Role-play gaming to teach "Environmental Impact Assessment" in Master's Degree courses.

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Environmental Impact Assessment

What is Environmental Impact Assessment (EIA)?

- Technical/administrative procedure for implementations with possible negative environmental impacts

- Compulsory (2011/92/EU and 2001/42/EC)

- Key decisional step for suistanable development

- Project + enviroment = possible impacts → mitigation and compensation measures to avoid negative impacts

- Multidisciplinarity (impacts on air, water, soil, ecosystems, human life)

E.I.A. teaching course

Class with students from different
Master's Degrees (2° cycle degrees)

Geology

Curriculum

Georesources

Curriculum

Territory
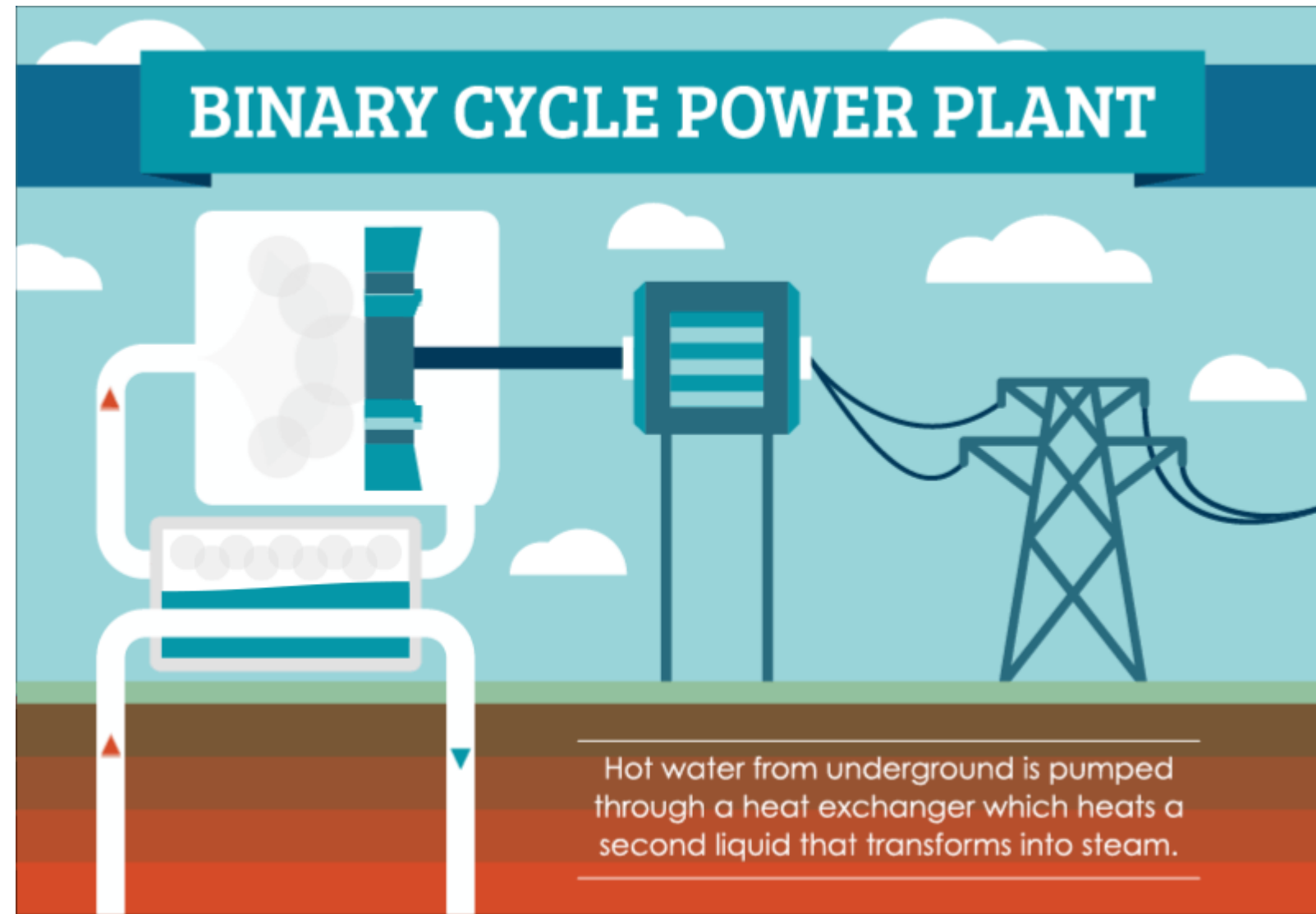
Natural sciences

Others
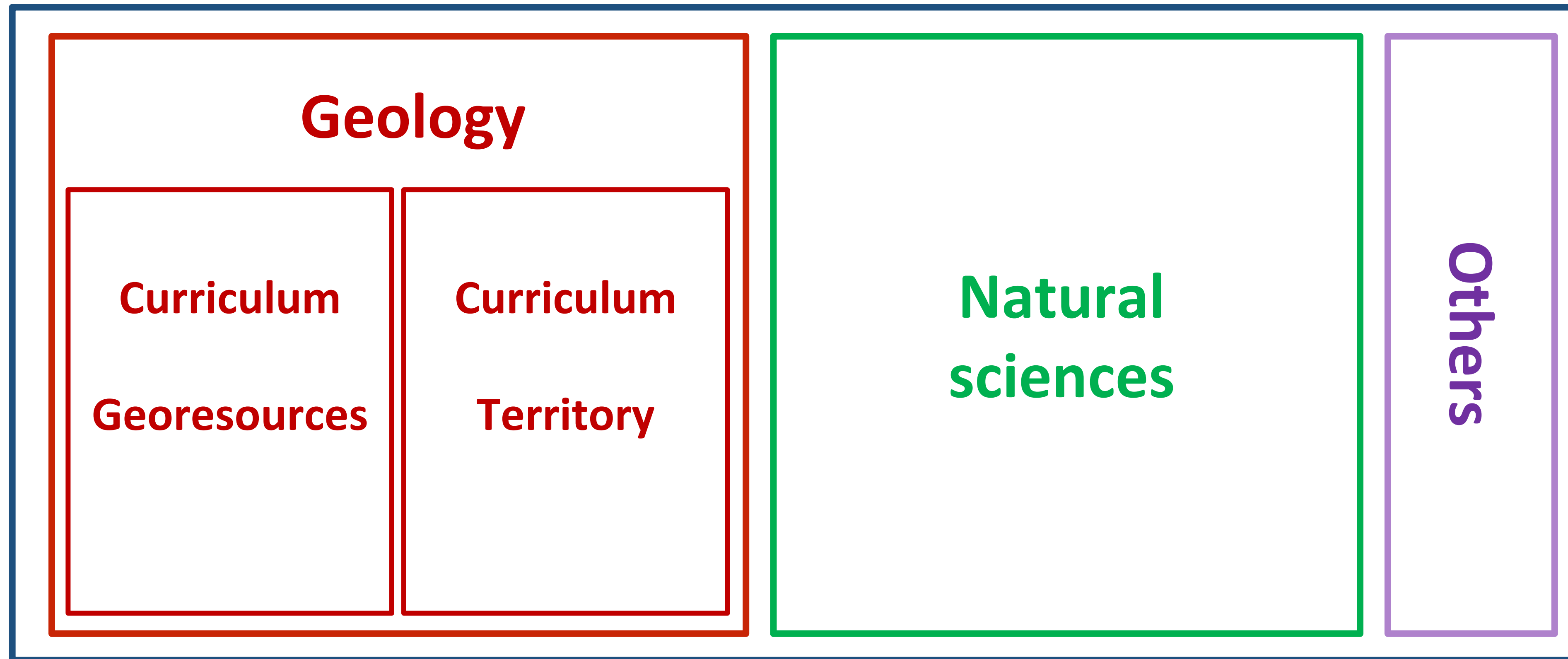
Why a Role Playing Game (RPG)?

