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How Video Games Can Develop Graduate Attributes

Dr Matthew Barr, University of Glasgow
@hatii_matt

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John Seely Brown

“I would rather hire a high-level World of Warcraft player than an MBA from Harvard.”

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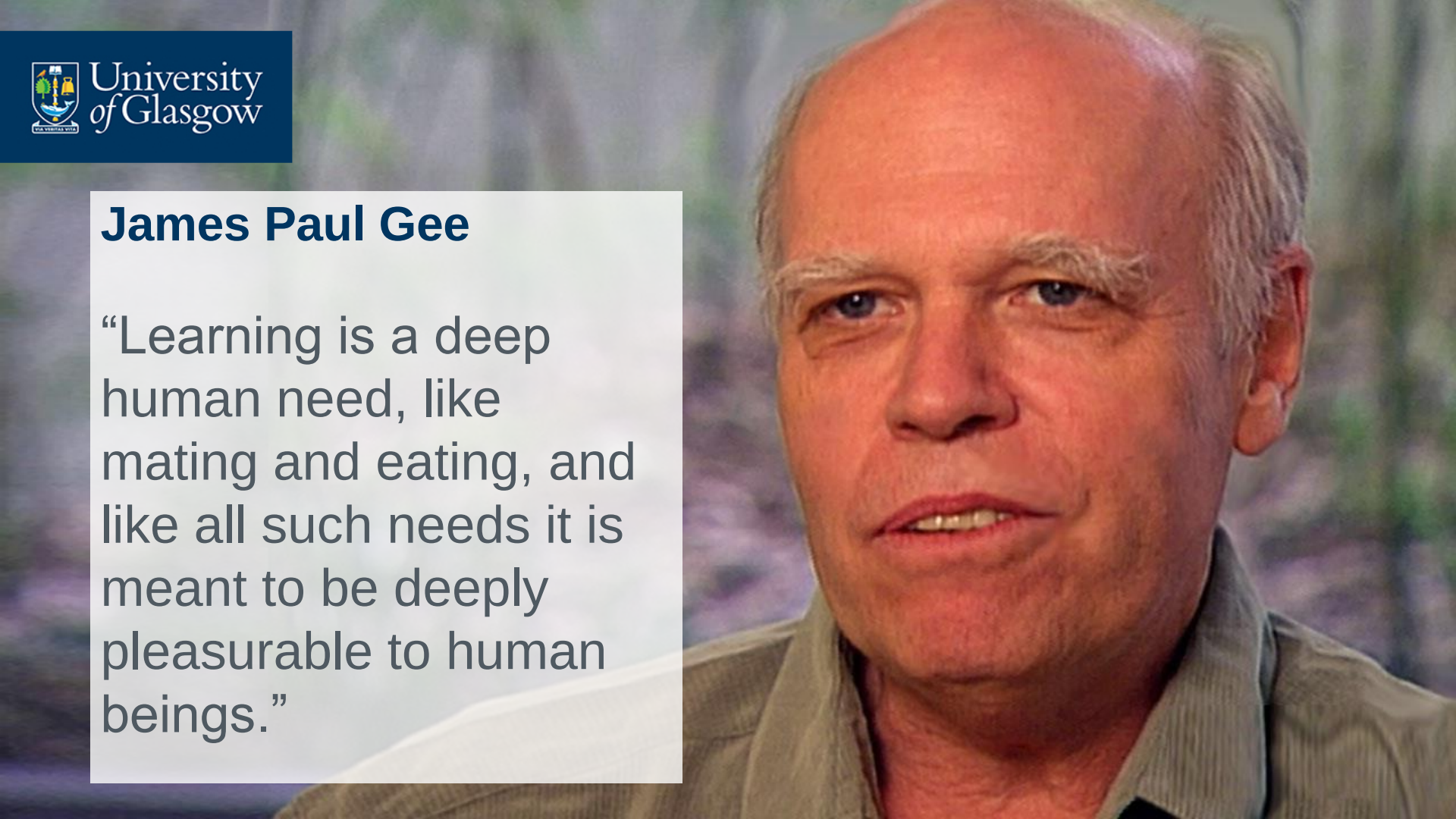
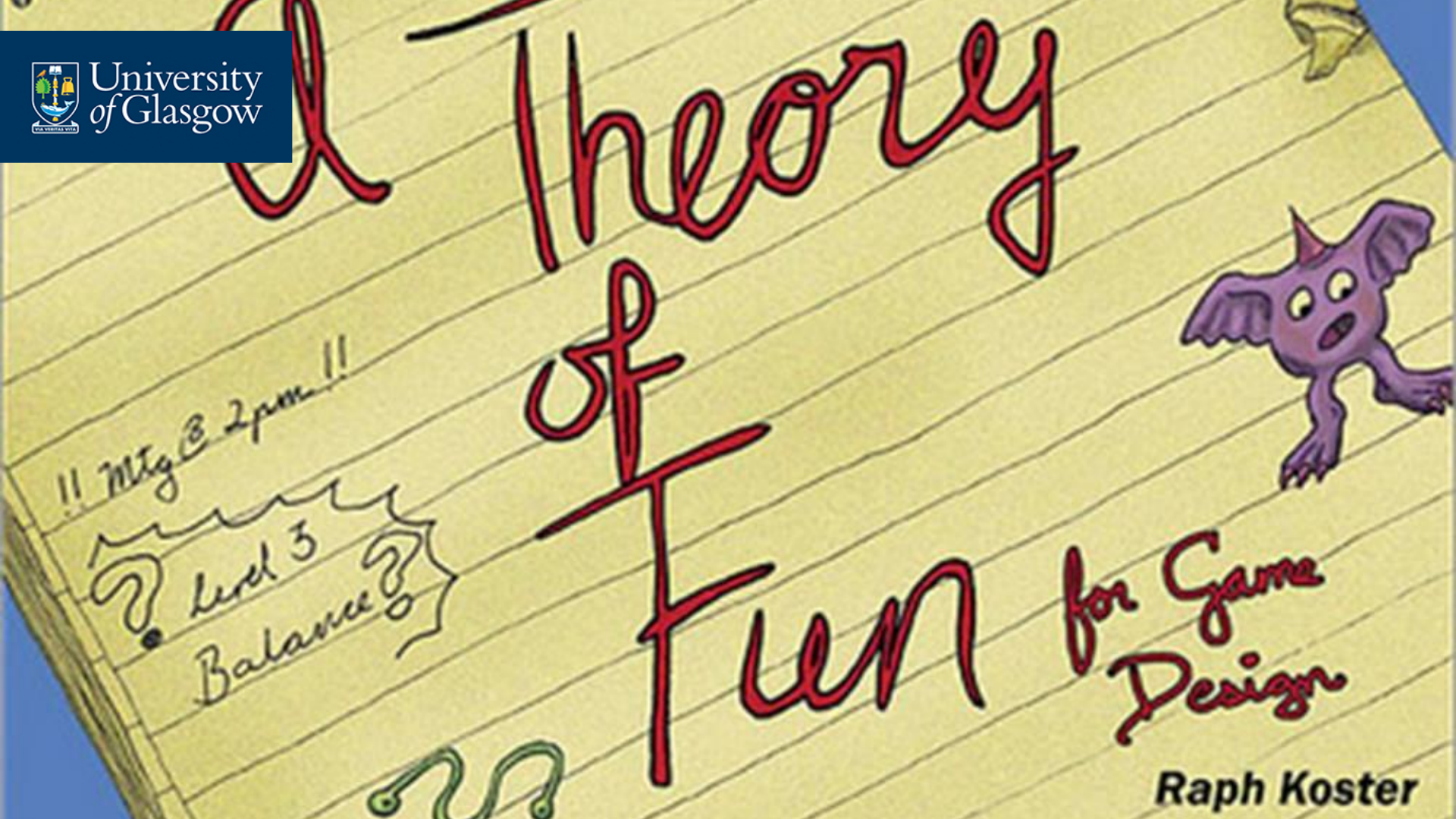
James Paul Gee

“Learning is a deep human need, like mating and eating, and like all such needs it is meant to be deeply pleasurable to human beings.”

