



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

Ellen Vanderhoven
Els De Letter
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

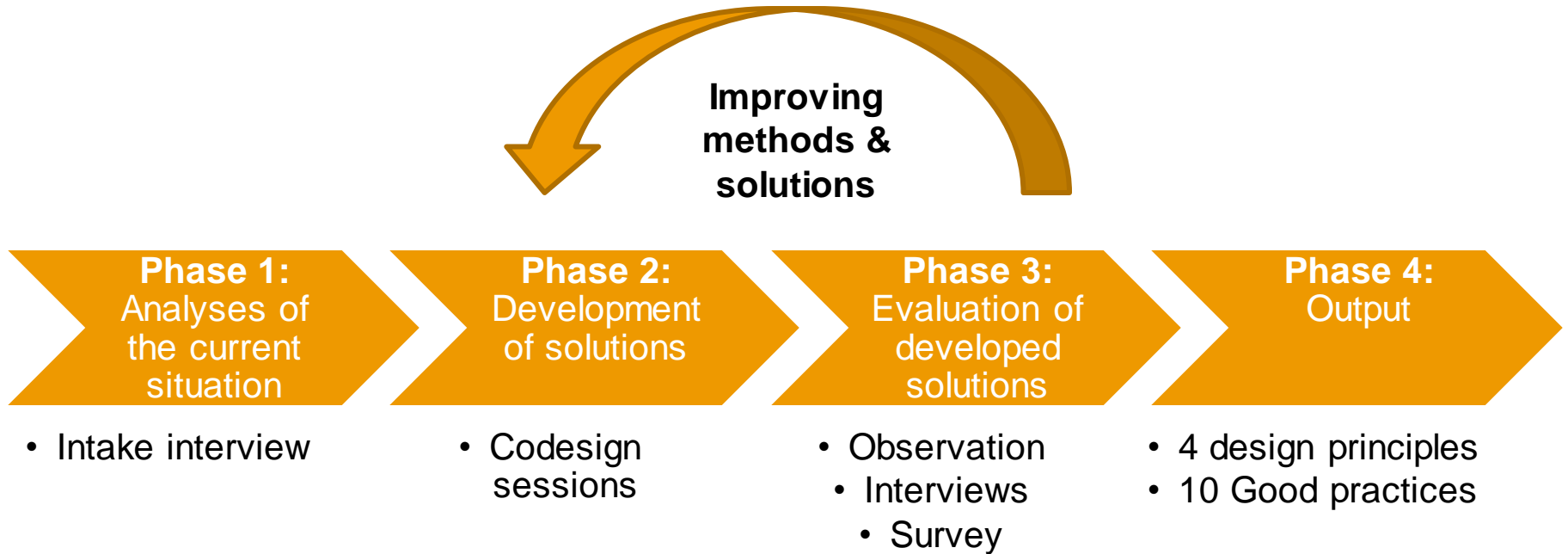
Research goal

- Clarifying how to support teachers on INTEGRATING digital games in the classroom
- **focus on learning activities, not on games**



Prior research

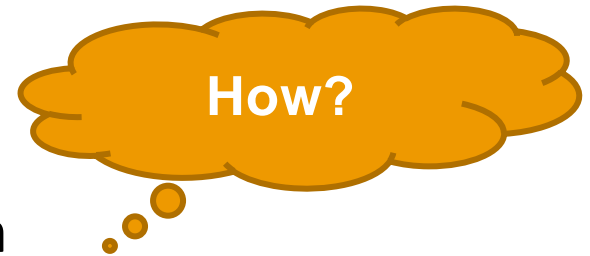
Vanderhoven, Carillo, De Letter (2018)



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 Letter (2018)



Game.Learn.
Grow

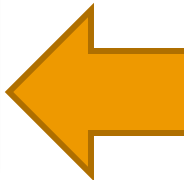
Good-practices
(Vanderhoven, Carillo & De Letter,
2018)



