



Funded by the Horizon 2020 Framework Programme
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BETTER

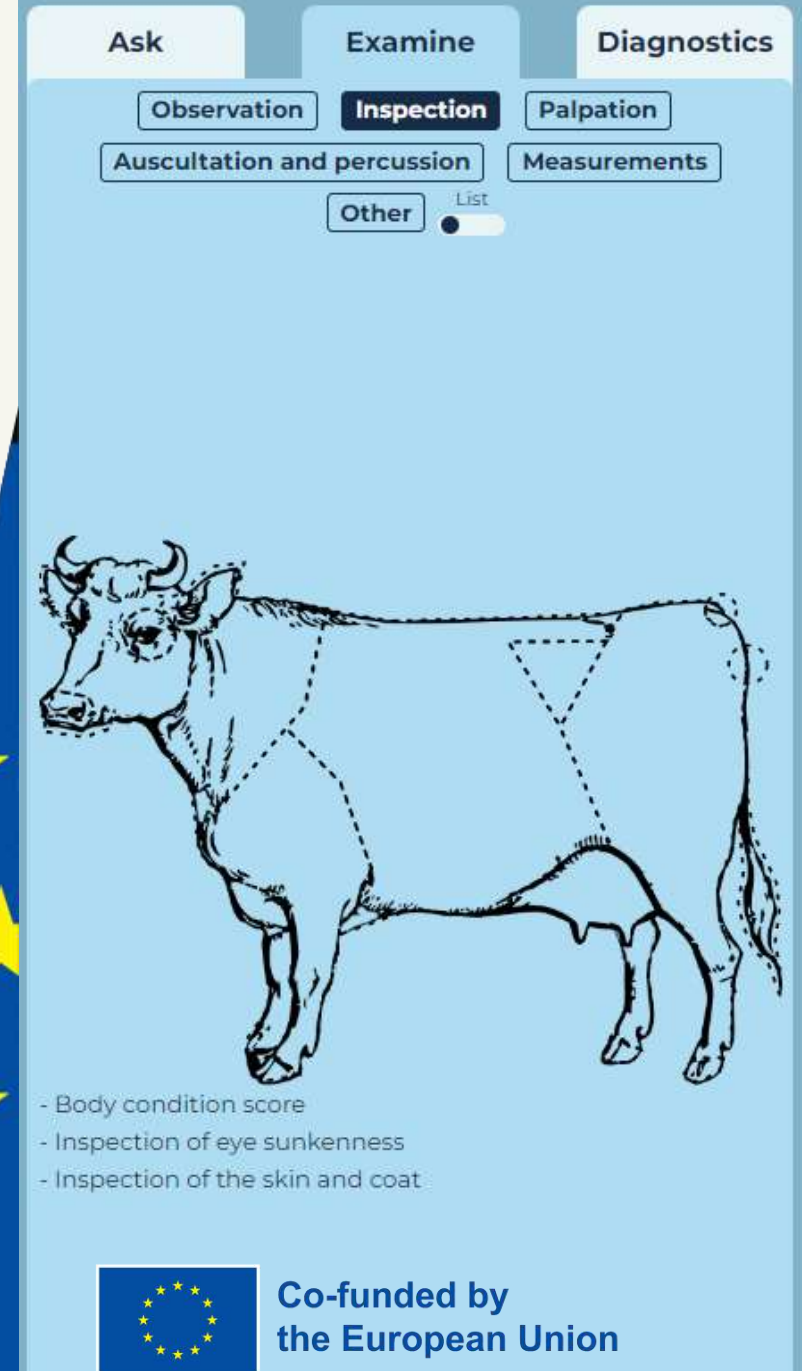
Gamification: Potential to be used for biosecurity?

Lena-Mari Tamminen
Swedish University of Agricultural Sciences

Ingrid Toftaker, Karin Berggren, Arvo Viltrop, Anna-Maija Virtala, Susanna Sternberg-Lewerin, Dagny-Alice Viidu, Tomi Ylä-Soinimäki, Mikko Murhu, Alexander Figenschou

The OIG-project

- Outbreak Investigation Game
- Funding: Erasmus+
- Partners:
 - University of Helsinki (Project owner)
 - Swedish University of Agricultural Sciences
 - Estonian University of Life Sciences
 - MedEdu Oy
 - Norwegian University of Life Sciences





GAMERS DON'T DIE
THEY
RESPAWN!

