



**SFUVET**

SWISS FEDERAL UNIVERSITY  
FOR VOCATIONAL EDUCATION  
AND TRAINING

*Swiss excellence in vocational  
education and training*

# REQUIREMENTS FOR VET TEACHERS AND THEIR NEED FOR DIGITAL COMPETENCES

**Francesca Amenduni & Chiara Antonietti**

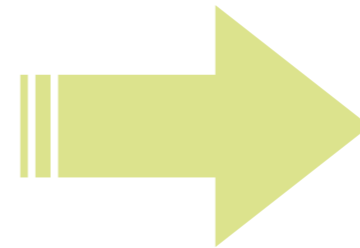
8<sup>th</sup> September 2021

# The Digital Transformation

Disruptive digitalization of workplace and Industry 4.0

Learners' digital competence

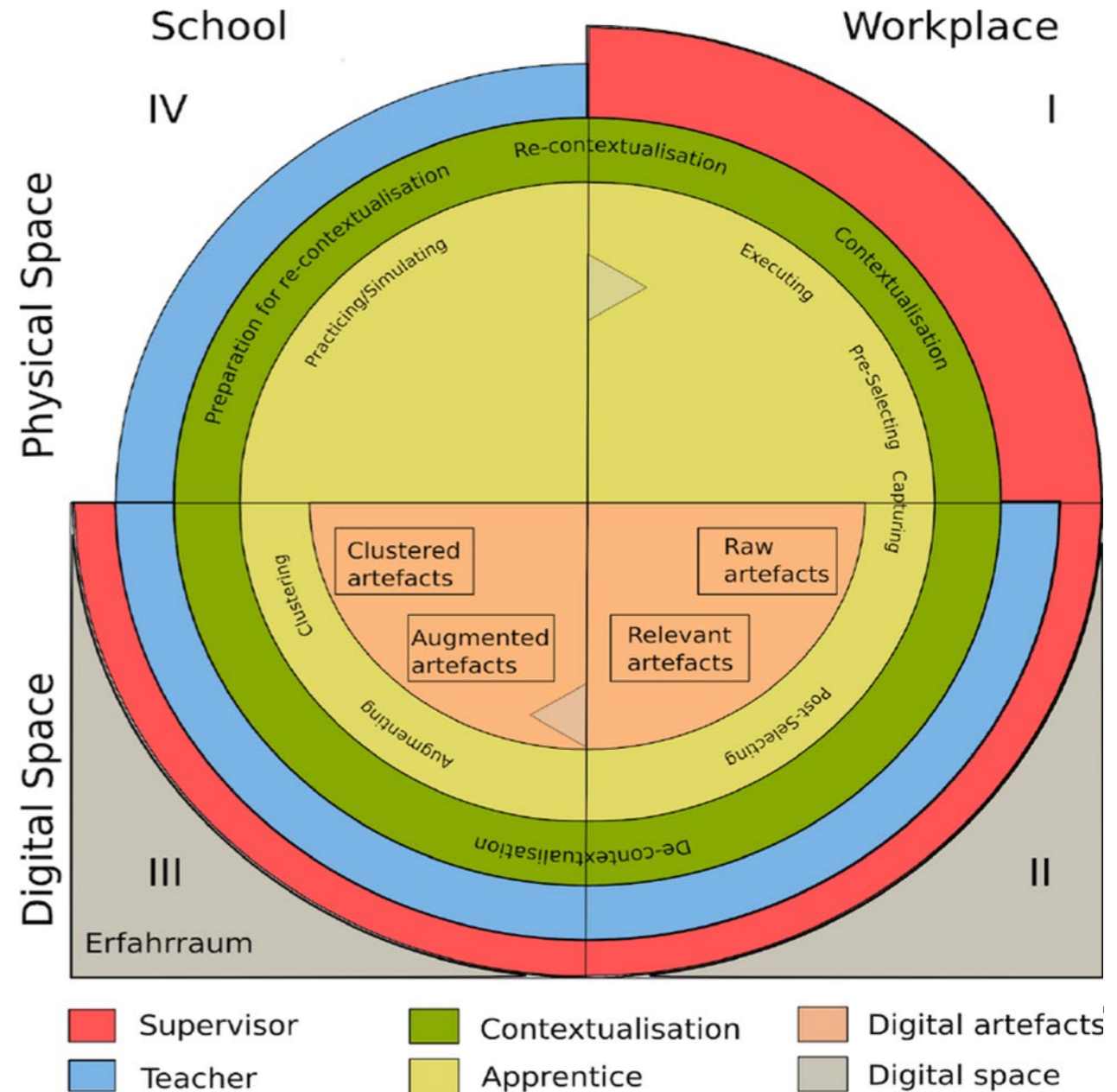
Evidence-based models



Changes in  
VET  
programs

# The Erfahrraum (Schwendimann, et al., 2015)

is a technology-enhanced pedagogical model for supporting students' learning at the borders between VET school and workplaces.



