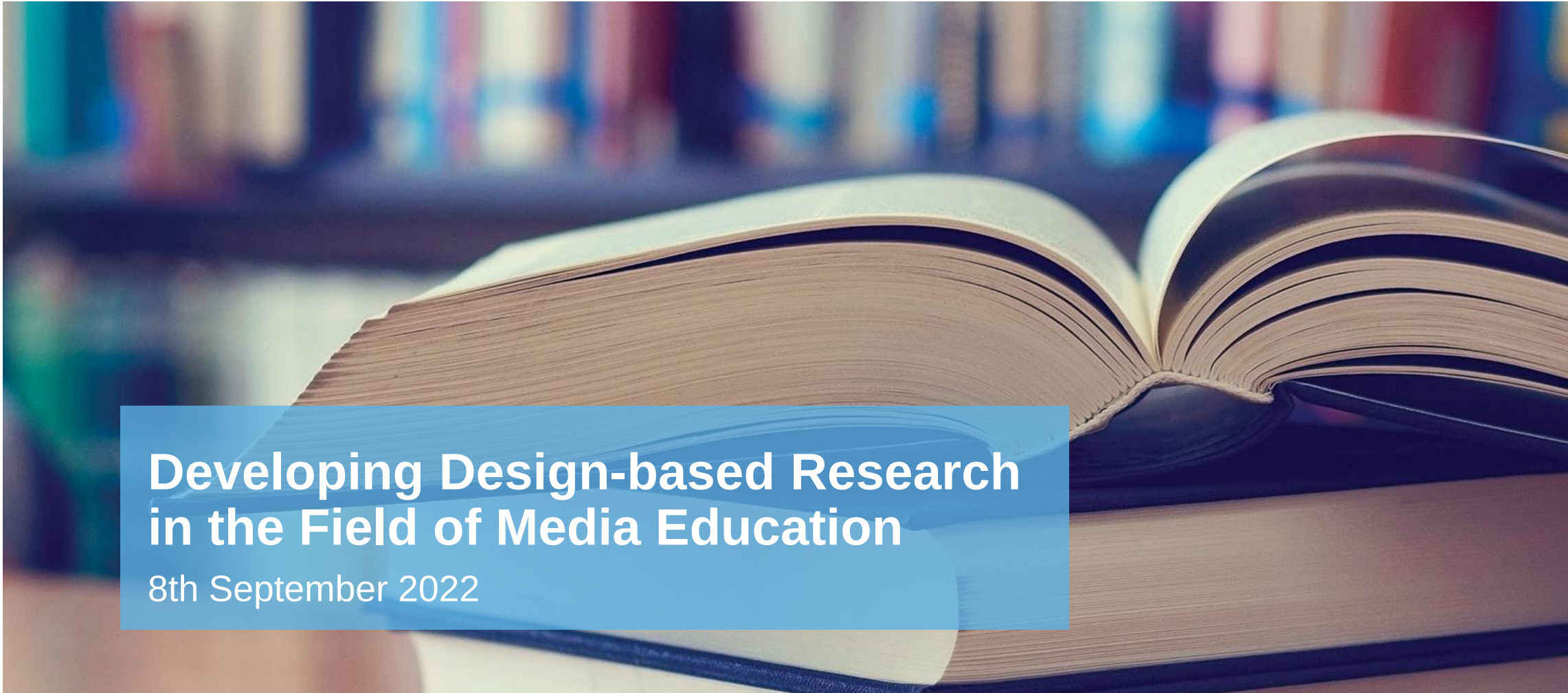




Developing Design-based Research in the Field of Media Education

8th September 2022

- I. Research Method: Design-based Research
- II. Using DBR in the Field of Media Education
- III. Data Collection
- IV. Data Analysis Method : Pre & Post-tests
 - A. The Assessment Grid
 - B. The Media Literacy Concept (MLC)
 - C. The Point of View
 - D. Examples
- V. Discussion: Back to my Research Question
 - A. Media Literacy as a Field of Inquiry
 - B. Theoretical and Practical Contribution
- VI. Questions