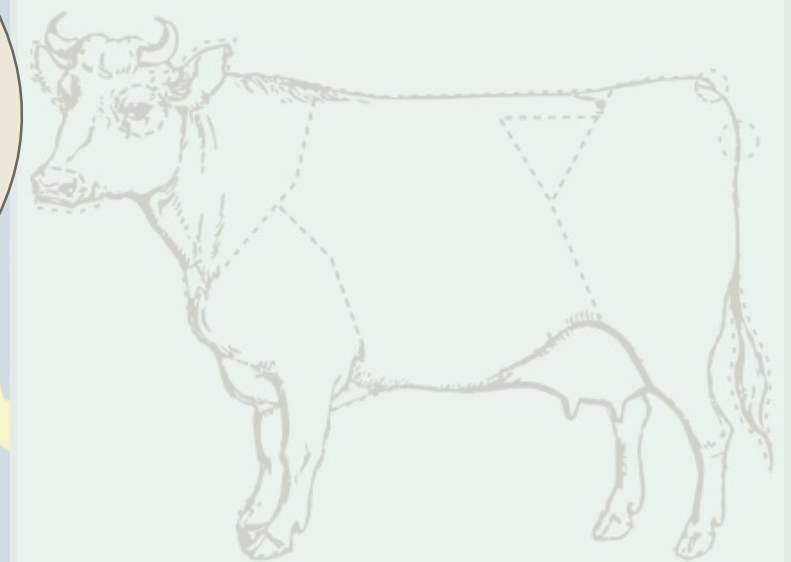
Arozzi

Arozzi

Photo used with permission!



Let's do a scoping review!



- Body condition score
- Inspection of eye sunkenness
- Inspection of the skin and coat.



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Exploring the role of gamification in veterinary education



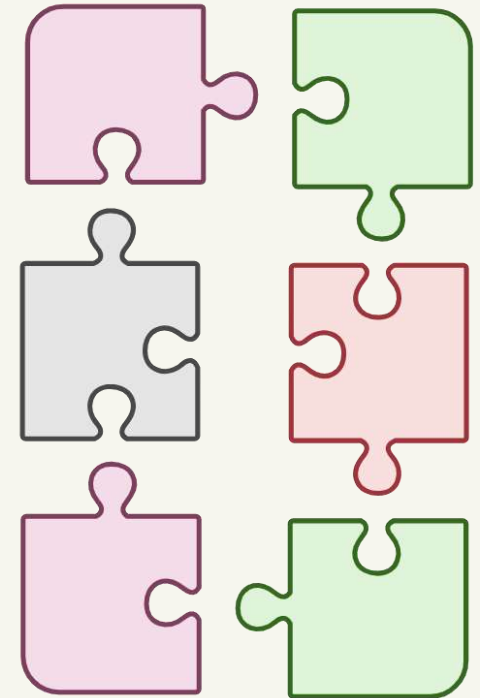


gamification



A scoping review on gamification in veterinary education

- Veterinary medical education versus human medical education?
- Which subject areas?
- Which level (undergraduate vs postgraduate)?
- Are outcomes of gamification evaluated?



A jungle of different terms



Games?

Gamification?

Game-based learning?

Serious games?

Educational games?

