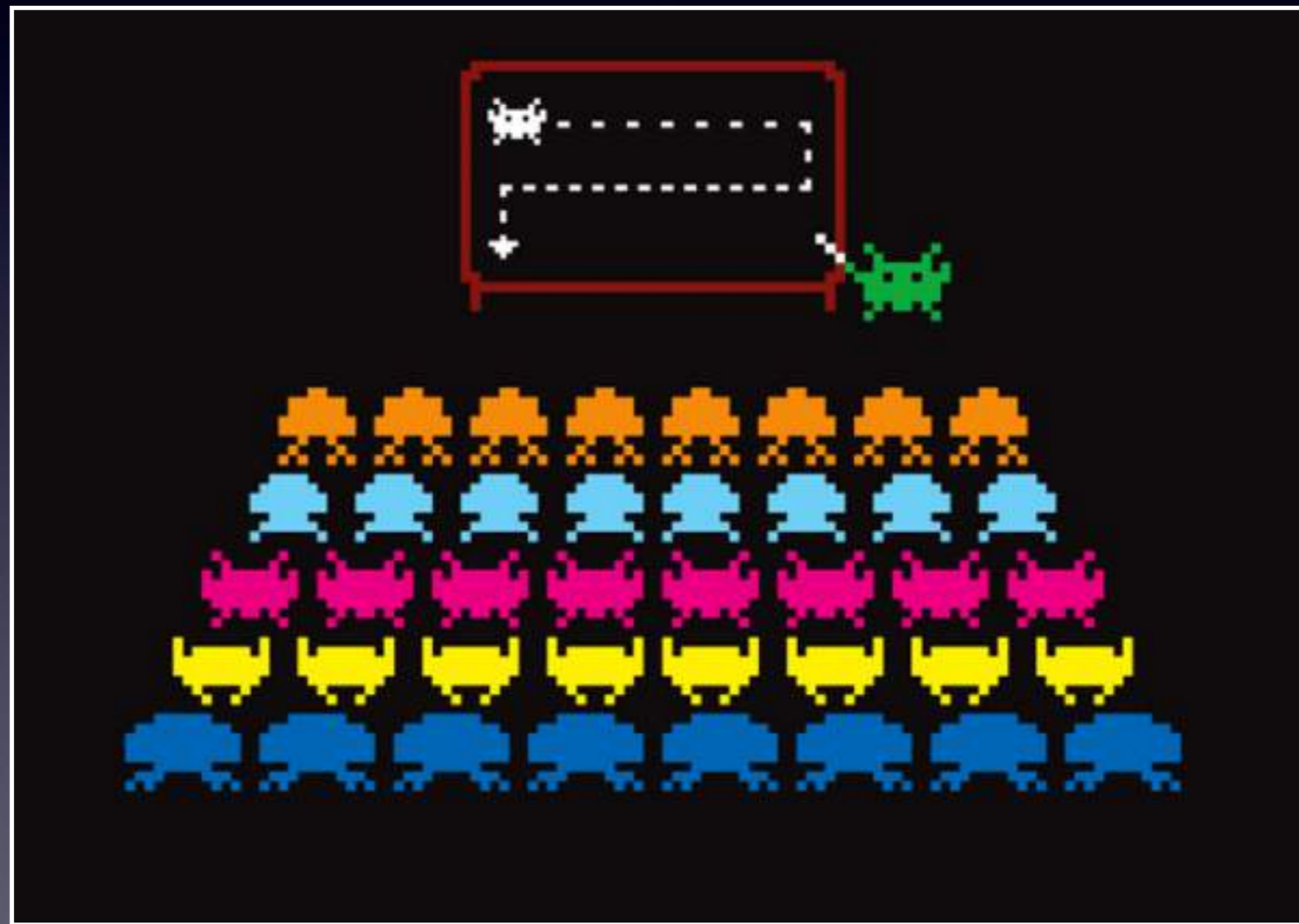
- Cumulative MP (??/300)
- AP vs CP
- Point conversions: 1 TP = 10 MP
- Lowest category is grade
- Quiz structure dictated by die roll
(1d4: 1=individual, 2=pairs, 3-4=group)
- Only grade final, but HW/Quizzes give bonuses



Fun is just another
word for learning.