I. Research Method: Design-based Research (1)

- Goal: Improving Educational Practices
- Pioneers: Ann Brown et Allan Collins (1992)



Local learning environment

Theory



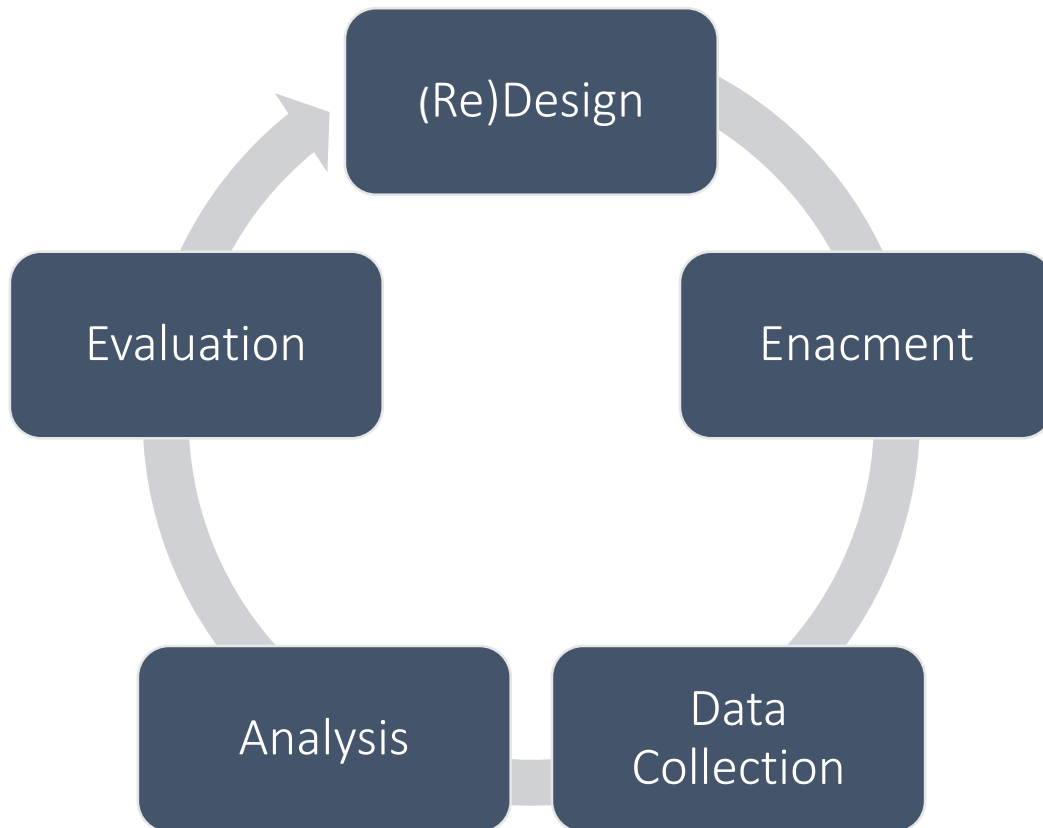
Practice



New knowledge



I. Research Method: Design-based Research (2)



*"[A] **systematic** but **flexible** methodology aimed to improve **educational practices** through **iterative** analysis, design, development, and implementation, based on **collaboration** among researchers and practitioners in **real-world** settings, and leading to contextually-sensitive design **principles** and **theories**".*

(Wang et Hannafin, 2005; pp. 6-7)

I. Research Method: Design-based Research (3)

Category	Psychological Experimentation	Design-Based Research
Location of research	Conducted in laboratory settings	Occurs in the buzzing, blooming confusion of real-life settings where most learning actually occurs
Complexity of variables	Frequently involves a single or a couple of dependent variables	Involves multiple dependent variables, including climate variables (e.g., collaboration among learners, available resources), outcome variables (e.g., learning of content, transfer), and system variables (e.g., dissemination, sustainability)
Focus of research	Focuses on identifying a few variables and holding them constant	Focuses on characterizing the situation in all its complexity, much of which is not now <i>a priori</i>
Unfolding of procedures	Uses fixed procedures	Involves flexible design revision in which there is a tentative initial set that are revised depending on their success in practice
Amount of social interaction	Isolates learners to control interaction	Frequently involves complex social interactions with participants sharing ideas, distracting each other, and so on
Characterizing the findings	Focuses on testing hypothesis	Involves looking at multiple aspects of the design and developing a profile that characterizes the design in practice
Role of participants	Treats participants as subjects	Involves different participants in the design so as to bring their differing expertise into producing and analyzing the design

