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LID VAN DE ASSOCIATIE UNIVERSITEIT GENT

USING GAMES IN THE CLASSROOM: DEVELOPING CUSTOMIZED LESSON PLANS USING THE SUPPORTING TOOL GAME.LEARN.GROW

Ellen Vanderhoven
Els De Latter
Rika Devis


Introduction

Games in the classroom

- Teachers in Flanders believe in games and it's positive impact on pupil's motivation
- Yet, only 25% of Flemish teachers of primary education regularly use games in the classroom



Problem

Lack of pedagogical-didactical knowledge and support!

- Teachers find it hard
  - To **select** digital games
  - To **integrate** digital games in the classroom
- ..because they lack time, knowledge and technical skills

Research goal

- Clarifying how to support teachers on INTEGRATING digital games in the classroom

→ **focus on learning activities, not on games**



Prior research

Vanderhoven, Carillo, De Latter (2018)



Phase 1: Analyses of the current situation

- Intake interview

Phase 2: Development of solutions

- Codesign sessions

Phase 3: Evaluation of developed solutions

- Observation
- Interviews
- Survey

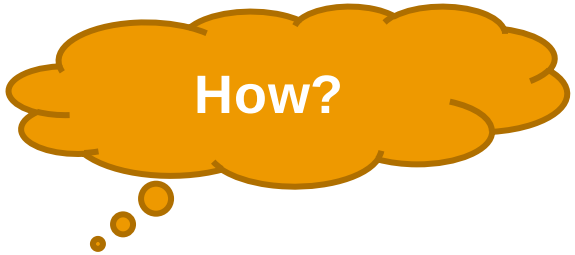
Phase 4: Output

- 4 design principles
- 10 Good practices

McKenney & Reeves (2006)

Conclusion prior research

- Developing learning activities with digital games is very time consuming!
- The supply of educational games is large and volatile
- Teachers should be supported
  - In selecting games
  - In integrating games in the classroom



Vanderhoven, Carillo & De Latter (2018)


Game.Learn.
Grow

Good-practices
(Vanderhoven, Carillo & De Latter, 2018)

Reported barriers and needs of teachers (Vanderhoven et al., 2018)



pedagogical -didactical theories

Blue Ocean Strategy analysis
(Carillo, Vanderhoven De Latter,2018)

Game.Learn.Grow

- Game board
- Support cards
- Mastercards (about 10)
- Cards with good practices (about 30)
- Manual
- Website: https://gamelearngrow.weebly.com/ (under construction, in Dutch)

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START

01 INITIAL SITUATION

FOCUS 02

LEARNING GOAL 03

CREATE LESSON ACTIVITY 04

Learning content
Learning material
Didactical approach
Learning resource
Grouping