# e-DAP

German: <https://youtu.be/1rlK3o-lyLg>

Italian: <https://youtu.be/aiaPZeHuCCc>

The e-DAP is a mobile learning solution allowing chef apprentices to create one's recipe book, which in the Swiss context has also the function of Learning Personal Documentation (LPD). For each recipe, apprentices can upload a set of pictures of their professional performance, taken through a smartphone. Each recipe in the e-DAP is always combined with a few prompts for the apprentices to further reflect on their professional experiences. In-company supervisors can comment apprentices' reflections, giving a contextualized and focused feedback.

# GARDEN VR

<https://youtu.be/lqHmQAn0mcg>

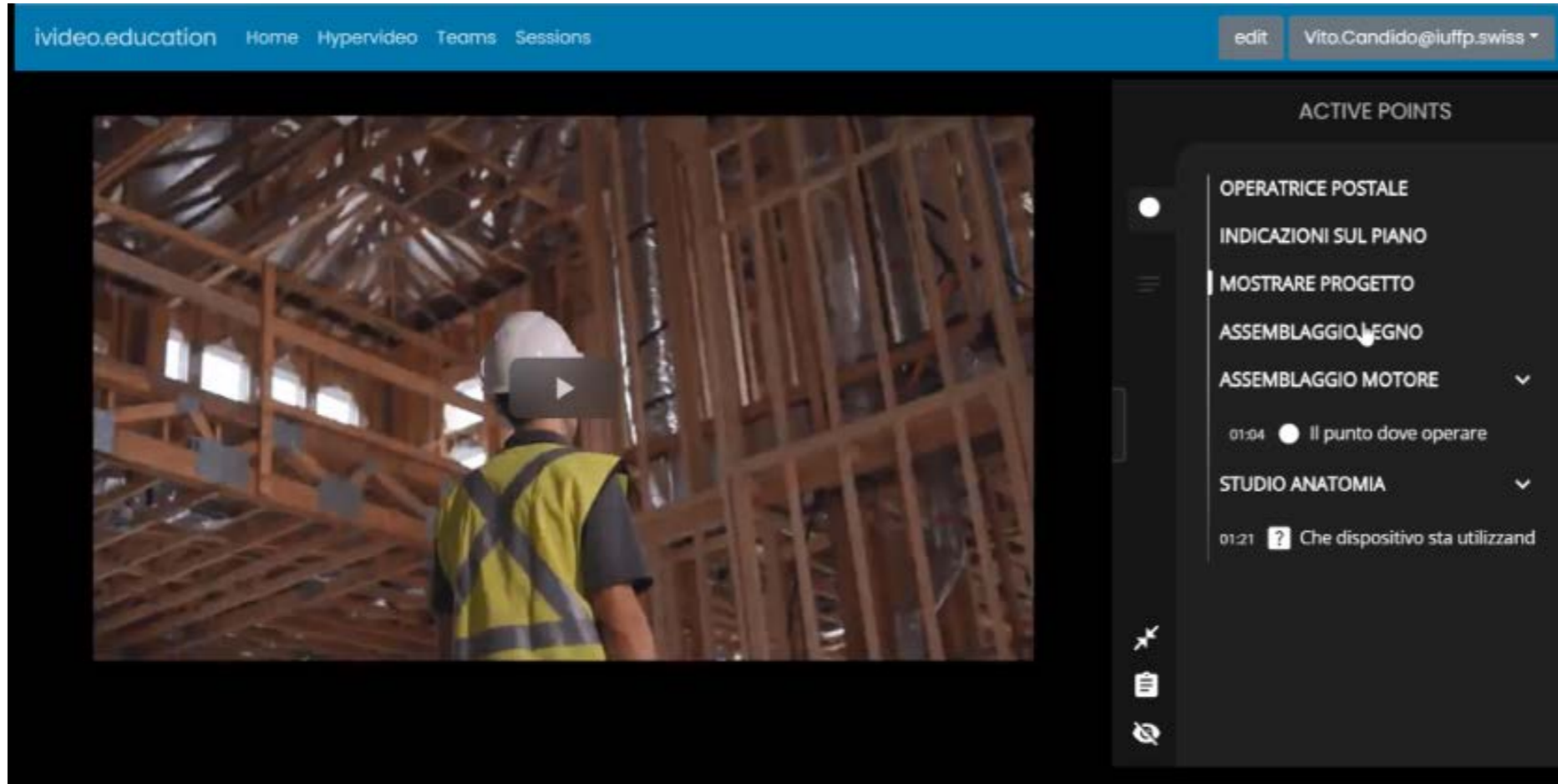
**Garden VR** allows apprentices to practice and develop their designing skills through designing a virtual garden in an immersive environment. In **GardenVR** apprentices can experience two main perspectives called the *design mode* and the *explore mode*. In the *design mode*, the learners are given the top view of the garden and they can place objects such as trees in the garden. In the *explore mode* instead learners can explore the garden by walking through it in a 360-degree 3D environment. Apprentices are invited to switch between the two modes in accordance with their objectives. **GardenVR** also provides the functions of daily, seasonal, and yearly changes in the gardens. Learners can fast-forward the time to visualize the evolution of the garden supporting the advantage of VR-based simulations to reduce the time demand for experiments.

