



Learning games as tools for learning and assessment in higher education

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Outline

- **Defining the problem**
 - Teacher expectation vs. student investment in learning
- **Proposed solution**
 - Attractive ways to learn/practice
 - Alternative ways to test knowledge
- **Results**
 - Escape room as a revision tool
 - Escape room as an assessment tool
- **Discussion**

The problem

- **English in Norway**

- Compulsory subject at school for 11 year (and optional for 2 more)
- Communicative teaching & high level of extramural exposure



- High level of fluency in the general population
- Low explicit knowledge of the language

- **English programs in higher education**

- English as an academic discipline (literature studies, linguistics)
- English within teacher training programs (teaching literature, culture and language)
- Translation program (high technical knowledge of the language and cultural awareness)
- **Fluency is the starting point, not the goal**

The problem

- **Teacher expectations**

- Fluency and functional literacy in English at the start
- Preparing for class = reading the assigned texts
- Active participation in class
- Investment in own learning outside of class
- Active use of professional terminology and information gained in class/from reading

- **Student attitudes**

- I can already speak English well, so this will be an easy ride...
- If I just come to the class, the teacher will explain the book to me...
- Class time = study time
- I can surely just talk myself out of this...

The solution

- **Tailored/self-developed learning game(s) as learning tools**
- **Goals:**
 - Increased internal motivation
 - Increased time interacting with the course materials
 - Feeling of accomplishment
 - Engaging revision
 - General problem-solving skills development
 - Independent learners



Escape from the linguist den

<https://engelsk-glu.uia.no/game/test.html>

Enter

Escape room learning game

- **Game mechanics**
 - Point & click adventure game
 - Virtual copy of the instructor's office with hidden riddles and problems
- **Software used**
 - Active Presenter by Atomi
 - Slide-based interactive eLearning authoring software
 - Exports to HTML or SCORM
- **Overt goal**
 - Escape from the locked office by solving the linguistics tasks hidden in the room
- **Covert goal**
 - Increased interaction with the course material

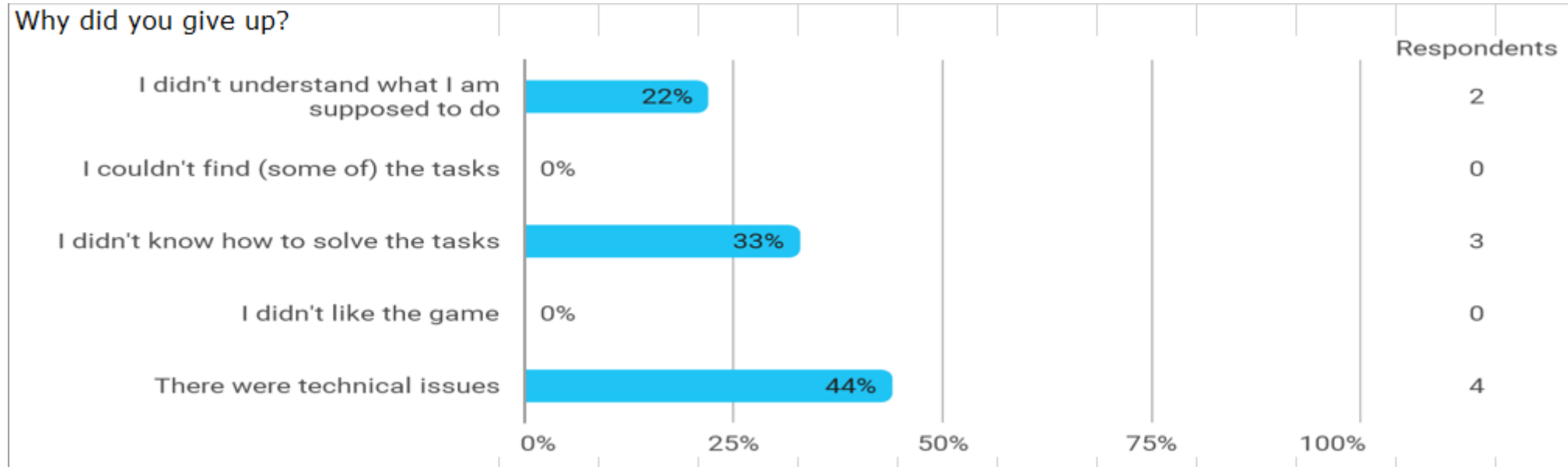
Escape room learning game

- **Target group:** students in introductory English linguistics classes
 - Translation students
 - Teacher students
- Trial 1: Revision tool (individual)
 - N = 46 (25)
- Trial 2: Assessment tool (individual vs. groups at home task)
 - N = 49 (27)
- Trial 3: Assessment tool (on campus task in groups)
 - N = 43 (37)

