Université du Luxembourg

multilingual. personalized. connected

Augmented Reality: an attractive way to teach languages for the new pre-service teachers' generation?

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LANGUAGE IN THE HUMAN-MACHINE ERA

cost
EUROPEAN COOPERATION
IN SCIENCE & TECHNOLOGY

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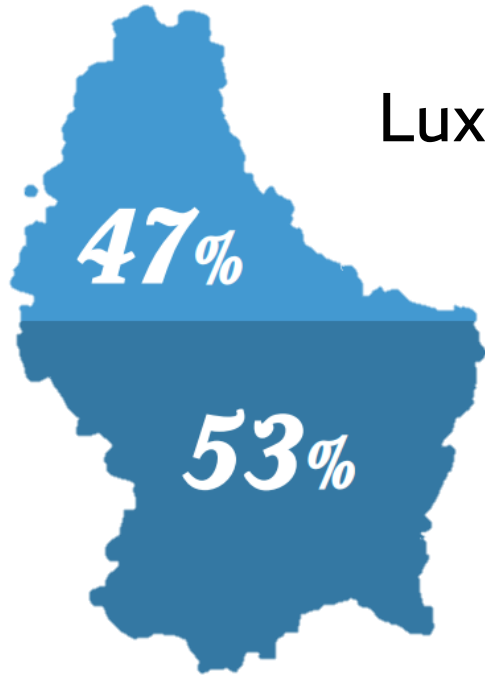
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I- Background

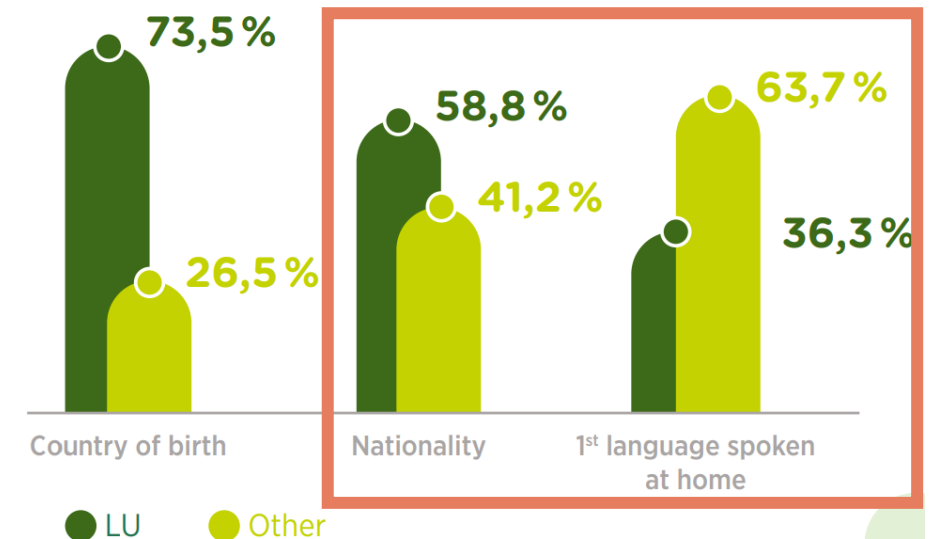i. Luxembourg and its university

47%

53%

Luxembourg, in 2022 (Laurent & Doré, 2022: 3)

