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TEACHING SPORT PSYCHOLOGY TO THE *XBOX* GENERATION: FURTHER EVIDENCE FOR GAME-BASED LEARNING

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Computer games become a class act

By Mark Ward
Technology correspondent, BBC News

A walk around a Sheffield school has become a heroic quest to find weapons and magical items to defeat a monster.

The augmented reality mission was created by a class of 10-year-olds at Mansel Primary.

Their project uses Sony's PSP handheld games console and smart barcodes known as semacodes.

Traditional methods are being swapped for more hi-tech teaching aids.

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www.bbc.co.uk/news/technology-12277018

Games, Learning, and Society: Building a Field

Kurt D. Squire

as "Games, Learning, and Society." Research and theory in this field can be conceptualized in three overlapping areas: researching learning in popular gaming cultures, designing learning environments based on those principles, and reconceptualizing educational practice for an interactive age.

Squire, K.D. (2007). *Educational Technology*, 4(5), 51-54

LEARNING
THROUGH VIDEO GAMES

The 36 Learning Principles (Gee, J.P., 2003)

- **Active, Critical Learning Principle** (not passive)
- **"Psychosocial Moratorium" Principle** (risk-taking without real-world consequences)
- **Self-knowledge Principle** (learn about the domain *and* themselves)
- **Practice Principle** (lots of time on task as practice is compelling/not boring)

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ACTIVE VIDEO GAMES (AVGs)
IN THE TEACHING OF SPORT PSYCHOLOGY

Initial Evidence from *Wii*-Learning Project
(Manley, 2010; 2011; Manley & Whitaker, 2011)

- AVGs (e.g., *Nintendo Wii*) an effective educational resource for conceptualising new and complex theories/models
- AVGs led to enhanced academic performance compared to Non-AVGs
- Theories of Play (e.g., Rieber, 1996) and Constructivist learning (e.g., Periera, 1996) provide appropriate frameworks

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AIM
AND HYPOTHESES

Aim

— Examine the impact of AVGs (i.e., *XBox 360 Kinect*) on students' learning experience and academic performance

Hypotheses

— **H_1:** No difference in learning experience between AVGs & Non-AVGs

— **H_2:** AVGs to enhance academic performance compared to Non-AVGs

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PARTICIPANTS
AND RESEARCH DESIGN

Level 5 (Year 2) Students (*n* = 87; Male = 60)

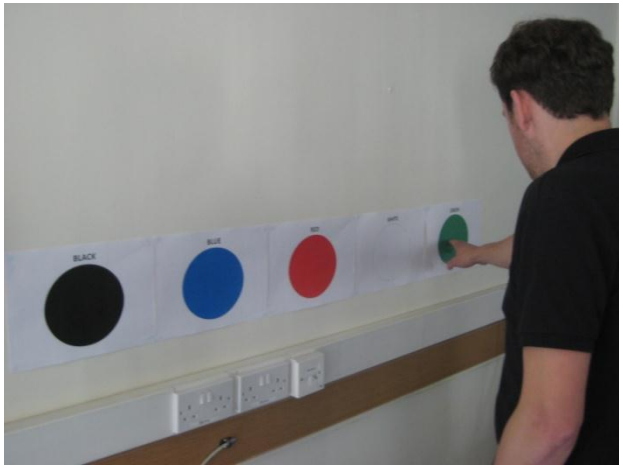
- Most (92%) had some previous experience of playing AVGs
- Frequency of AVG practice = 0 – 25 hours a week (*M* = 0.79, *SD* = 2.78)

Week 1: Self-Confidence & Self-Efficacy

Week 2: Challenge & State Anxiety

Group 1

Group 2



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MEASURES, MATERIALS AND PROCEDURES

Learning Experience

— Session Evaluation Form completed by students following each seminar

— Adapted version of Academic Motivation Scale (AMS; Vallerand et al., 1992) completed at baseline, mid-point, and end-of-module.