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



pedagogical
-didactical
theories



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

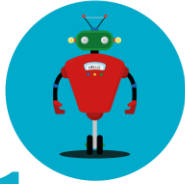


Game.Learn.Grow

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

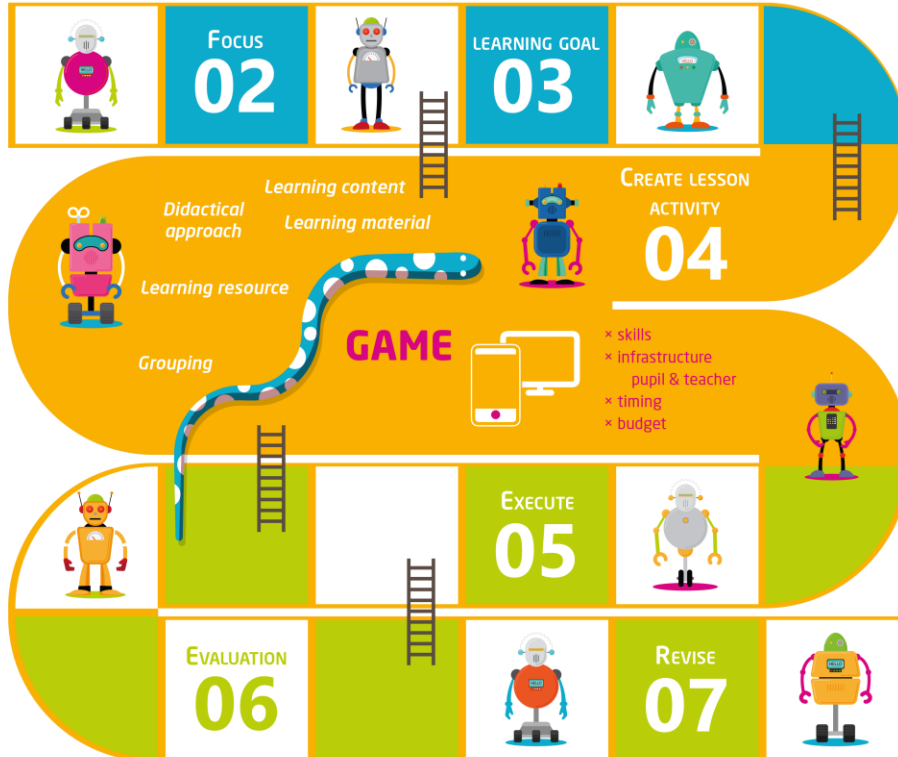


START



01

INITIAL SITUATION

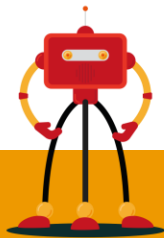


FINISH



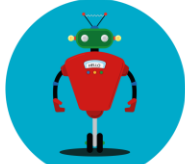
WORKED OUT LEARNING ACTIVITY

08





START



01

INITIAL SITUATION



Focus
02



LEARNING GOAL
03



Preparation



Didactical approach
Learning content
Learning material

Learning resource

Grouping



CREATE LESSON ACTIVITY

04

GAME

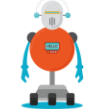
- » skills
- » infrastructure pupil & teacher
- » timing
- » budget



EXECUTE
05



EVALUATION
06



REVISE
07



FINISH



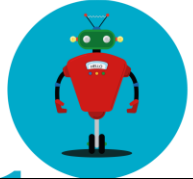
WORKED OUT
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08



sum

START



01

INITIAL SITUATION



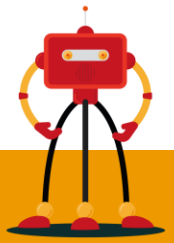
Development



FINISH



WORKED OUT LEARNING ACTIVITY **08** 



WHEN?

- entry
- completion
- acquisition
- PROCESSING**

WHY?

- VISUALITY**
- activity
- differentiation
- gradualness
- repetition
- MOTIVATION**

GRADE?

- 1
- 2
- 3
- 4
- 5**
- 6

DIDACTICAL APPROACH?



GROUPING?



GAMETYPE?



TIME?

- preparation
- learning activity

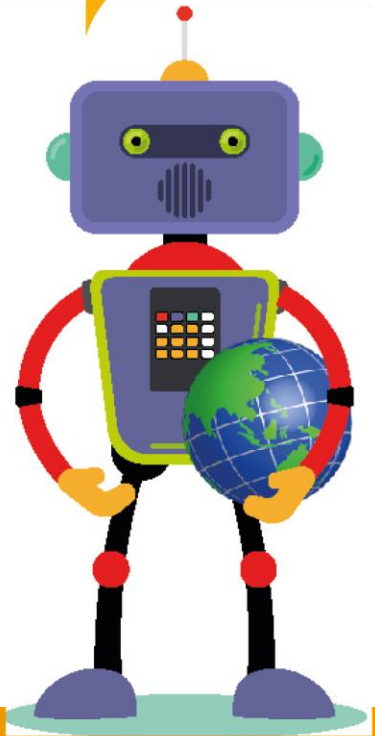
REQUIRED?



5

5

Would you like to join me on a journey?