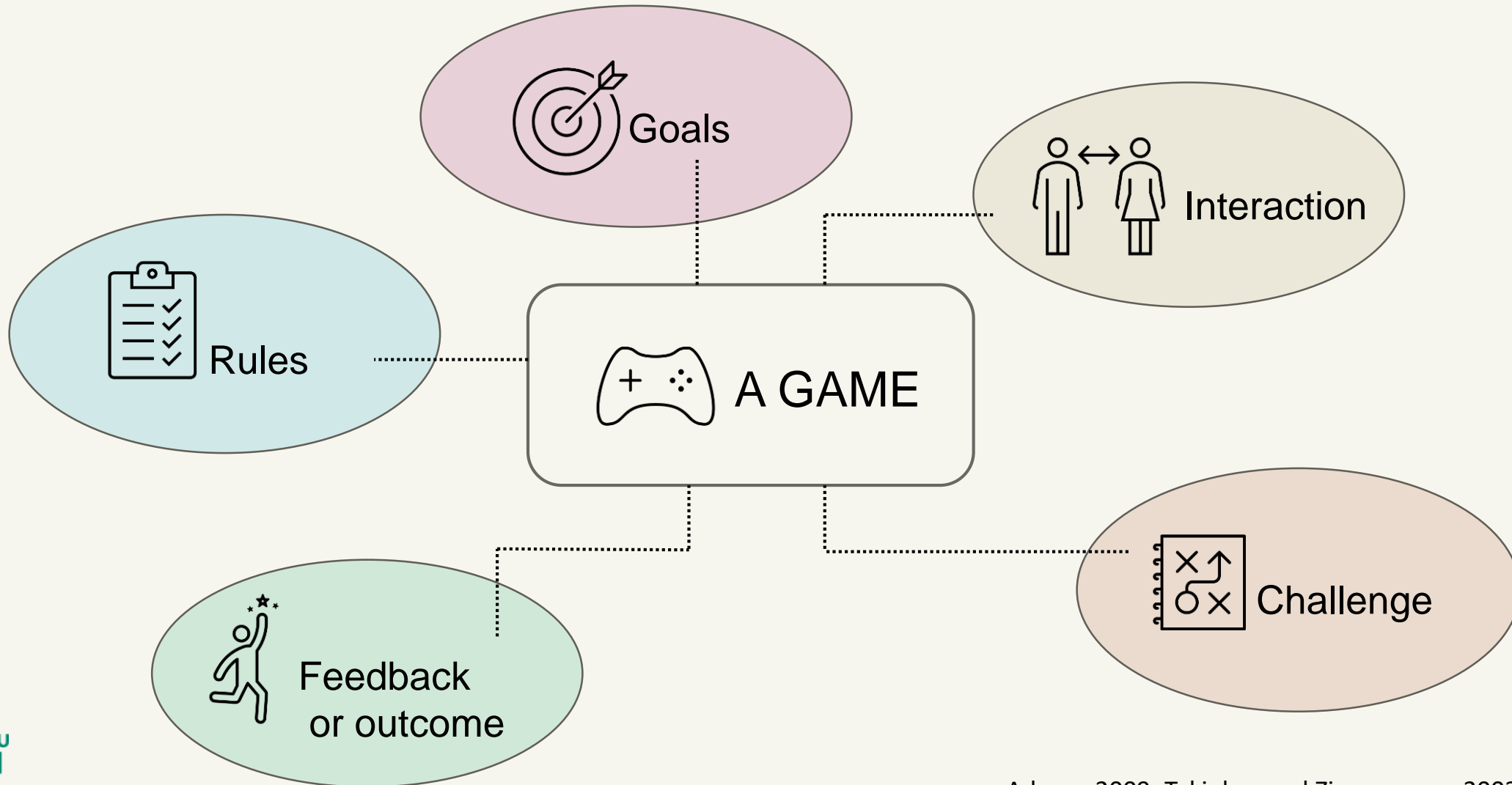
«Gamification»?

