

UNIVERSIDAD DE CÓRDOBA



**Partnering Outside the
Box**

**Digital and Artificial
Intelligence Integrated Tools to
Support Higher Education
Students with Dyslexia**

ToT: Training of Trainers

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Module III

Empathy and VR

Empathy and prosocial games

Prosocial games

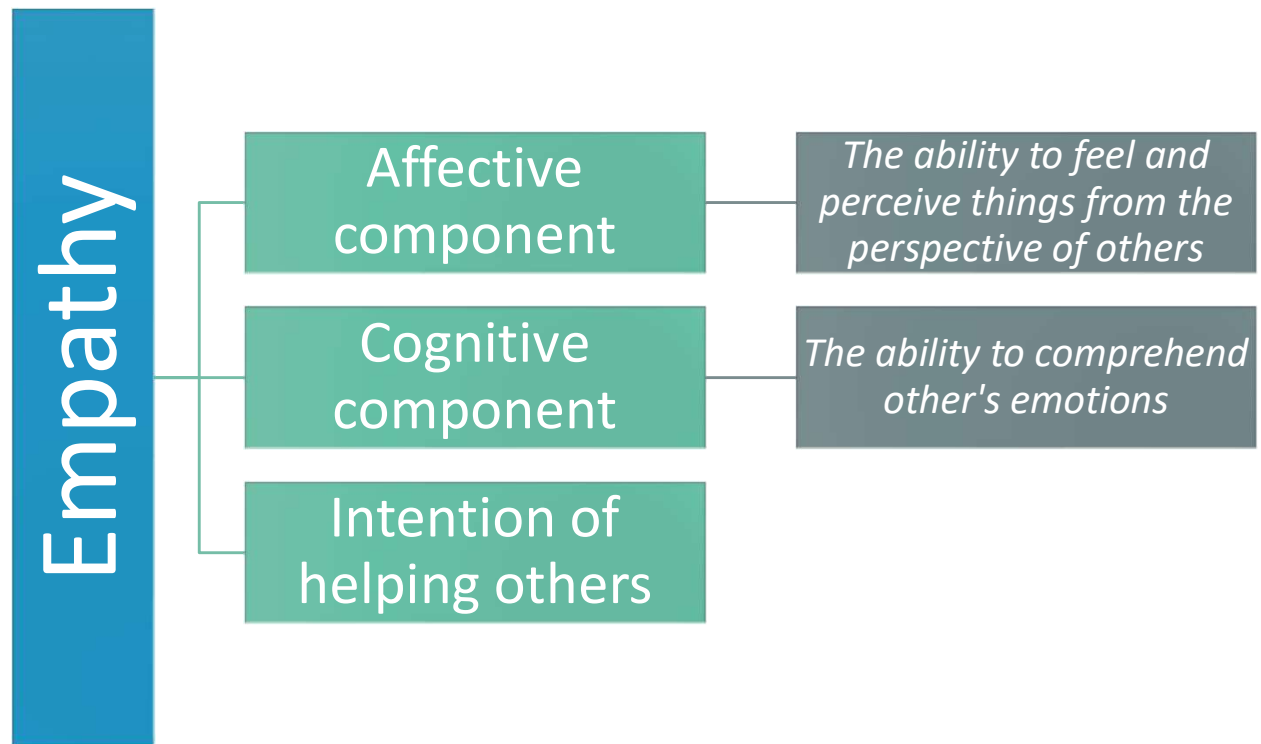
Video games that include prosocial, positive thinking or behavior

PG may develop prosocial skills:

- voluntary, positive behaviors towards others, such as...



Empathy and prosocial games



(Hatfield and Rapson, 2009; Hojat et al., 2002)

Why Empathy is Important in Learning and Teaching?