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A Theory of Fun
for Game Design
!! Mtg @ 2pm !!
Lvl 3
Balance
Raph Koster

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2 Lazapa
6 Calakmul
14 Chartres : 15
Tank : 2
32 Paris : 2
SETI program : 7
16 Marseilles : 4
Offshore Platform : 9
23 Orleans : 5
Commercial Dock : 1
25 Lyons : 6
Civil Defense : 2
10 Miami : 3
University : 9
11 San Francisco : 5
University : 5
6 Seattle : 3
Aqueduct : 3
13 Chicago : 4
Bank : 1
18 Rheims : 12
The Internet : 12
4 Det
6 Atlanta : 5
Factory : 13
23 Tours : 4
Tank : 2
21 Washington : 4
Bank : 2
16 Boston : 4
University : 11
Worker
0.0.1/1
Forest
France - Democracy (0.10.0)
1880 AD 3486 Gold (-145 per turn)
Ecology (4 turns)

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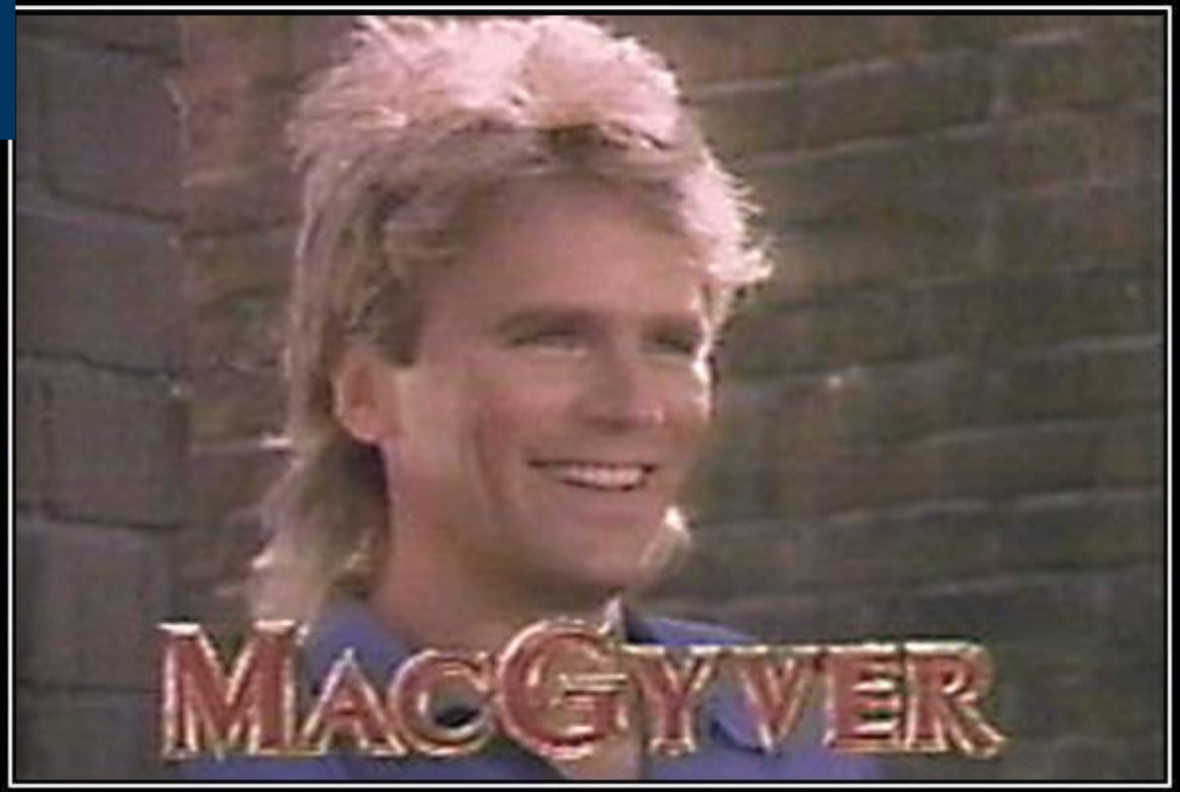