Academic Performance

— Three-page lab report based on choice of seminar (AVG vs. Non-AVG)

— Examination (total of 12 short answer questions based on seminar activities and related reading)

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RESULTS:
LEARNING EXPERIENCE (1)

RM MANOVA

* $p < .001$, *partial* $\eta^2 = .115$

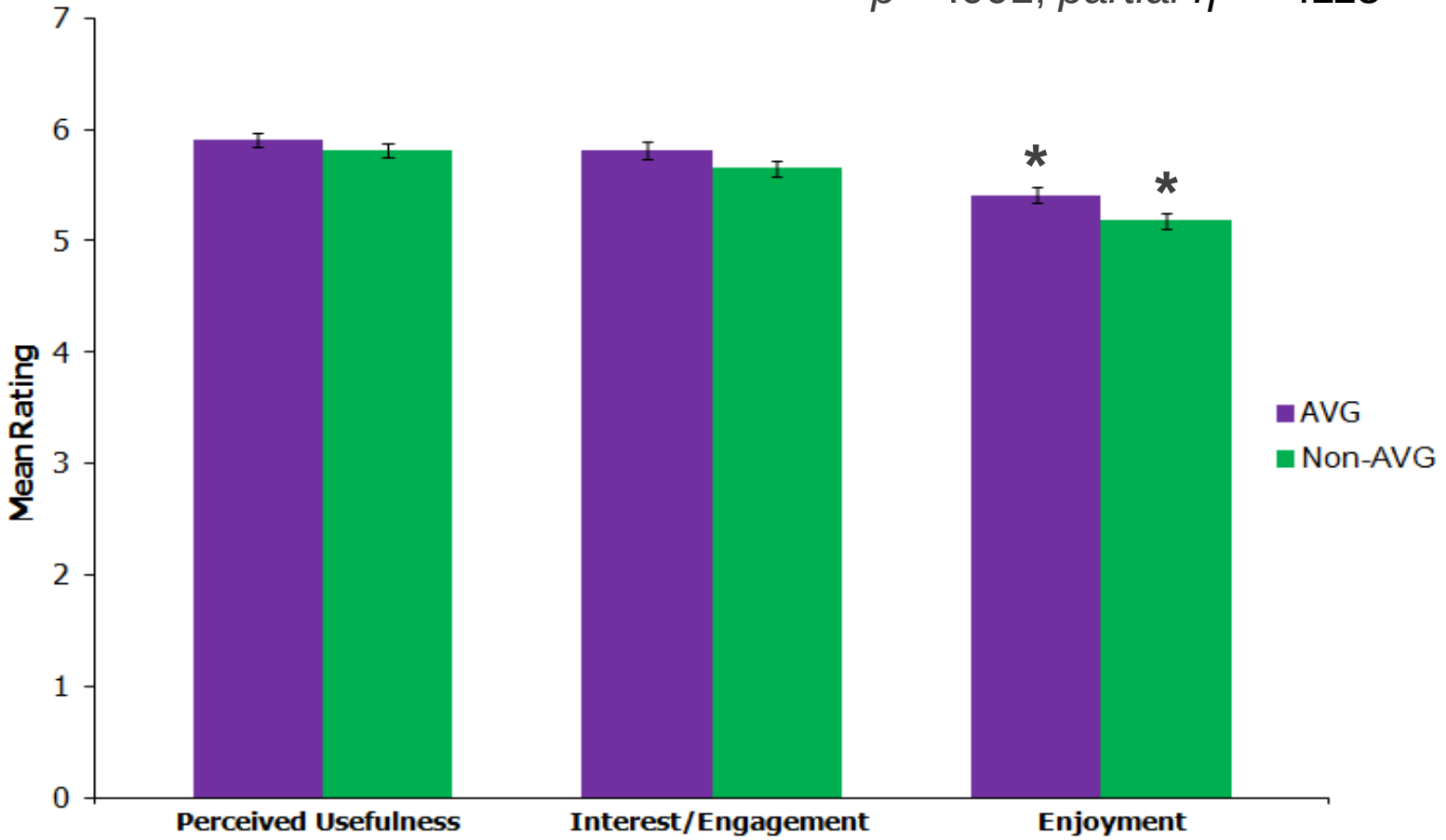

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Figure 1: Mean ratings of Perceived Usefulness, Interest/Engagement, & Enjoyment

RESULTS:
LEARNING EXPERIENCE (2)

Why am I studying this module?