- I like it (I've always been a D&D player and game master)
- Student's engagement during Covid restrictions
- RPGs can be an effective learning tool
- RPGs foster open-mindness
- Provide the students an experience of the «other side» of EIAs (sociology, politics…)
- Simulation of reality: useful for the future careers of the students
- Show that decisional processes may be polarized («NIMBY» Vs «Do it at all costs»)

- Details in the manuscript «Segoni (in press)» https://doi.org/10.1088/2515-7620/ac6f47

Game background

- Geotermal plant

BINARY CYCLE POWER PLANT

Hot water from underground is pumped through a heat exchanger which heats a second liquid that transforms into steam.

- Imaginary rural municipality

Environmental Impact Assessment

- EIA → public debate

YES

NO!

Game design

9 characters:
- different expertises and knowledge
- different backgrounds
- **contrasting objectives**
- **potential mutual interests**
- different codes of conduct

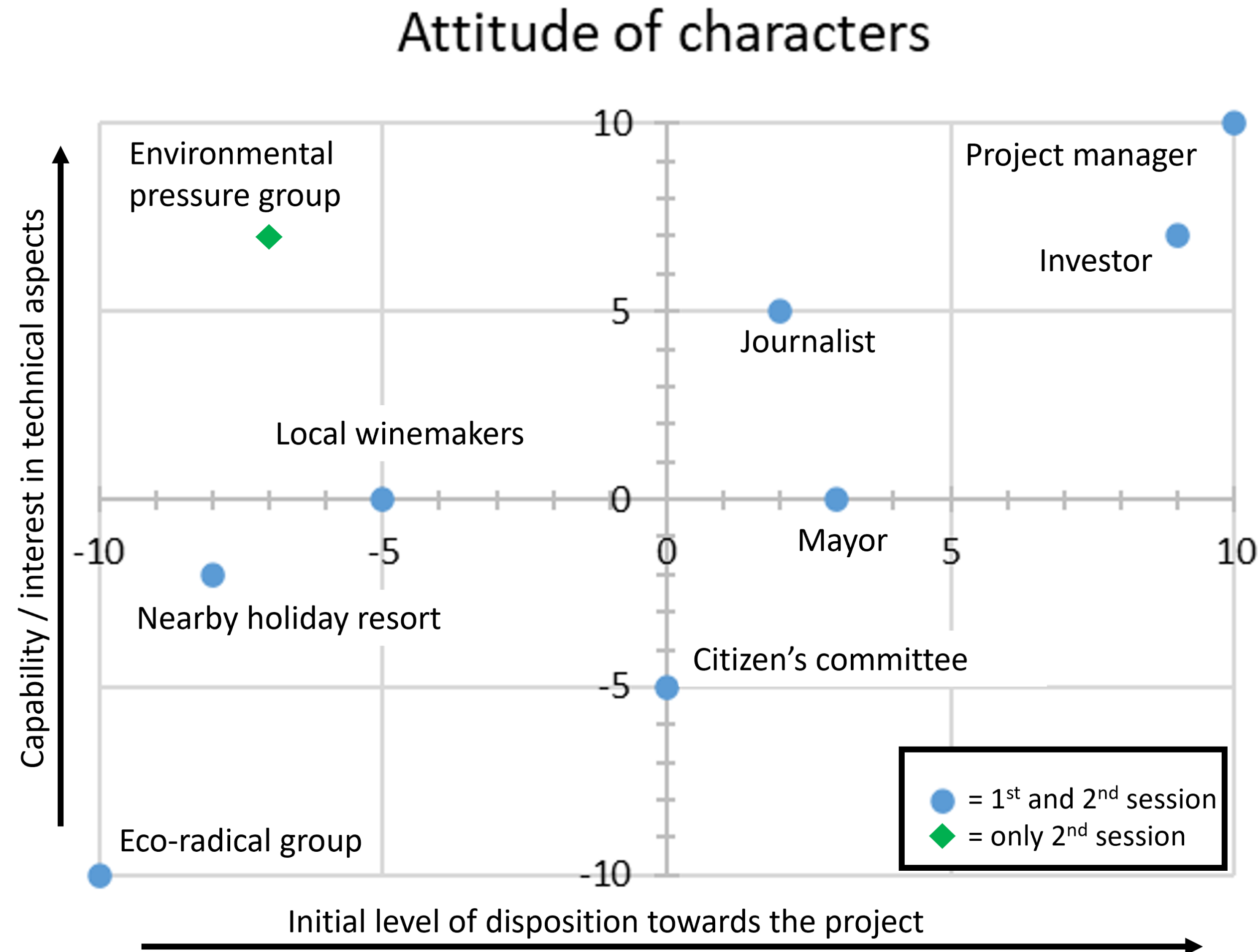**Funny exaggeration of typical debate participants**. e.g.:

Eco radical
- Oppose the project anyway!
- Bonus if you spread hoaxes and fear

Mayor
- Nevermind the plant: get more votes!
- Full knowledge of local society/economy

Ivestor
- Convince to make the plant, but minimize costs (as few mitigation measures as possible)
- Full knowledge of technical details

Attitude of characters

Capability / interest in technical aspects

Environmental pressure group

Project manager

Investor

Journalist

Local winemakers

Mayor

Nearby holiday resort

Citizen's committee

Eco-radical group

Initial level of disposition towards the project

● = 1st and 2nd session
◆ = only 2nd session

Game session

- Volunteering
- E-mail: sharing of rules
- E-mail: **customized** explanation of the character;
sharing of information on the case study
- Webex meeting (100% in-game)
- Discussion and questionnaire (off-game)

Participants to the 1st session
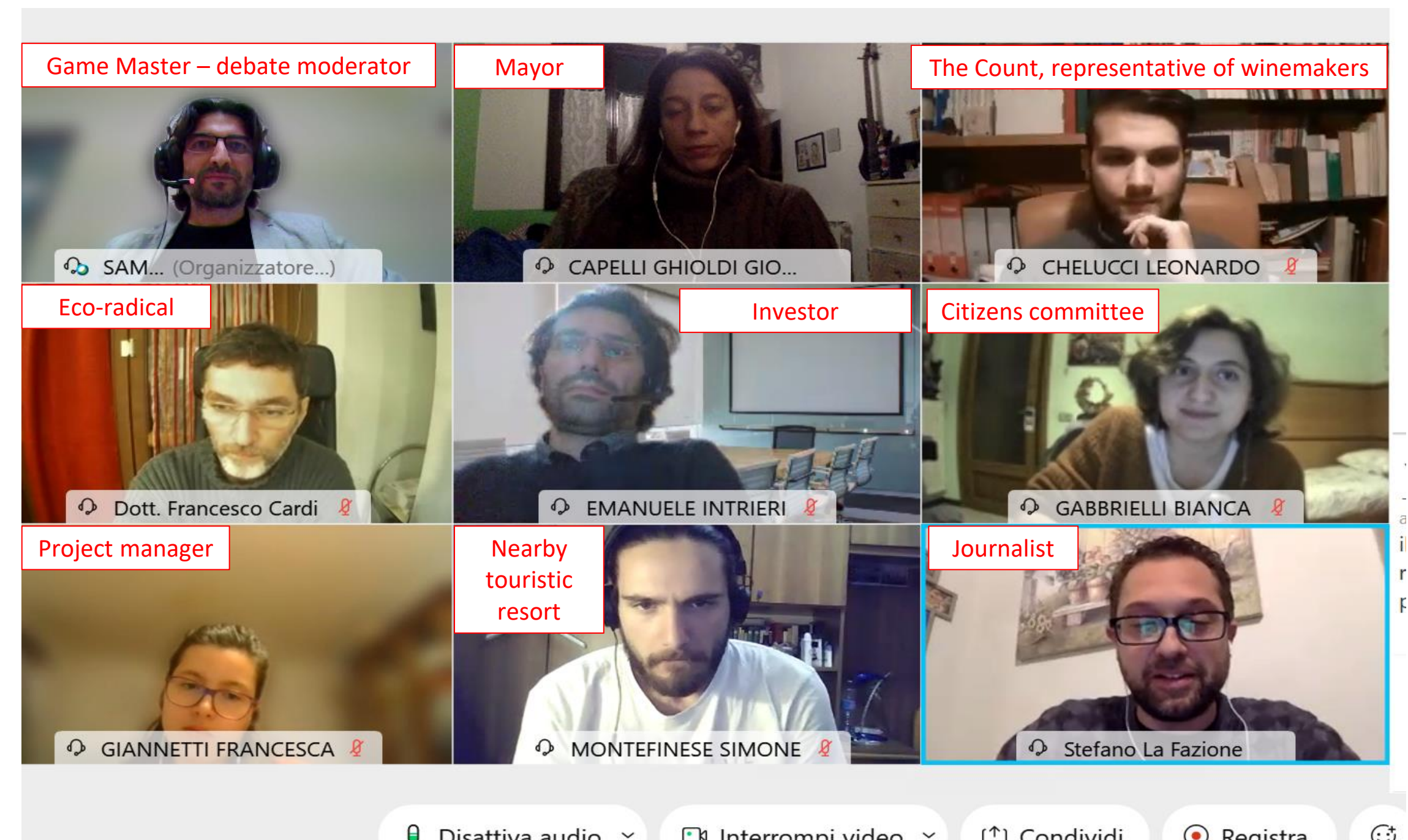
Results

Will the geothermal plant be made?

1st session: Dec. 2020

Draw: uncertain result

Great verbal quarrels, menaces, threatened legal actions (very realistic!)

Winner: the journalist (plenty of material for a "hot" title for tomorrow's journal, proactively made things difficult for public personalities)

2nd session: Dec. 2021

The project will be implemented

Pro-faction used compensation measures to convince the moderately-adverse faction

Winner: project manager (persuaded people towards the project and «sold» many compensation/mitigation measures)
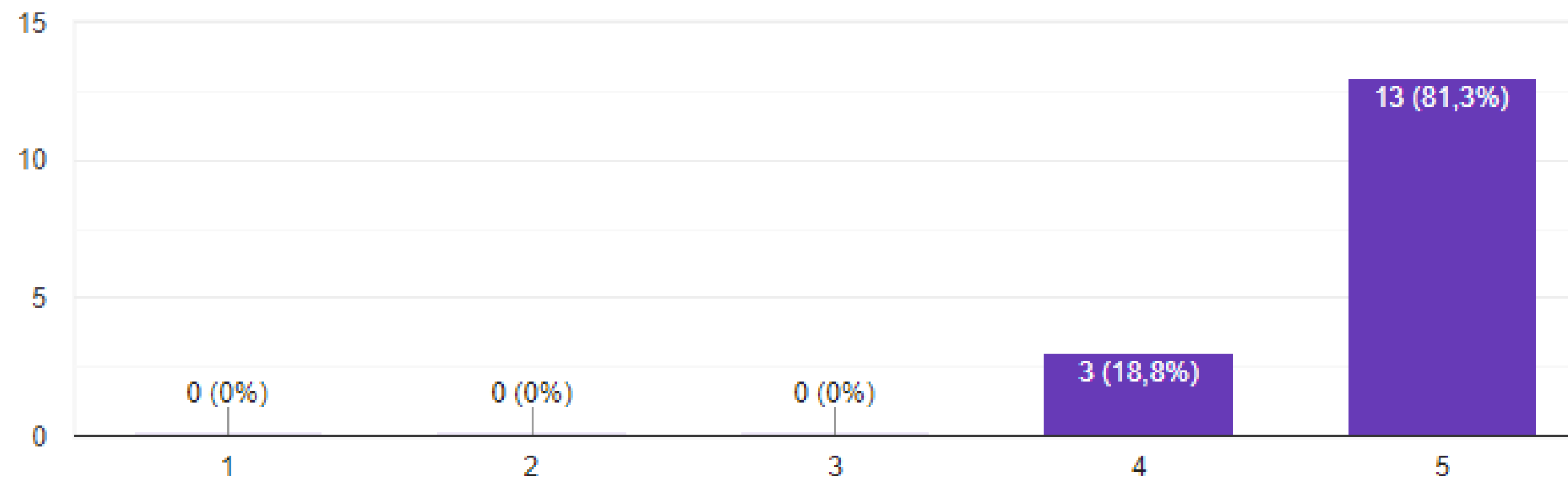
→ Game design is robust: the final outcome is totally in the hands of the players