RESOURCEFULNESS

Because one day, a paperclip might save your life

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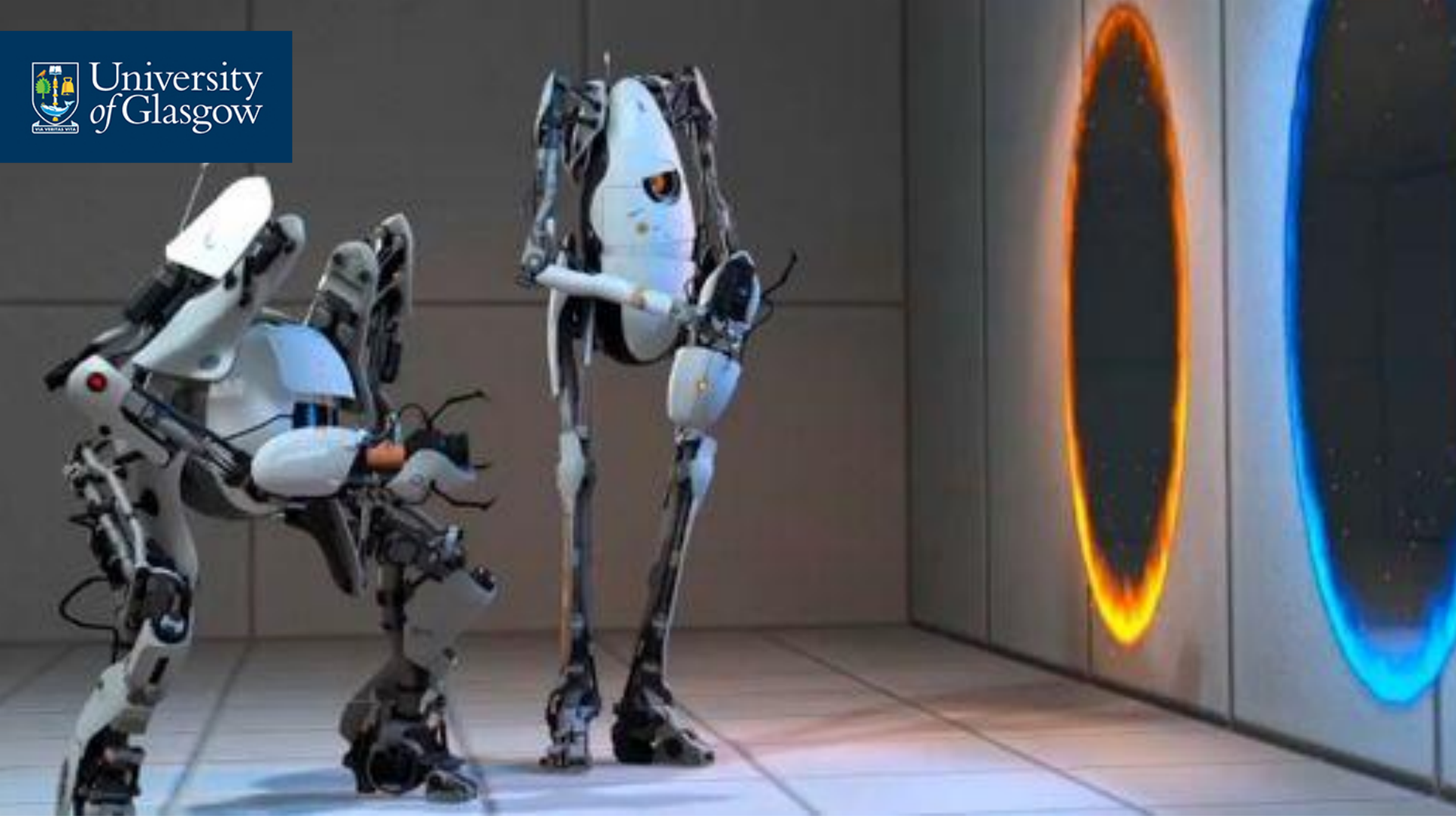
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Big Mean Muther Hubbard + Grim Bloody Fable
Big Mean Muther Hubbard
Ribs Grow
Mentlegen
A Professional With Standards
Healing: Poopy Joe
UBERCHARGE: 47%
Playing to: 3