GAME

× skills
× infrastructure
pupil & teacher
× timing
× budget

EXECUTE 05

EVALUATION 06

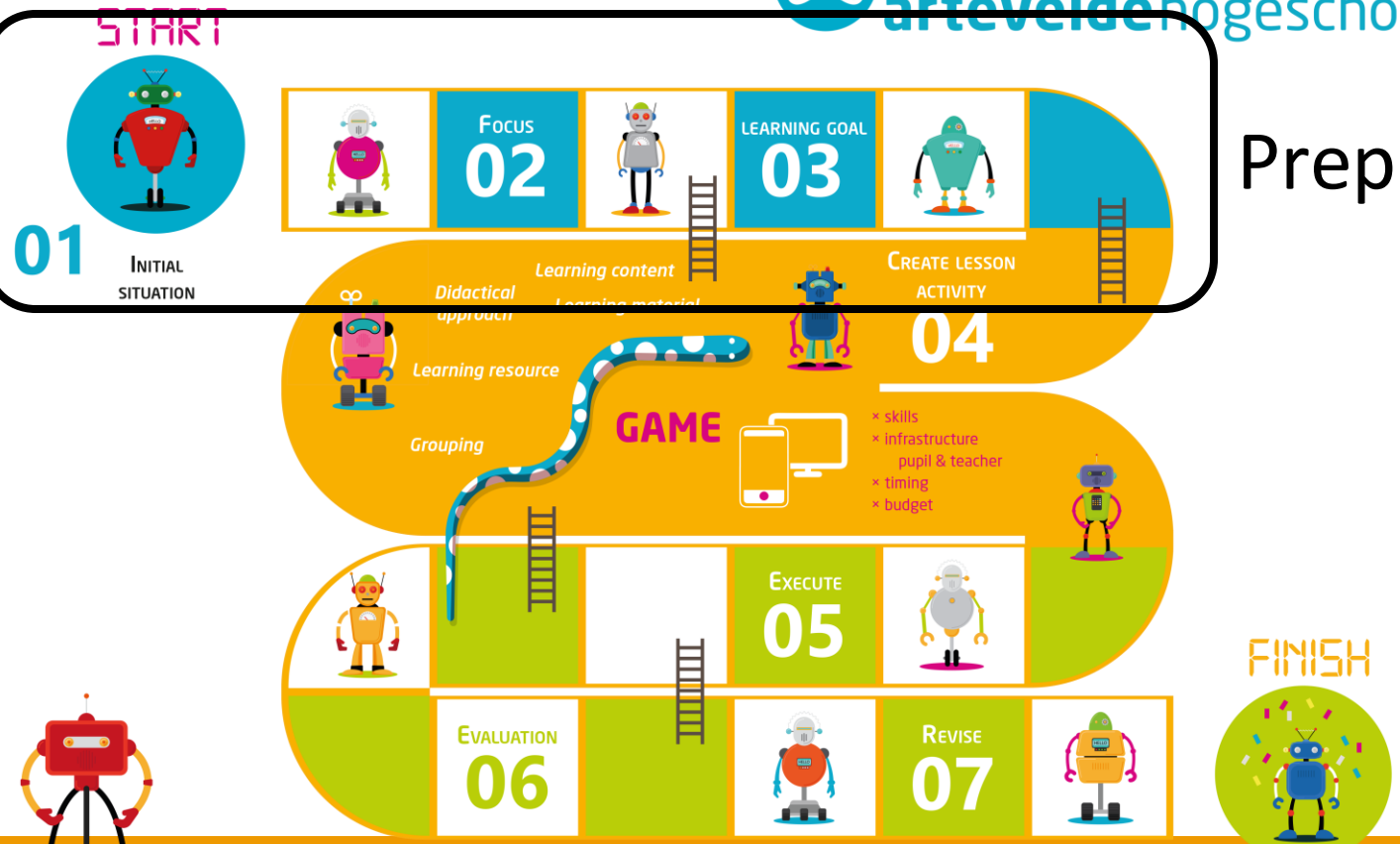
REVISE 07

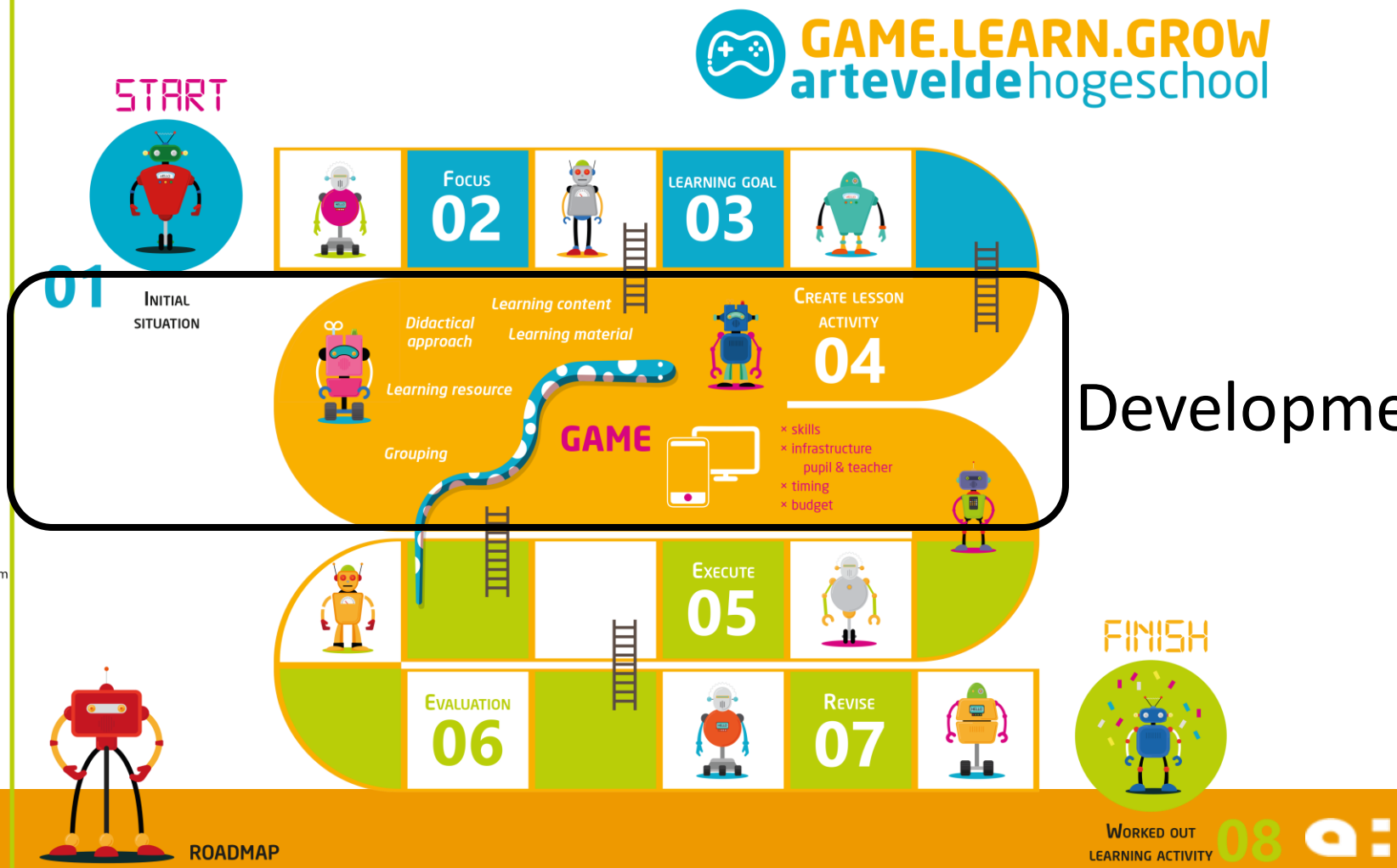
FINISH

ROADMAP

WORKED OUT LEARNING ACTIVITY 08

Preparation





Development

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WHEN?