Comparing psychological experimentation and design-based research methods
(Barab and Squire, 2004; adapted from Collins, 1999)

A participatory methodology:

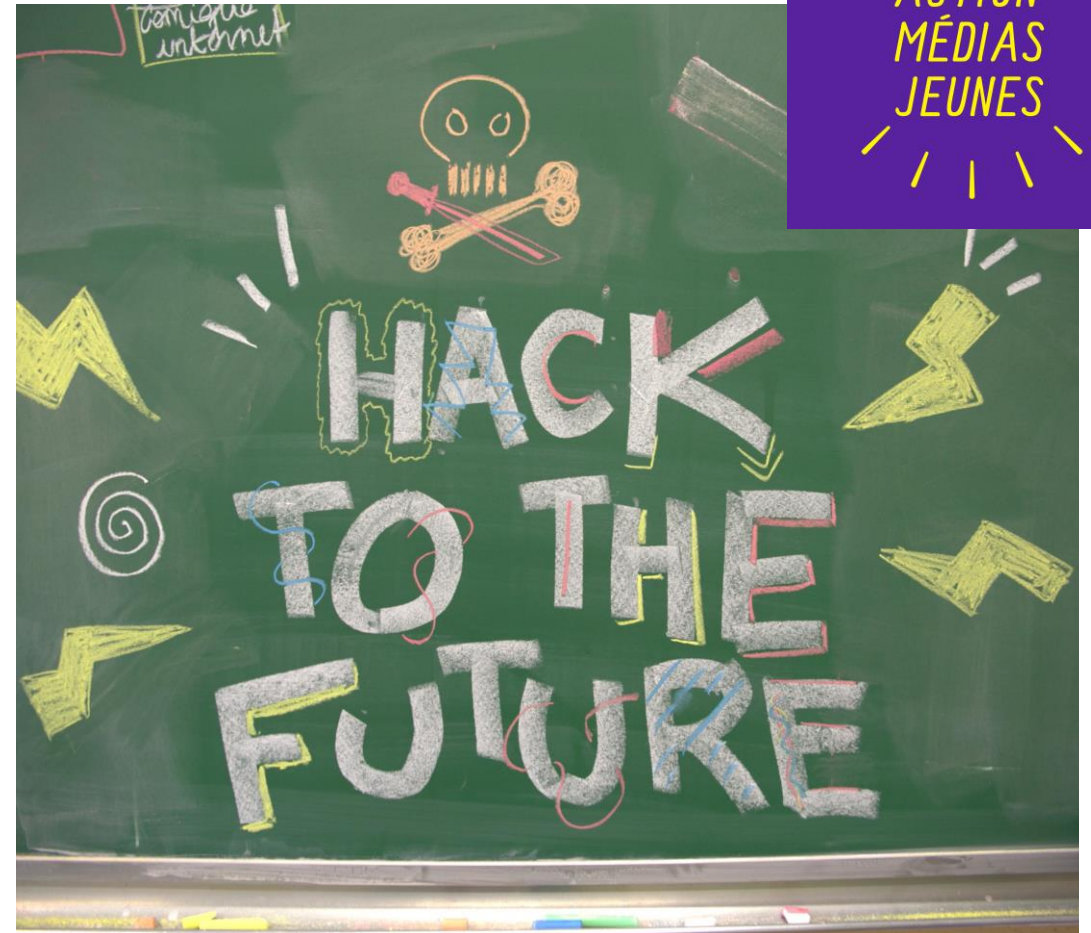
- Collaboration between researchers and practionners;
- Pupils involvement in the learning process.

