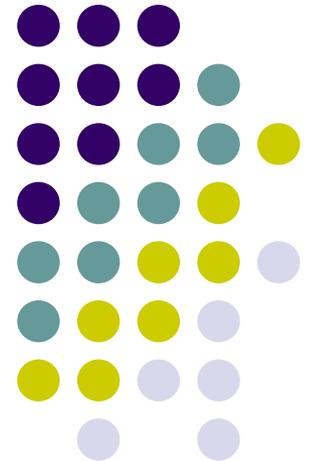


# Creating serious gaming

---



*Priscilla Haring, MSc.*    [www.priscillaharing.info](http://www.priscillaharing.info)

# BACKGROUND



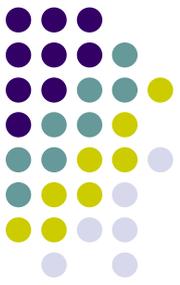
## Adaptive Ambient Empowerment of the Elderly

Understanding Serious Gaming: A Psychological Perspective.  
Priscilla Haring, Dimitrina Chakinska & Ute Ritterfeld (2011).  
Handbook of Research on Improving Learning and Motivation  
through Educational Games: Multidisciplinary Approaches. IGI  
Global.



# OVERVIEW

- Play
  - Play vs Creativity
- (Computer) Game
- Serious Gaming
  - Psychological processes
- Notes for developers



What  
is play ?



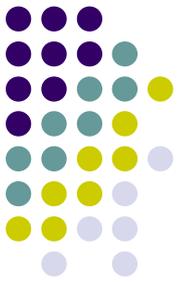
# PLAY



Caillios (1957) defines play as an activity that is

- essentially free,
- separate,
- uncertain,
- unproductive,
- **governed** and
- make-believe.

# PLAY IS TO CREATIVITY...



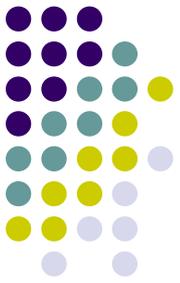
## Play

- Fuzzy concepts
  - fun
  - experience
- Rules = game

## Creativity

- Fuzzy concepts
  - inspiration
  - experience
- Reality = rules

# CREATING WITH PURPOSE



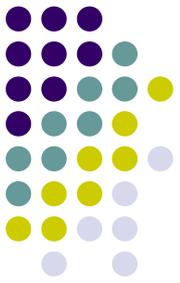
- Not Da Vinci but Michaelangelo
- In the box – Out of the box

## ***BOUNCE***

### ***Limitations***

- ***Technical possibilities***
- ***Time***
- ***Money***
- ***Effectiveness >> Science >> Media Psychology***

# RESEARCH WARNING



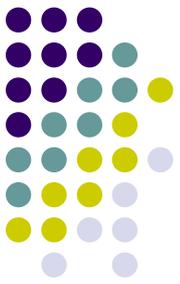
**WARNING;** individual interaction effects

“It's complicated”

- Context
  - Psyche
  - Gratification
- >> Generalization, averages, healthy mind, every day circumstances, experimental settings.

# TEACHING POWER

Buckle & Anderson, 2006



Good video games make excellent teachers for various reasons;

- attention
- attitudes for successful behaviour
- task competent
- active participation
- demonstration of behavioural steps
- repetitive practising
- **motivating**

# SELF-DETERMINATION THEORY

(Deci & Ryan, 1985; Deci & Ryan, 2000; Ryan & Deci, 2000).



People are active organisms, driven by natural tendencies toward psychological growth and development, while trying to maintain a coherent sense of self.

Three basic psychological needs

- competence
- autonomy
- relatedness

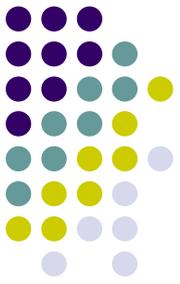
If fulfilled self-motivation and -regulation are high



# SDT AND GAMES

- Competence  
Games are adaptive; levels
  - Autonomy  
Play is never compulsory; you choose to play
  - Relatedness  
Social interaction; real/fictional/mediated
- The satisfaction of these primary needs motivates a gamer to continue playing.