- ☐ entry
- ☐ acquisition
- ☑ PROCESSING
- ☐ completion

WHY?

- ☑ VISUALITY
- ☐ differentiation
- ☐ repetition
- ☐ activity
- ☐ gradualness
- ☑ MOTIVATION

GRADE? 1 2 3 4 5 6

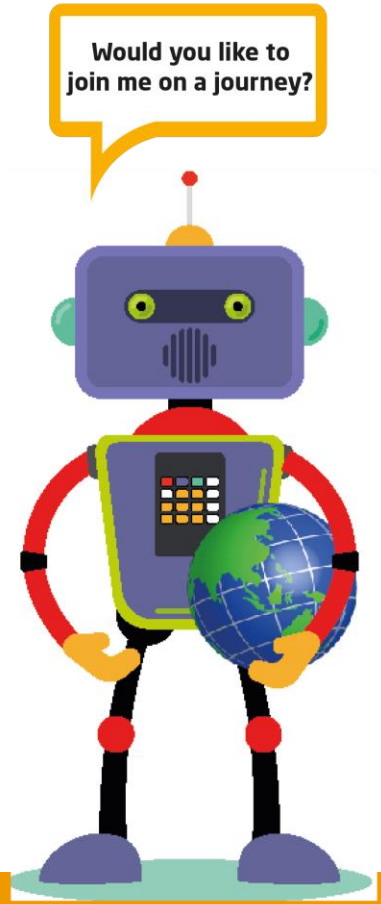
DIDACTICAL APPROACH?

GROUPING?

GAMETYPE?

TIME? preparation learning activity

REQUIRED?



