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# GLOBAL HARWELL ONLINE FORUM

15 Jan. 2024

Education for Collective Wellbeing and  
Global Harwell in the Age of AI and Social Media

**A role for learning technologies:  
from educational interventions to educational companions**



Slides

## Some needs

Education through authentic learning and active learning

Socio-emotional learning

Cultural, gender perspectives

...

## Social media self protection skills (SMSPS)

- **Self-awareness:** This entails recognizing how social media can impact one's emotional state and well-being.
- **Social awareness:** This involves understanding how one's online conduct can influence others and comprehending the intentions of fellow users.
- **Responsible decision-making:** This encompasses making deliberate and thoughtful choices when engaging in online activities and interactions.
- **Social media literacy:** An understanding of how SM works; following, unfollowing, posting photos etc.

## Education for Collective Wellbeing and Global Harwell in the Age of AI and Social Media

### Education through authentic learning and active learning

A role for learning technologies

- **Embedded** learning opportunities in **authentic environments**
- Able to **support suitable pedagogies**: social interaction triggering learning, game-learning mechanics (eg., narratives), learning from controversy (counter-narratives), adaptive scaffolding
- **Learning analytics**

**Narrative Scripts** borrows design elements from the Computer Supported Collaborative Learning (**CSCL**) field in combination with the use of **narrative and authentic learning pedagogy strategies**

**Narrative scripts (NS)** can **support learning** by raising awareness through motivation, external thinking, empathy, responsibility, and perspective taking in an authentic learning environment..