Fundamental for social relations (Preston and de Waal 2002)



Better social adaptation (Blanke et. al 2016)



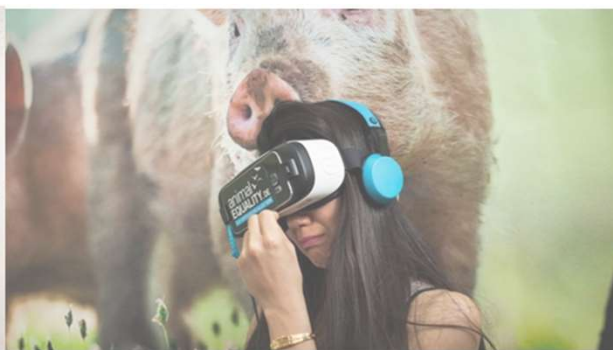
Greater teamwork skills



Greater conflict resolution capabilities



More supportive behavior (Pavey et al 2012)





Immersion and Presence

Immersion into virtual reality (VR) is a perception of being physically present in a non-physical world.

The perception is created by surrounding the user of the VR system in images, sound or other stimuli that provide an engrossing total environment.

Virtual reality can produce a visceral feeling of being in a simulated world called **presence**

Presence is that feeling of actively participating rather than passively watching



Sensory-motor immersion



Cognitive immersion



Emotional immersion



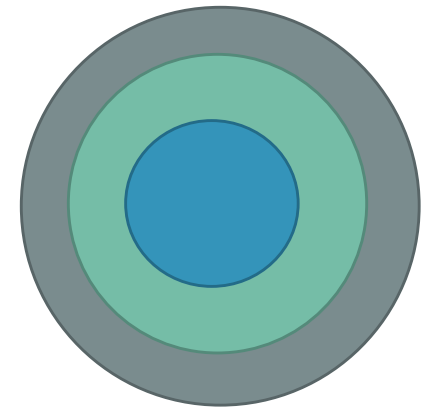
Spatial immersion

How developing a VR experience?

