



# Haben Computer- und Videospiele (auch) positive Auswirkungen auf Kinder?

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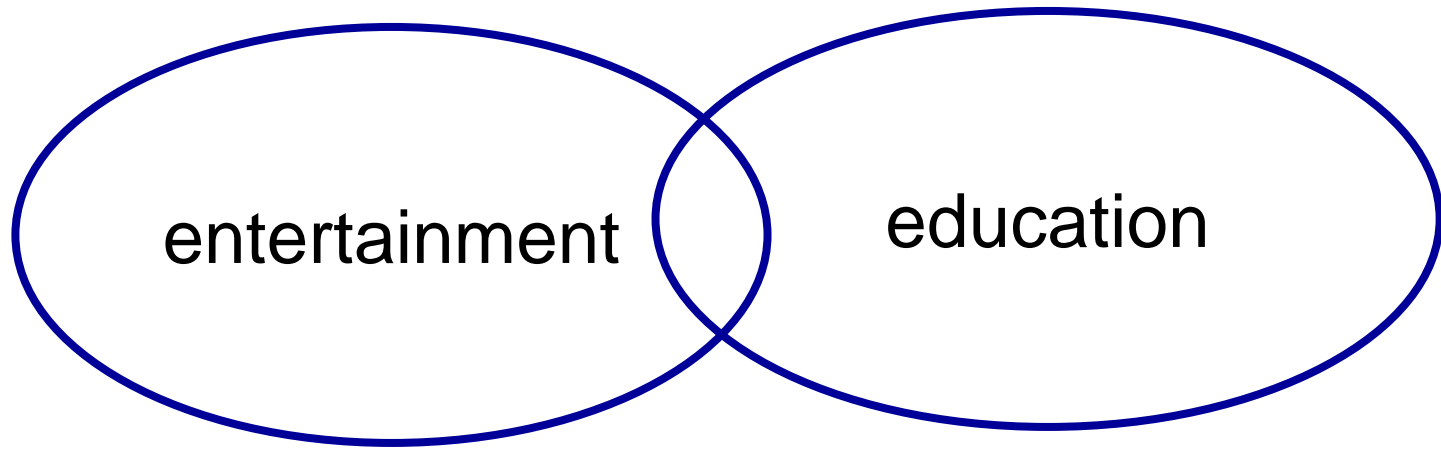
VU University Amsterdam