Escape room learning game

- **Final (trial 3) version:**
 - 7 linguistics task related to assignment/exam topics in the course
 - Some general attention/logical tasks
 - Students must get out of the room to pass the grammar assignment (exam requirement)
 - Added bonus: key to last year's exam after the door opens
- **Conditions:**
 - Revision vs. test
 - Individual vs. group task
 - Homework vs. in-class activity
- Questionnaires distributed after all the trials

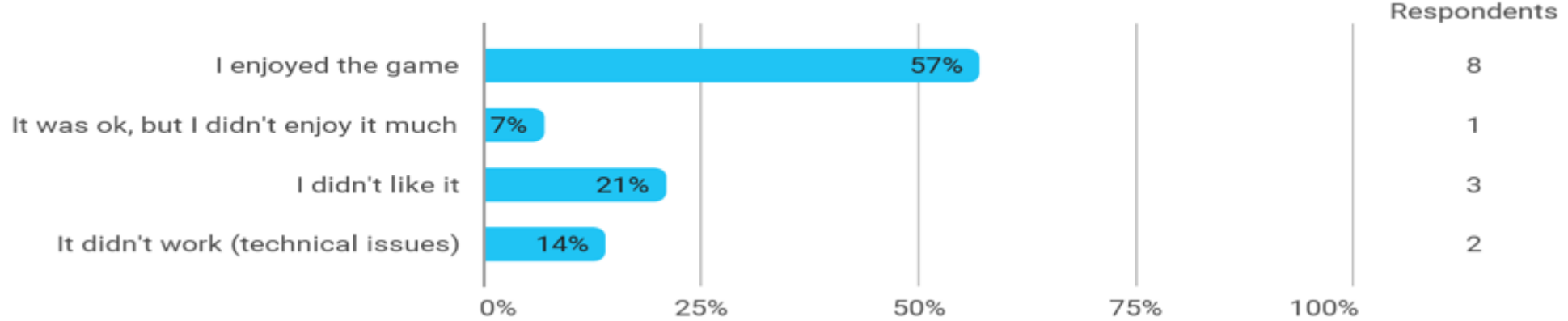
Escape room: trial 1



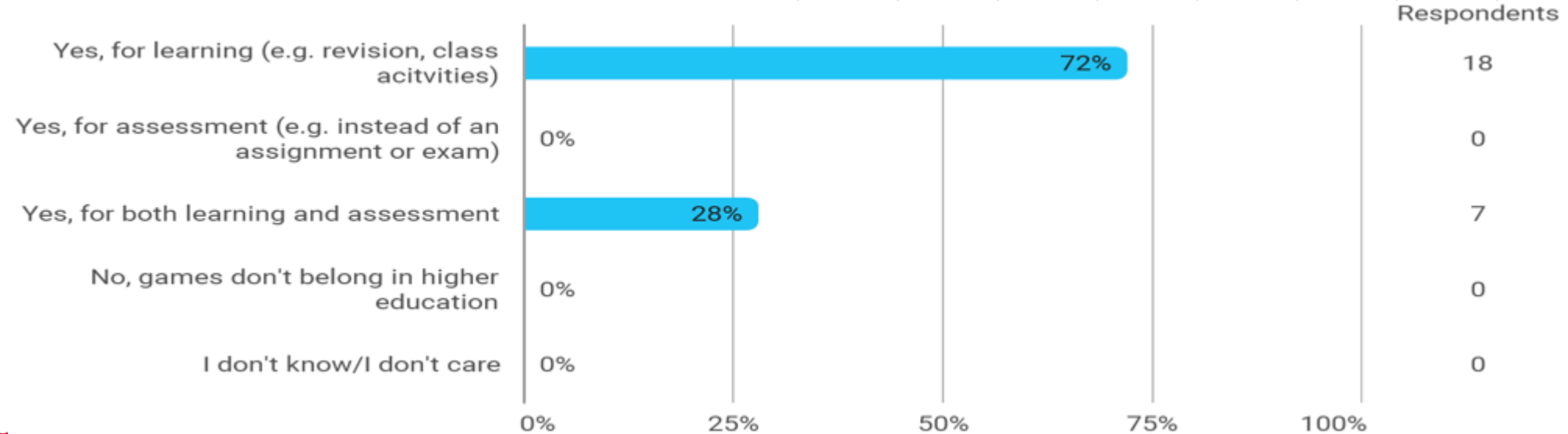
- 25 survey responses
- 14 students tried the room (11 did not)
- None managed to escape (9 gave up, 5 still trying)
- Most of them gave up within 1 hour