more than 170 different nationalities

more than 47% of the population in Luxembourg is foreign

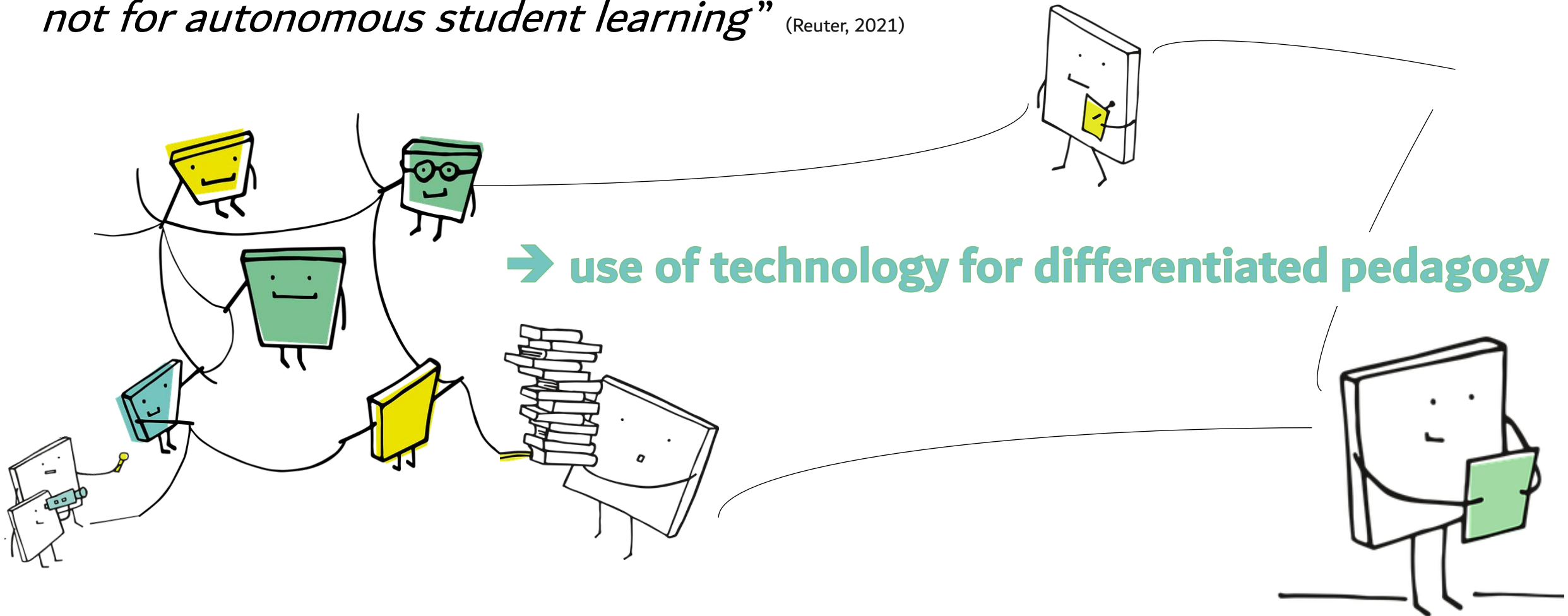**Secondary education**

73,5 %

58,8 %

63,7 %

41,2 %

26,5 %

36,3 %

Secondary school, in 2022 (MENJE, 2022 : 2)

Heterogeneous classrooms

Country of birth   Nationality   1st language spoken at home

● LU   ● Other

"*Digital tools [are] used to support teaching
not for autonomous student learning*" (Reuter, 2021)

➔ **use of technology for differentiated pedagogy**

"The Ministry of Education has, a few years ago [before 2023], started to develop and implement digital education policies to encourage schools and teachers to develop educational practices for a digital age." (Reuter, 2023)

rtl.lu
https://5minutes.rtl.lu › actu › luxembourg ⋮

Le boom des classes iPad au Luxembourg

9 déc. 2019 — 649 **classes** travaillent actuellement au Grand-D
cadre du projet "one2one". Le ministre DP souligne que ce chiffr

12.000 computers
7.000 laptops

8.500 IPads

26.500 IPads

Luxemburger Wort
https://www.wort.lu › Luxembourg ⋮

L'équipement numérique des professeurs continue en 2022

4 avr. 2022 — Depuis 2020, plus de 2.000 prêts d'**iPads** ont été demandés par les ... vig
lorsque des cas positifs étaient déclarés dans leurs **classes**.