Theoretical and practical contribution:

- Production of new theoretical constructs;
- Production of pratical design principles patterns.

II. Using DBR in the Field of Media Education (1)

- Collaboration with **Action Médias Jeunes**, an association specialized in media education
- 2018-2019: **Hack to the Future** project with third grade primary pupils and fifth and sixth grade secondary students
- 2020-2021: **Futurs Possibles** project with third grade secondary students
- Children create **fictional technological prototypes** and **media productions** featuring them.



II. Using DBR in the Field of Media Education (2)

1

- **Introduction to New Technologies and Design Fiction**
- Focus on artificial intelligence and algorithms

2

- **Prototyping and Stories Shooting**
- Pupils as Designers: inventing an object in 2030

3

- **Product Placement**
- Pupils as Influencers: promoting the object of another group

4

- **Press Conference**
- Pupils as Journalists: finding the flaws or interests of the objects

5

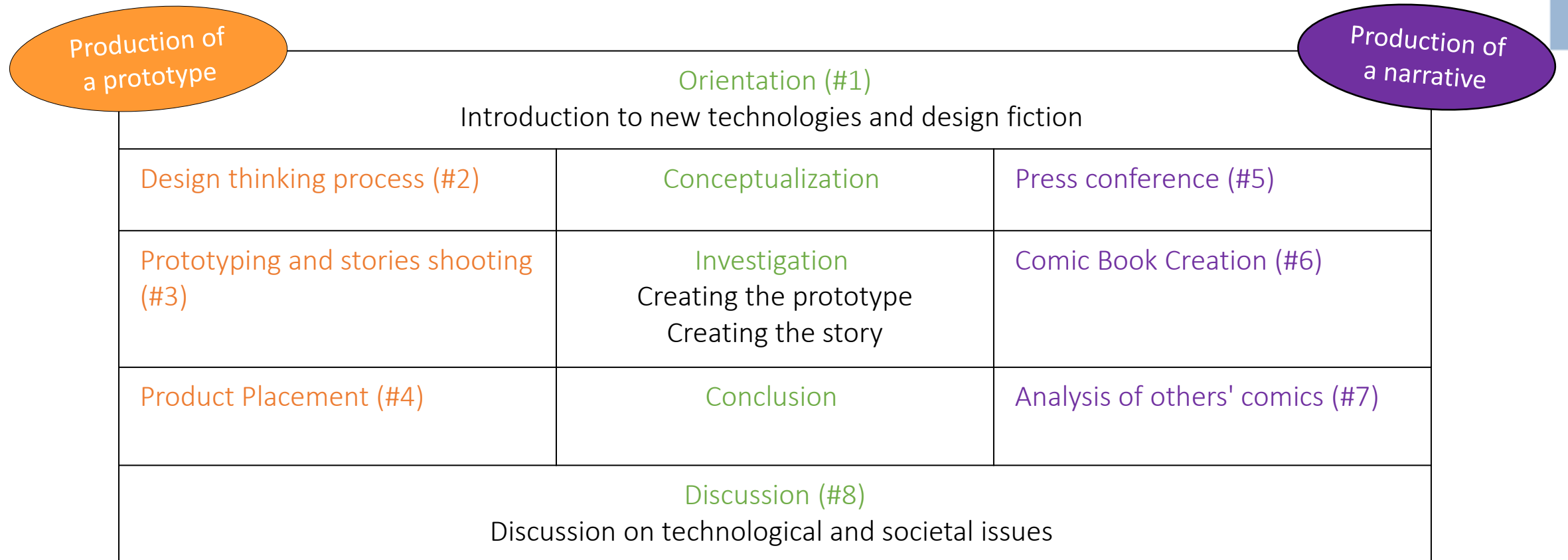
- **Comic Books Creation**
- Pupils as Scriptwriters: investigating the consequences of their object in 2030

6

- **Comic Book Analysis and TV « debate »**
- Pupils as reviewers: reviewing others' comic books and discussing current technology issues