# GAMES TURNED SERIOUS



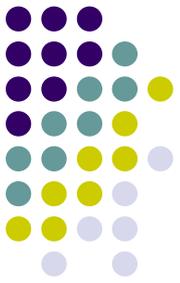
If there is an extrinsic motivation to the game (educational, marketing) the two can be blurred, creating

## ***Serious Gaming***

= A game that has any effect beyond enjoyment

*(As games are a marvellous teacher of content, aren't all games 'serious gaming' ?)*

# SERIOUS GAMING



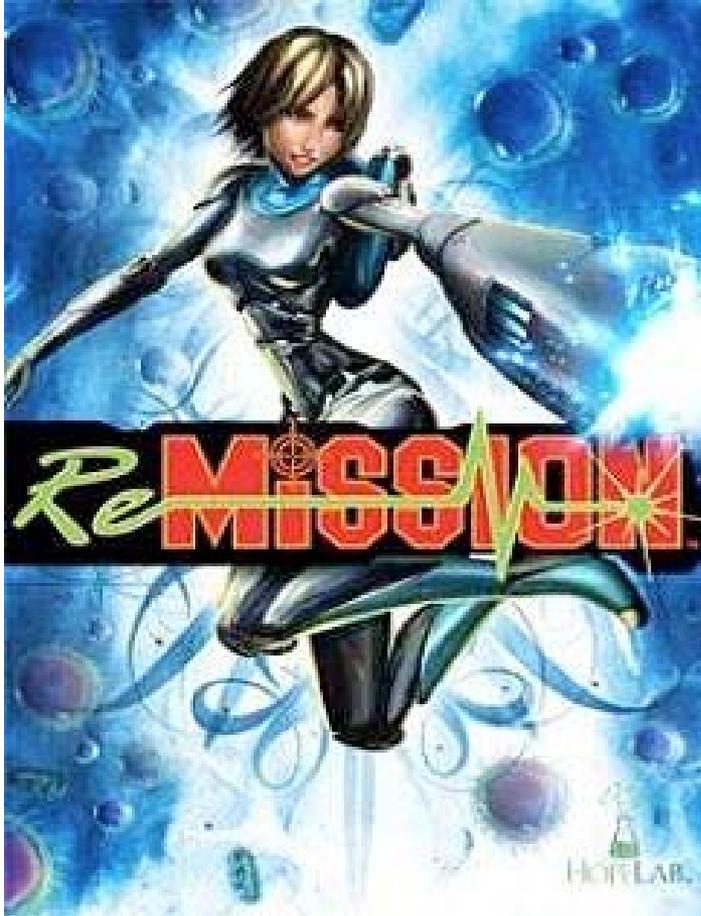
## Serious games

- static
- preordained outcome
- designer driven
- educational content

## Serious gaming

- proces
- measuring the outcome
- gamer driven
- any content

# EXAMPLE OF SG



REMISSION by Hope Lab (2006)

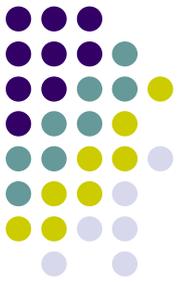
- Young cancer patients
- To enhance compliance medical regiment