For the pleasure that I experience when I read interesting authors

For the pleasure that I experience when I feel completely absorbed by what certain authors have written

For the "high" feeling that I experience while reading about this subject

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Intrinsic Motivation – To Experience Stimulation

RESULTS:
LEARNING EXPERIENCE (3)

RM MANOVA

* $p < .05$, *partial* $\eta^2 = .052$)

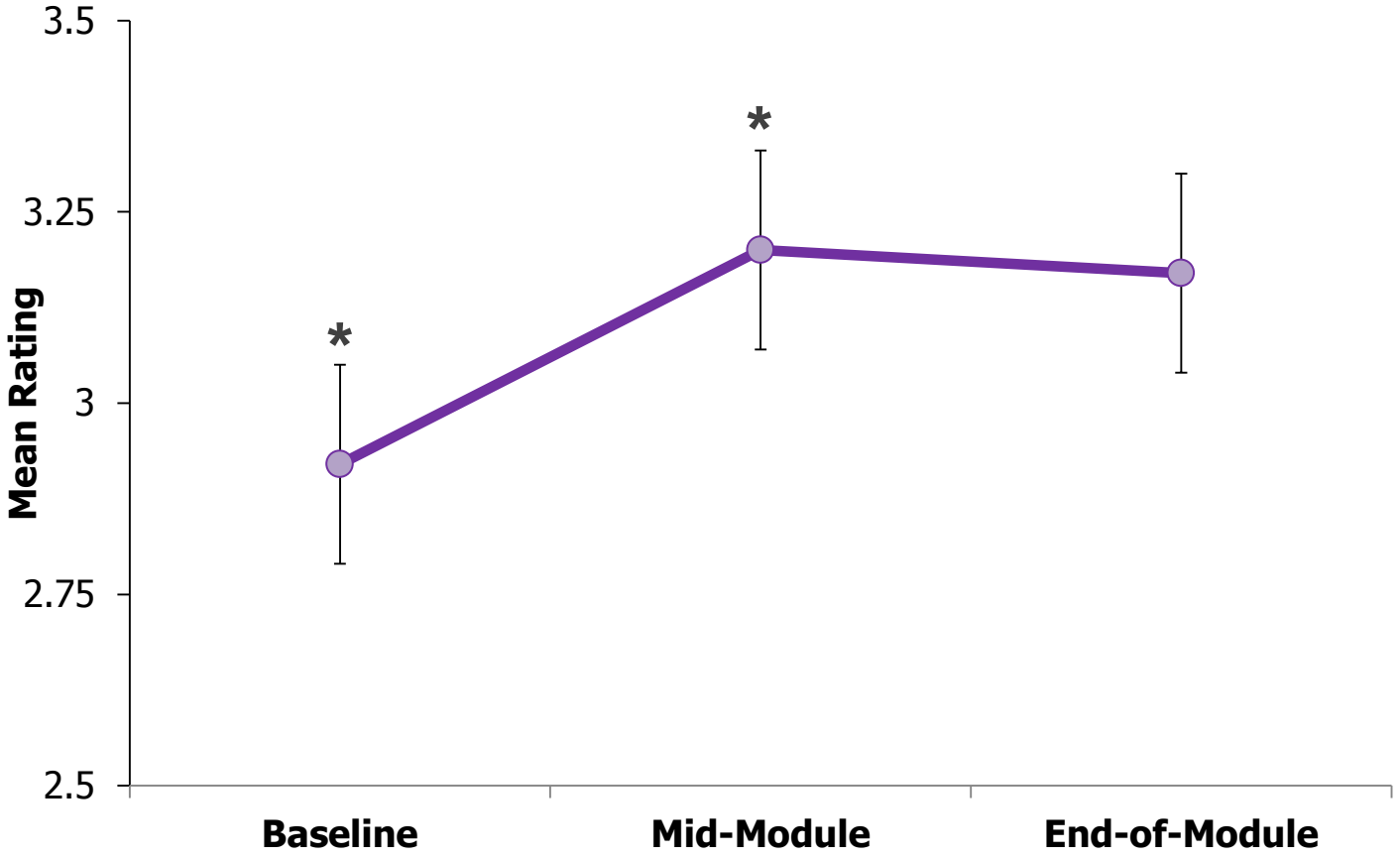

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Figure 2: Mean ratings of IM – Stimulation (baseline, mid-point, & end of module)