5

5




START

01 INITIAL SITUATION



02 Focus

03 LEARNING GOAL


04 CREATE LESSON ACTIVITY

Didactical approach

Learning content


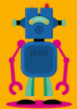


Learning material

Learning resource

Grouping

GAME

- skills
- infrastructure pupil & teacher
- timing
- budget










Finalization

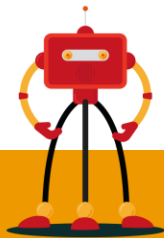
05 EXECUTE

06 EVALUATION

07 REVISE

FINISH

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 not 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

School A

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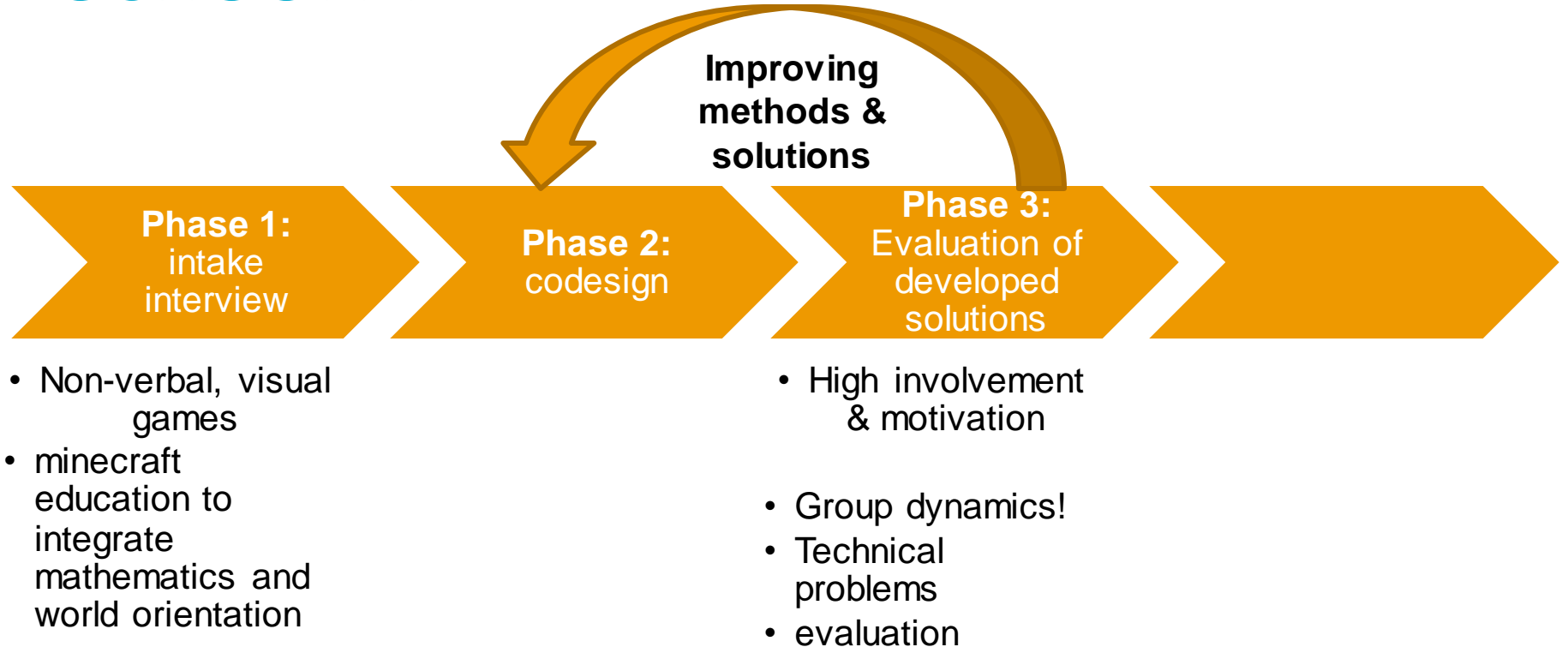
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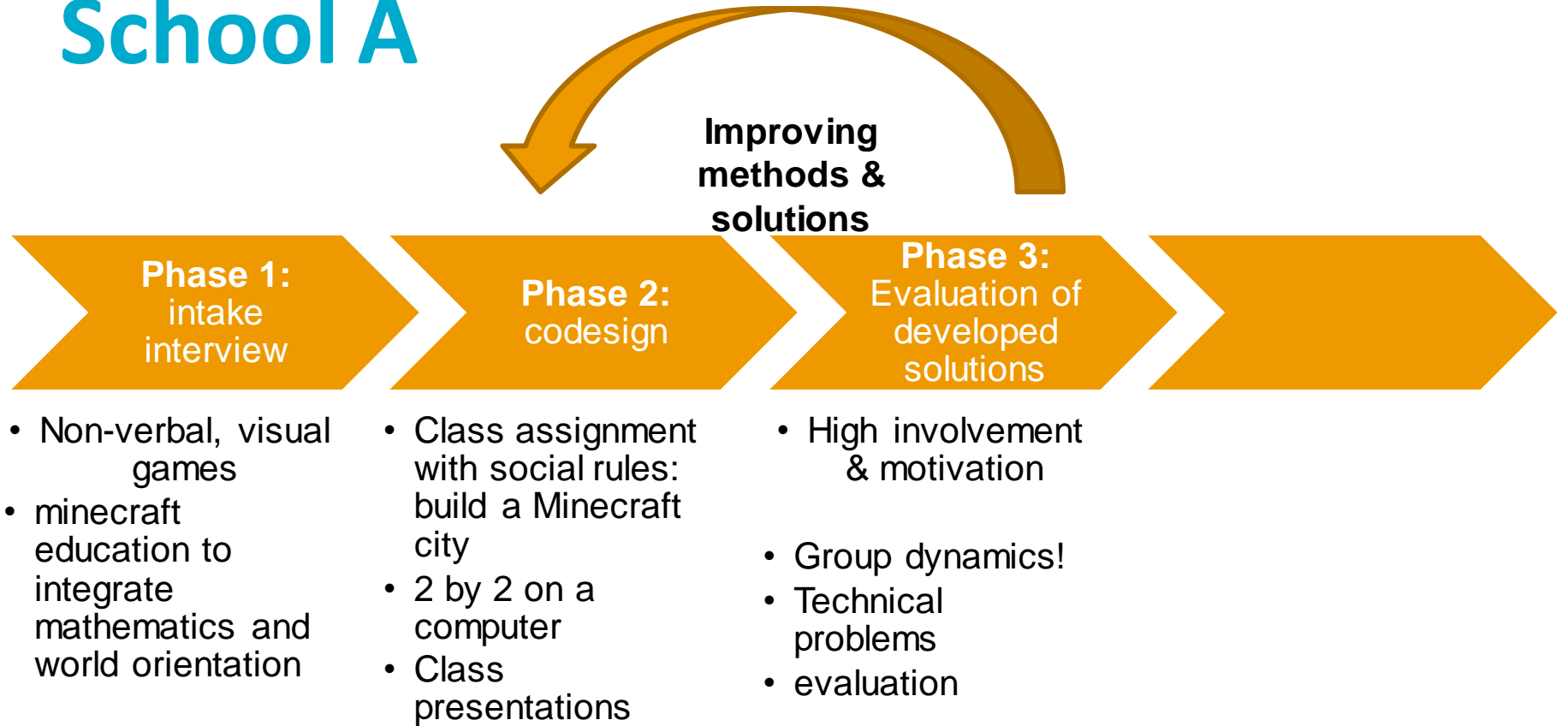
Phase 3: Evaluation of developed solutions