# Realto

<https://youtu.be/dK44Lw17wLg>

The **Realto** application was designed to be used by whatever profession and at the same time to be customizable in the learning documentation section to the need and specificities of the single profession. **Realto** allows the users to share professional-related experiences through different media such as photos, text, audio, video and to interact with peers in a Social network environment (based on posts, comments, messages, likes and sharing). Moreover, it connects the stakeholders (apprentices, teachers and supervisors) to inform and coordinate the competence development progress.

# iVideo.education

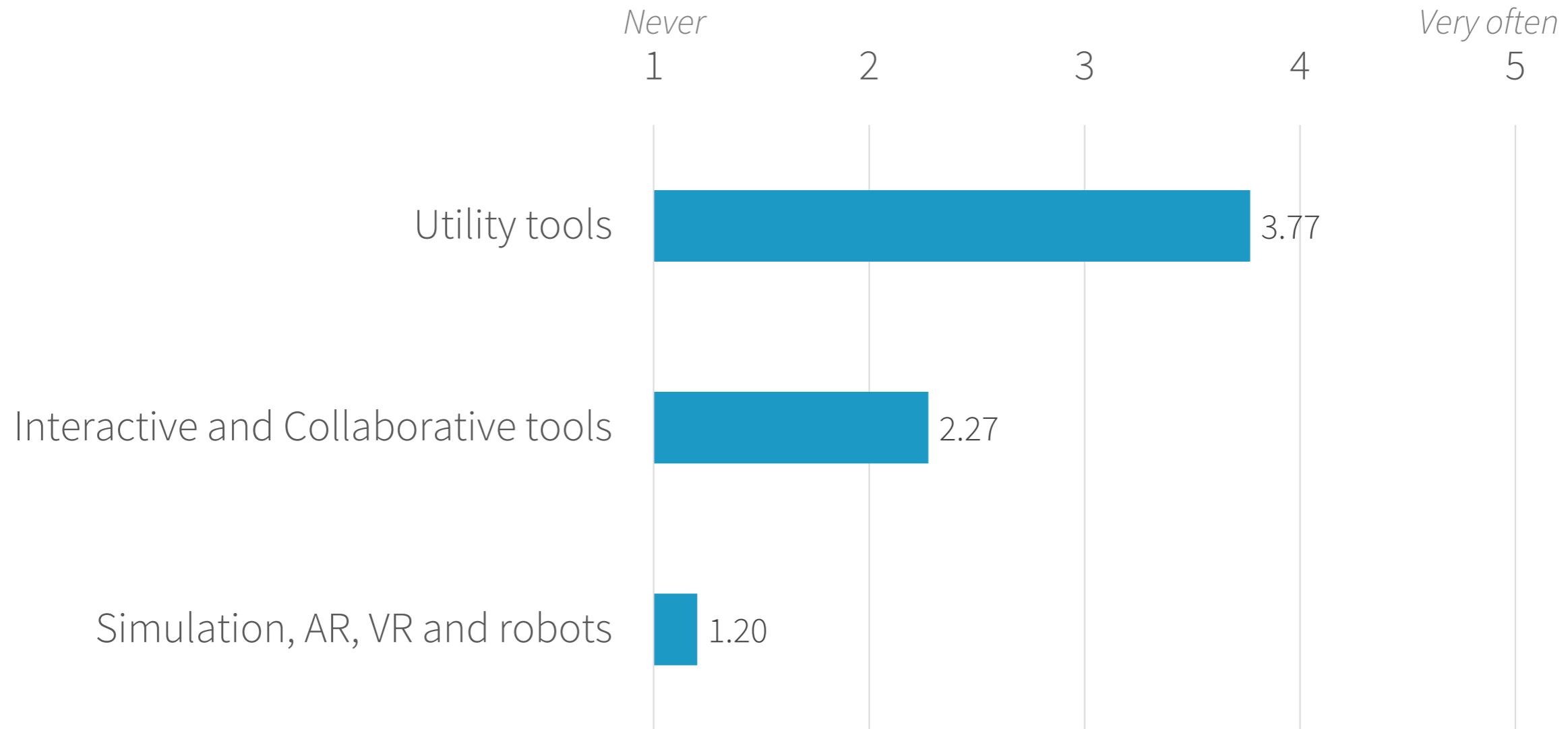


\*Video not available

iVideo.education is a digital platform specifically designed to turn simple videos into hypervideo for professional training purposes.

iVideo allows the trainers to highlight critical incidents within the video-recorded professional practice (by introducing simple animations like active points) to stimulate the apprentice reflection. Moreover, apprentices and the teachers can insert comments in specific video time-frames (so called video annotations).