Results (students' experience)
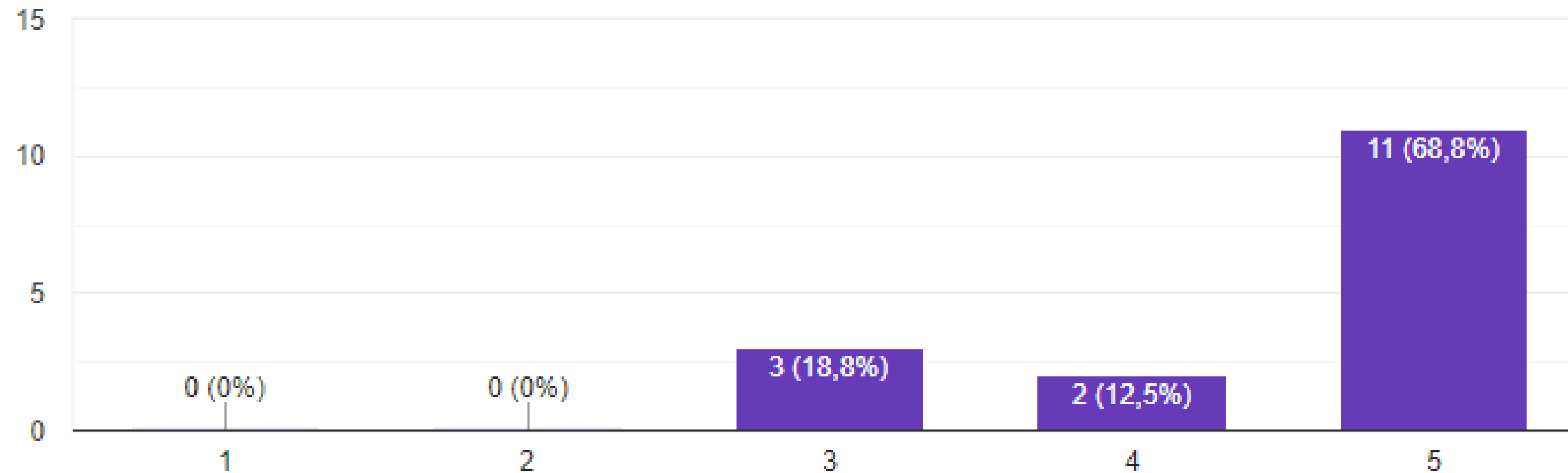
Instructive