Gamification:
*learning that is
facilitated by the
use of a game*

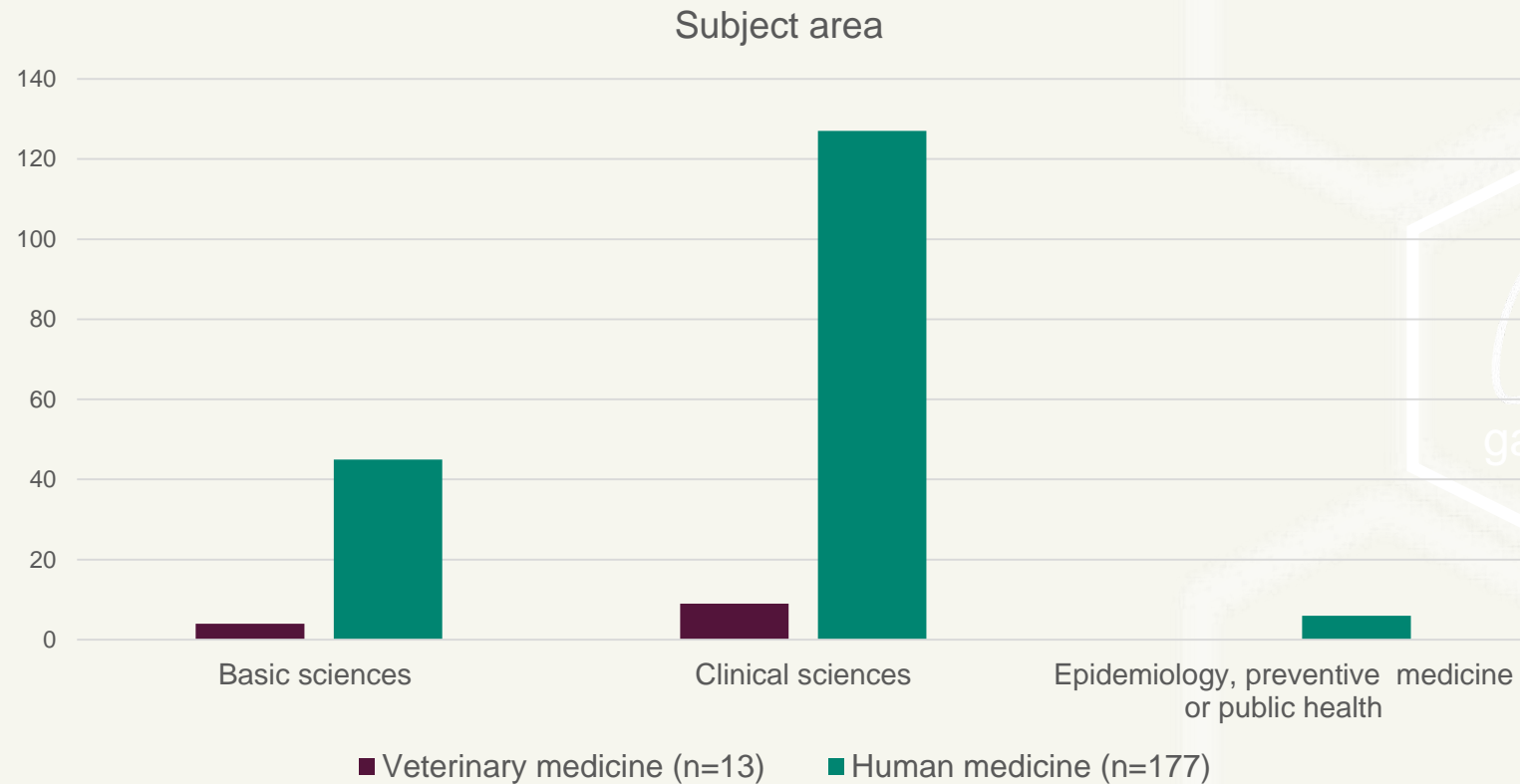
A game:
*an activity with some
rules engaged in for
an outcome*

Serious gaming, game base
learning, educational games:
*Using a game like activity in
an educational context*