# Digital tool use in VET (SFUVET study, 2020)



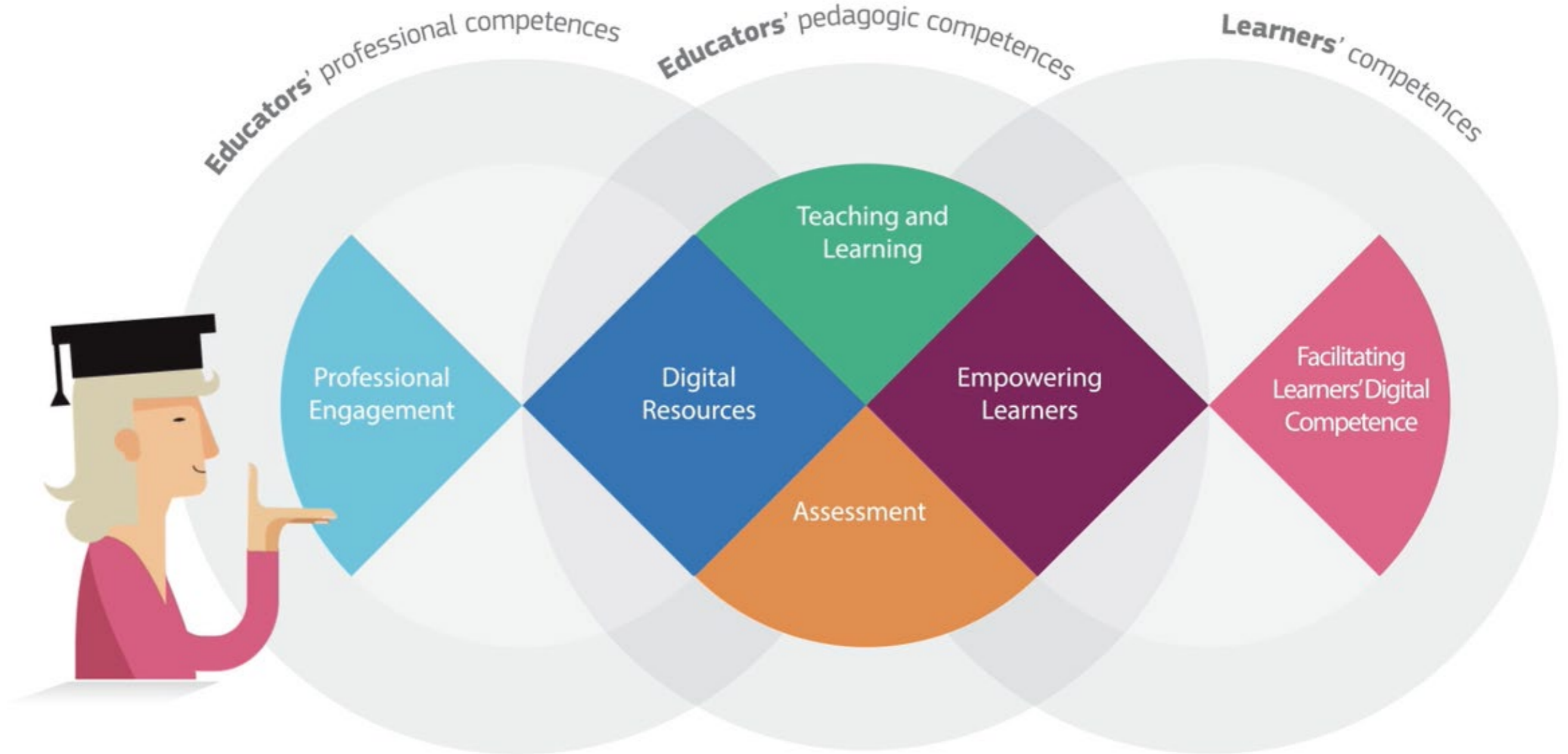


For a successful implementation of educational digital technologies in VET contexts...