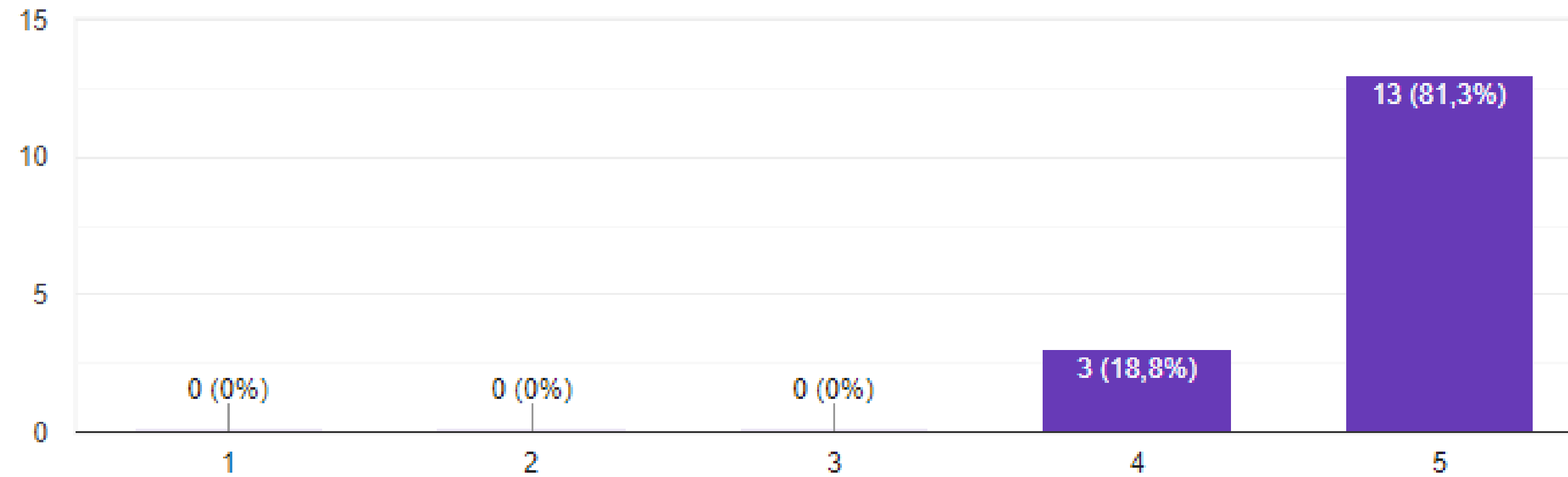
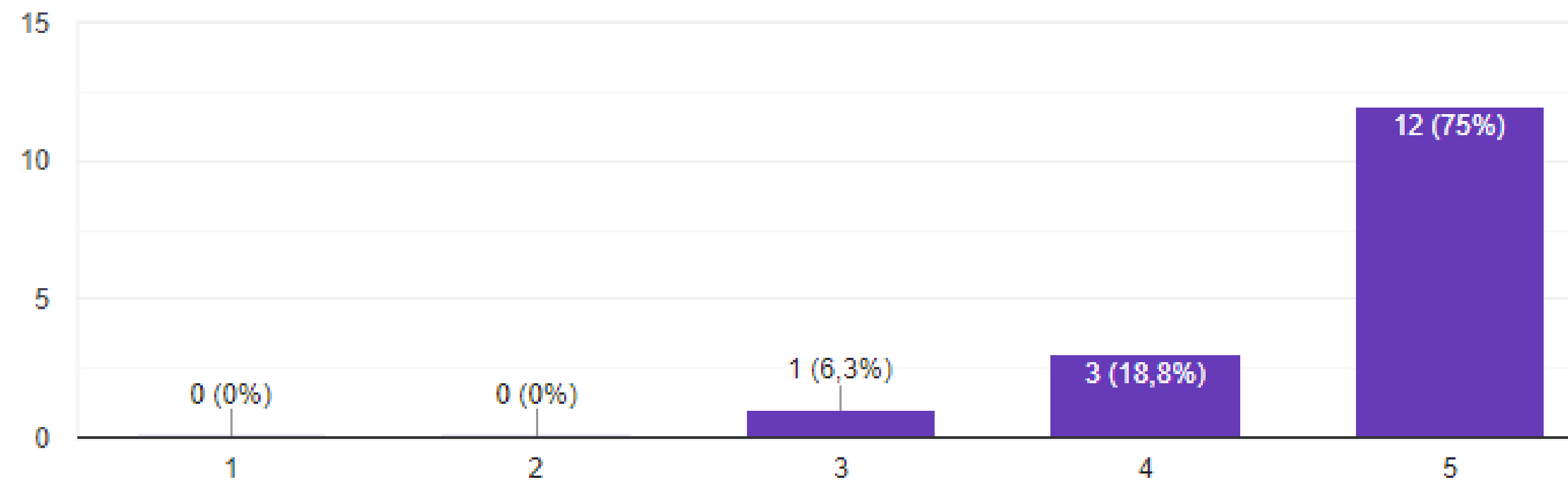Funny