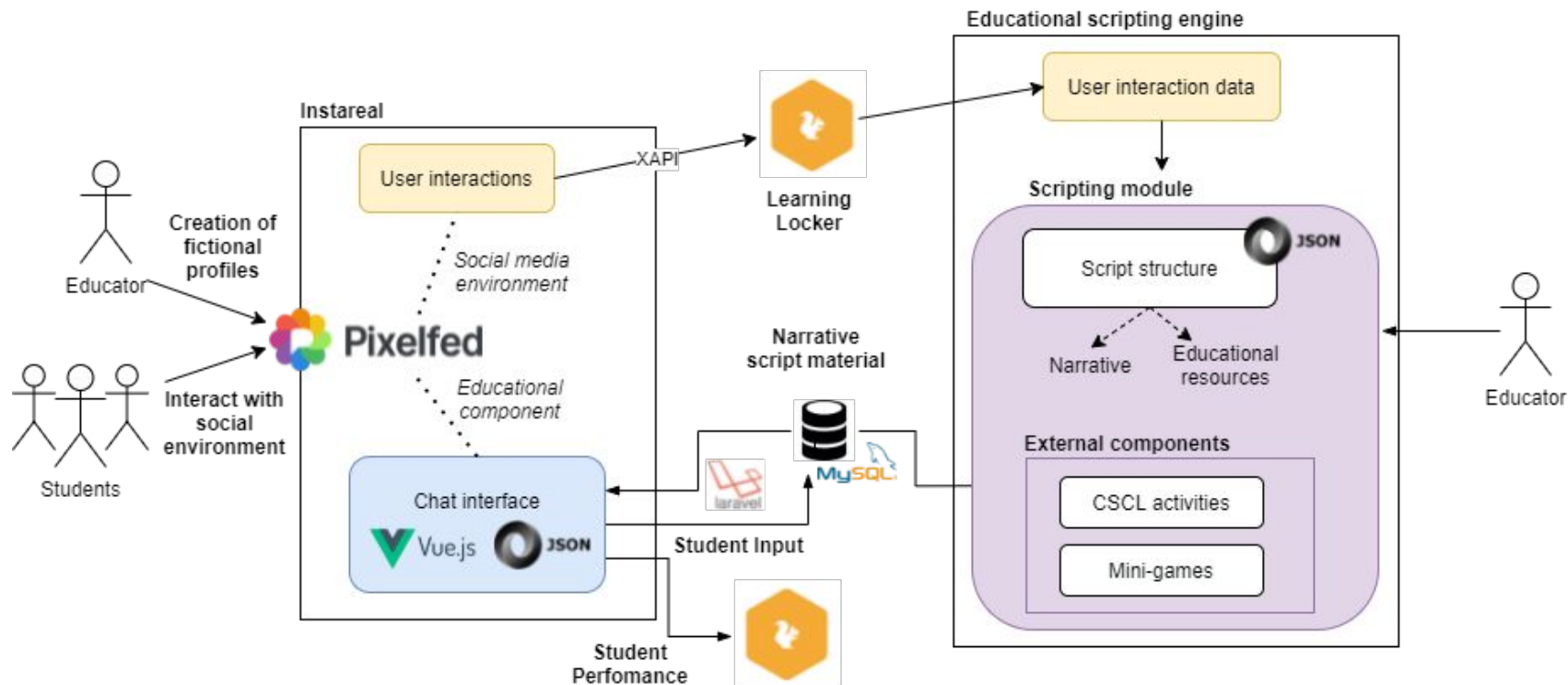
**CSCL**

**Authentic Learning**

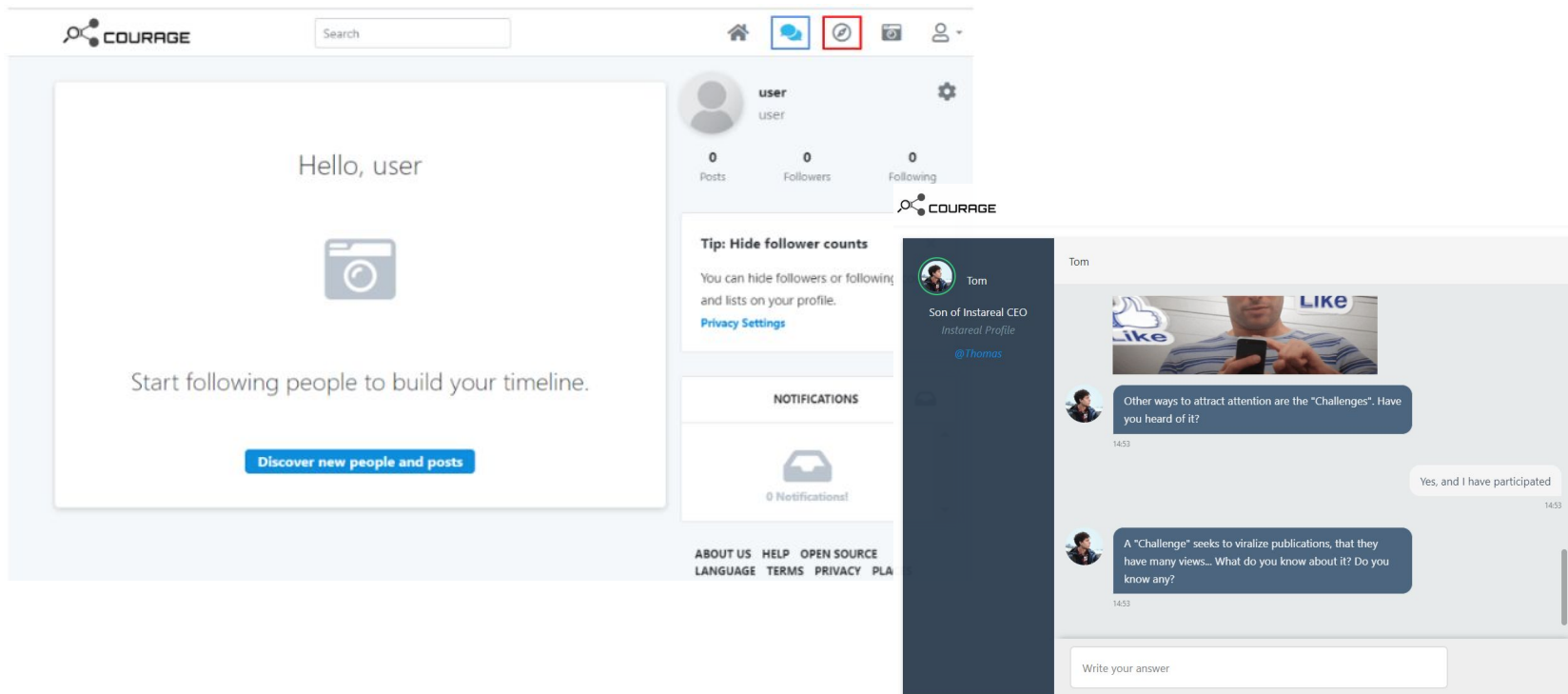
**Narratives**

**Counter Narratives**

# A controlled educational social media platform



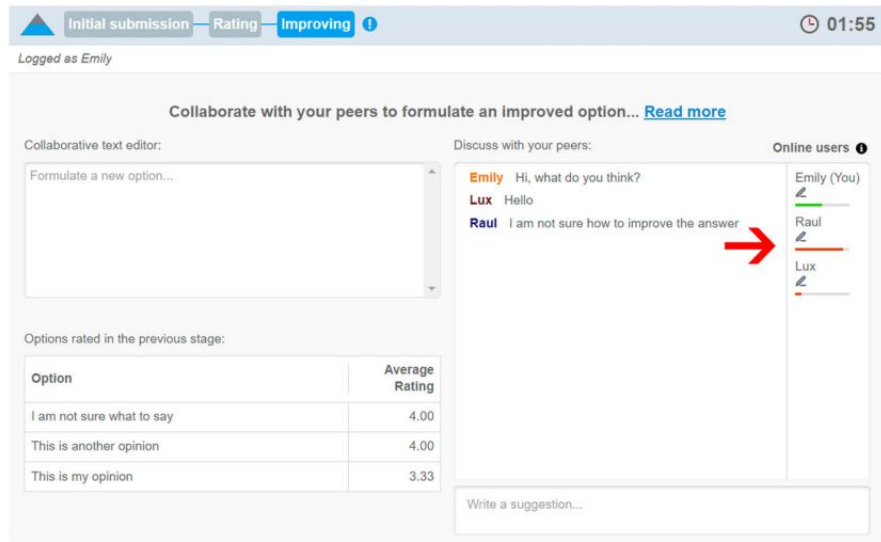
# A controlled educational social media platform



Computer supported collaborative learning (CSCL) embedded in Narrative Scripts

PyramidApp, a collaborative tool allowing students to synchronously construct improved answers through discussion (Manathunga & Hernández-Leo, 2018)

Ethics App, a collaborative tool that promotes idea sharing through social influence (Álvarez et al., 2023)



The screenshot displays the PyramidApp interface during the 'Improving' phase. At the top, a navigation bar shows 'Initial submission', 'Rating', and 'Improving' (highlighted in blue). A timer indicates 01:55. Below the navigation bar, the user is logged as 'Emily'. The main area is titled 'Collaborate with your peers to formulate an improved option...' with a 'Read more' link. It is divided into three sections: 1. 