RESULTS:
ACADEMIC PERFORMANCE (1)

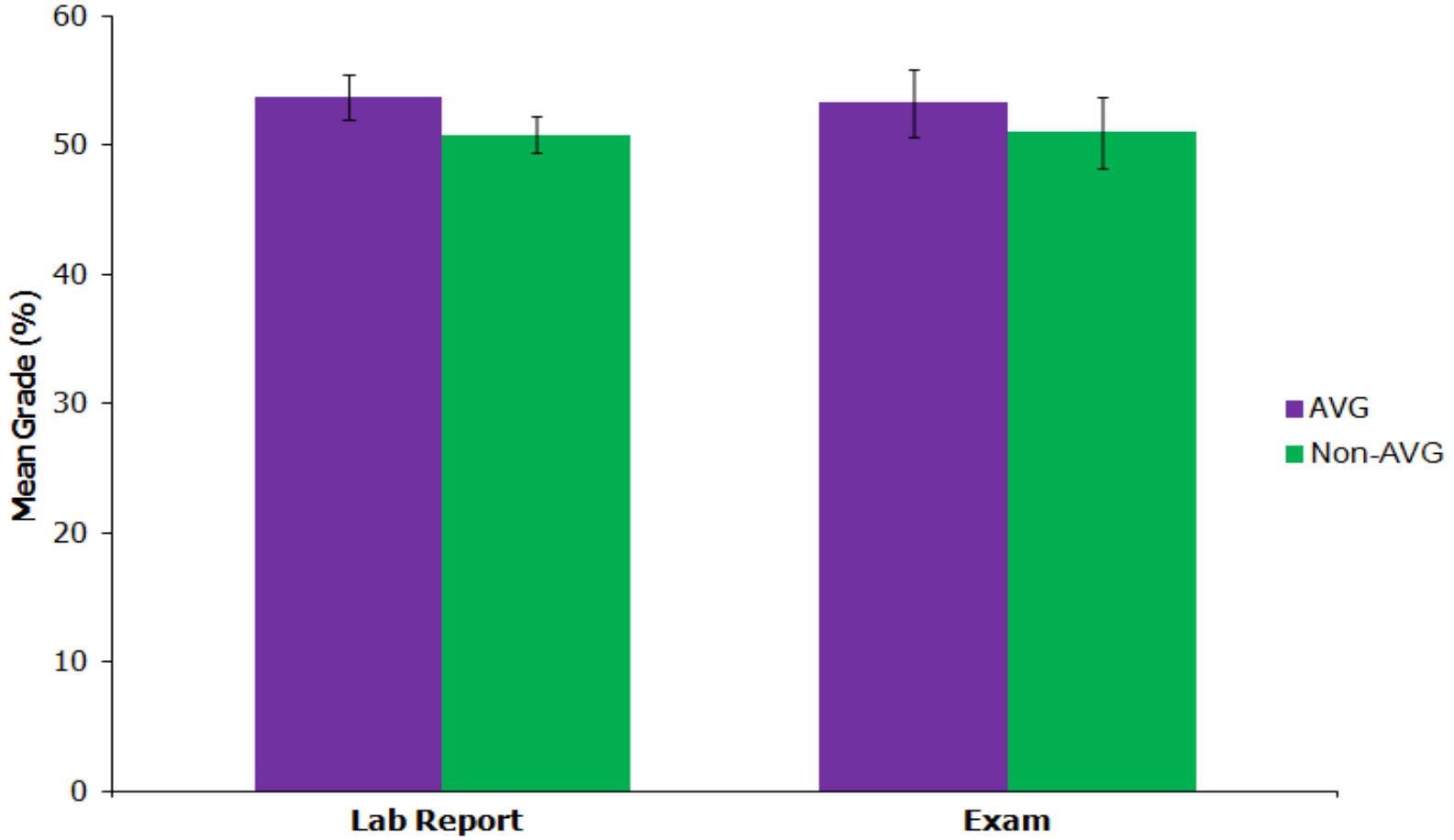

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Figure 3: Mean grades for lab report and exam

RESULTS:
ACADEMIC PERFORMANCE (2)