Absolutely not   No   Neutral   Yes   Yes, very much

Results (teaching potential)

Main topics of the course put from theory to practice

Understanding that EIA involves also sociological, psychological and political aspects
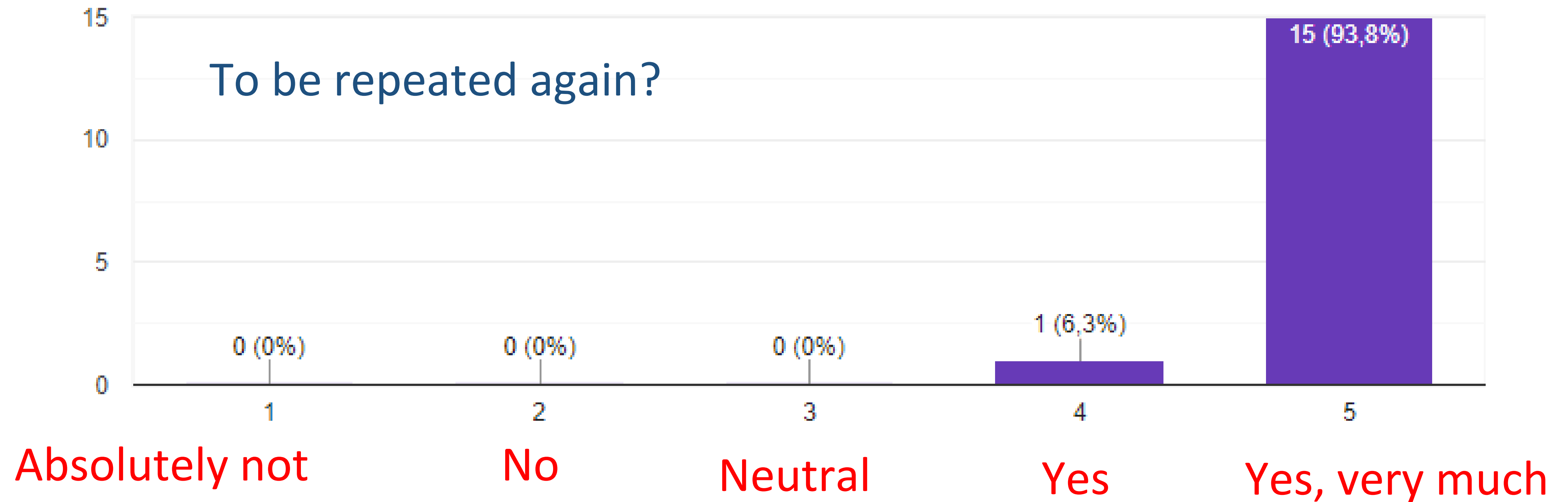
Absolutely not   No   Neutral   Yes   Yes, very much

Conclusion

To be repeated again?

0 (0%)	0 (0%)	0 (0%)	1 (6,3%)	15 (93,8%)
Absolutely not	No	Neutral	Yes	Yes, very much

The RPG will be
- repeated
- upgraded
- proposed to other audiences

Thank you for your attention

Based on:

ENVIRONMENTAL RESEARCH
COMMUNICATIONS

ACCEPTED MANUSCRIPT • OPEN ACCESS

A role-playing game to complement teaching activities in an "Environmental Impact Assessment" teaching course

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