# FunSpeech : Implementation of parental guidance through a tablet-based serious game

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## Introduction

*FunSpeech* is a tablet-based serious-game which aims (1) to promote speech production skills in young children instrumented with hearing devices and (2) to support parent-child interactions.
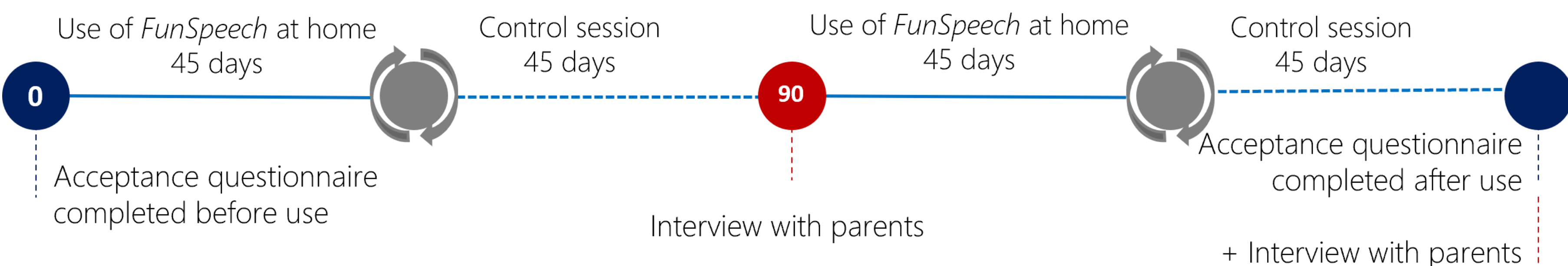


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*Game menu*

## Aims

A clinical trial (NCT04454255) was conducted to:

- Evaluate design factors crucial for game adoption by families.
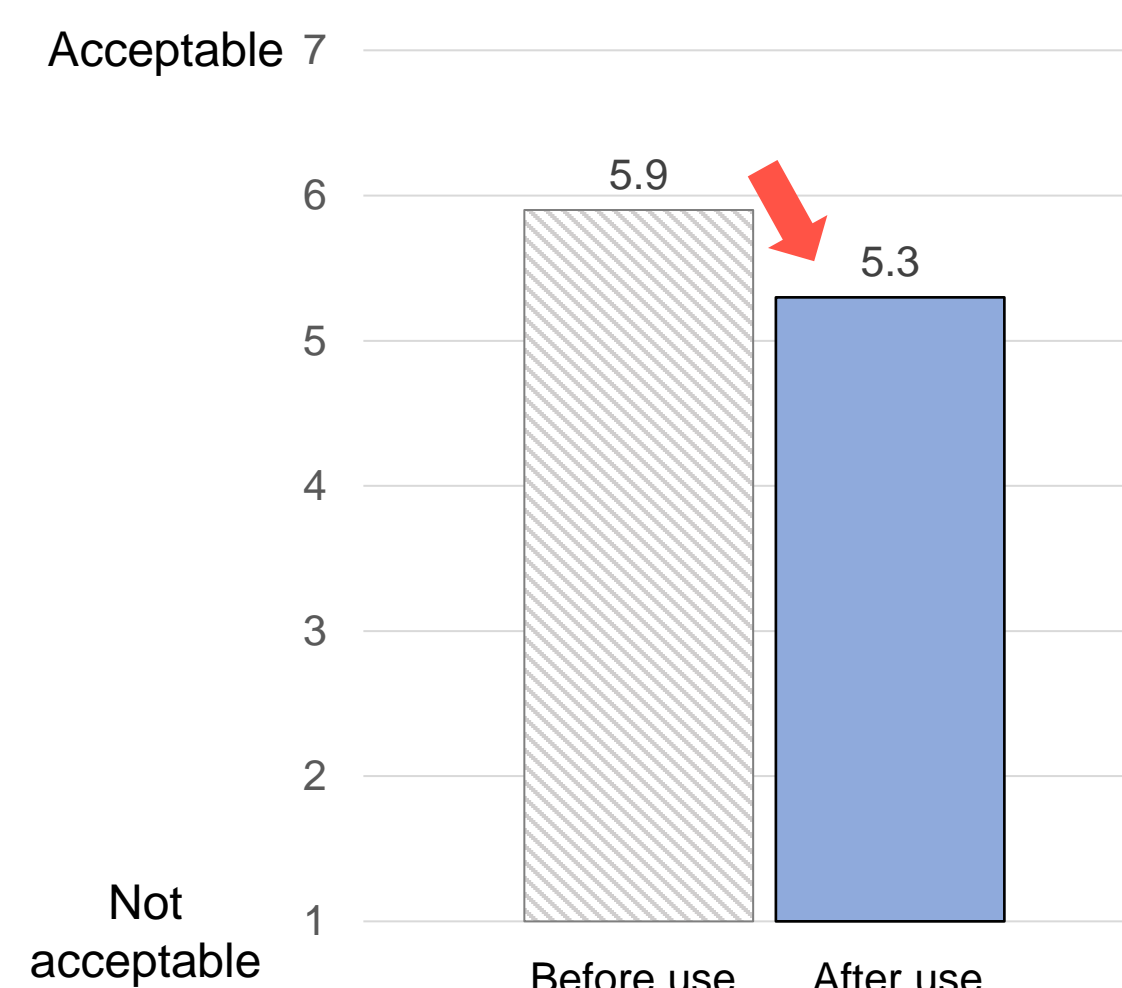- Determine new features to optimize the use and clinical impact of *FunSpeech.*