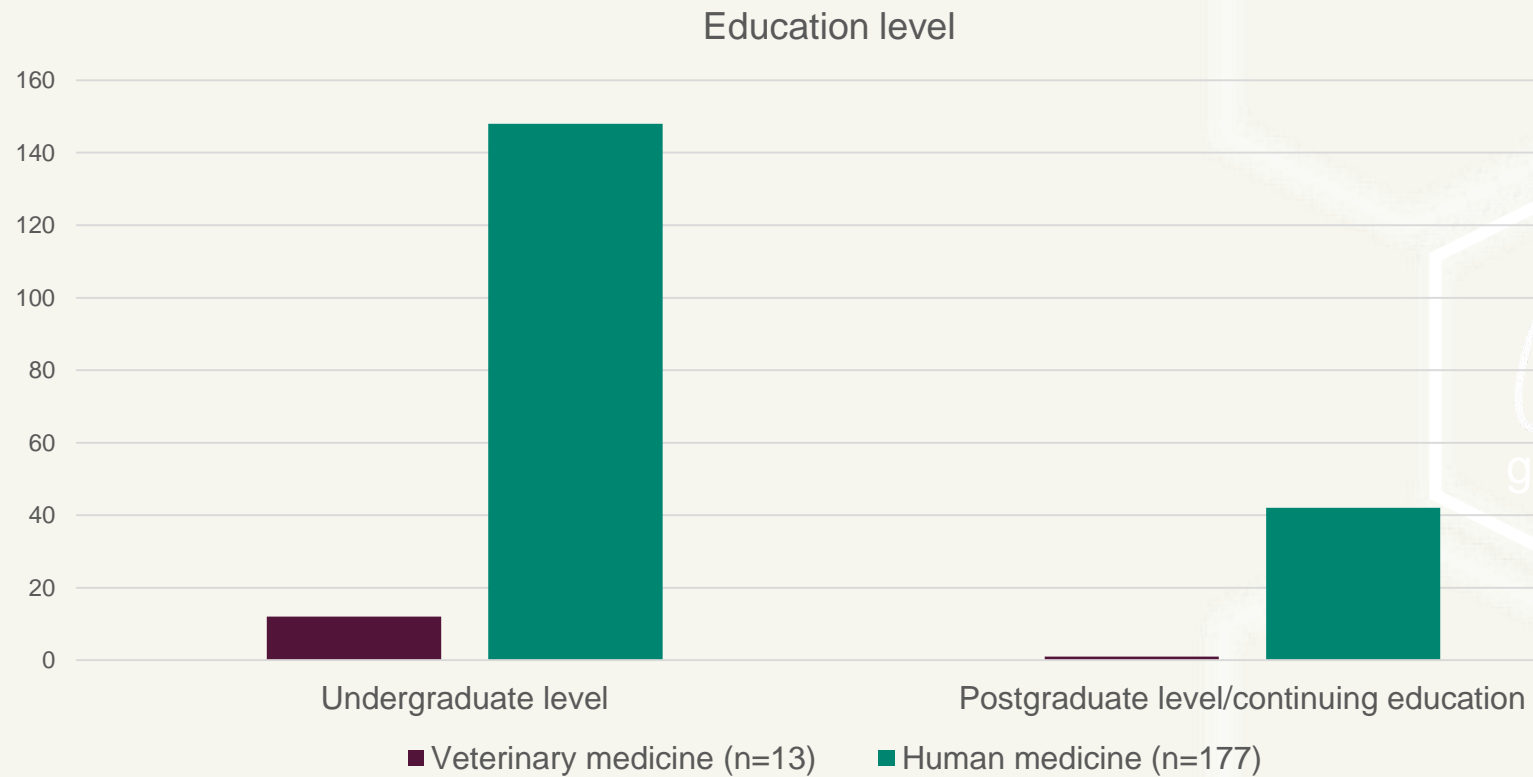
Game elements



Gamification where and when?



Gamification where and when?



Assets of game-based learning

- Student centered
- Engaging and fun
- Facilitate collaborative learning and deep-learning
- Allows combining immediate and frequent feedback with testing and repetition
- Autonomy in a safe environment
- Increased “case exposure”