Escape room: trial 1 – gaming experience

How was your overall experience with the game?



Do you think games should be used in higher education?



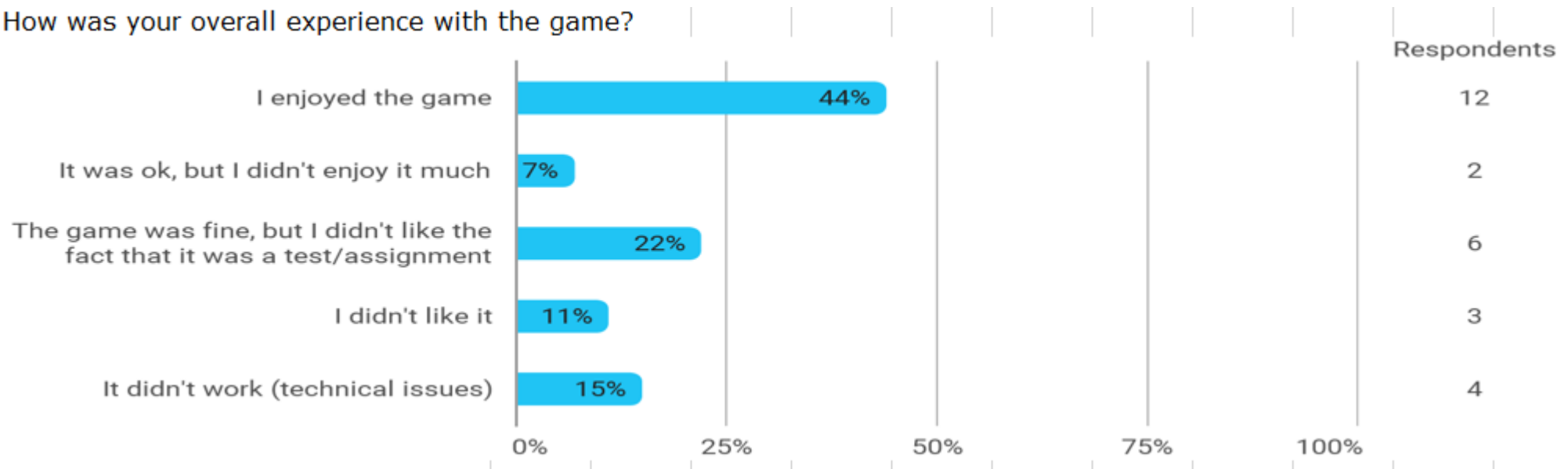
Escape room: trial 2

- 2 x English language and didactics 1 (Elementary Teacher Training) 23 + 26 students
- Escape room as an assignment (exam requirement) -> all of them had to try
- Task to be completed at home
 - 1 group working individually
 - 1 group working in groups of 2-3 students
- 27 survey responses
- 22 students managed to escape (3 had technical issues, 2 gave up)
- Majority (16) spent more than 3 hours (8 spent 2-3 hours, 1 spent 1-2 hours)