Master in Secondary Education - French Language and Literature

On 120 ECTS, 9 <u>mandatory</u> ECTS are solely devoted to digital methodology and pedagogy in the classroom

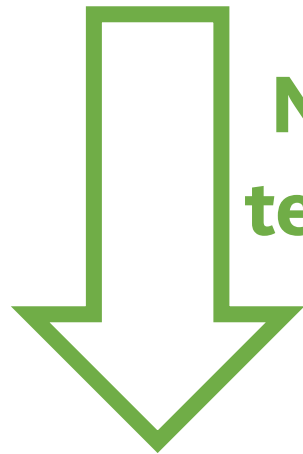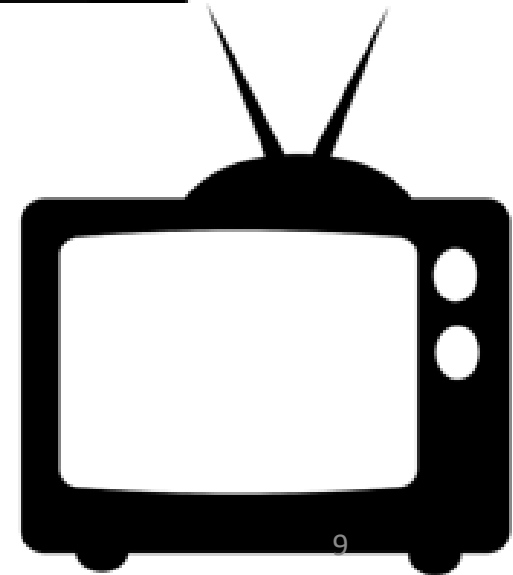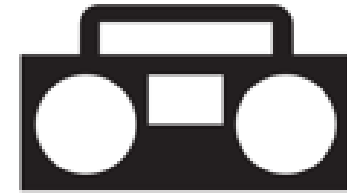|	CM (hours)	TD (hours)	ECTS
Modul: Lehren und Lernen			
Digitale Didaktik [F3_SECEDUC-2]	28		4
Module : Didactique de la langue et des médias			
Didactique de la langue [F3_SECEDUC-4]	28		5

I- Background

ii. Digital Era, Digital Natives?

Digital Era
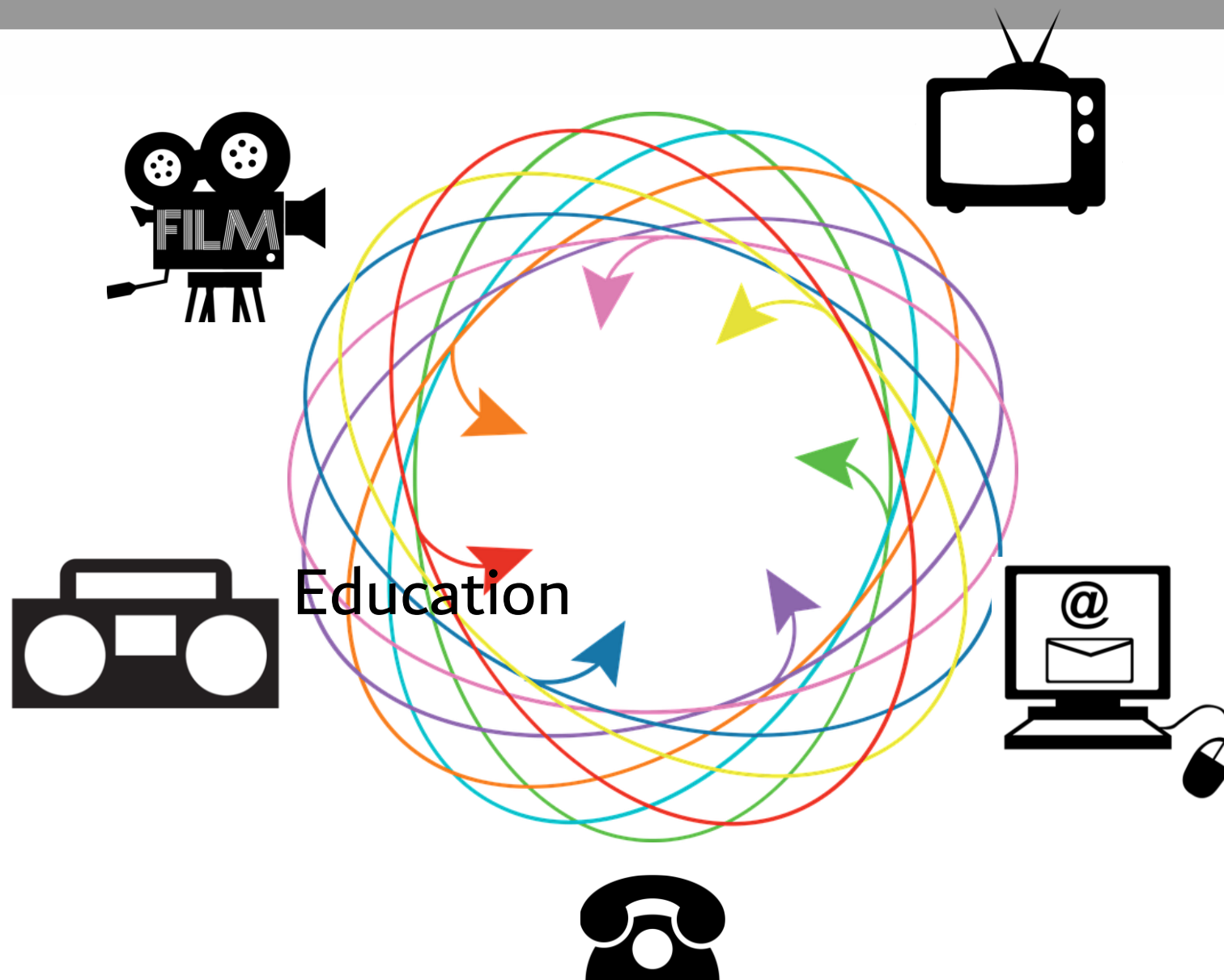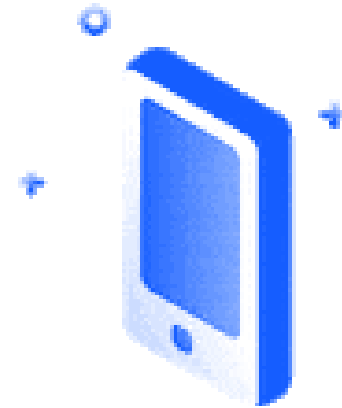
New digital technologies