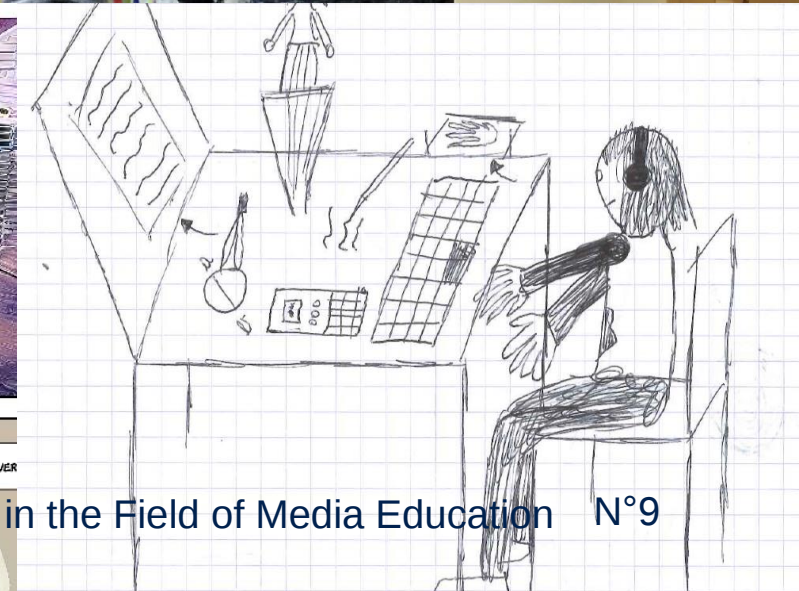
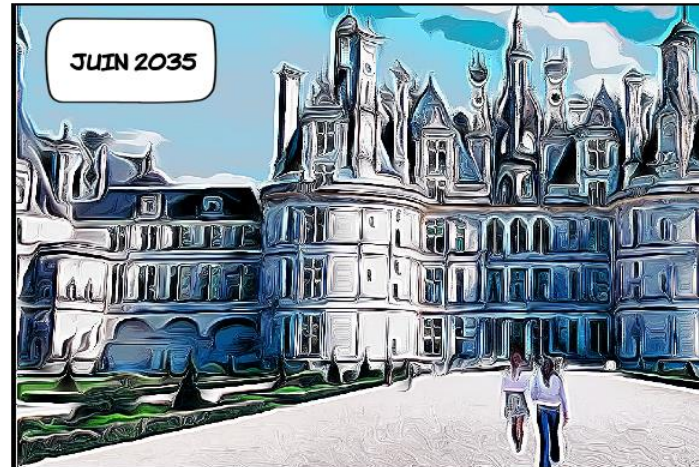