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Finalization


Evaluation

Testing the prototype

- by several teachers
- revising materials based on feedback:
  - Usefulness
  - Ease of use
  - Attractiveness
  - Tendency to use in the future
  - SWOT


Discussion

Discussion

- development is not a solitary action
  - impact of the school team & school vision
  - teacher design teams
- Technical knowledge
  - Differences in teacher profiles
  - High technical knowledge with pupils (75% plays games)
  - Pupil's media literacy is not only about technical knowledge
- Important role for developers!


Questions?

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Design guidelines

1. Prepare for technical problems
2. Accompanying assignments are of crucial importance
3. Certain attitudes need to be developed with the pupils, in advance
4. Games do no replace the teacher

School A

Phase 1: intake interview

- Non-verbal, visual games
- minecraft education to integrate mathematics and world orientation

School A

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Phase 2: codesign

- Minecraft building assignment (view points)
- Individually
- Increasing difficulty level

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Phase 3: Evaluation of developed solutions

- High involvement & motivation
- Group dynamics!
- Technical problems
- evaluation

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- Class assignment with social rules: build a Minecraft city
- 2 by 2 on a computer
- Class presentations

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- Informative
- Still technically challenging!

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- Informative
- Still technically challenging!

Phase 4: output

- Good practice
- Design guidelines:
- Be prepared for technical problems
- Develop certain attitudes

School B

Phase 1: intake interview

- Using games during lessons
- Innovation
- Motivation: word classes

School B

Phase 1: intake interview

- Using games during lessons
- Innovation
- Motivation: word classes

Phase 2: codesign

- 1) Minigame on word classes with information to independently acquire knowledge
- 2) Commercial pizza-game with differentiation:
  - Write a recipy (hard)
  - Write word classes in columns (easy)

School B

Phase 1: intake interview

- Using games during lessons
- Innovation
- Motivation: word classes

Phase 2: codesign

- Minigame
- Commercial game

Phase 3: Evaluation of developed solutions

- Commercial game was ‘fun’
- Instructions were not read
- Blended approach would be better than a whole lesson with games

School B



Phase 1: intake interview

Phase 2: codesign

Phase 3: Evaluation of developed solutions

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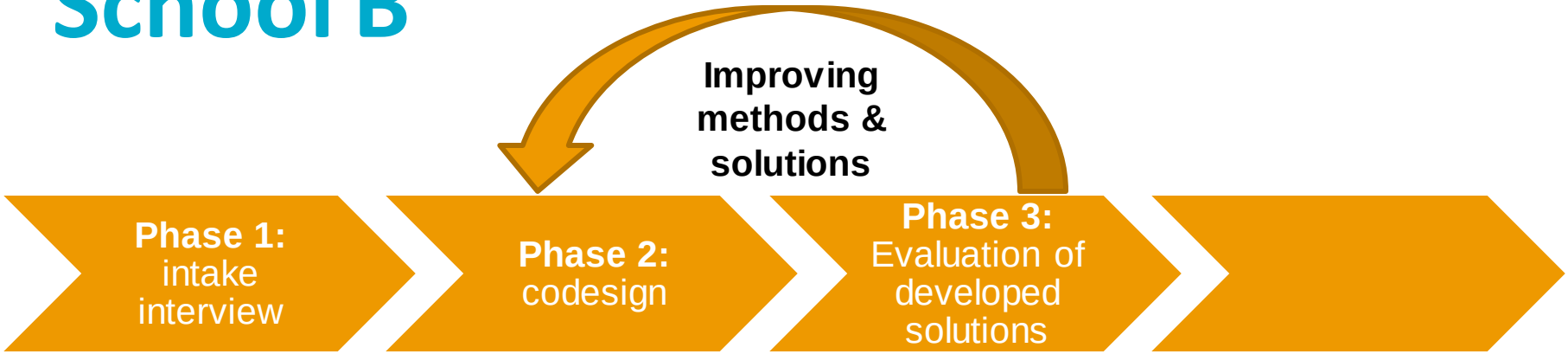
Phase 2: codesign

- Games for exercises, not for acquiring information
- Short games (hangman, Plickers) integrated in regular lesson