Education

Education

« Digital Natives »

I- Research background

iii. **Augmented Reality**

"the manifestation (...) of a virtual object displayed in a real-world space" (Iqbal et al., 2022: 1)

MIXED REALITY
(MR)

REALITY   AUGMENTED REALITY   AUGMENTED VIRTUALITY   VIRTUAL REALITY

Source: Twitter

Advantages for language teaching:

- « Mobile learning » : requires only a portable device, such as an IPad or smartphone (Elmeziane & Lecorre, 2021: 2; Iqbal & al., 202 :2; Punar Özçelik & al., 2022: 133)

- Reinforces the learner's role as an actor (Iqbal & al., 2022 : 22 ; Punar Özçelik & al., 2022: 133)

- Positively affects motivation and attitude to learning (Hein & al., 2021 : 131 ; Iqbal & al., 2022 :2 ; Punar Özçelik & al., 2022: 133)

- Is effective and facilitates retention, especially of the lexicon (Iqbal & al., 2022: 23 ; Punar Özçelik & al., 2022: 131 - 144)

- Offers an experiential mode (Arneton & al., 2022: 74; Iqbal & al., 2022: 8), in an environment close to real life (Elmeziane & Lecorre, 2021: 2), and contextualized (Punar Özçelik & al., 2022: 133)

- Is in line with the technological trend and the new tech-savvy generations (Elmeziane & Lecorre, 2021: 3)

Disadvantages for language teaching:

- Cannot work without portable device (hardware processor) (Punar Özçelik & al., 2022: 134)

- Depending on the app: requires an internet connection (Nisiforou & al., 2021 : 165)

- "Wow" effect (called novelty effect) that can distract from learning (Elmeziane & Lecorre, 2021:16; Hein & al., 2021 : 128)

- Handling of the technology by the users (Punar Özçelik & al., 2022: 146) and by the designers (Hein & al., 2021 : 128)

II- Research question

Statements :

- « [In 2021], *for many teachers, it is still unclear how they should use (...) new [digital] tools in their teaching »* (Reuter, 2021)

- « *(...) though learners in this generation have only experienced a digital connected world, they are not capable of (...) navigat[ing] th[e] [digital] world for effective and efficient learning and knowledge construction »* (Kirschner & De Bruyckere, 2017 : 140)

Question:

In Luxembourg, how does the new digitally connected generation of pre-service teachers perceive AR as a new classroom methodology ?