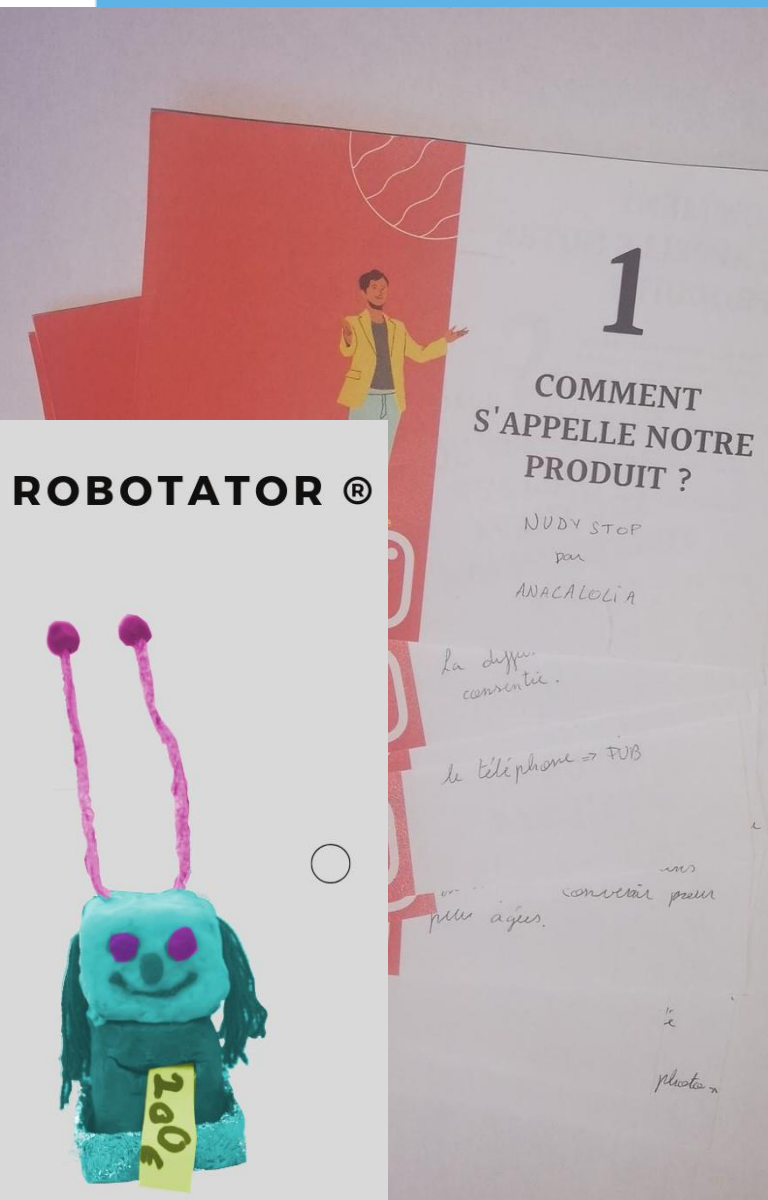
II. Using DBR in the Field of Media Education (3)