Escape room: trial 2 – gaming experience

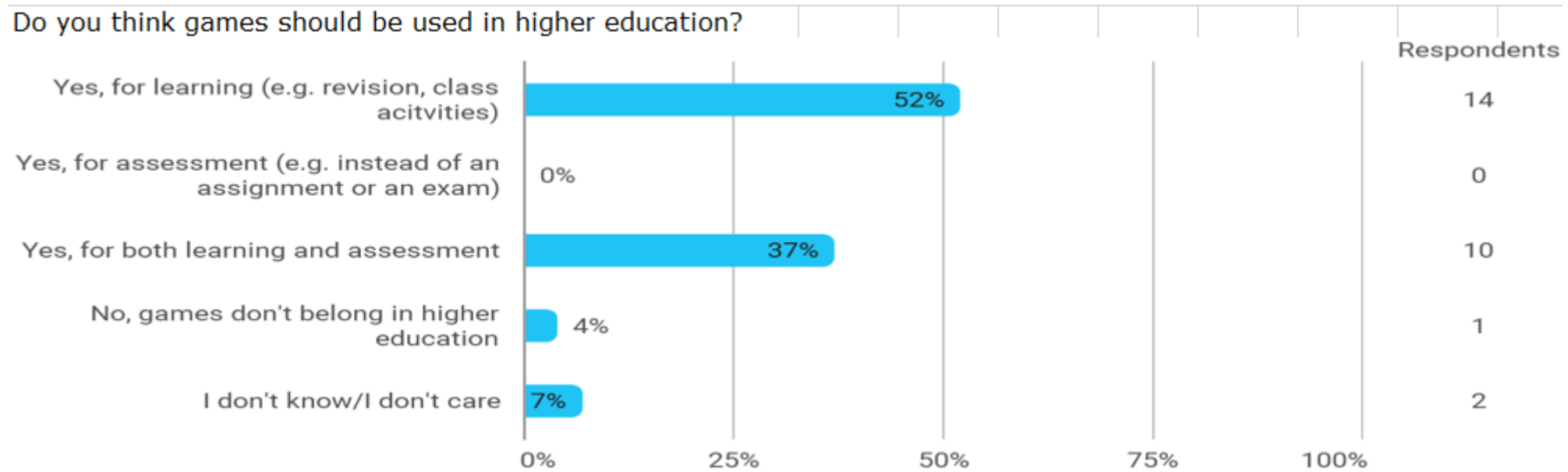
- **Difficulty level:** difficult (56%)
- **Layout/mechanics:** “a bit clumsy but playable” (41%); easy to play (26%)
- **Overall experience**

How was your overall experience with the game?



Escape room: trial 2 – games in education

- **Group work:** strong preference for group work (89%)
 - 89% of the respondents admitted (unwarranted) communication with other players



Escape room: trial 3

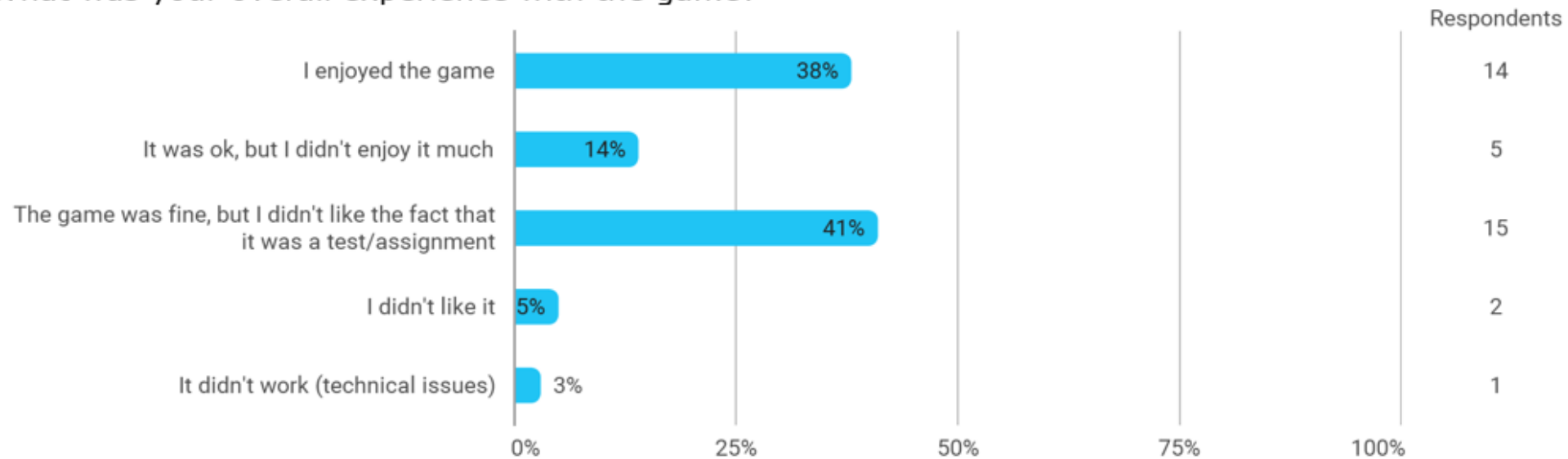
- 2 x English language and didactics 1 (Elementary Teacher Training) 21 + 22 students
- Escape room as an assignment (exam requirement)
- Students could self-assign into groups of 2-3
- Task completed on campus in group rooms (monitored by teacher)
- 37 survey responses