Editing movie



Editing VR



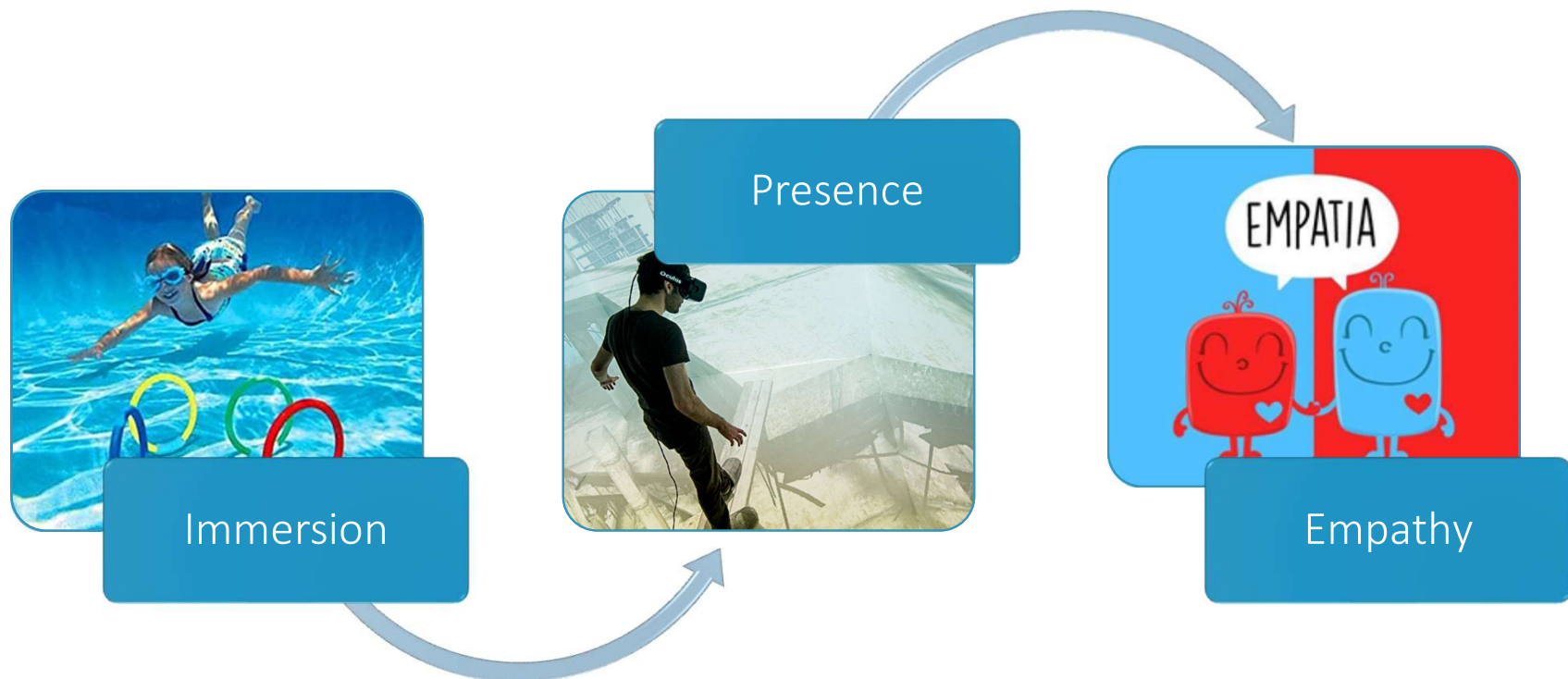
VISITOR



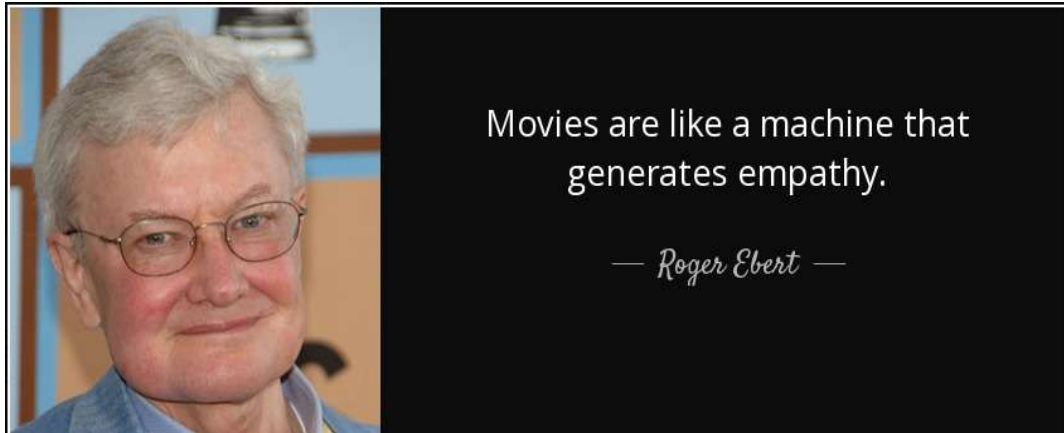
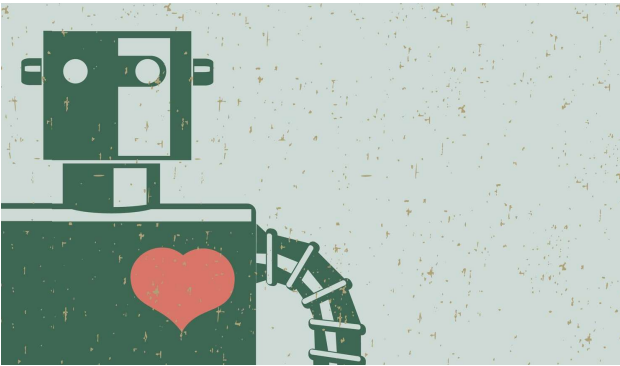
Presence and Immersion