## Method and Materials

- Parents (N=14) completed acceptance questionnaires before and after using *FunSpeech* (see trial timeline below). The questionnaire was composed of 14 items covering: performance expectation, effort expectation, social influence, facilitating conditions, and motivation (e.g., "*This game will motivate my child*").

- After the periods of game use, parental feedback was also collected via two interviews on three topics: *FunSpeech* use at home, Child's experience with the game and Child's evolution.
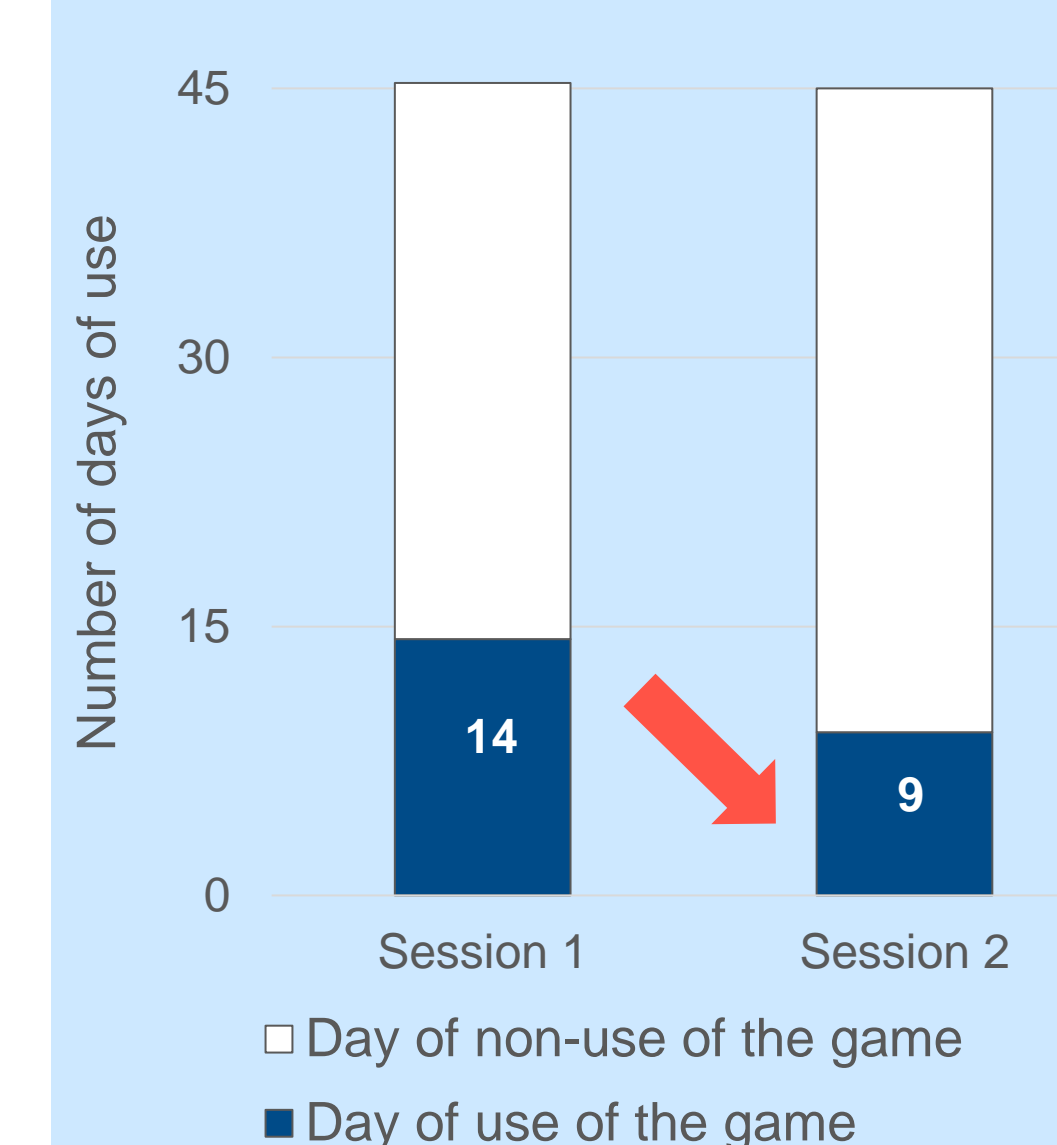