- 33 students managed to escape (4 had technical issues)
- 13 spent more than 3 hours; 14 spent more than 2-3 hours; 7 spent 1-2 hours; 3 spent under 1 hour

Escape room: trial 3 – gaming experience

- **Difficulty level:** difficult (54%)
- **Layout/mechanics:** “a bit clumsy but playable” (59%); easy to play (35%)
- **Overall experience**

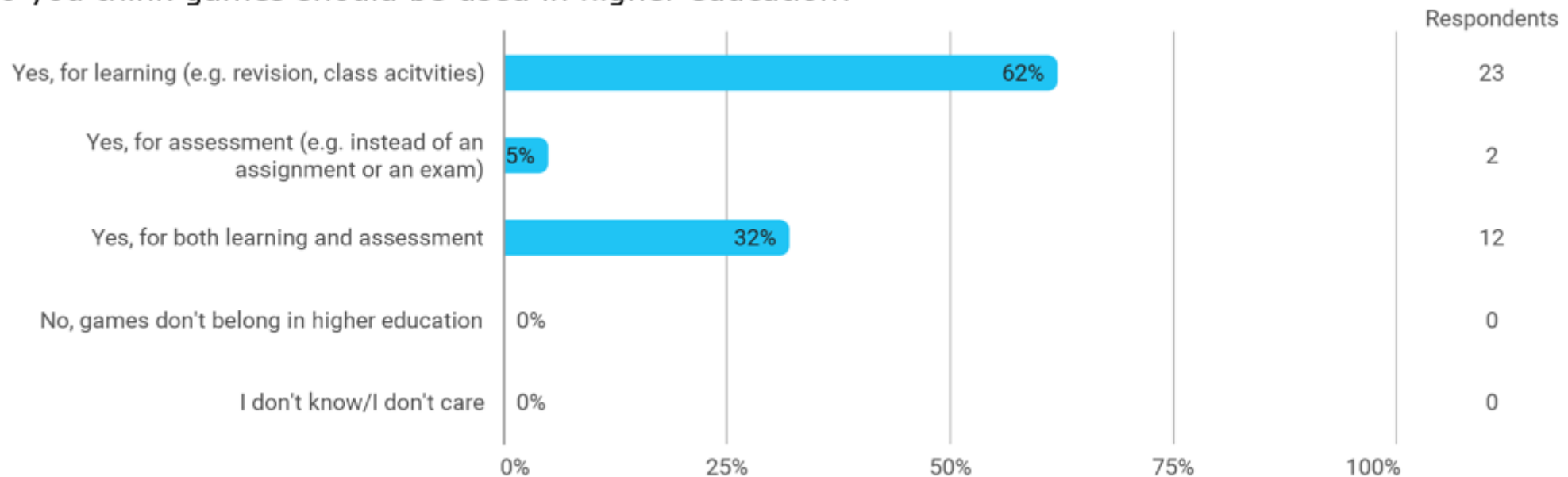
What was your overall experience with the game?