- Understanding
- Empowerment

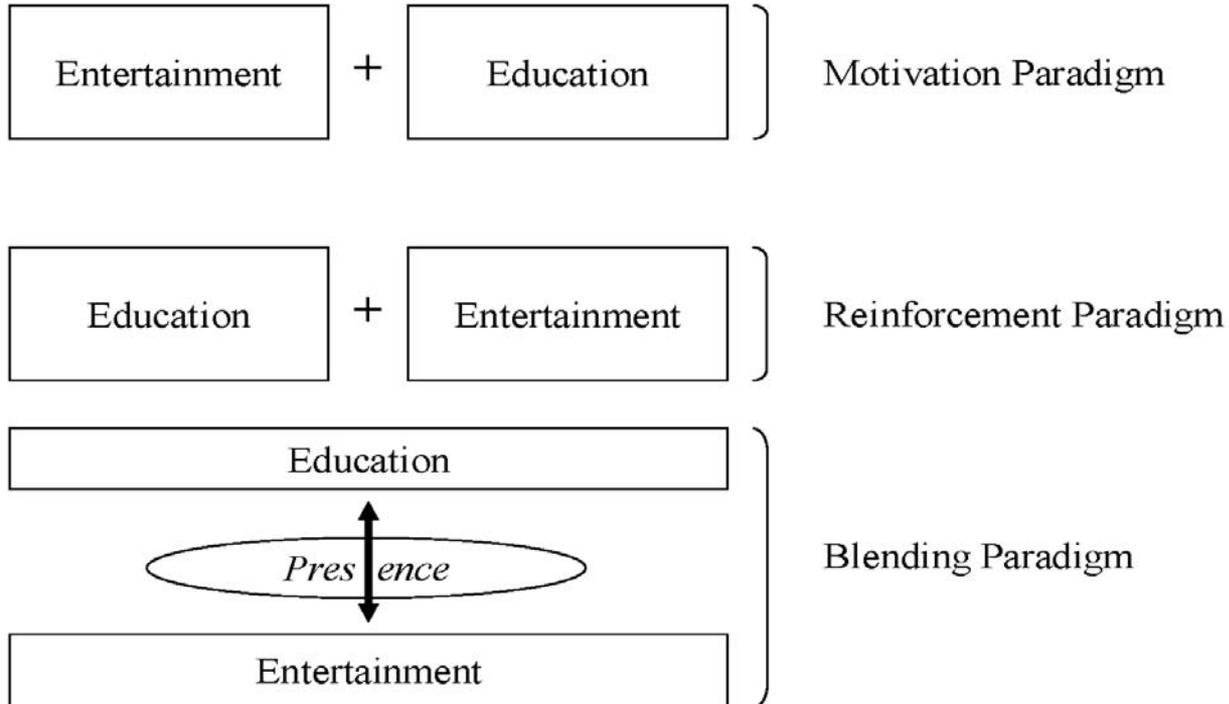
[www.re-mission.net](http://www.re-mission.net)