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DENIED
APPROVED
ALIGN VISA BENEATH STAMP
VALID SEALS
M.O.A
DOCUMENT MUST HAVE A SEAL
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Costava, Jorji
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MEN
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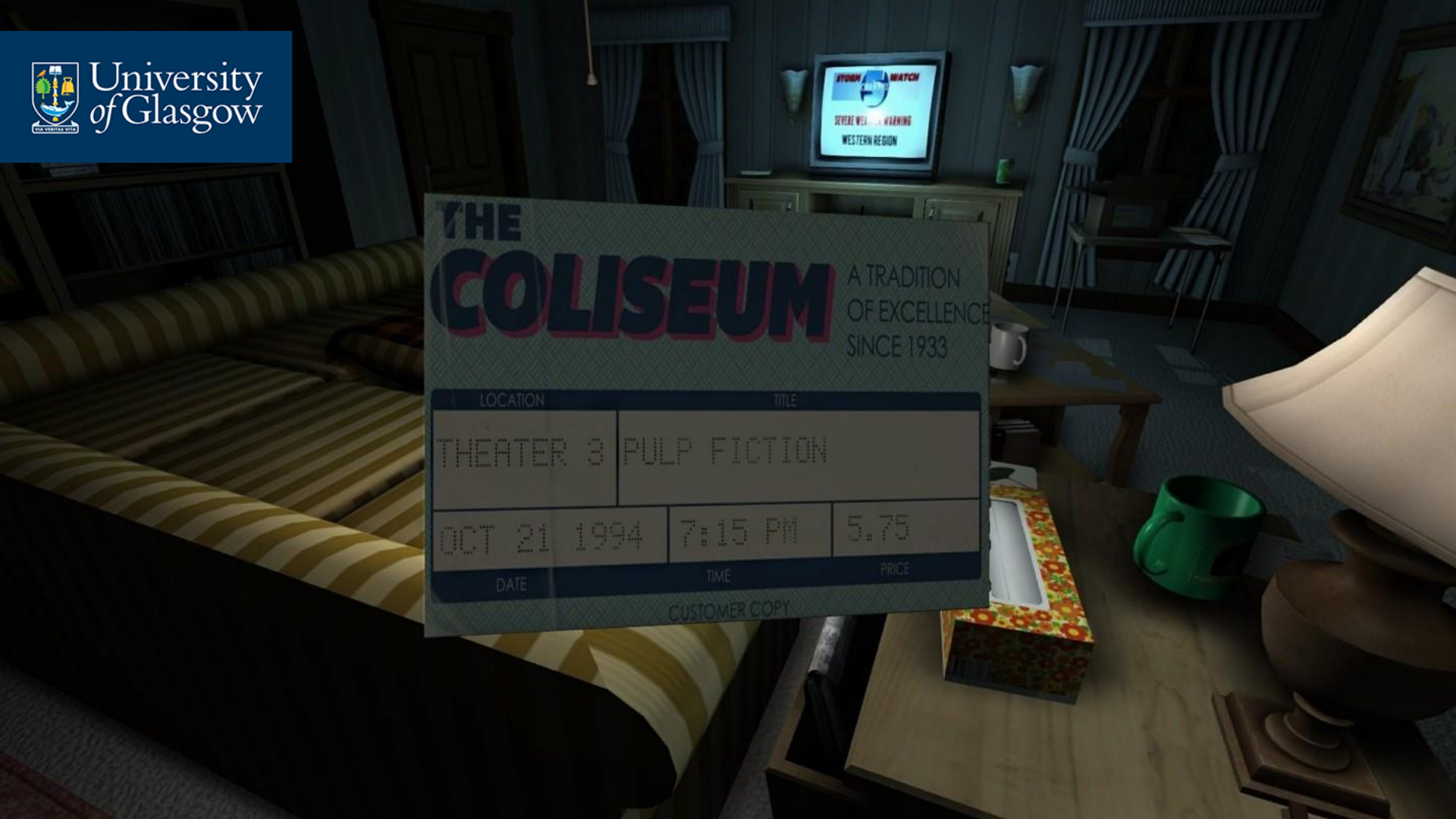
51 kg