entertainment



education



entertainment

education



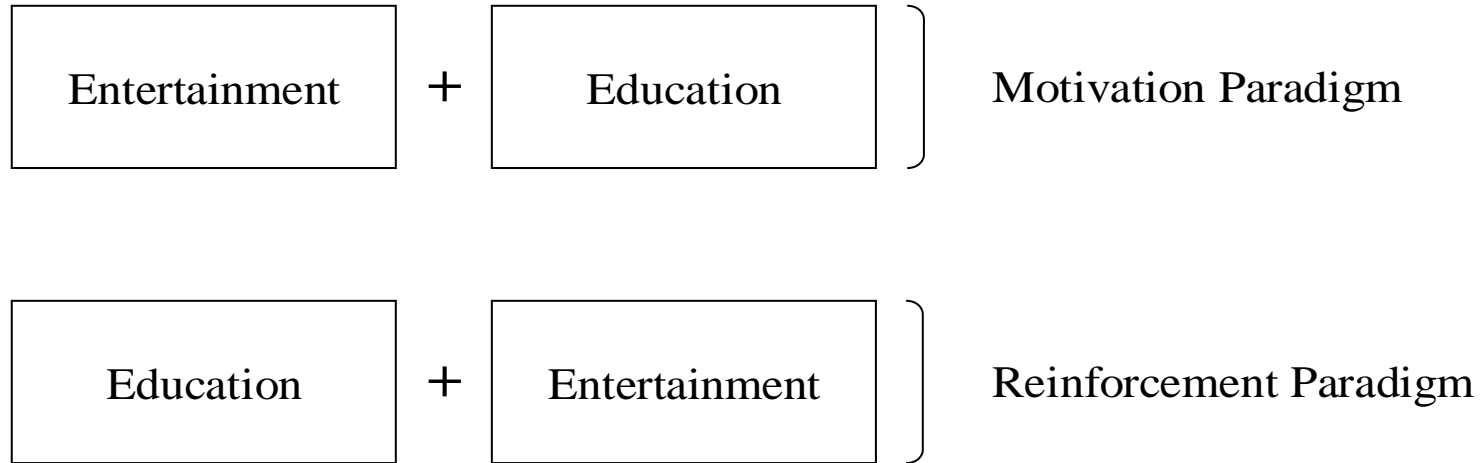
# Paradigms of Entertainment Education



Time line



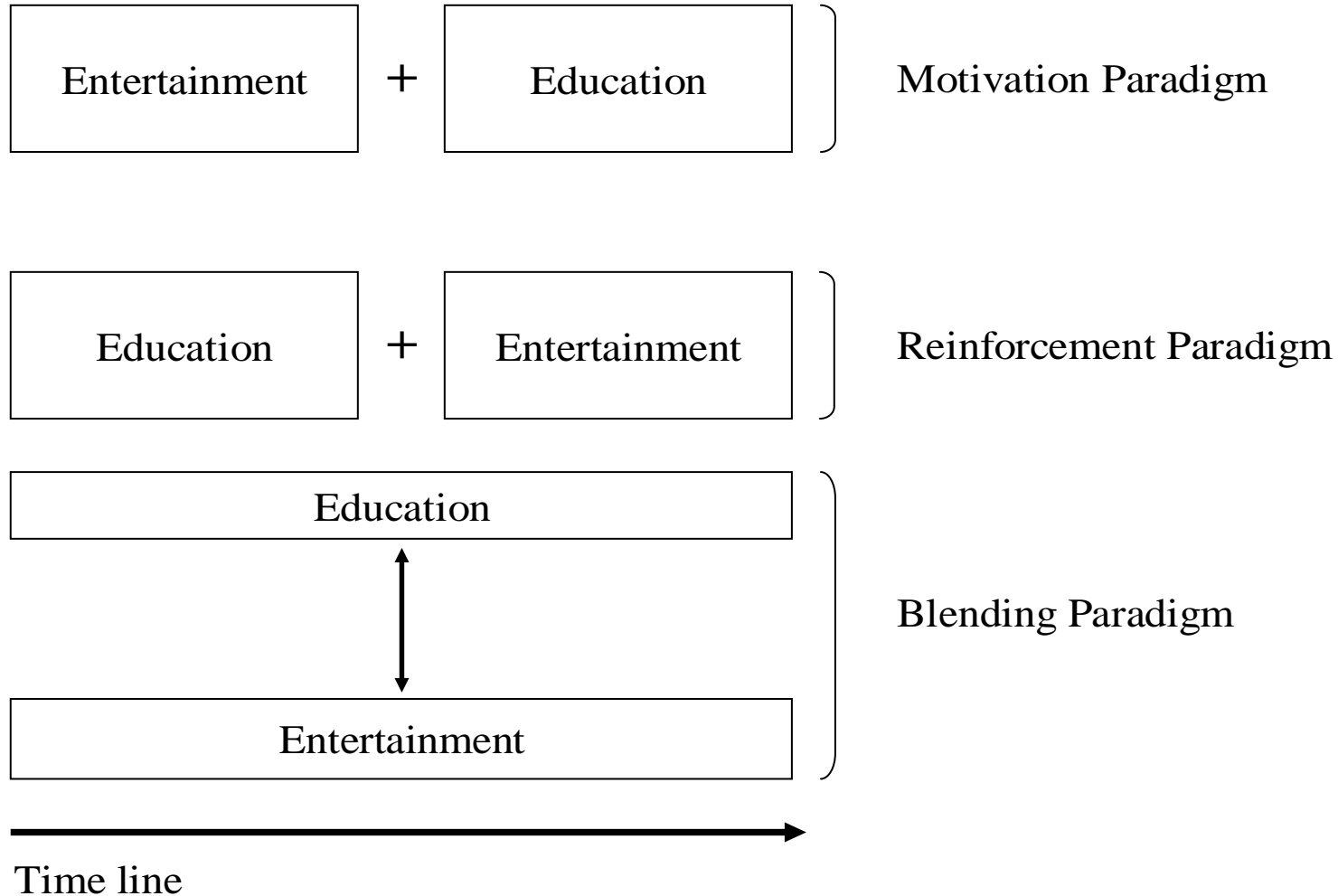
# Paradigms of Entertainment Education



Time line