'Collaborative text editor:' with a text input field 'Formulate a new option...'. 2. 'Options rated in the previous stage:' containing a table. 3. 'Discuss with your peers:' showing a chat log with messages from Emily, Lux, and Raul. A red arrow points from the chat area to the 'Online users' section on the right, which lists 'Emily (You)', 'Raul', and 'Lux' with their respective avatars and progress bars. At the bottom right, there is a 'Write a suggestion...' text box.

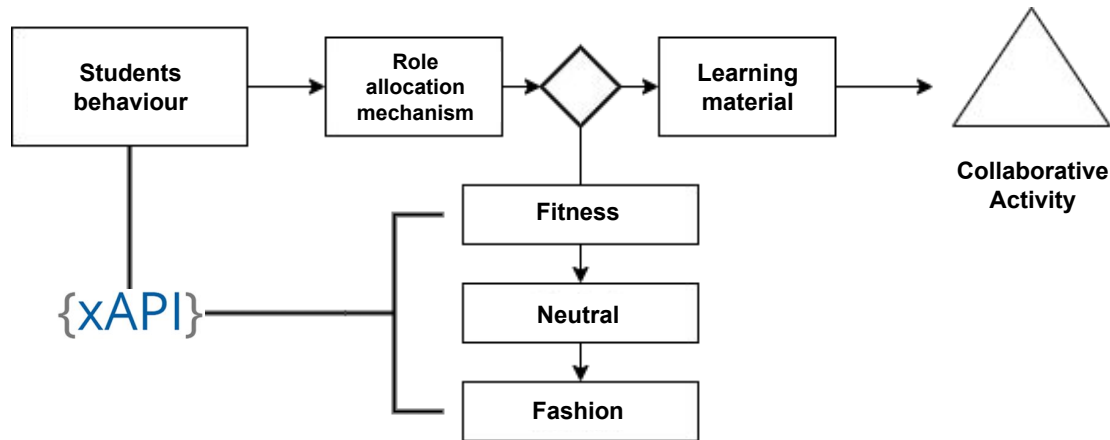
Option	Average Rating
I am not sure what to say	4.00
This is another opinion	4.00
This is my opinion	3.33

Theophilou, E., Lobo-Quintero, R., Sanchez-Reina, R., Hernández-Leo, D., and Ognibene, D. (2024). **Embedding educational narrative scripts in a social media environment** (Submitted to journal, currently under review).