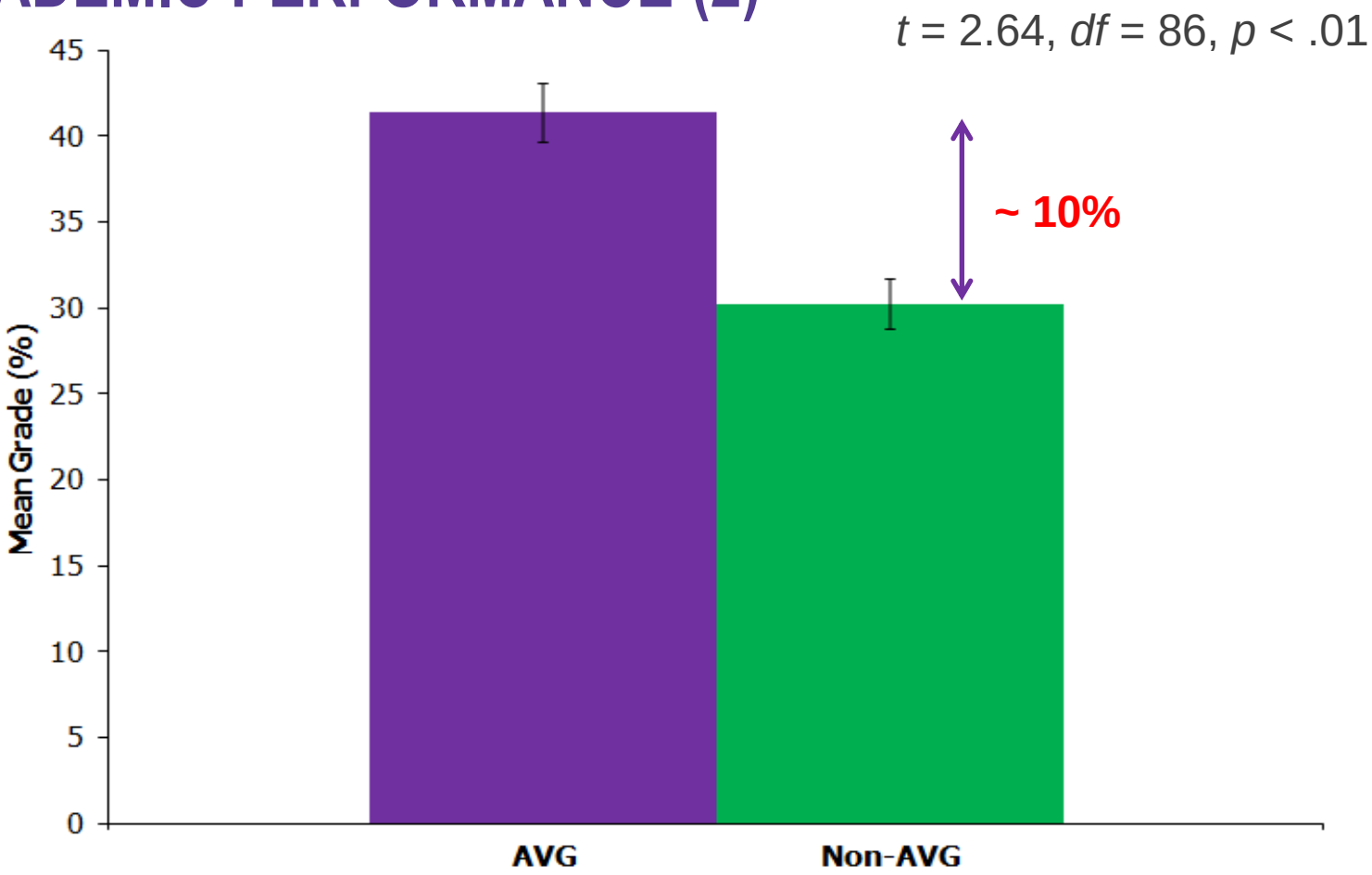

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Figure 4: Mean percentage of correct answers for exam questions requiring further reading

CONCLUSIONS, IMPLICATIONS AND FUTURE DIRECTIONS

Further evidence for AVGs as an effective educational resource

Implications for teaching and enterprise

Further research required regarding underpinning mechanisms

Beware of overkill!

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A HUGE THANKS TO ALL THE STUDENTS WHO PARTICIPATED IN THIS PROJECT

ANY QUESTIONS?

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