THE
COLISEUM
A TRADITION
OF EXCELLENCE
SINCE 1933
LOCATION
TITLE
THEATER 3
PULP FICTION
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TIME
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CUSTOMER COPY
WESTERN REGION

	Control		Intervention		Difference in means		p-value	95% CI
	Mean	SD	Mean	SD	Absolute	Cohen's d		
Communication	-2.8	5.65	4.94	8.41	7.74	**1.1**	0.004	12.79 to 2.69
Adaptability	-8.25	15.99	11.31	18.07	19.56	**1.15**	0.002	31.32 to 7.8
Resourcefulness	0.25	9.71	9.69	11.42	9.44	**0.9**	0.013	16.77 to 2.11

	Group	
Cha		
neg		
neg		
neg		
pos		
pos		
pos		
Column total		

The percentage of participants in the intervention group (69%) with improved communication scores was greater than the percentage of participants in the control group (25%) with improved communication scores ($p = 0.016$, Fisher's exact test).

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Results

Pre- and post-test results indicate significantly improved gains on the three measures for the game-playing intervention group versus the control, with differences of between 0.9 and 1.15 standard deviations in test scores. 95% confidence intervals calculated for the difference between mean scores for the control and intervention groups did not cross zero, further supporting the idea that **playing video games at university may help develop students' employability skills**.

Effective Communicators

“I think definitely kind of communication [...] And especially stuff like *Minecraft* and *Warcraft* and things like that where you did actually have to properly communicate with people and ask, like, "are you going to go and get this, or should I do it?" Like, that was really, really good.

– Participant M, female, age 17

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Effective Communicators

“Definitely, yeah, because they all have like a multiplayer aspect to them, and you're having to work with other people and talk to each other. So it'd definitely help with that.”

– Participant L, female, age 18

Effective Communicators

“Yeah, definitely. Especially, like, negotiating with people, trying to figure out where you were going to go, and stuff like that.”

– Participant M, female, age 17

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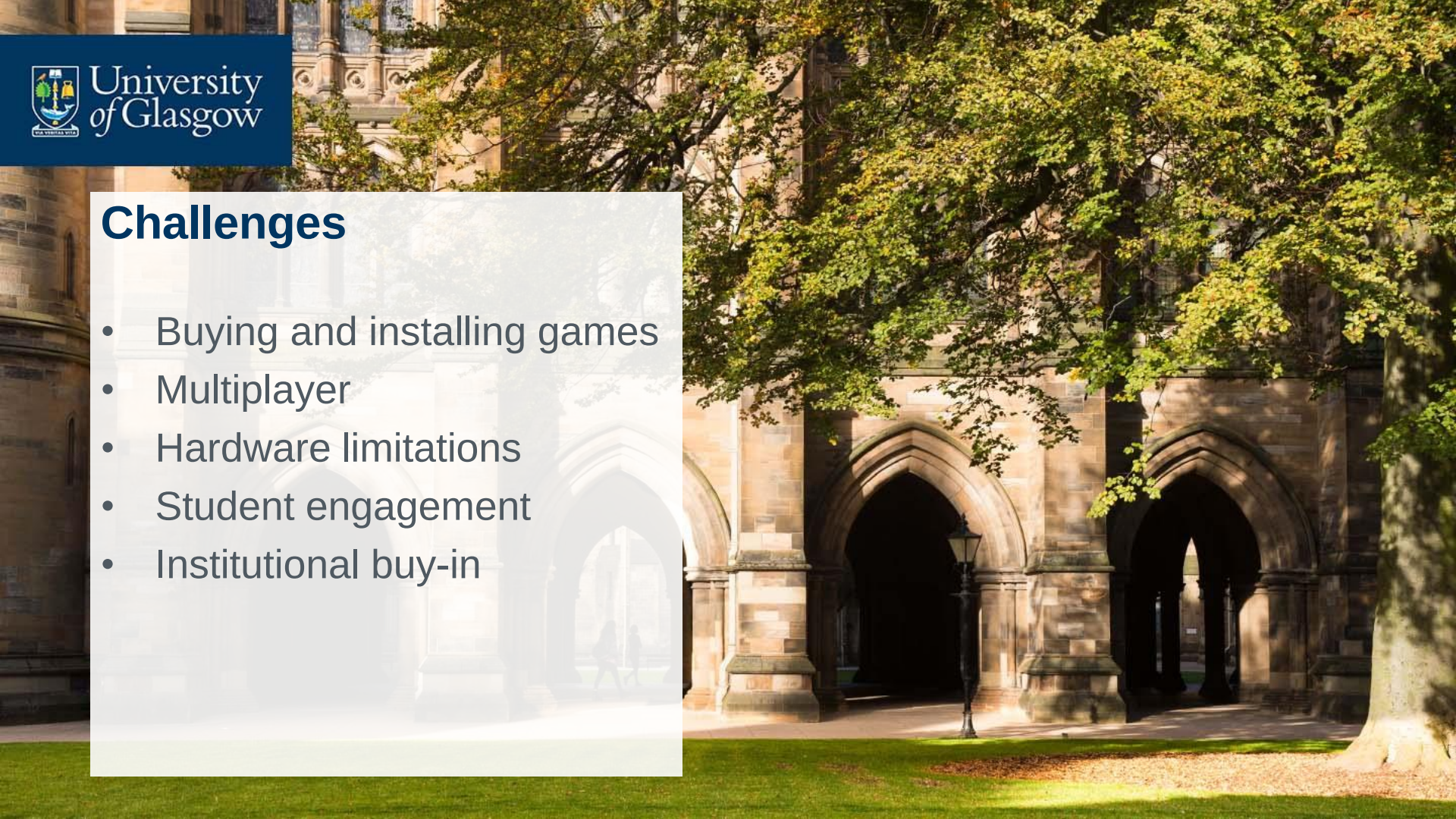
Effective Communicators