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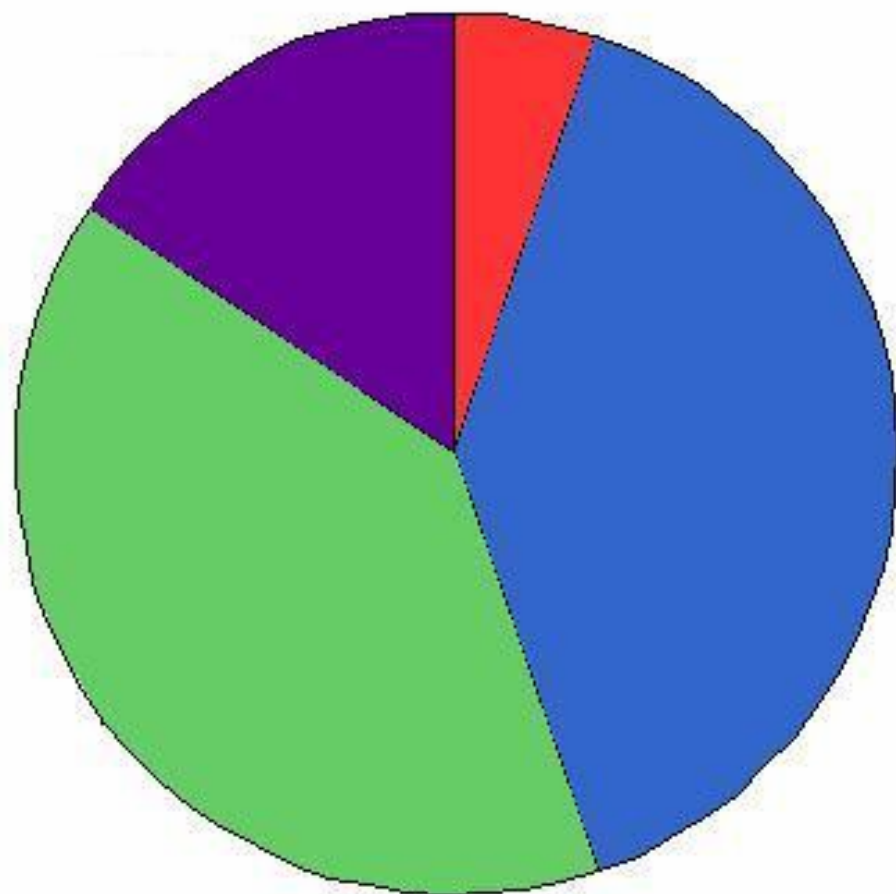


# Serious Games

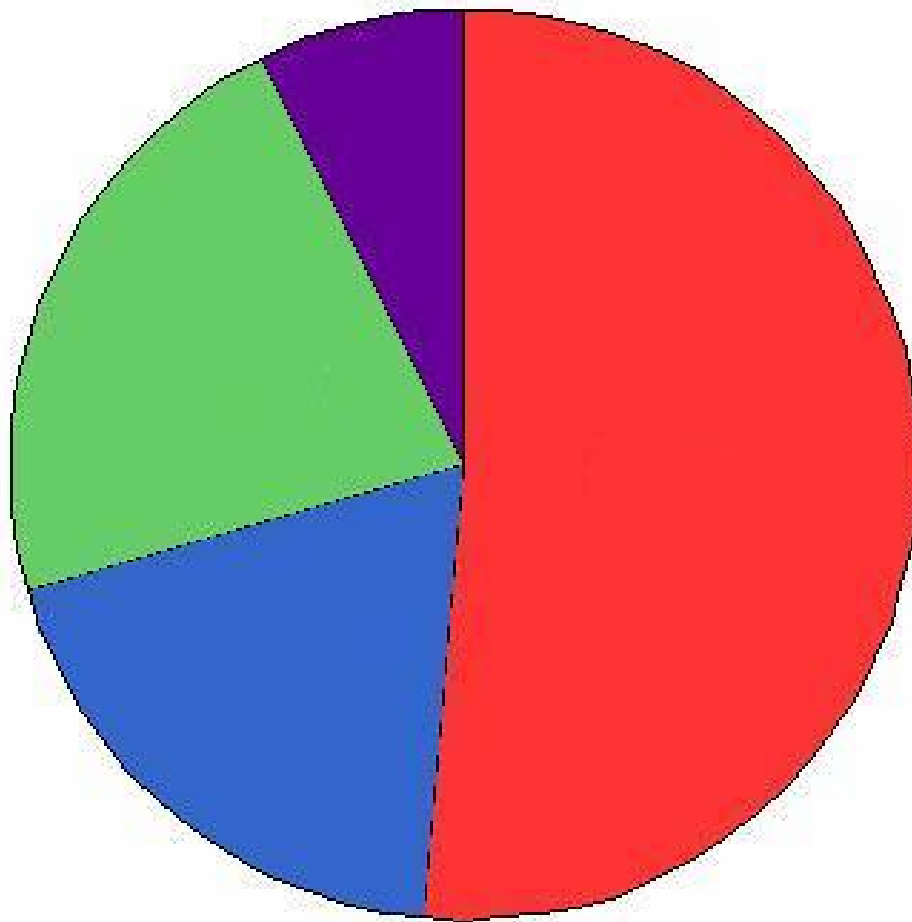
- ca. 650 English language “serious games” accessible for:
- Academic education (ca 60%; *Math/Reading Blaster*)
- Social change (ca 15%; *Darfur is Dying*)
- Occupation related training (ca 10%; *The Business Game*)
- Health knowledge, attitudes, behavior (ca 10%; *Remission*)
- Military training (ca 5%; *America’s Army*)
- Consumer behavior (< 1%; *The Arcade Wire: Xtreme Xmas Shopping* )