Use of *FunSpeech* at home 45 days — Control session 45 days — Use of *FunSpeech* at home 45 days — Control session 45 days

0 — 90

Acceptance questionnaire completed before use

Interview with parents

Acceptance questionnaire completed after use

+ Interview with parents

## Results

### 1. Overall score of acceptance decreased after use of the game



Acceptable 7
Not acceptable 1
Before use: 5.9    After use: 5.3

➔ The parents didn't see the benefit of *FunSpeech* for their child's language development.

### 2. The application usage decreased between sessions



Number of days of use

45 / 30 / 15 / 0

Session 1: 14    Session 2: 9

☐ Day of non-use of the game
■ Day of use of the game

➔ Drop in motivation ?

### 3. Decrease in motivation confirmed by the scores for the playful dimension



Acceptable 7
Not acceptable 1
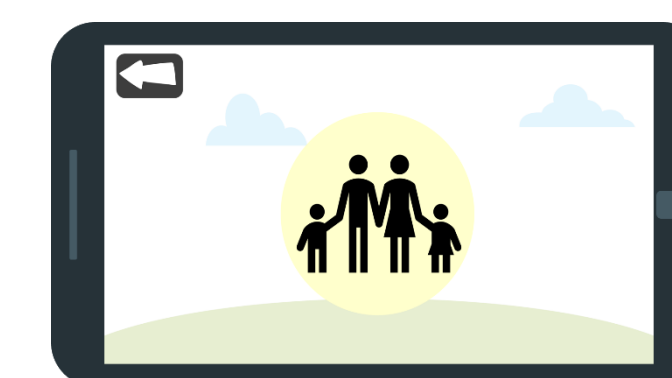Before use: 6    After use: 4.8
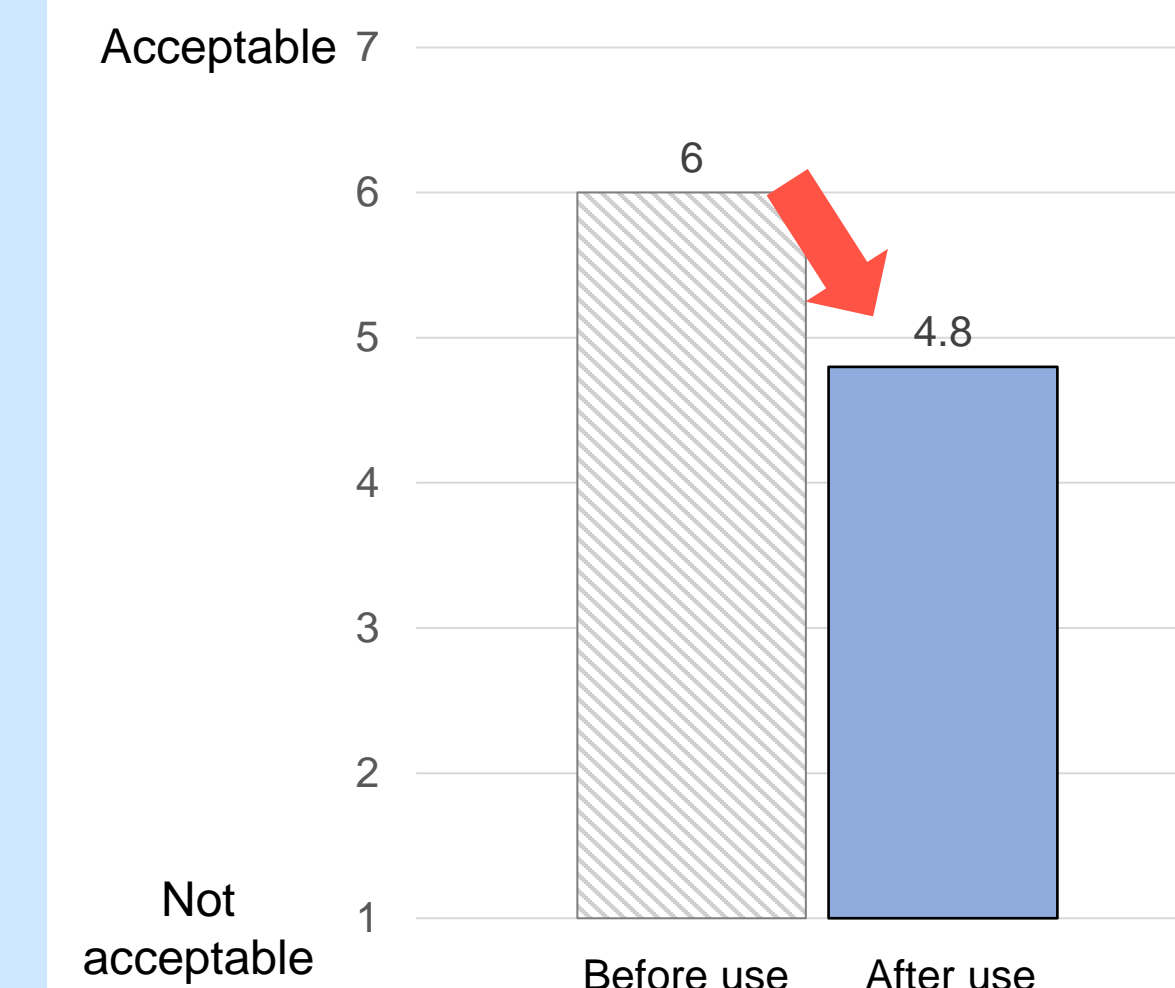
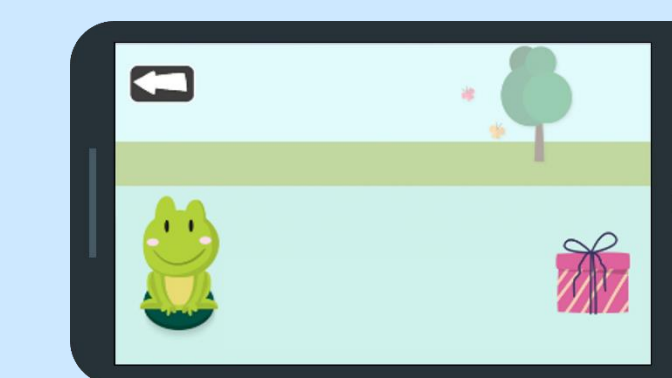➔ Principal challenge: Keep children engaged over the long term

## Conclusion

**The study highlights the need to integrate new features to optimize its use and adoption.**
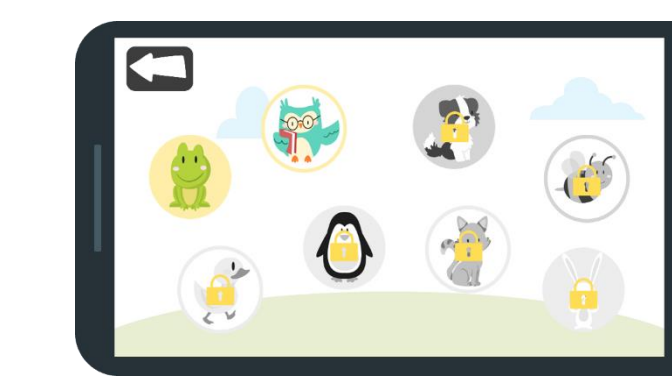
Adding a dedicated **space for parents** to guide them with *FunSpeech*



Emphasizing the **surprise effect** in games to keep the child motivated



Incorporating **challenges** between the games, setting success objectives



## References

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