< Pedaste et al. (2015) : Synthesized inquiry cycle



III. Data Collection



IV. Data Analysis Method : Pre & Post-tests

The activity consists of watching two videos carefully and formulating questions about them. We ask you to formulate different questions about the technologies present in these two videos, as well as about the videos themselves and the way they present these technologies on the screen.

To do this, we suggest that you write down (1) questions that you ask yourself after watching the videos, and (2) questions that you might ask guests in a talk show about the videos. This second category of questions can include questions from the first category.

You can formulate as many questions as you like. There are no right or wrong questions, feel free to express yourself!

Minority Report (Spielberg, 2002)



Productivity Future Vision (Microsoft, 2014)

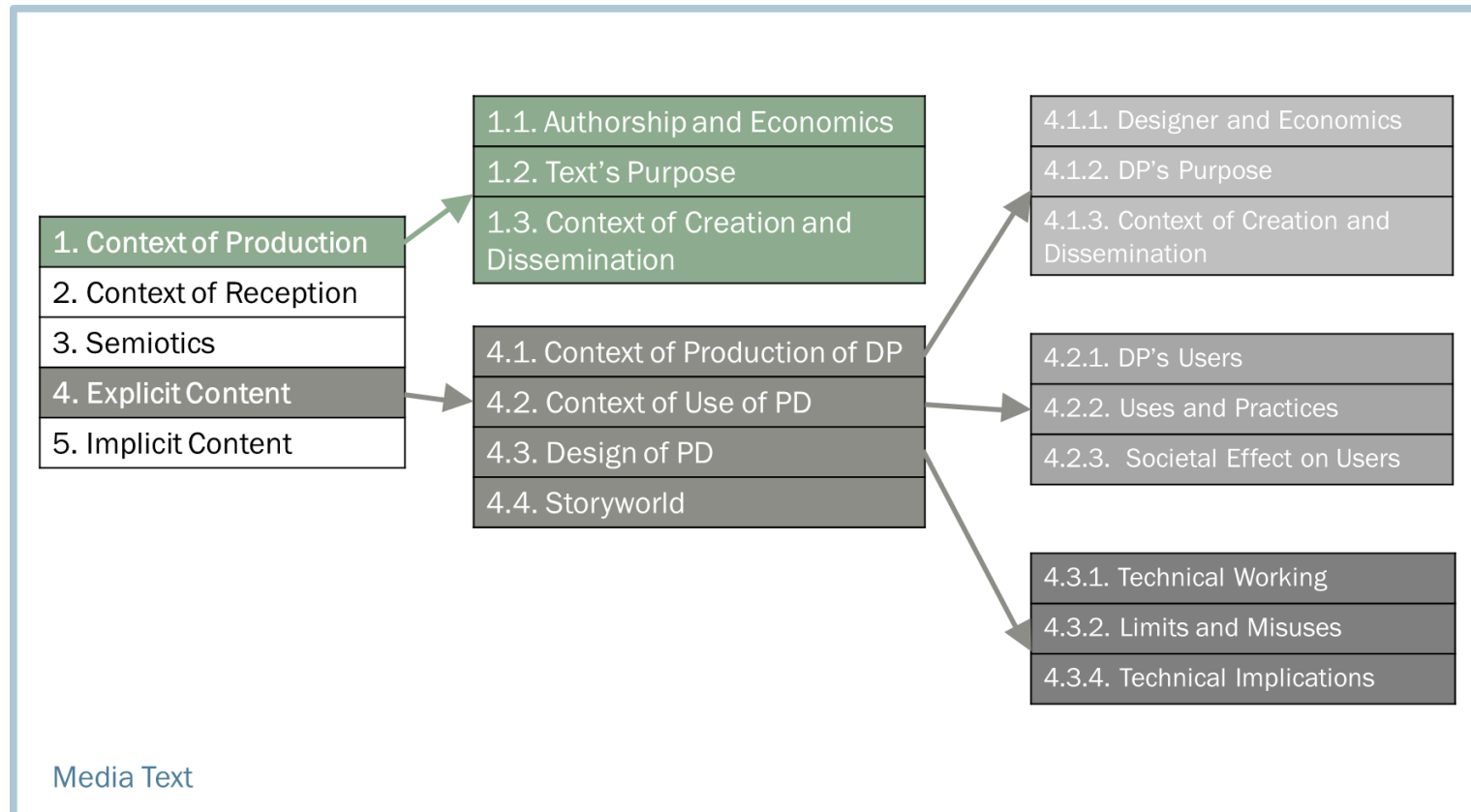
IV. A. Data Analysis Method: the Assessment Grid

Classification of pupils' questions from pre- and post-tests according to:

- The **media literacy concept**: refers to media literacy key concepts (Schilder and Redmond, 2019).
- The **issue**: refers to the implications of the diegetic prototype or media text for the individual, a group, or society.
- The **perspective**: refers to the point of view from which the student experiences the events of the story (fictional immersion vs. reality).

Is the question more or less critical?	
Not critical (0)	One Media Literacy Concept (except the implicit content) - No societal issue
Low order (1)	One Media Literacy Concept (except the implicit content) + Societal issue
Low order (2)	Two Media Literacy Concepts – No societal issue
High order (3)	Two Media Literacy Concepts + Societal issue
High order (4)	Implicit Content + Societal issue

IV. B. Data Analysis Method: the Media Literacy Concept (MLC)



The MLC of the question refers to the **area of knowledge** covered by the question asked by the student. Whether the question addresses aspects of **production** (who is the author of the media text?) or **reception** (what is the effect on the viewer or listener?), or how the text was produced (language, **semiotics**...).