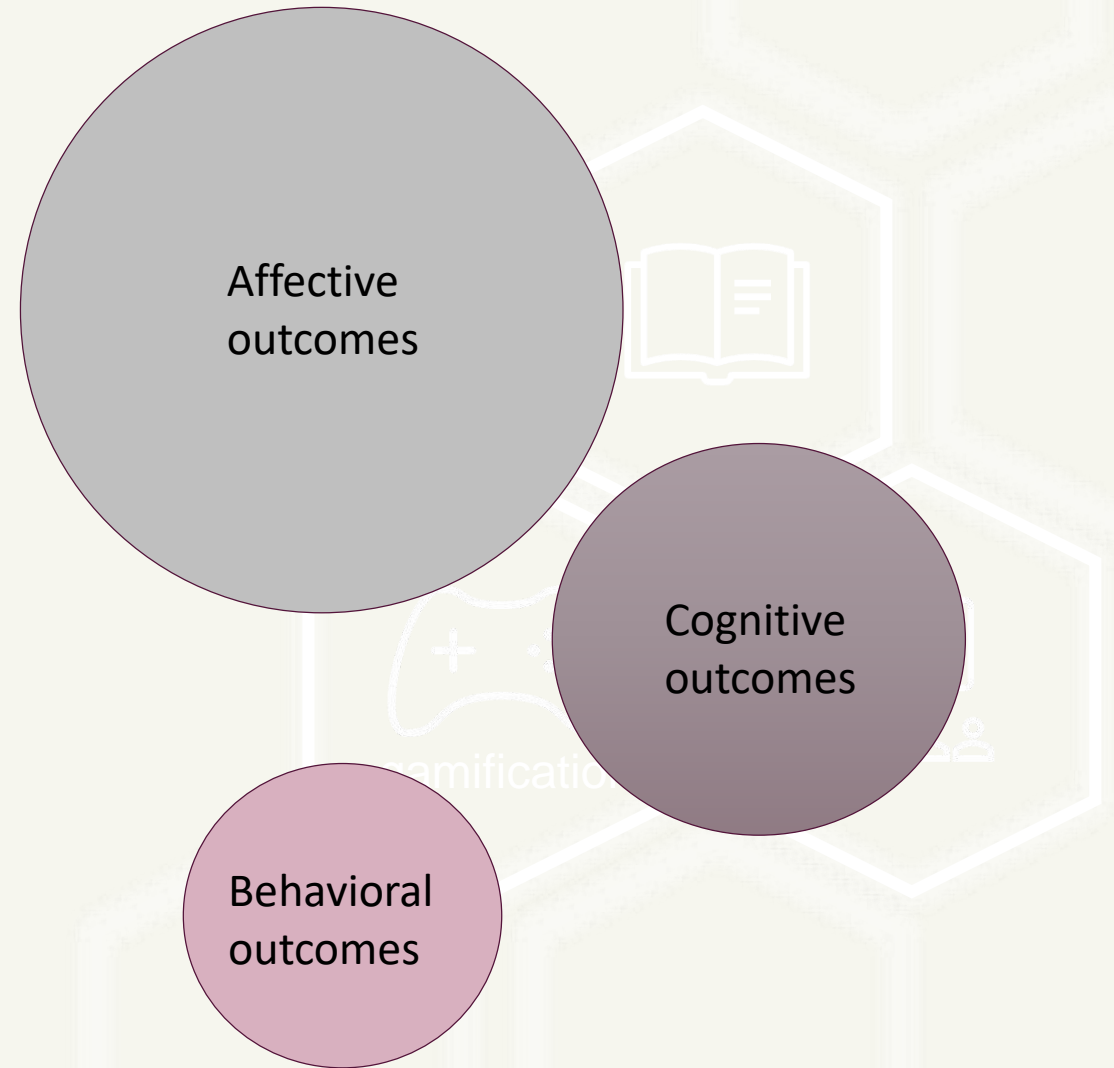
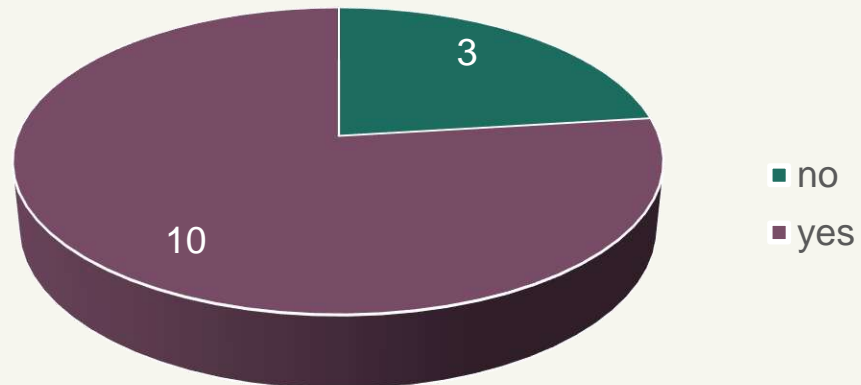


gamification



Evaluation of games

Do the articles describe an evaluation of outcomes from game-based learning?