“But yeah, I don't know if I communicate very clearly or confidently. I communicated effectively because we got through it but, yeah, I don't know if I was very clear.”

– Participant A, male, age 32



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Challenges

- Buying and installing games
- Multiplayer
- Hardware limitations
- Student engagement
- Institutional buy-in

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Video games could boost university skills, study finds

5 June 2017 | Glasgow & West Scotland

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Playing video games could help young people be more successful at university, according to a new study.

A **University of Glasgow trial** found gaming improved communication skills, resourcefulness and adaptability.

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Playing video games 'improves students' employability skills'

University of Glasgow research indicates students can improve communication and thinking ability by playing computer games

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Video games could help young people succeed later in life

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Video Games Can Improve Academic Success, Study Finds

June 5, 2017 10:04 AM

Filed Under: Education, study finds, Video Games

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Playing video games makes you a better university student!

PTI

June 6, 2017 | UPDATED 14:05 IST

A + A -

THE Sun

X-BOXING CLEVER

COMPUTER gamers are more likely to succeed at university, a study suggests.

A couple of hours' play a week boosted students' communication.

They also became more adaptable and resourceful after just eight weeks.

Games tested included Minecraft, Warcraft III and Lara Croft. Research-

ers at Glasgow University said the games forced players to find multiple ways of completing a task.

They added this mindset of critical thinking and learning is what is needed to get a good degree and job.

Study head Matthew Barr joked: "This isn't what parents may like to hear."

DAILY EXPRESS

Official: Video games will make you smarter

By **Alison Kershaw**

PARENTS despairing at the amount of time their child spends playing video games should take heart, new research suggests it may actually do them good.

Gaming can help young people develop key skills such as communication and resourcefulness, according to a study by a Glasgow University academic.

They become like blinking lizards, motionless, absorbed, only the twitching of their hands showing they are still conscious. These machines teach them nothing. They stimulate no ratiocination, discovery or feat of memory though some of them may cunningly pretend to be educational.

Boris
Johnson

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Published Research

Barr, M. (2017). Video games can develop graduate skills in higher education students: A randomised trial. *Computers & Education*, 113, 86–97. https://doi.org/10.1016/j.compedu.2017.05.016

bit.ly/MattGBL

Barr, M. (2018). Student attitudes to games-based skills development: Learning from video games in higher education. *Computers in Human Behavior*, 80, 283–294. https://doi.org/10.1016/j.chb.2017.11.030

bit.ly/MattGBL2

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Thank you

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http://bit.ly/MattGBL

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