# Serious Games in Education





Values are approximate



### Educational Goal

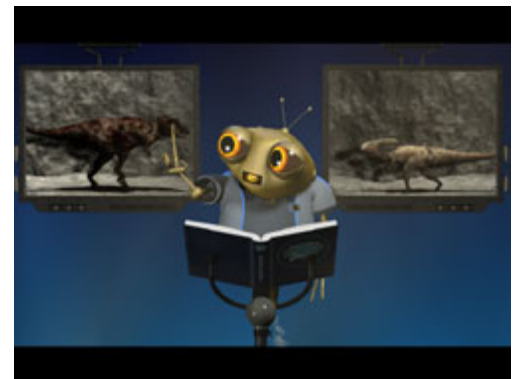
- Skills with practice
- Discovery/Exploration
- Problem Solving
- Awareness/Attitude Change

Pies show percents

Ritterfeld, Weber, Fernandes, & Vorderer (2004)



Ritterfeld, Peng, & Weber (n.d.)



# Interactivity and Media Richness

High

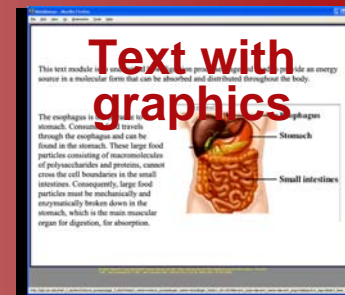
Moderate

Low

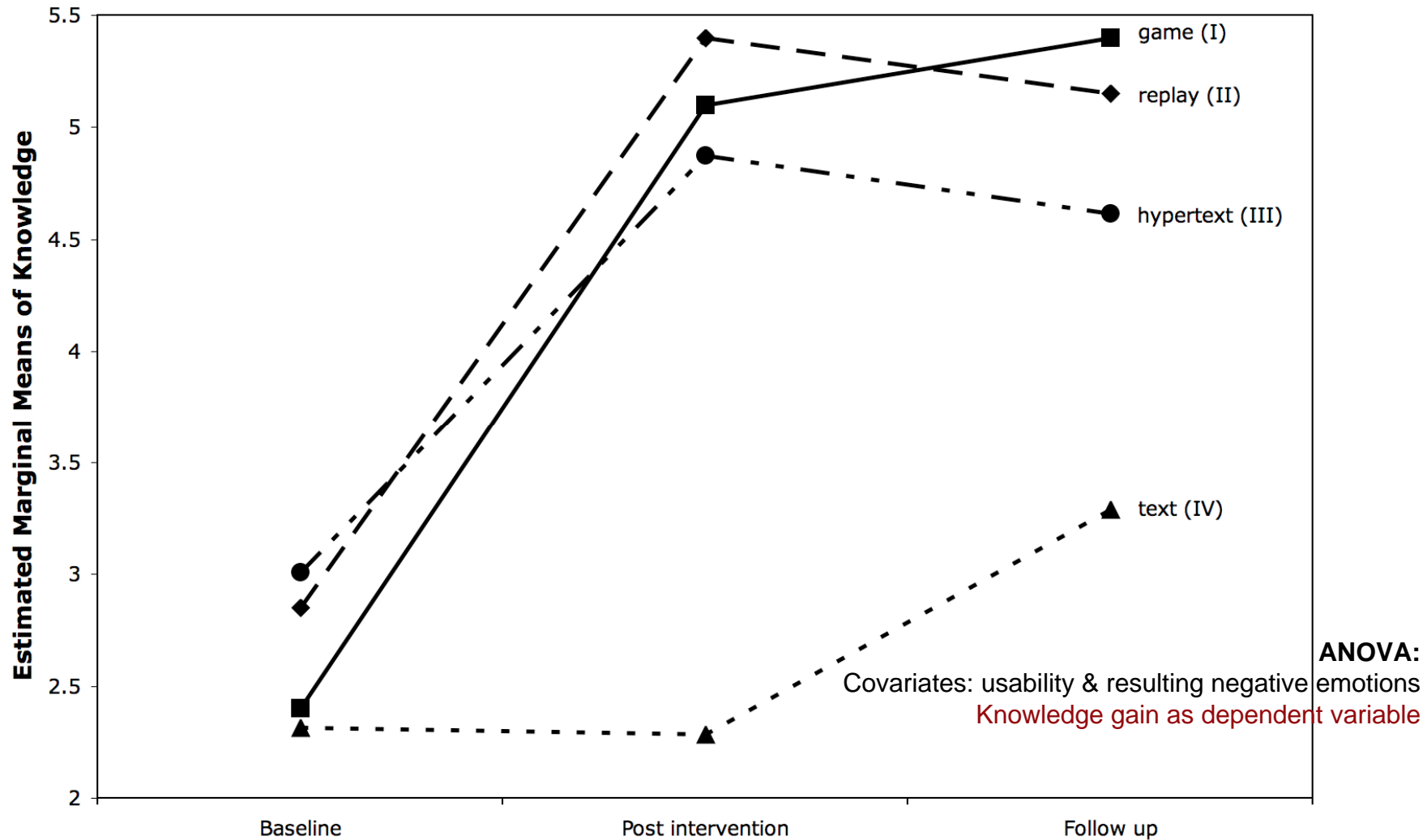
Interactive



Non-interactive



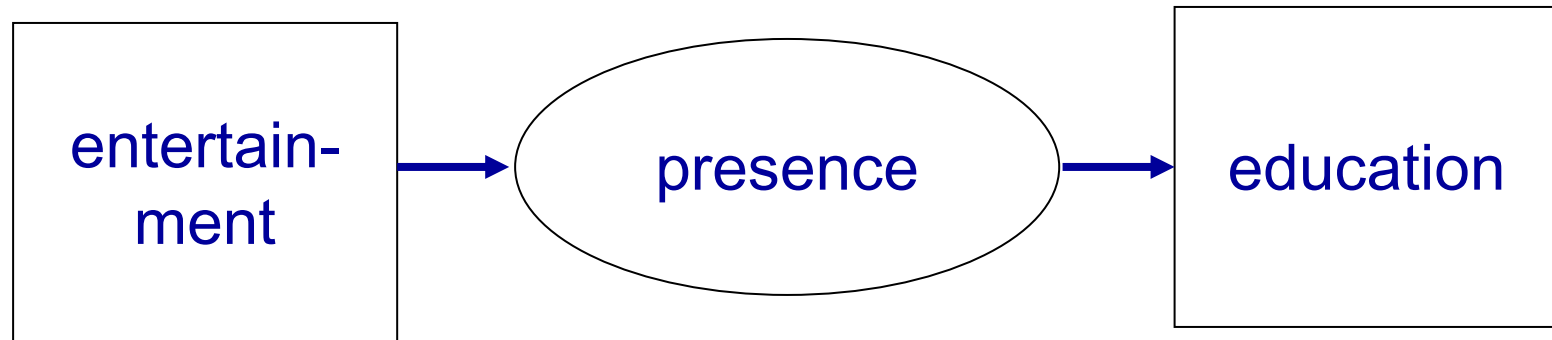
# Knowledge Gain





# Major conclusion:

## Mediating role of presence



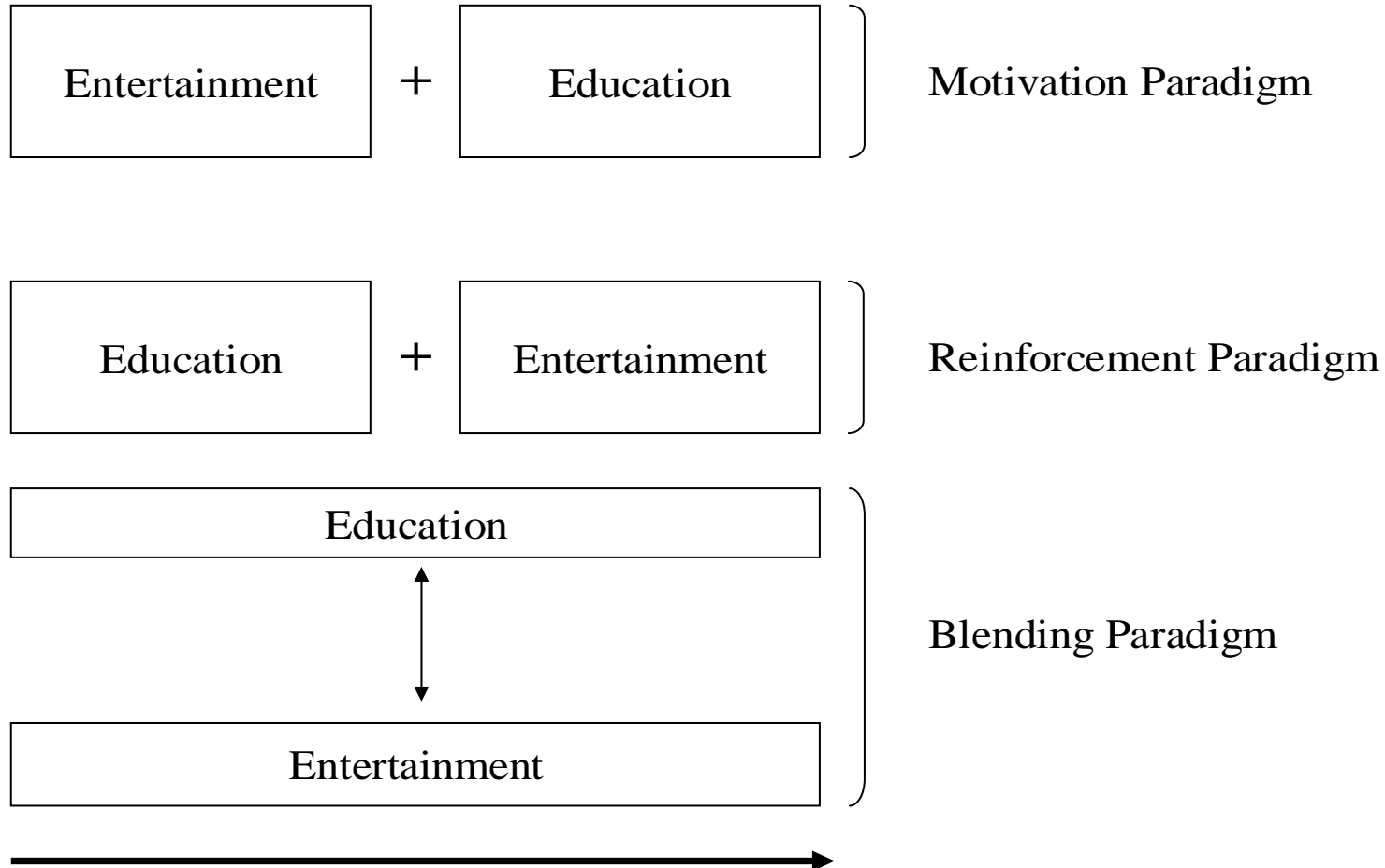
# Presence

perceptual illusion of non-mediation