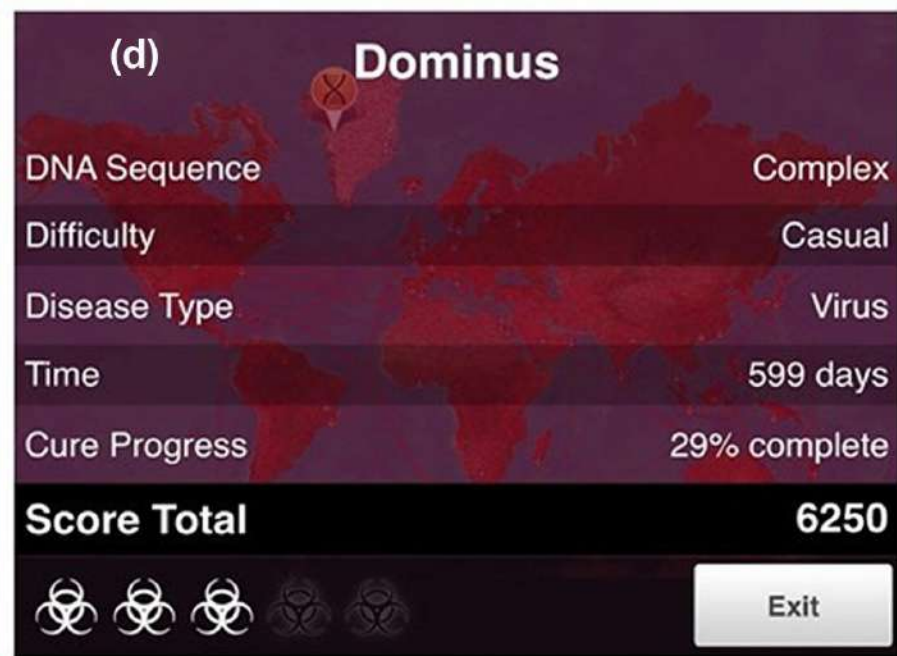
Evaluation of effect

- Some recent systematic reviews and meta-analyses performed
- Primary studies show mixed results, meta-analyses show small-medium overall effect sizes
- High heterogeneity, effects are moderated by context and game elements
- *The current research status is too limited to provide educators with evidence-based recommendations on when and how specific game elements should be applied (Van Gaalen et al. 2021)*

Barriers

- Financial and technology prowess for digital games
- Maintenance and availability
- Repository of learning resources
- Student motivation





What about games in the world of biosecurity?





Journal of Rural Studies



Volume 92, May 2022, Pages 371-382



Playing games with 'good farming': exploring the potential impact of disease control policies on farmers' cattle purchasing practices

Gareth Enticott ^a  , Ruth Little ^b

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Comparing behavioral risk assessment strategies for quantifying biosecurity compliance to mitigate animal disease spread

 Eric M. Clark^{1,2*}  Scott C. Merrill^{1,2,3}  Luke Trinity^{1,4}  Tung-Lin Liu¹
 Aislinn O'Keefe¹  Trisha Shrum^{1,5}  Gabriela Bucini^{1,2}  Nicholas Cheney^{1,6}
 Ollin D. Langle-Chimal^{1,7}  Christopher Koliba^{1,3,5}  Asim Zia^{1,3,5}  Julia M. Smith^{1,8}

¹ Social Ecological Gaming and Simulation Lab, University of Vermont, Burlington, VT, United States
² Department of Plant and Soil Science, University of Vermont, Burlington, VT, United States

RESEARCH ARTICLE

Decision-making in livestock biosecurity practices amidst environmental and social uncertainty: Evidence from an experimental game

Scott C. Merrill ^{1,2*}, Christopher J. Koliba^{2,3}, Susan M. Moegenburg¹, Asim Zia^{2,3}, Jason Parker⁴, Timothy Sellnow⁵, Serge Wiltshire⁶, Gabriela Bucini ¹, Caitlin Danehy⁷, Julia M. Smith⁷

1 Department of Plant and Soil Science, University of Vermont, Burlington, Vermont, United States of America, **2** Gund Institute for Environment, University of Vermont, Burlington, Vermont, United States of America, **3** Department of Community Development and Applied Economics, University of Vermont, Burlington, Vermont, United States of America, **4** School of Environment and Natural Resources, The Ohio State University at Mansfield, Mansfield, Ohio, United States of America, **5** Nicholson School of Communication, University of Central Florida, Orlando, Florida, United States of America, **6** Department of Food Systems, University of Vermont, Burlington, Vermont, United States of America, **7** Department of Animal and Veterinary Sciences, University of Vermont, Burlington, Vermont, United States of America

MISSION BIOSECURITY

Biosecurity at home and in your backyard

Protecting our environment

Welcome! You have been tasked with performing a biological risk assessment for a laboratory handling infectious materials that may pose a risk to human, animal or plant health. The likelihood and impact of these risks varies depending on the pathogen card and location card that you choose. Pathogen cards describe the type of biological material being handled, including the specific work that is being done with it in the laboratory. Location cards describe the type of the laboratory and the local context influencing the laboratory's capacity or unique safety & security concerns. Your goal is to select the ideal set of risk control measures that are most relevant and achievable using the local resources available.

LOOKING AFTER OUR PIGS



PLAY: SALLY THE PIG

You are what you eat! Did you know that some foods that are safe for people are not safe for pigs? It's so important to know what you can and can't feed pigs to make sure they stay healthy, and Australia's biosecurity environment remains safe. Sally's life depends on it!!