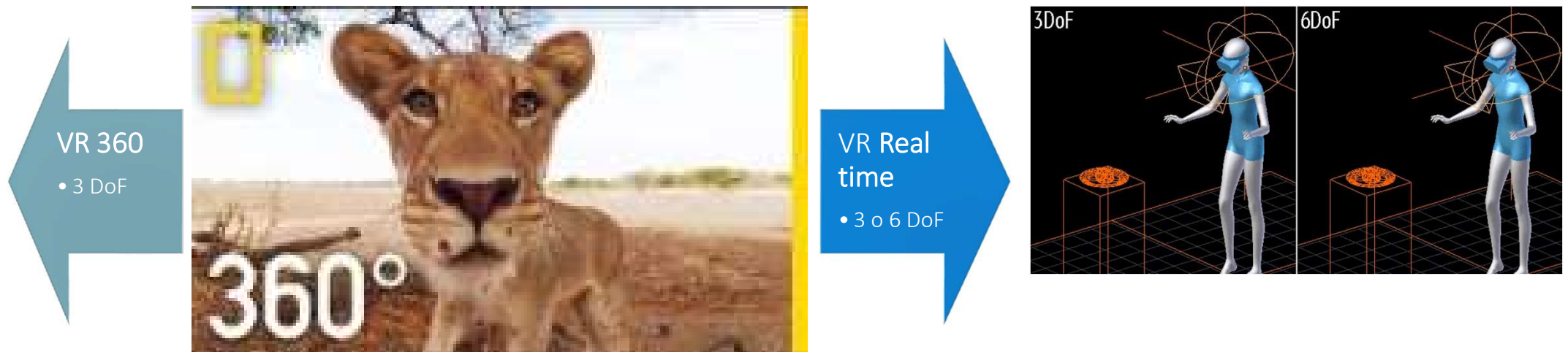
Presence and Immersion



Empathy machine



VR 360° empathic experience



Examples 360° empathic experience



Examples 360° empathic experience



Ban Ki-moon and Margaret Chan



Examples 360° empathic experience



The Blu: Whale Encounter

After the experience, people reduced significantly waste of water

VR real time empathic experience



Embodiment and “Proteus effect”



Banakou D, Kishore S, Slater M. 2018
*Virtually Being Einstein Results in an
Improvement in Cognitive Task Performance
and a Decrease in Age Bias.* Front Psychol.

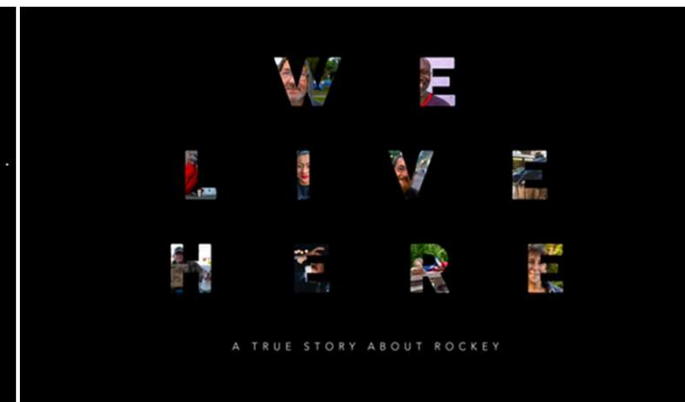
Peck et al. 2013 *Virtually Putting
yourself in the skin of a black avatar
reduces implicit racial bias*
Consciousness and Cognition



VR real time empathic experiences: examples

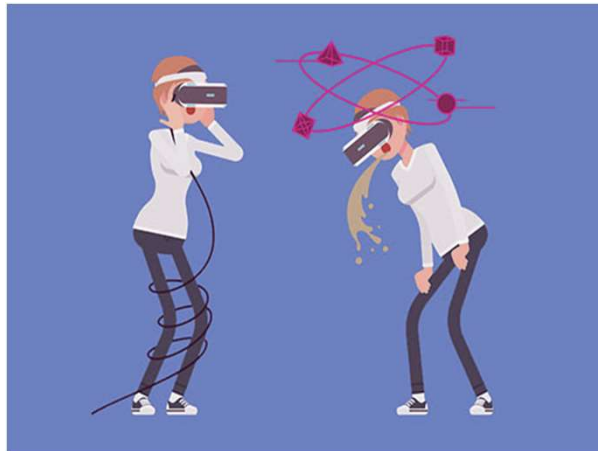
Practical activities with Oculus:

1. **The Key**
2. Notes on Blindness
3. We Live Here
4. Home After War



REMEMBER: you can ALWAYS take off your glasses

- Motion sickness
- Too much intense emotional experience
- Emotional upset



VR Storytelling



One of the most effective ways to draw a user into any experience you build is to **provide a story.** :

- (1) What is the user doing?
- (2) Why are they doing it?
- (3) how will they discover what “matters,” i.e. what’s worth doing?