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

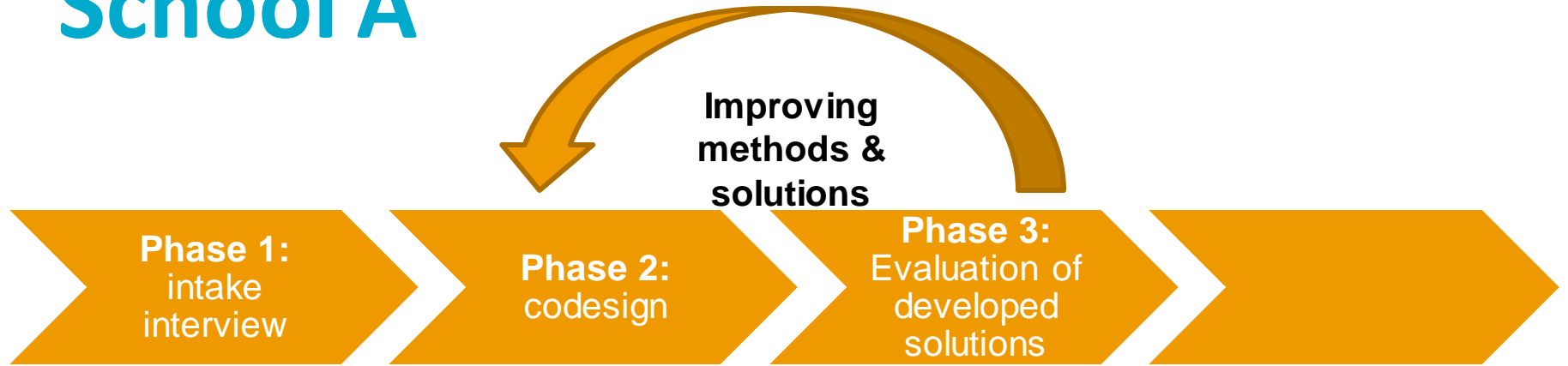
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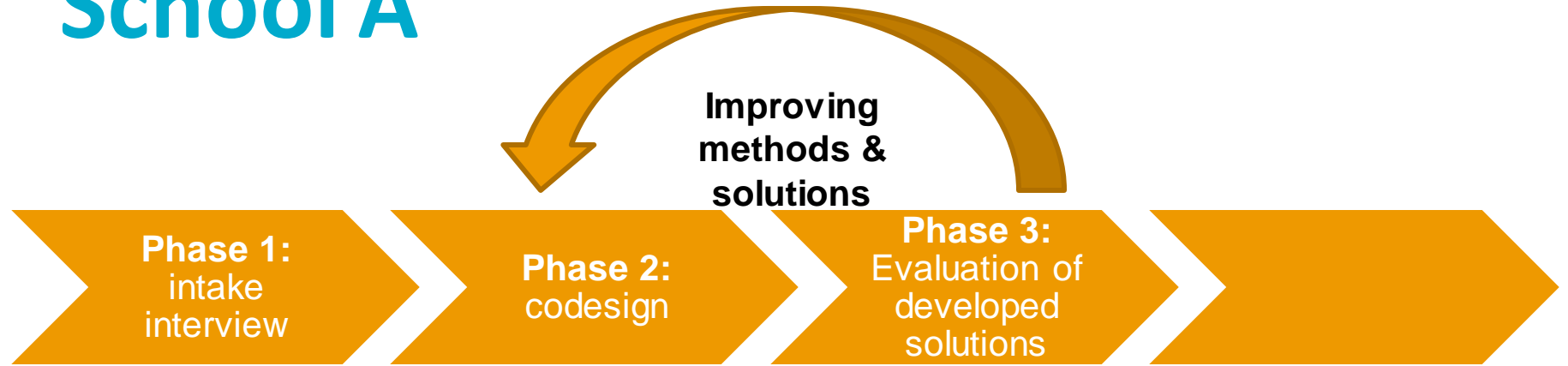


School A



- Non-verbal, visual games
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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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Phase 3: Evaluation of developed solutions

- Improvement on social skills, creativity
- Informative
- Still technically challenging!

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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 recipe (hard)
 - Write word classes in columns (easy)