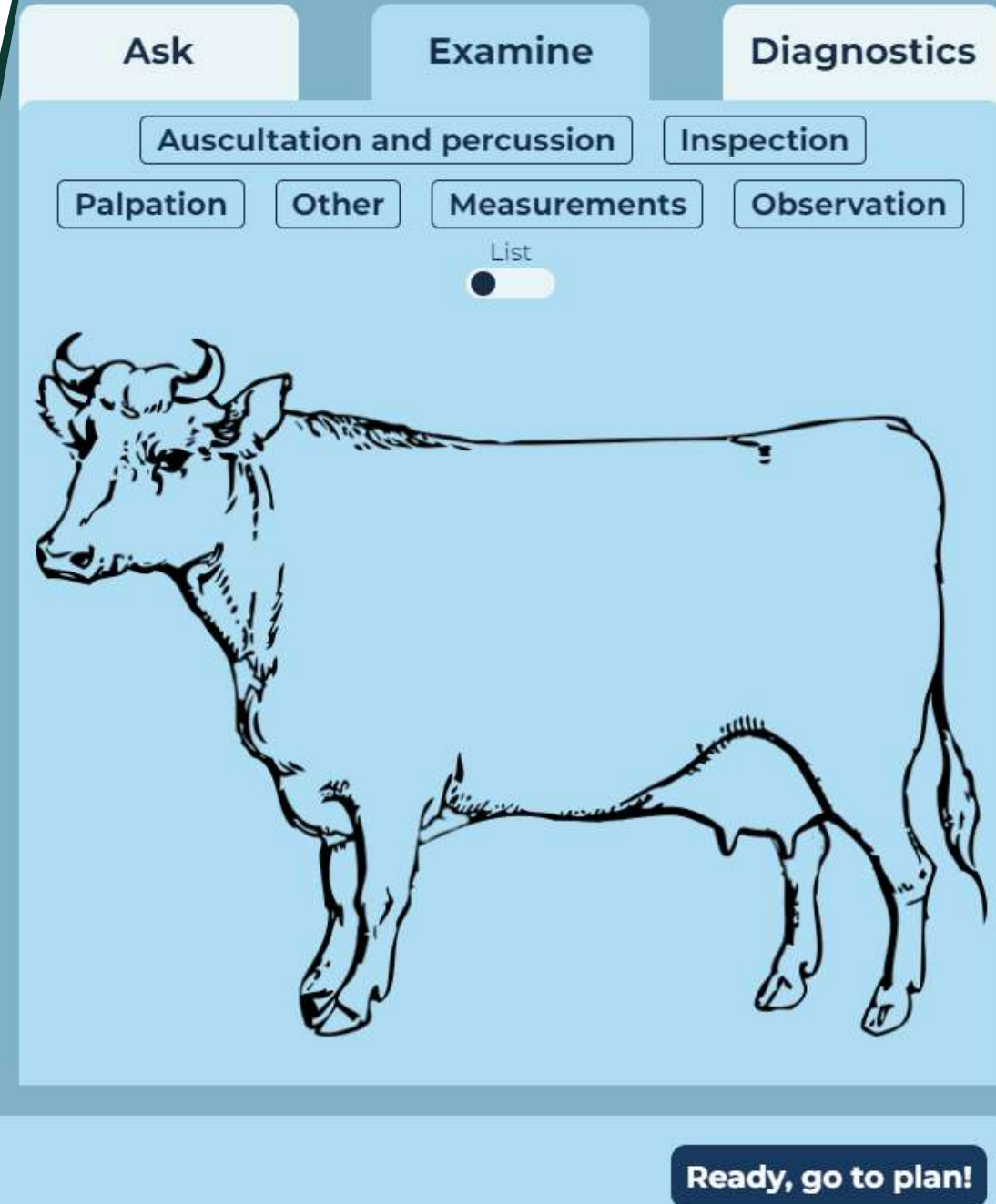
The Outbreak Investigation Game (OIG)

For veterinary students

Applied epidemiology

- Is it an outbreak?
- Trace the infection
- Prevent the spread
- Surveillance
- Strategy for testing

- **Biosecurity?**



Cases to test:

- Dog: <https://game.oig-project.eu/lesson/dog/>
- Cattle: <https://game.oig-project.eu/lesson/cattle/>
- Pig: <https://game.oig-project.eu/lesson/pig/>

Webinar 10/2
11.30 CET



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GAME OVER

```
uMessage()
HelloWorld = CBrandNewUI(" \\BrandNewUI.dll", " \\HelloWorld\\HelloWorld.xml"
HelloWorld.LoadModule()
HelloWorld.InitSkin()
HelloWorld.SetAppHwnd()
HelloWorld.GetSkinMessage()
HelloWorld.SendSkinMessage("wndmgr", "opn", "hello")
HelloWorld.SetSkinProc(SkinWndProc)
HelloWorld.SetSkinProc(SkinWndProc)
```