III- AR and digitally connected pre-service teachers

i. Case study design

Topic:

Introduction of AR to pre-service high school teachers

Setting:

Students attending the mandatory lecture on «Didactique de la langue et des médias», from the master in Secondary Education - French Language and Literature

Number of participants: 17

Gender:

13 female ; 4 male participants

Age range:

88% between 20-30 y. old

Steps:

1) Survey to assess their prior knowledge

2) Lecture on AR and its uses in the language classroom

3) Autonomous creation of a 10min.-long AR activity that could be used in a language class

4) Survey to assess their perceptions after the test

III- AR and digitally connected pre-service teachers

ii. Analysis

Yes

But

« Able to use media tools with ease »

« Tech savvy »

« IT skills »

« It is not because we have always known something that we necessarily know how to use it in an optimal way. »

➔ **In depth vs. surface knowledge**
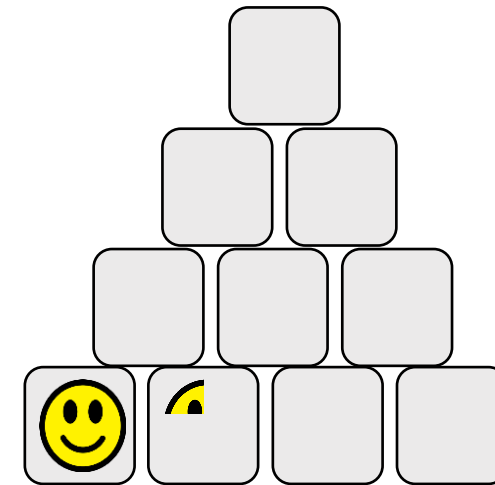
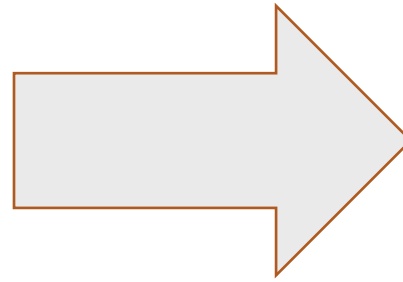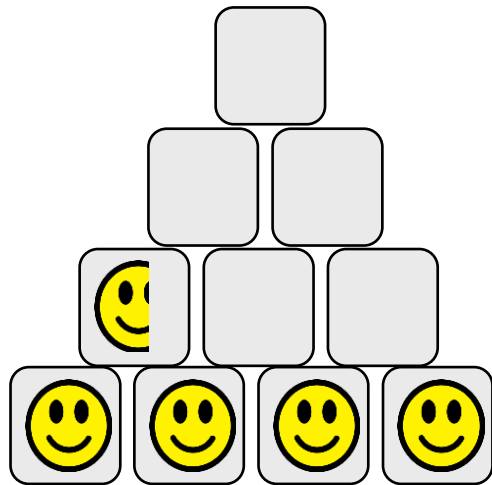3 out of 4 agree that as Digital Natives, they expect to attend and to create classes with more digital content.

« For an interactive activity, I find it faster to bring objects to the classroom. »

➔ **Reality vs. virtuality**

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I know augmented reality well