Theophilou, E., Sanchez-Reina, R., Hernandez-Leo, D., Odakura, V., Amarasinghe, I., & Lobo-Quintero, R. (2023). **The effect of a group awareness tool in synchronous online discussions: studying participation, quality and balance.** *Behaviour & Information Technology*, 1-15.



A **role allocation** mechanism to expose students to social media education material **to counter their dominated views** and facilitate **collaboration among individuals with diverse perspectives**.



**Narrative Scripts** were tested in a real teaching environment: **≥ 200 Literacy Workshops**

More than **1K students** from junior and senior high schools participated in the **Courage workshops**.

Participants were recruited in **Barcelona**. Schools with diverse context (*public, private; in the city & countryside*).

The implementation considered **different learning conditions** (*motivation flow patterns, mediation of Group Awareness Tools, etc.*) while the analysis observed **different variables** (*gender, age, educational level, etc.*)

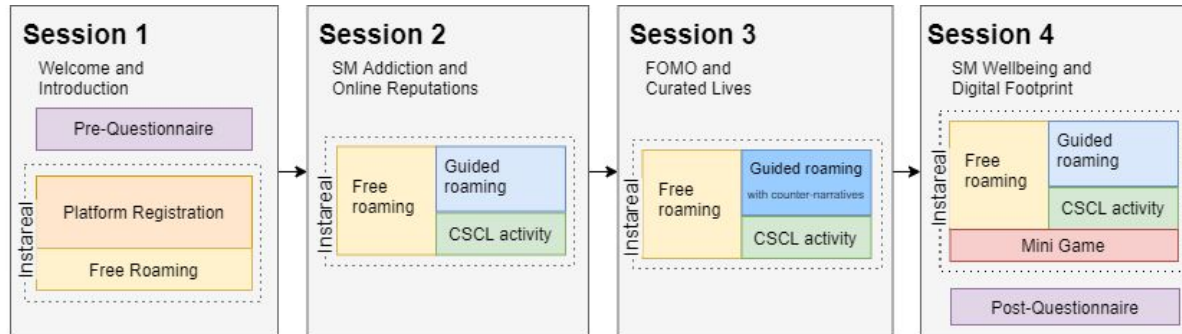
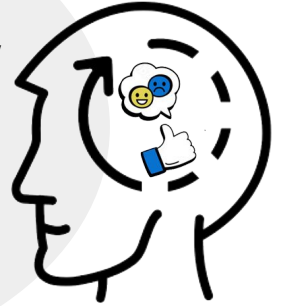


# “My Digital Self” script



Emotional constructs or frameworks that underpin how individuals interpret, manage, and interact with social media content or situations

(Schreurs and Vandenbosch, 2021)



# Some Key Findings - Social media affective skills

- Students' **affective skills improved** after using the narrative script platform
  - In particular towards the acquisition of SM skills of **responsible decision making** and **social awareness**
- Students of **different ages and gender benefited** from the intervention
- Students **rated** both material and experience **positively**
  - **Younger students** rated the material and overall experience significantly **higher** than older students

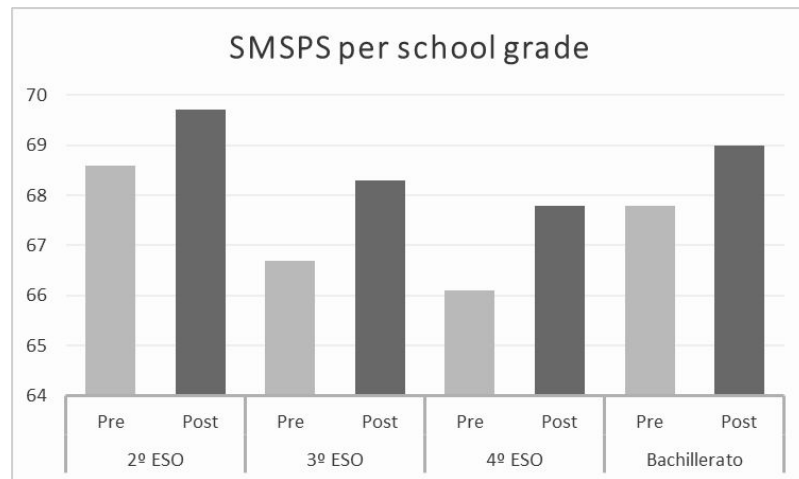
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## Participants.