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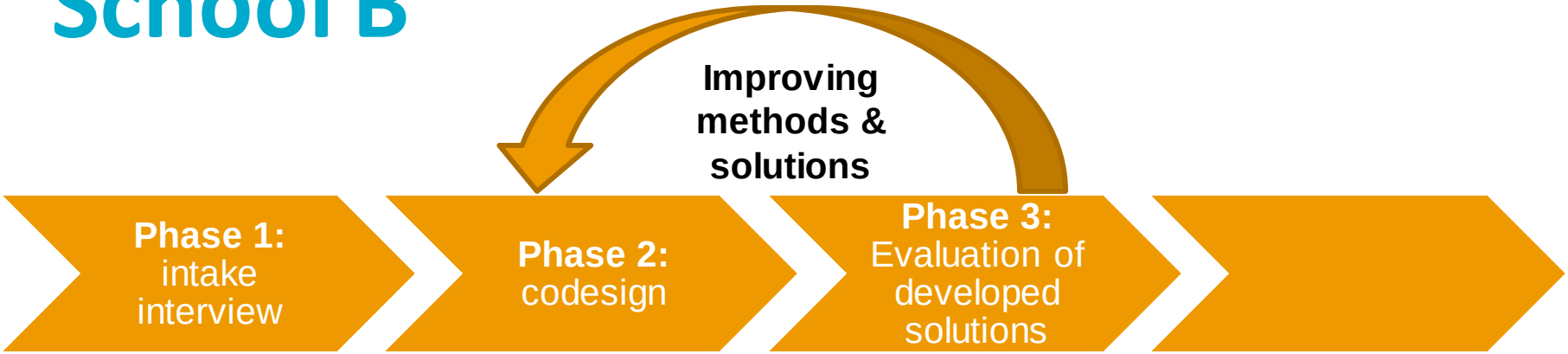
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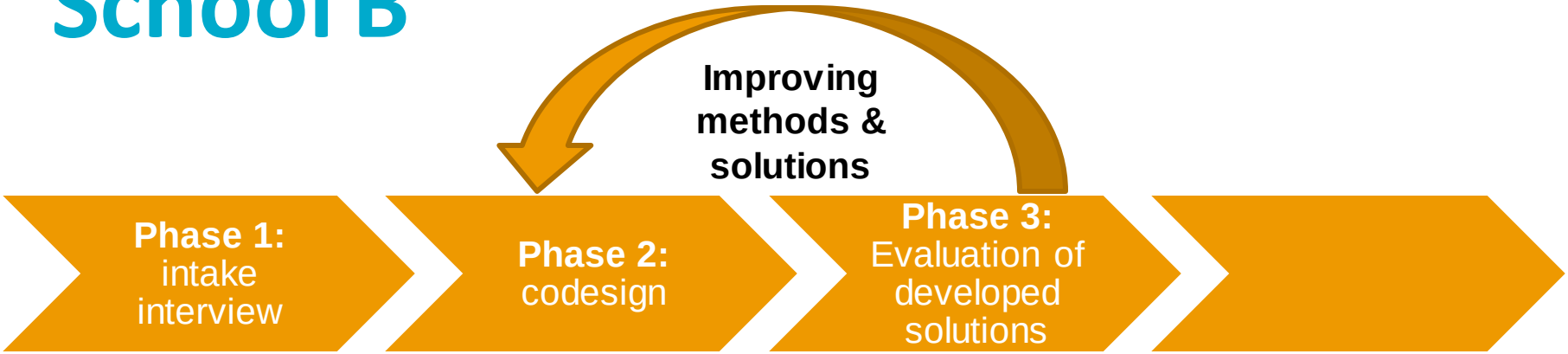
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- Very enthusiastic teachers and pupils
- Ease of implementation

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Phase 3: Evaluation of developed solutions

- Very enthusiastic teachers and pupils
- Ease of implementation

Phase 4: output

- Good practices
- Design guidelines
- Develop certain attitudes (reading)
- The teacher is important!



And so it continues...

- School B: clockreading
- School C: Dutch language learning
- School D: World orientation with tablets


Conclusion

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DEVELOPING GOOD PRACTICES TO FACILITATE THE INTEGRATION OF DIGITAL GAMES IN THE CLASSROOM: A DESIGN-BASED RESEARCH

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