# ENTERTAINMENT - EDUCATION

Ritterfeld, 2008

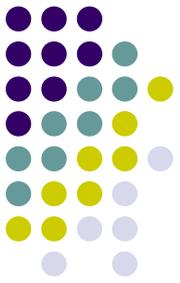


## Paradigms of Entertainment Education

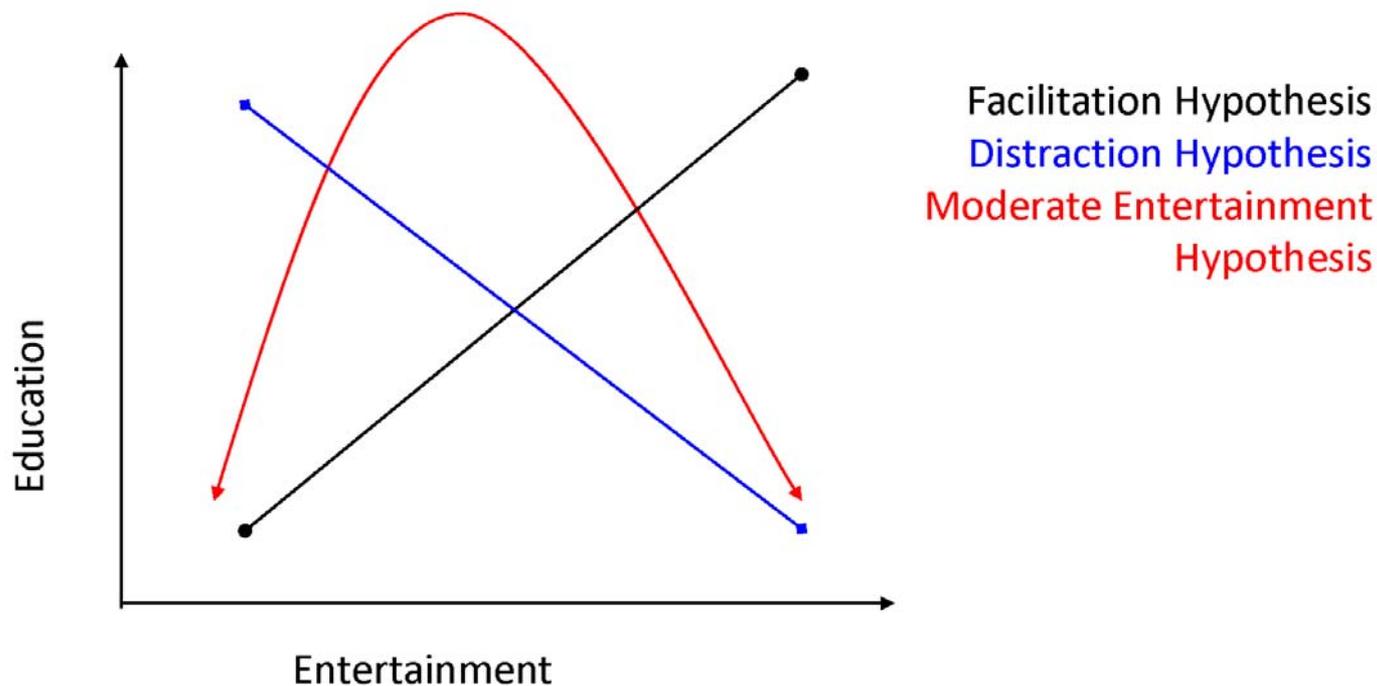


# ENTERTAINMENT - EDUCATION

Ritterfeld & Weber, 2006

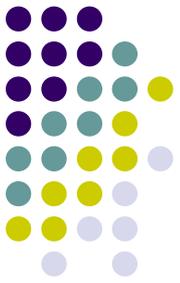


## Theoretical Assumptions on the Entertainment-Education-Link



# GAME ENJOYMENT

Vorderer, Klimmt & Ritterfeld, 2004.



Positive response elicited by three distinct sets of causes that have the potential to elicit cognitive, affective or conative responses in the player:

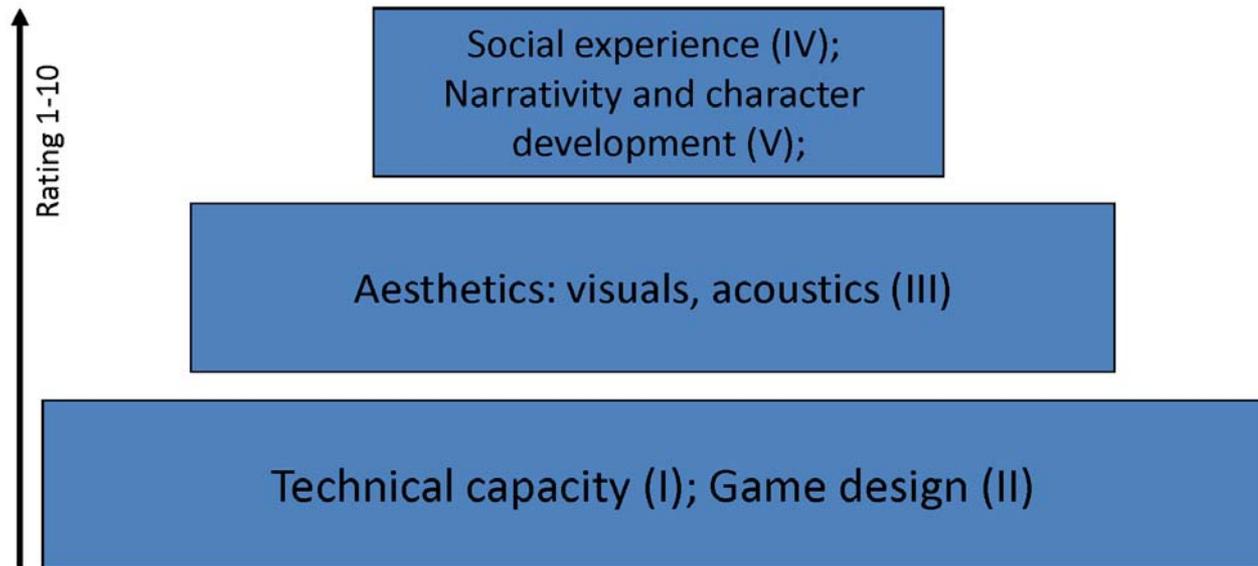
- sensory delight;
- suspense thrill, and relief; and
- achievement, control, and self-efficacy.