Escape room: trial 3 – games in education

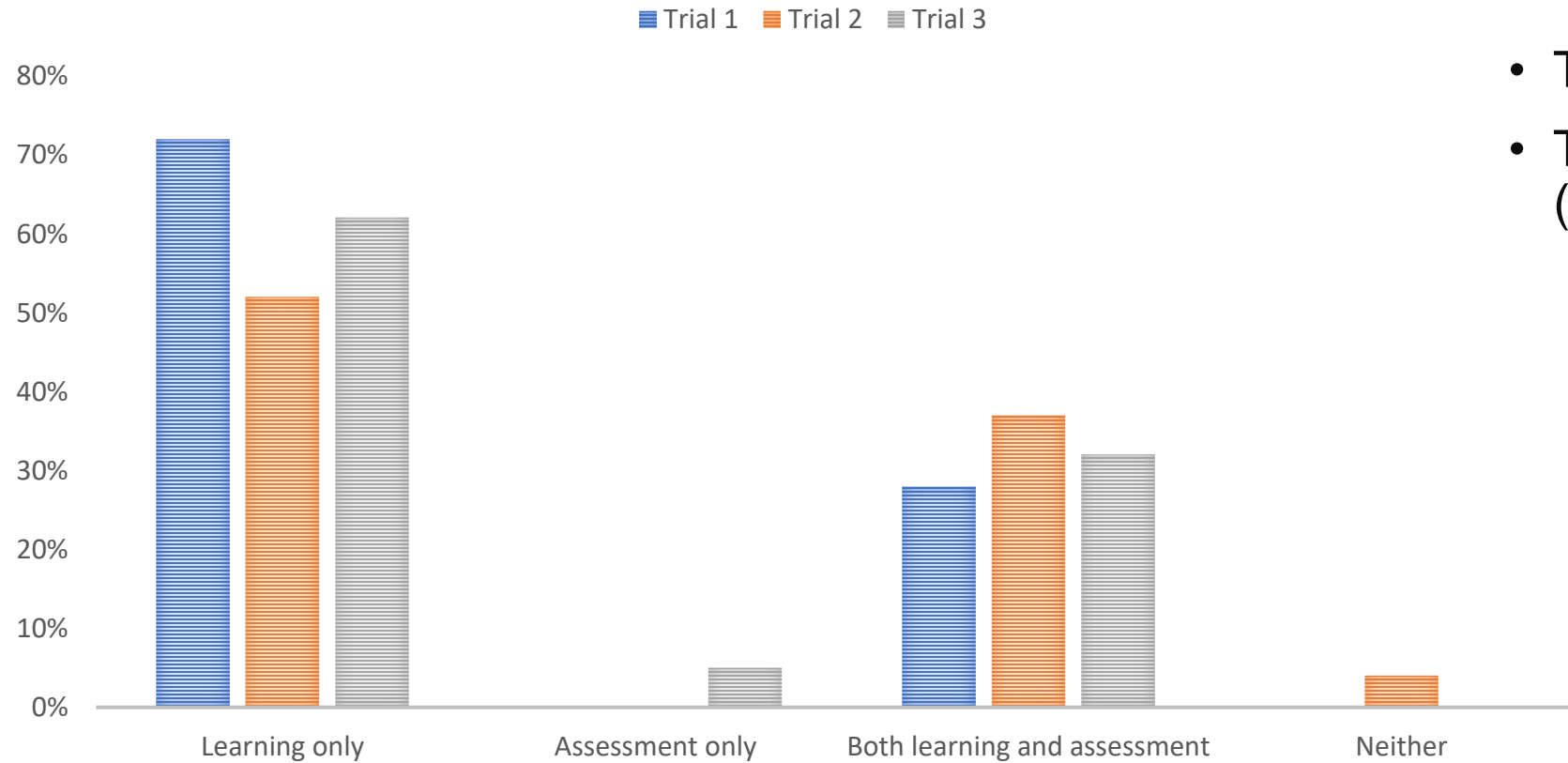
- **Playing in class** (4 hours: teacher visiting all the group rooms regularly)
 - Hints needed – triggered discussions; thinking-out-loud learning

Do you think games should be used in higher education?



Games as learning or assessment tools

GAMES AS LEARNING AND ASSESSMENT TOOLS



- Trial 1: only learning tool
- Trial 2-3: overt assessment (covert learning)

Escape room as learning and assessment tool

- **Value in teaching**

- Feeling of accomplishment
- Problem-solving skills
- Search-before-you-ask strategies
- Time spent on task

“It took me a long time [to get out], but I have never before felt that kind of accomplishment as when I finished.”

- **Learning vs. assessment**

- Time on task increased only in the high-stakes trials (assessment)
- Real assessment is difficult due to illicit communication among students/groups
- Overt assessment & covert learning works well