**370** students across high schools in **Barcelona, Spain**.

48.9% male, 50.8% female

Ages 12 to 19: mAge= **14.9**, SD= 1.71



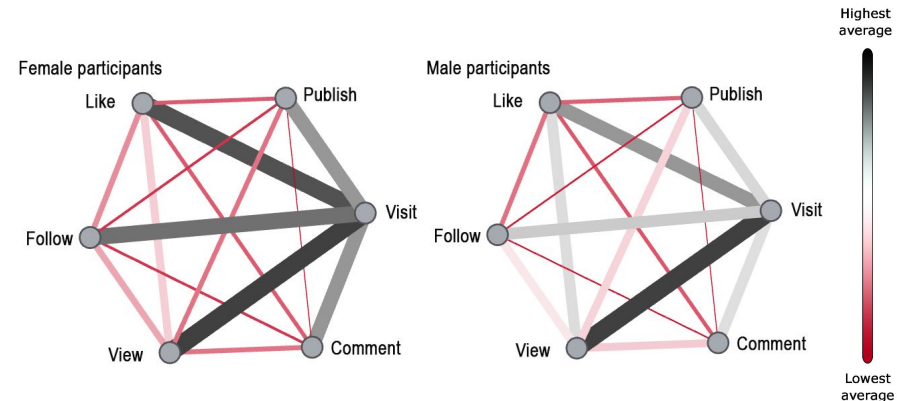
- Adolescents' behaviour within the platform **mirrored gender-based behaviours** observed on **real social media platforms**
- Male students adopted a more **content-centric** approach to their interactions, focusing primarily on the immediate content presented to them.
- Female students exhibited a greater tendency to seek additional context through **profile exploration**, indicating a preference for a more thorough analysis of the information they interacted with.

## Participants.

**142** students across high schools in **Barcelona, Spain**.

52.8% male, 47.9% female

Ages 12 to 19; mAge= **14.7**, SD= 1.62



An AI literacy implemented within the platform and the integration of a low accuracy AI tool to **question students trust in AI predictions.**

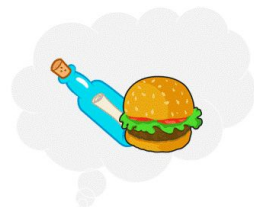
- Social media algorithms **awareness** was higher after the intervention
- Students critical **attitudes** towards social media algorithm **recommendations** was increased
- Students critical **attitudes** towards social media algorithm **addiction** was increased
- The use of a low accuracy AI tool did not negatively affect learning and questioned students trust in AI predictions

## Participants.

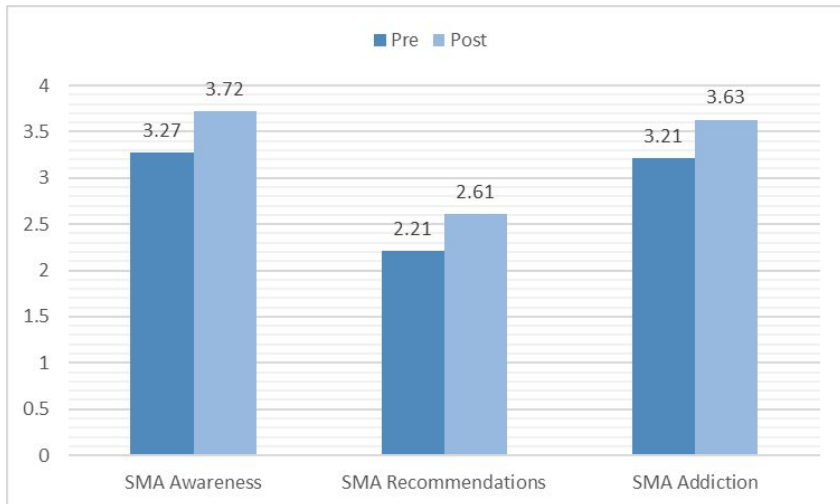
**144** students across high schools in **Barcelona, Spain.**