# GAME ENJOYMENT

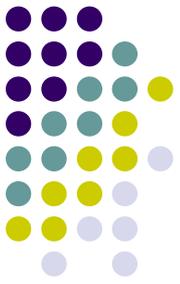
Wang, Shend & Ritterfeld, 2009.



## The *Big 5* in game enjoyment



# NOTES FOR DEVELOPERS



The experience of presence (self, spatial and social) is an important facilitator for the blending of entertainment and education

Keep in mind that when competence, autonomy and relatedness are addressed by the game play, the player will be motivated to continue playing

# NOTES FOR DEVELOPERS

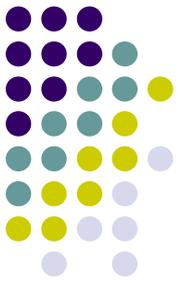


Blending entertainment with education must remain focused on the entertainment aspect

Aspects that can be better utilized to enhance game play are

- Narrativity
- Socially shared experiences
- Character development

# NOTES FOR USAGE



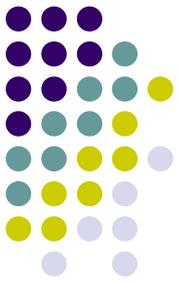
- Utilizing serious gaming as didactic tool has a (motivational) target group and does not provide an overall solution
- Serious gaming is a very effective mediated learning tool, regardless of content
- Educators must be weary not to push serious gaming too much, when the game play turns into a task it loses the entertainment element

# References



- Buckley, K. E., & Anderson, C. A. (2006). A theoretical model of the effects and consequences of playing video games. In P. Vorderer & J. Bryant (Eds.), *Playing video games; Motives, responses, and consequences* (pp. 363-378). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Caillois, R. (1957). *Le jeux et les Hommes [Man and play]* (M. Barash, Trans.): University of Illinois press.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227-268.
- Huizinga, J. (1938). *Homo ludens. Proeve eener bepaling van het spel-element der cultuur. [Homo Ludens – A study of play element in culture]*. In E. L. B. et al. (Eds.), *Verzamelde werken V. Cultuurgeschiedenis III* (pp. 26-146). Haarlem: H.D. Tjeenk Willink & Zoon N.V.
- Industry Facts. (2004). Retrieved May 25, 2004, from <http://www.theesa.com/facts/index>.
- Ritterfeld, U. (2008, October). *Serious Gaming: Assumptions and Realities*. Invited address Meaningful Play Conference, Michigan State University.
- Ritterfeld, U., & Weber, R. (2006). Video games for entertainment and education. In P. Vorderer, & J. Bryant (Eds.), *Playing video games: Motives, responses, and consequences* (pp. 399-413). Mahwah, NJ: Lawrence Erlbaum.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.
- Vorderer, P., Klimmt, C., & Ritterfeld, U. (2004). Enjoyment: At the heart of media entertainment. *Communication Theory*, 14(4), 388-408.
- Wang, H., Shen, C., & Ritterfeld, U. (2009). Enjoyment of digital games: What makes them seriously fun? In U. Ritterfeld, M. J. Cody, & P. Vorderer (Eds.), *Serious games: Mechanism and effects* (pp. 48-61). New York: Routledge.

# PLAY



Johan Huizinga - Homo Ludens

"a free act, that is consciously 'not meant' and outside of normal life, that still might completely absorb the player, to which no direct material interest is connected, or use is gained, that unfolds itself in a purposely set up limited time and space, which adheres to certain rules and order, and brings forth a sense of community, which gladly shrouds itself in secrets or is distinguished from the real world by use of disguise. "

(translated from p. 41, Huizinga, 1938).