User perspective
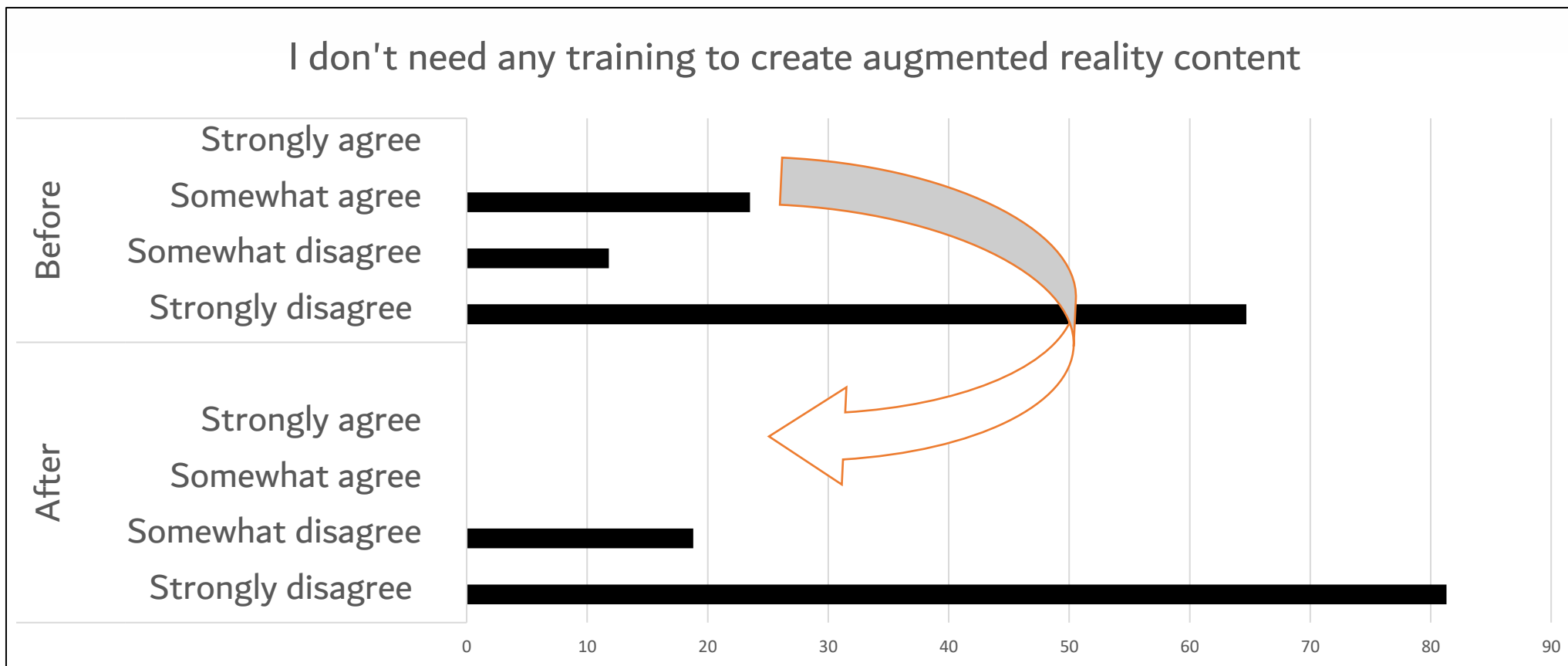
Before 47,1 % → After 12,5%

Conclusion:
Being a Digital Native doesn't guarantee an intuitive knowhow on new technologies

I don't need any training to create augmented reality content

Before
- Strongly agree
- Somewhat agree
- Somewhat disagree
- Strongly disagree

After
- Strongly agree
- Somewhat agree
- Somewhat disagree
- Strongly disagree

Content creator : training needs

Before 76,5 % → After 100 %

Conclusion:
The awareness of a training need in AR content creation is amplified after testing.

Conclusion 1:
Being a Digital Native doesn't guarantee an intuitive knowhow on new technologies

Conclusion: 2
The awareness of a training need in AR content creation is amplified after testing.