Goal of VR storytelling is to tell a story that will **stimulate emotions that will influence action**

"Since the dawn of humanity, storytelling has been the engine of empathy in society. And if VR is going to change storytelling, VR is going to change humanity."

Limits of VR empathic experience



Immersive experience



Duration



Barnout



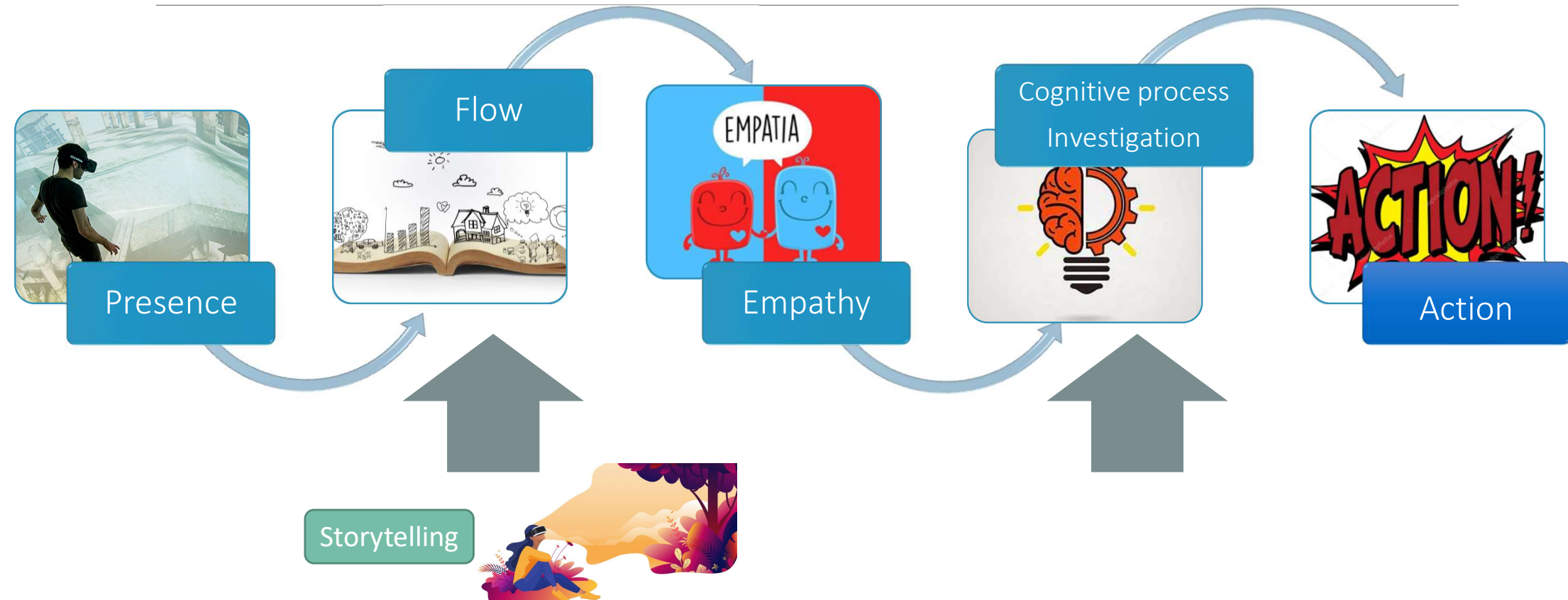
Affective empathy BUT NOT
cognitive empathy

Promove empathic
curiosity

*Please, help me to
understand how do you feel*



Correct way to create VR empathic experience



In the shoes of students with dyslexia

Test 1. Magic potion



Test 2. Defuse the bomb



Test 3. Obstacle course

- *Space-time orientation with written instructions*



Tutorial and starting

The instruction is given as dyslexic students may perceived a text

DYSLEXIA

Practical experience: Magic Potion



Phonological dyslexia performs a visual reading of the words

Problems in indirect reading, in correctly reading all the letters

Problems with **NEW** words

Selective impairment of the ability to read pronounceable non-words occurs although the ability to read familiar words is not affected

Psychological aspects:

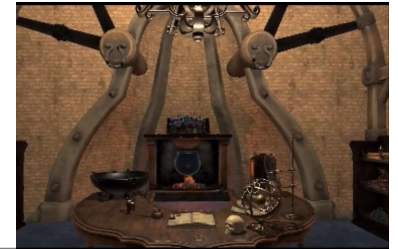
- Hurry
- Pressure
- Blaming : Professor
- Need more time
- Use of easy and common words



β Prototype



Practical experience: Magic Potion



First Help

- Tips (importance of study tips)
- Use of easier Word
- Use of different size of letter



Second help

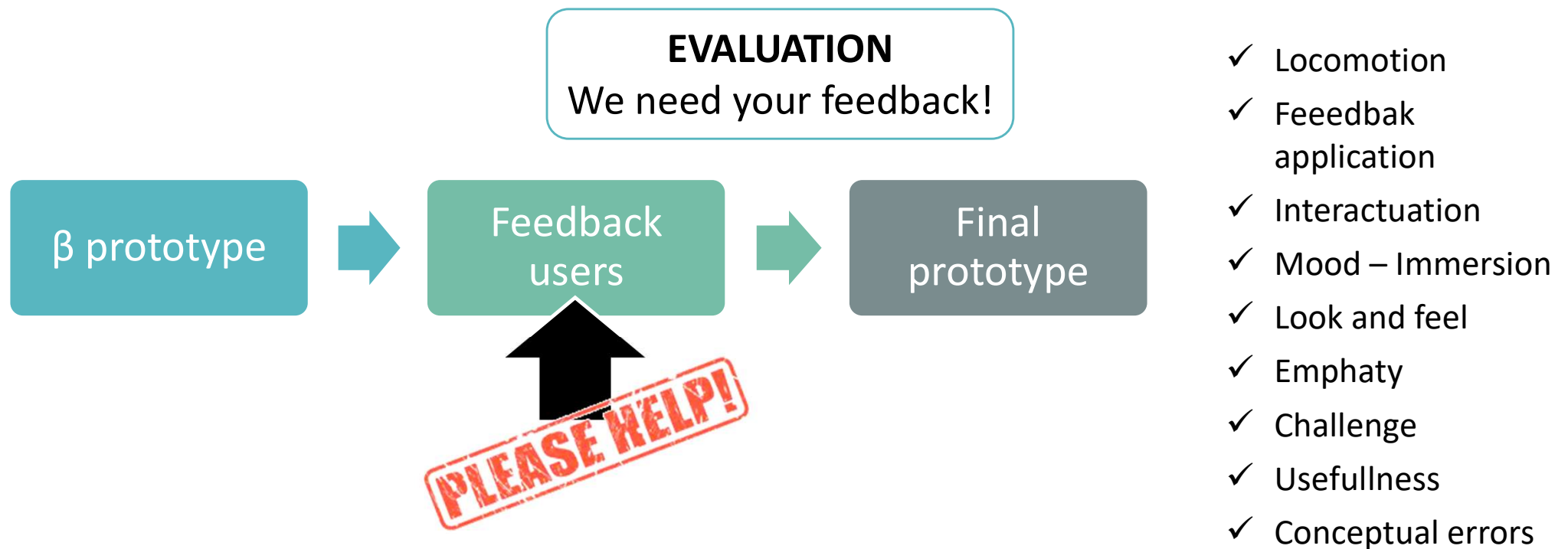
- Vocal aid (importance of audio book)
- More time (10 minutes)
- Tips



Blaming



Practical experience: Magic Potion



Defuse the bomb



Difficulty with *whole word recognition*

You have to defuse a series of bombs by following complicated instructions.

1. **Letter by letter reading:** the reading of words letter after letter, and, only after reaching the end of the word, reading the whole word. instructions appear one letter at a time .
2. **Letter position errors** the letters of the word are identified correctly, but their position within the word is incorrect
3. **Neglect dyslexia:** attention is directed to letters located on one side of a word and text (usually the right side). The first letters of words switch in the text from 'river' to 'liver,' 'cabin' to 'robin,' 'liquid' to 'squid.'

You may not remember what you have read before, thus losing the meaning of the instruction.

If you are not able to follow the instruction, the bomb will explode



WORK IN PROGRESS

Obstacle course

Dyslexia and disorientation

References



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Thank you for
your attention.
Any questions?