School B

Phase 1: intake interview

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

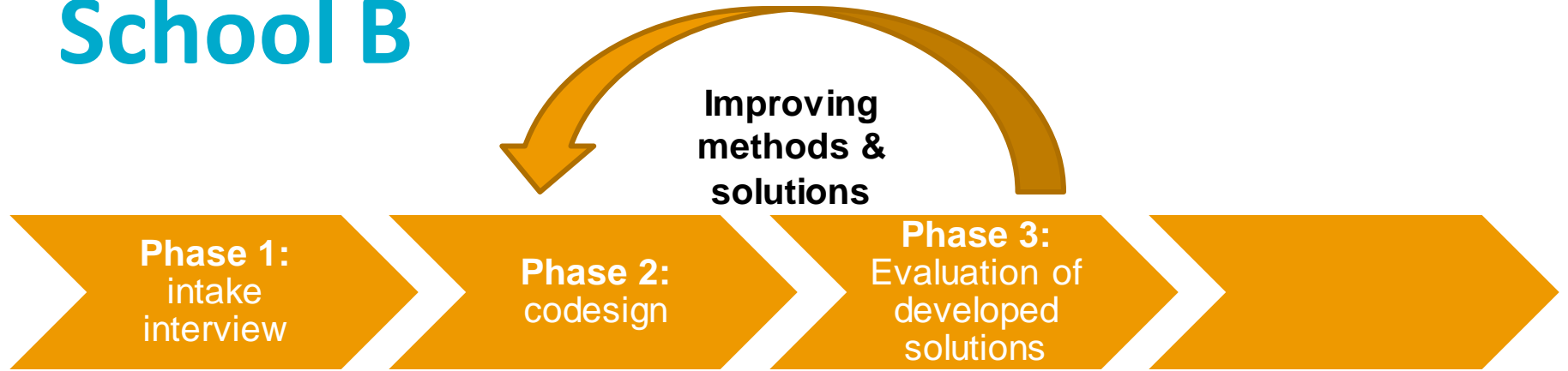
Phase 2: codesign

- 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

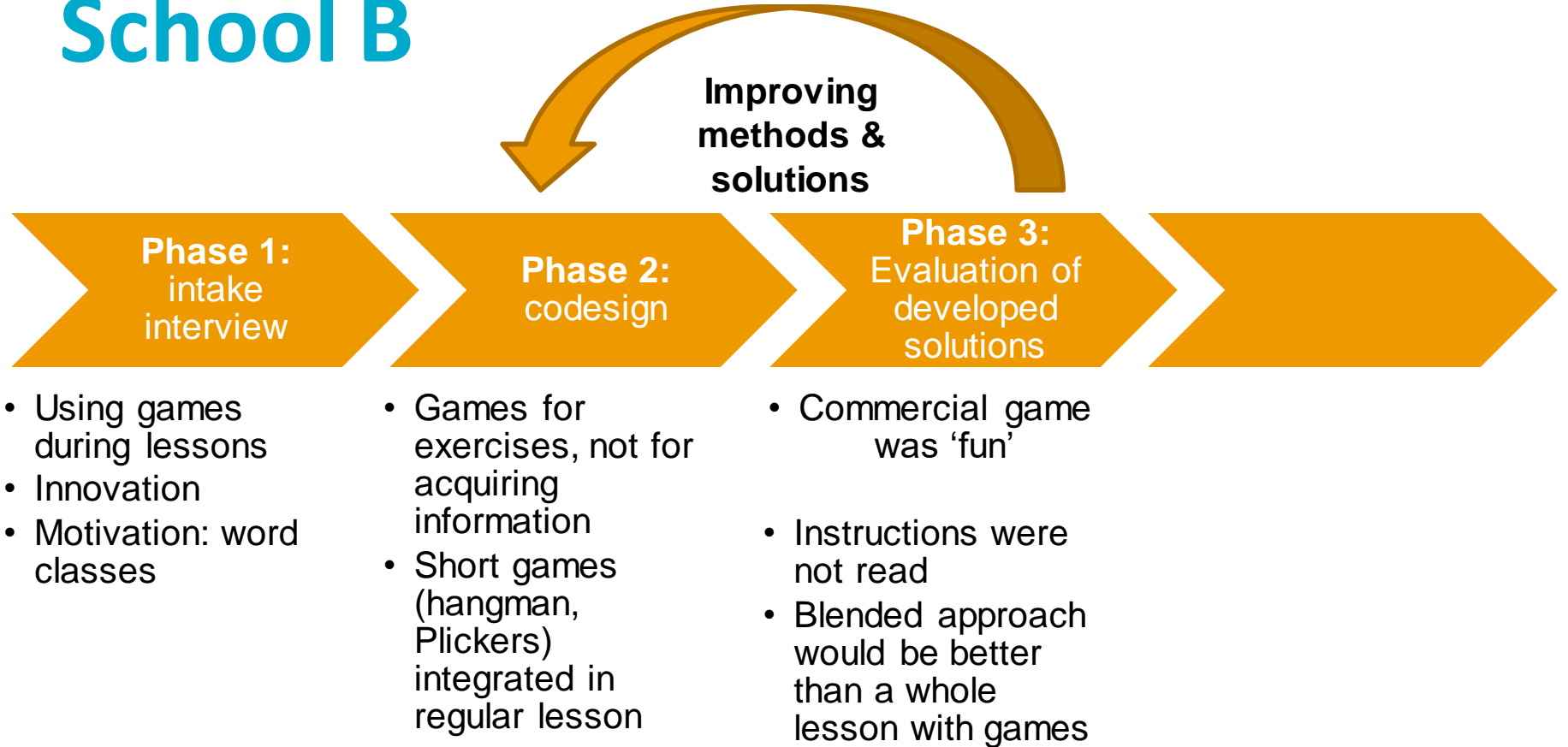
School B



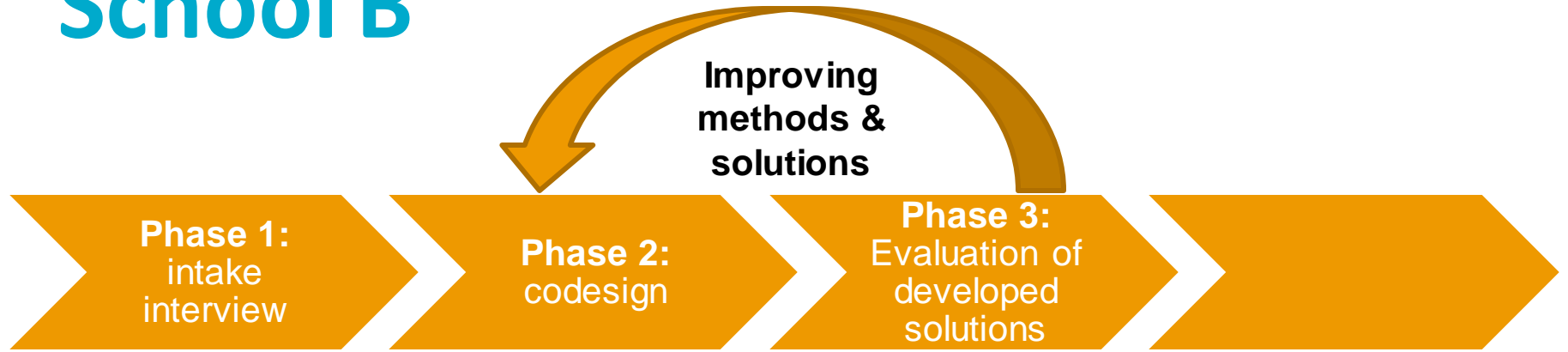