Lack of immediate familiarity > reluctance to engage with this technology

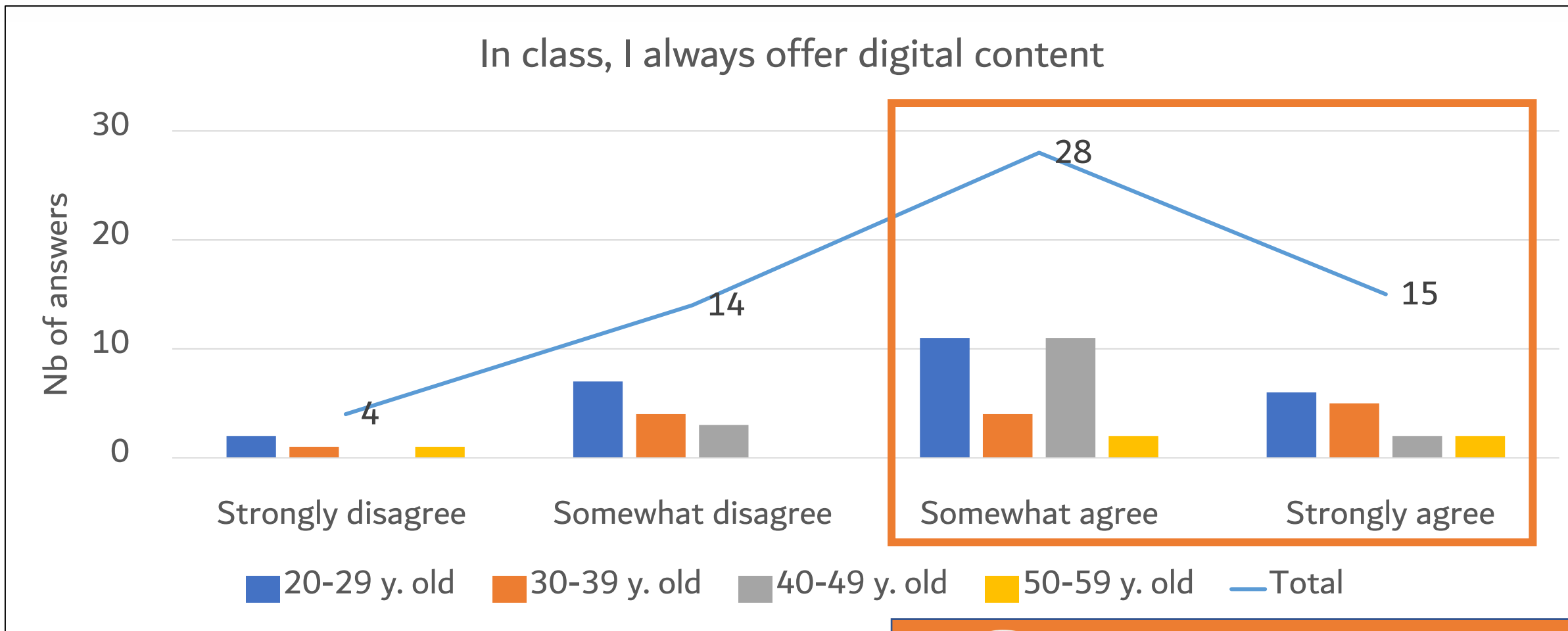« I think we can spend our energy on other aspects of the course »

Do not see added value of AR in the language classroom

In favor of the integration of digital contents

NO

YES

In class, I always offer digital content

43/61 : favorable

IV- Next steps

« pedagogical added value of technology »

Noben, 2022: 47-48

Digital integration allows the teacher to
« (...) perform a task <u>more efficiently</u>
or to (...) perform a task <u>that could not have been performed without digital technology</u>,
<u>all of which with pedagogical value</u> »

Noben, 2022 : 46-47

For this new digitally connected generation of pre-service teachers, who is in the end "Digital Native" in name only :