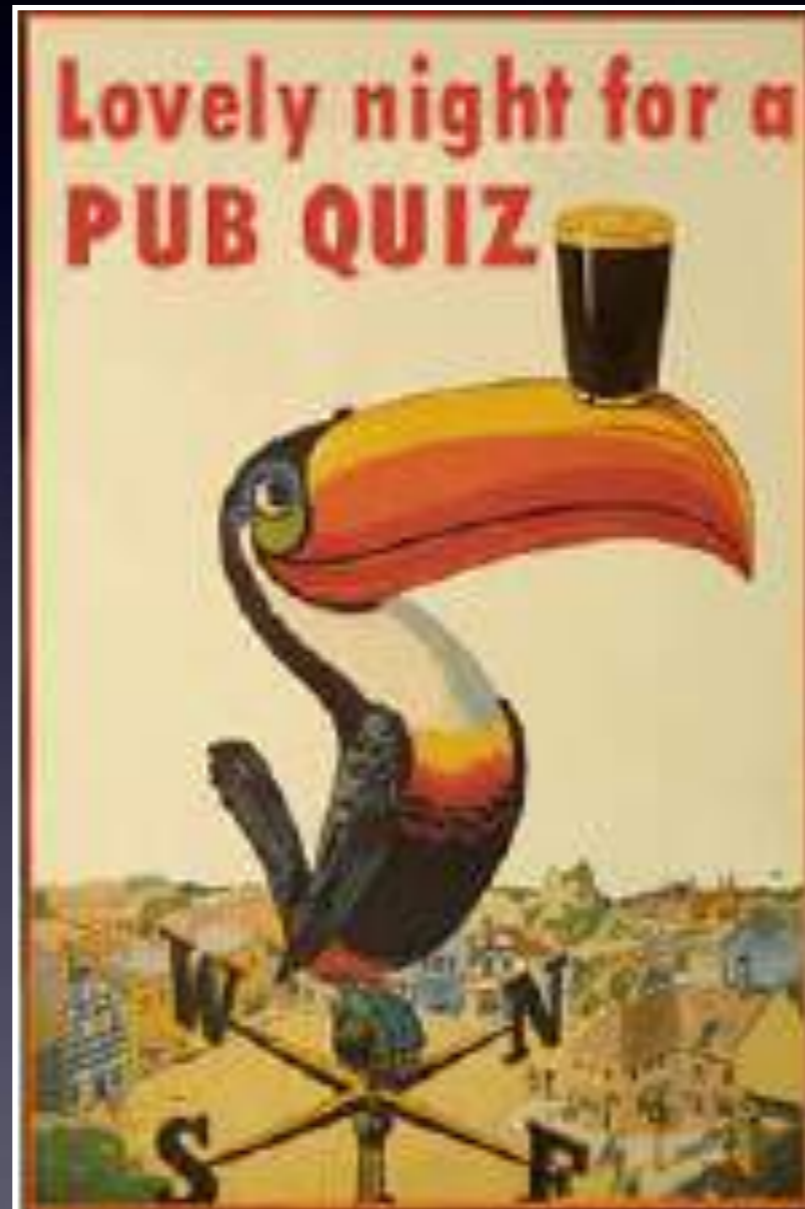
Raph Koster, game designer

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 "transformation"?

Choose one answer:

- a. A flower smells sweeter than another.
- b. The offspring is half height.
- c. Bacteria from the soil enter a cell.
- d. Putting all your eggs in one basket.
- e. Read the thought.



Gene



LEVEL	NAME	EXP	GRADE
Level Thirteen	Overgrown	1,800	A
Level Eleven	Hummer-Gotta	1,800	A-
Level Ten	But-Over	1,740	B+
Level Nine	Harsh	1,800	B
Level Eight	Harsh	1,800	B-
Level Seven	High	1,340	C+
Level Six	Push	1,400	C
Level Five	Dark-Over	1,400	C-
Level Four	W-Cap	1,200	D+
Level Three	W-Cap	1,200	D
Level Two	Over-Over	1,200	D-
Level One	Over-Over	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?

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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