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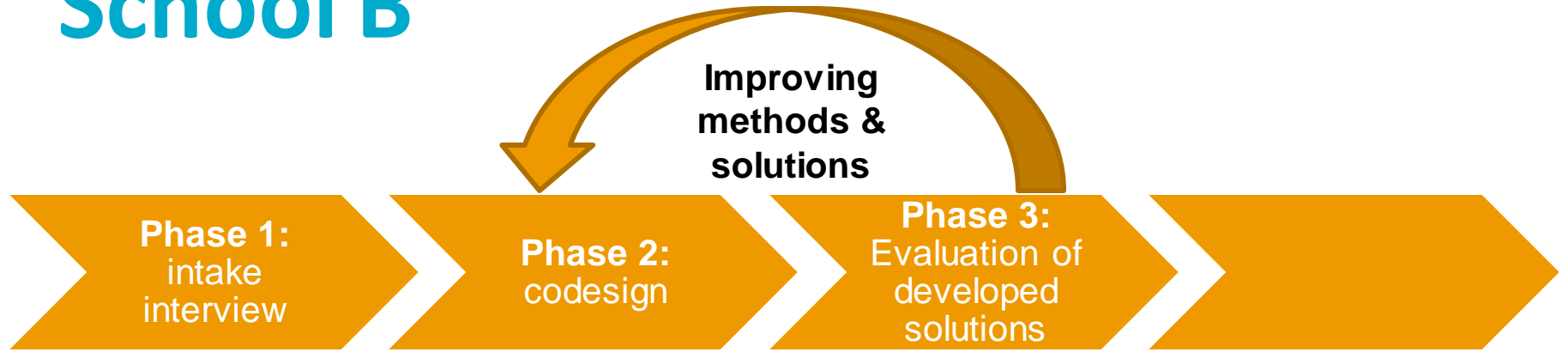


School B



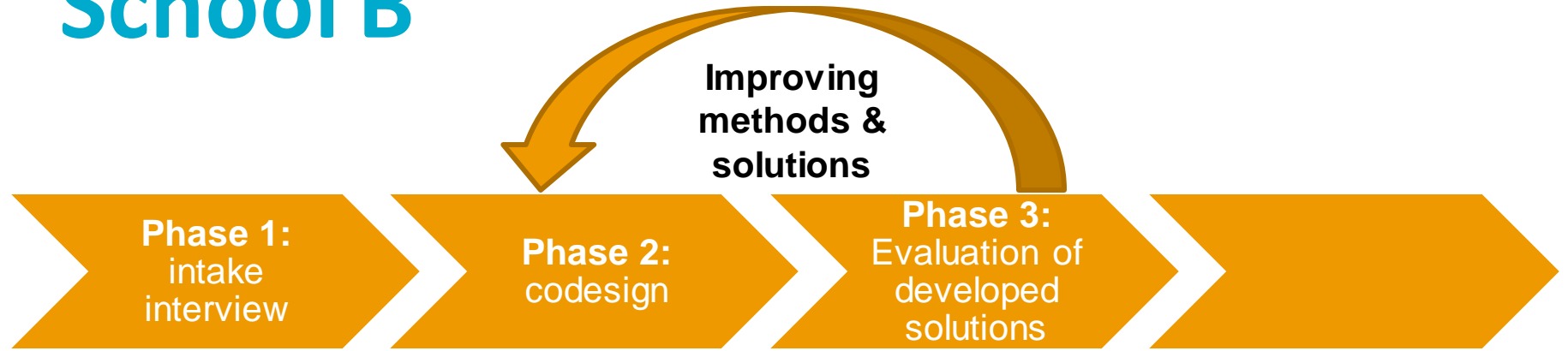
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 - Short games (hangman, Plickers) integrated in regular lesson