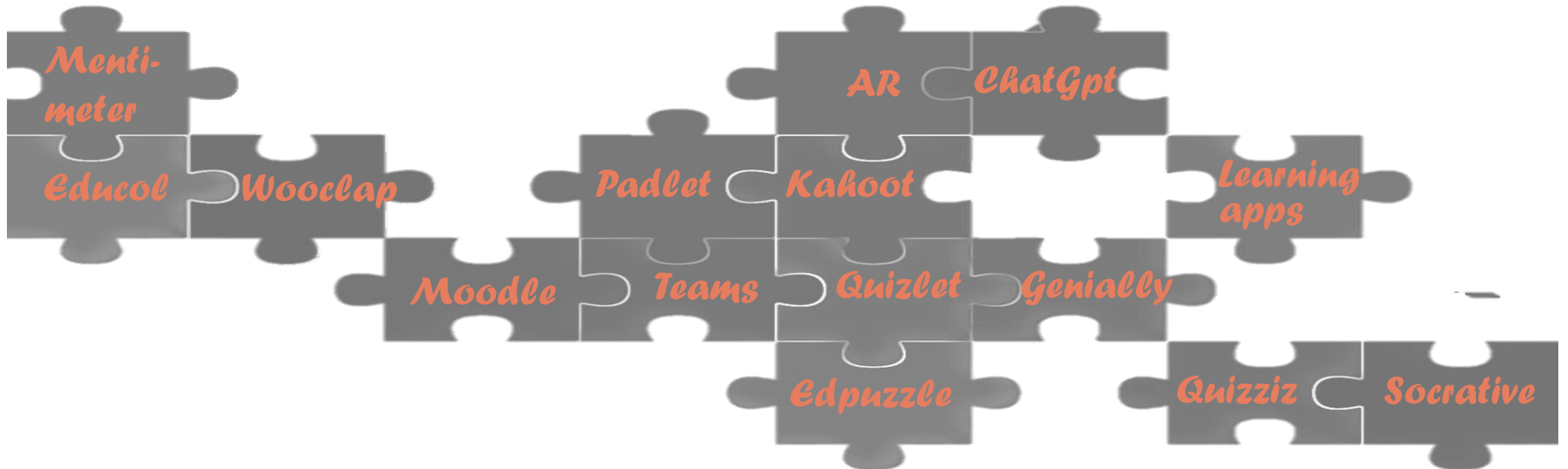Continue to train them in new technologies even if they do not see the immediate benefits

Provide them with more technical training so that they can become familiar with these types of technologies, e.g. AR
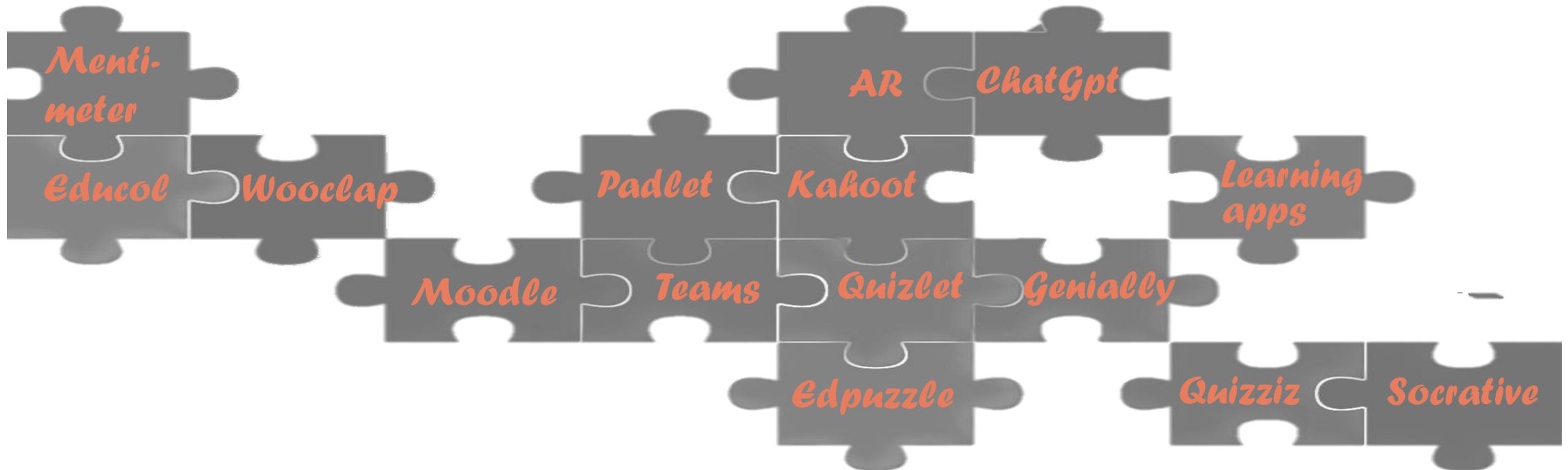
Train them in how to combine several tools in their teaching

Shadiev *& al.*, 2021 :18

Villmools Merci

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Any questions
or
comments?