sense of being there



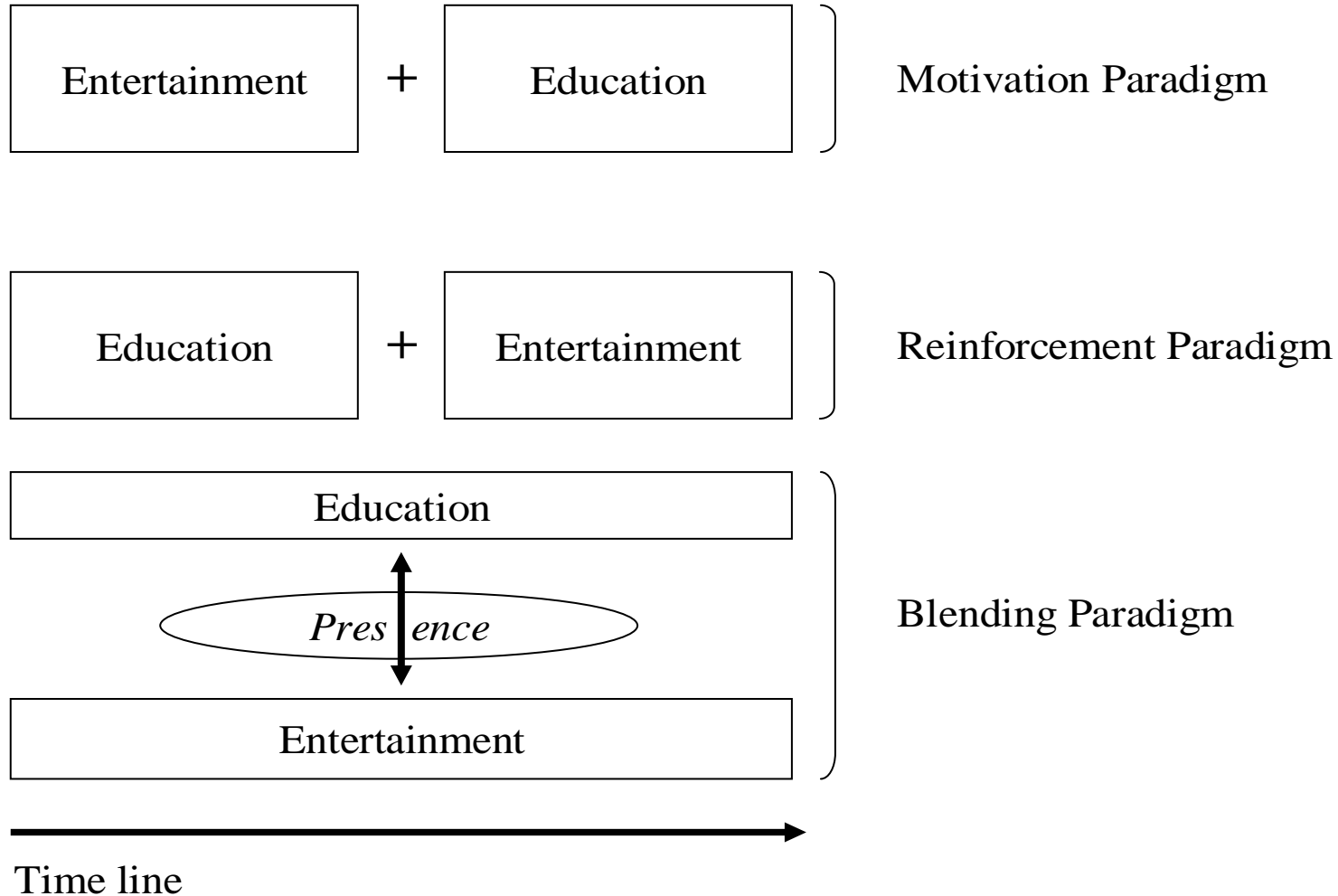
# Paradigms of Entertainment Education



Time line



# Paradigms of Entertainment Education





# Determinants of Presence

- Aesthetics
- Challenge
- Narrative
- And...



## ...personal relevance

- Safe, private laboratory for identity development of (FSP: esp. male) adolescents
- Developmental tasks: e.g., control, competition, coping with strong emotions of anger, fear, joy, compassion
- Choice to mimic past experiences or explore alternative routes







# Conclusion

- Digital games have a potential for relevant personal experiences
- Digital games have a potential for deliberate and sustained usage
- Deliberate and sustained practice is the most important factor for successful learning
- Digital games have a promising potential for learning - in various topic areas and - in all ages



# We ain't seen nothing yet!

- Intelligent systems that are responsive to the learner's state
  - Physiological measures
  - Tapping behavior (speed, mistakes)
  - Mimic expression
  - Body posture
  - Voice
  - Language



# Vision

- Scaffolding learning environments
- that encourage self regulated learning
- in a safe, private atmosphere
- going beyond impasses and frustration
- → individualized and optimized learning

*Are we still talking computer games?*



# Thank you!

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