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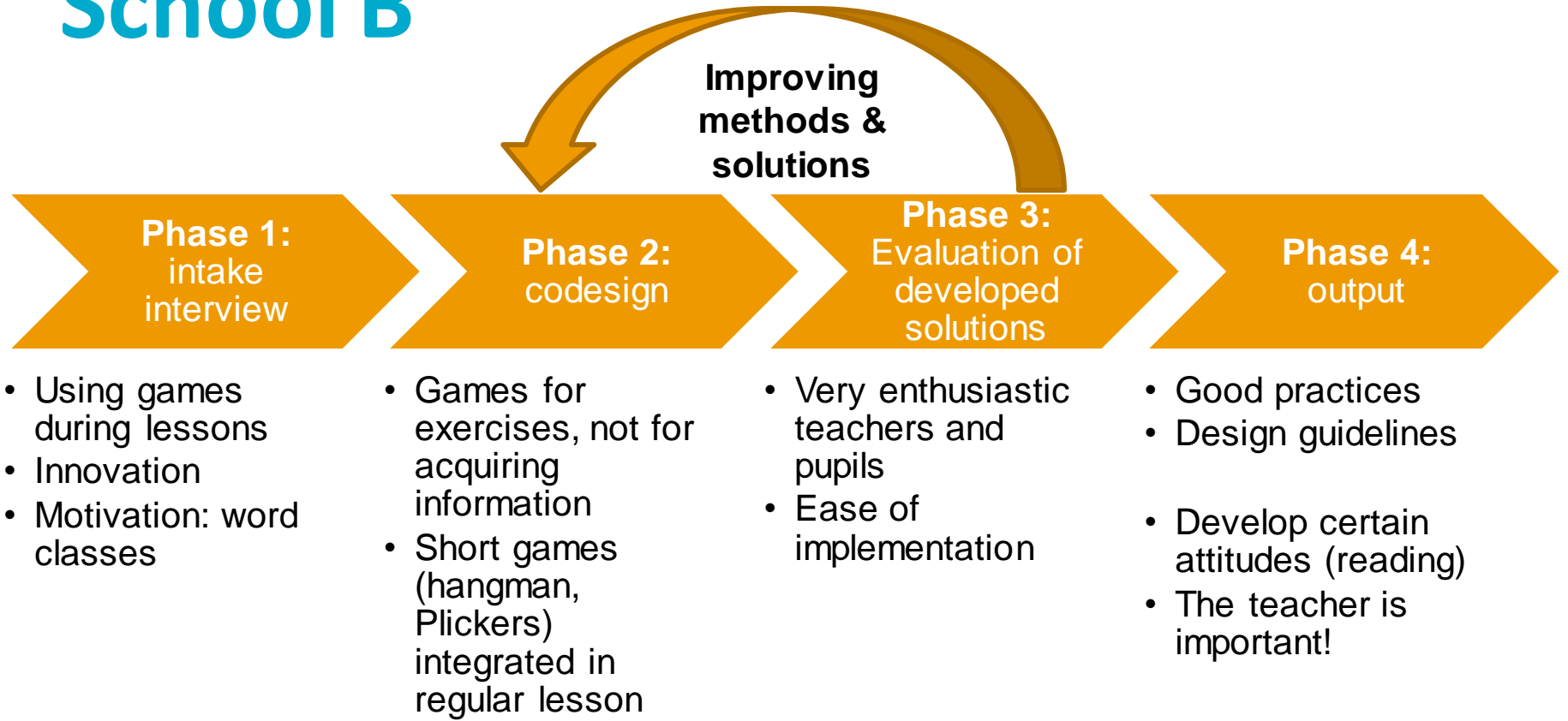


- Using games during lessons
- Innovation
- Motivation: word classes

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

- Very enthusiastic teachers and pupils
- Ease of implementation

School B



And so it continues...

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



Conclusion



arteveldehogeschool

LID VAN DE ASSOCIATIE UNIVERSITEIT GENT

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

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