54.86% male, 45.14% female

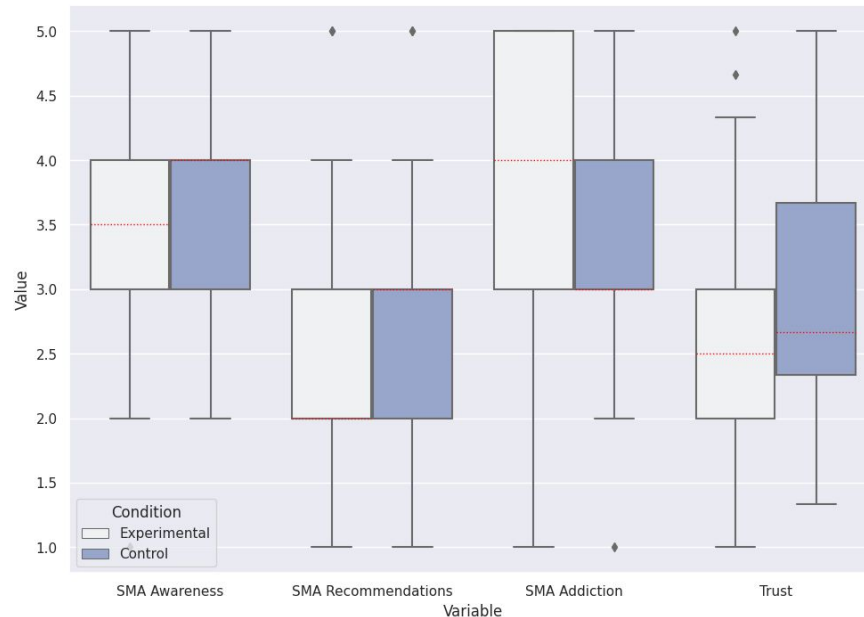
Ages 12 to 19: mAge= **14.8**, SD= 1.71



## Algorithms literacy



## AI tool exposure



01

What did students enjoy from the activities?

- Collaboration: Opportunity to work/discuss with their peers
- Easy instruction/directions to conduct the activities and solve the tasks
- Useful application: Learning gains to understand better the SM environment

02

How did students experience the learning environment?

- Sense of belonging: Felt part of group; identified with the depicted situations
- Comfort with the topics.
- Freedom to interact with the content and their peers

03

What improvements would students do for the NS?

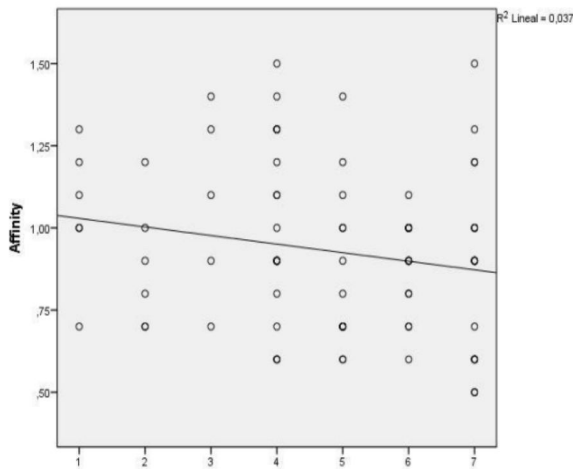
- Recommended more naturalistic interaction (chatbot dialogues)
- Avoid repetitive tasks (fewer evaluations)



## A AI educational companion labeling images on social media

While our pilot study<sup>[Study a]</sup> revealed that students are likely to have significantly positive attitudes towards stereotyped body images on Instagram.

The evaluation of our intervention<sup>[Study b]</sup> showed that labeling images on social media can **enhance users' SM literacy and reduce their preference for edited body images.**



Teens' attitudes to edited images after Social Media Literacy Intervention

[a] Sánchez-Reina, J. R. et al. (2021). **The power of beauty or the tyranny of algorithms: How do teens understand body image on Instagram?** In B. Castillo-Abdul & V. García-Prieto (Eds.), *Prosumidores emergentes: redes sociales, alfabetización y creación de contenidos* (pp. 429-450). Sevilla: Editorial Dykinson S.L.

[b] Rodríguez-Rementería A. et al., (2023). **Etiquetado de imágenes corporales. Un método para educar sobre la exposición en redes sociales.** In Darder, A., Negre, F. & Villatoro, S. *Paisajes de aprendizaje: Enfrentando desafíos con tecnologías digitales*. Dykinson.

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From educational interventions to learning companions

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<http://www.upf.edu/web/tide> - <http://www.upf.edu/web/courage>

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