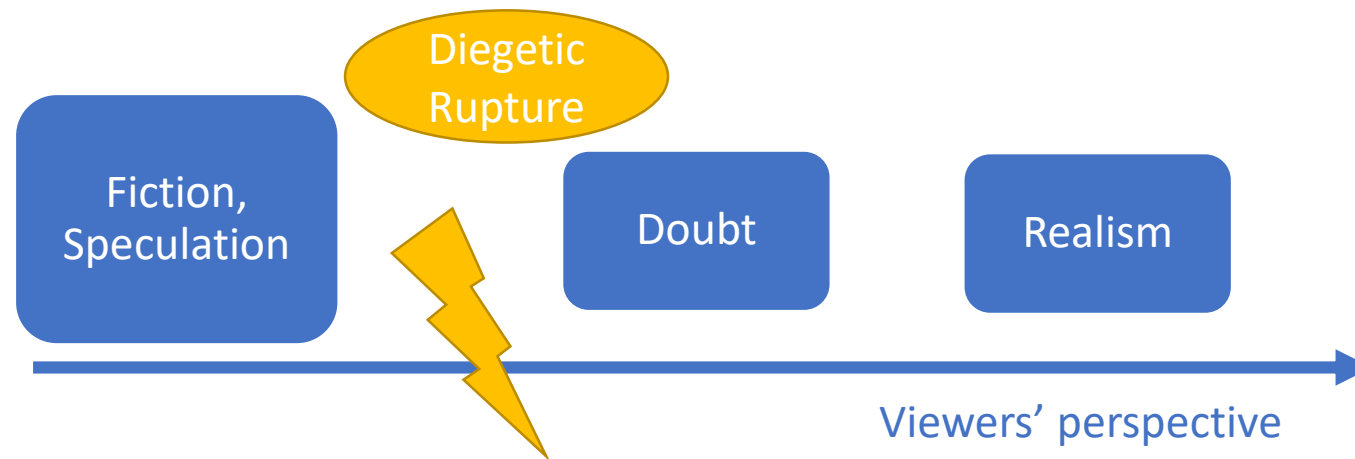
IV. C. Data Analysis Method: the Perspective

Realism: the viewer is in the reality, the real world, and observes the events from this point of view.

Fiction: the viewer enters the fiction and accepts to play the game.

Doubt: the viewer doubts what he/she is observing, he/she is in a posture of hesitation or uncertainty.

Speculation: the viewer is fully immersed in the fictional experience and entered into the game of design fiction. He or she asks questions that extend the reflection on what he or she is observing.



IV. D. Data Analysis Method: Examples of Application

« *What is the purpose of the background music?* »

- Media Literacy Concept: Semiotics + Context of reception
- Issue: Yes, there is a semiotic issue
- Perspective: the view from reality

Low order (2)

« *Will this technology be accessible to all or to the wealthy?* »

- Media Literacy Concept: Explicit Content + Implicit content
- Issue: Yes, there is a societal issue
- Perspective: the view from fiction

High order (3)

« *Will we be able to live off technology in the coming years?* »

- Media Literacy Concept: Implicit content
- Issue: Yes, there is a societal issue
- Perspective: Speculation

High order (4)



V. Discussion: Back to my Research Question

How can design fiction help develop young people's critical questioning of new technologies and media ?

Developing students' critical inquiry competence from...

	Key questions on design fiction	Design fiction practice itself
Principle	Analysing design fiction « texts » as media messages	Analysing design fiction as a design practice
Objective	Decoding design fiction texts	Imagining media technology prototypes
Approach	Key questions models in media education	Inquiry-based learning models



V. A. Discussion: Media Literacy as a Field of Inquiry

Goal: still equipping students with media literacy abilities but with another conception of media literacy.

Consider, for example, how teachers might respond if, rather than describing media literacy with a definition about accessing, analyzing, understanding and producing media, we said “**media literacy education is about teaching students to ask - and find answers - to important questions**”. This phrasing puts teaching and students, rather than media, at the center of the discourse. (Rogow, 2011; p. 17)

⇒ Going back to the roots of media education, i.e. observing the world around us and questioning its working while taking into account our own position into it.



V. B. Discussion: Theoretical and Practical Contribution

1. Building **new theories constructs** on the use of design fiction in the world of research and particularly in the field of media education;
2. Developing **design-based research methodology** in the context of media literacy education;
3. Approaching media literacy as a field of **inquiry** rather than as a set of skills that the individual must acquire to develop critical thinking abilities;
4. Developing and sharing an **educational program** based on the practice of design fiction with practitioners;
5. Developing and sharing an **evaluation grid** which assesses the critical inquiry competence with practitioners.



VI. Questions

What do you think of the conceptualization of media literacy as a field of inquiry?

Is design-based research an effective methodology for media education research ?



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Thank you

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