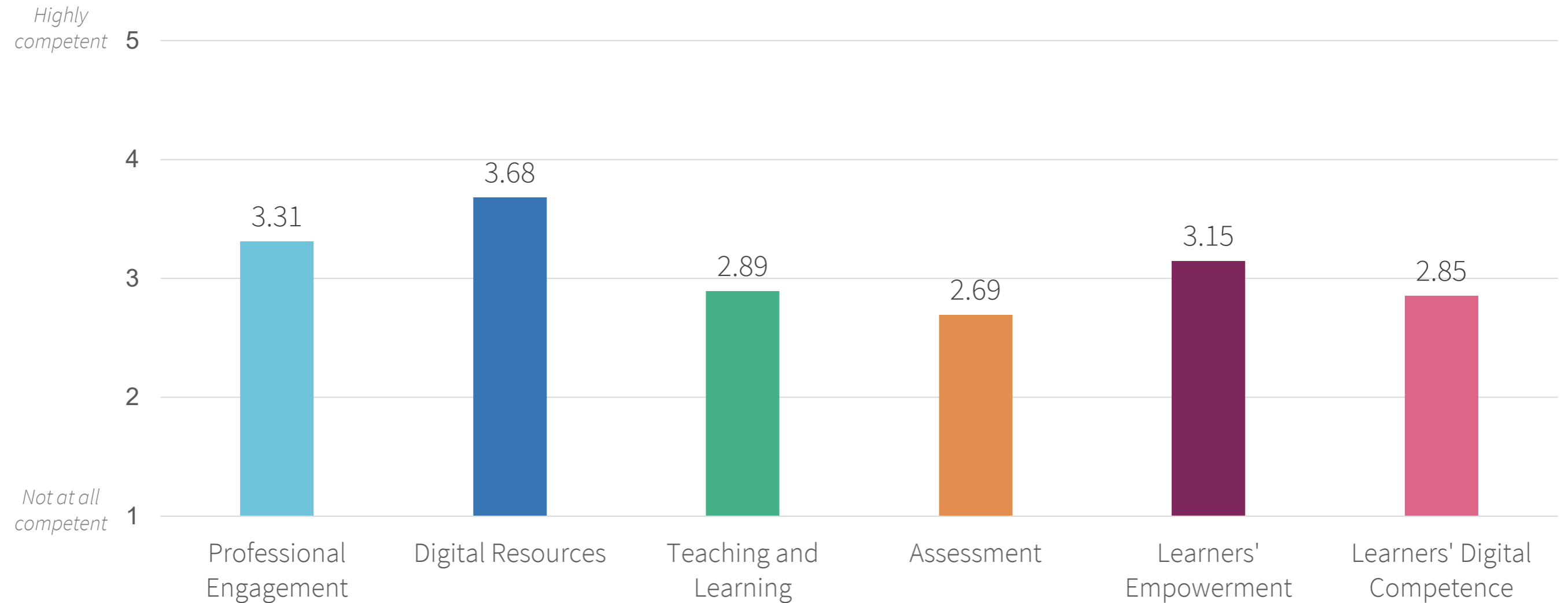
Technology accessibility and availability is a necessary **but not sufficient condition**.

Teachers' **digital competence** explains technology integration well.

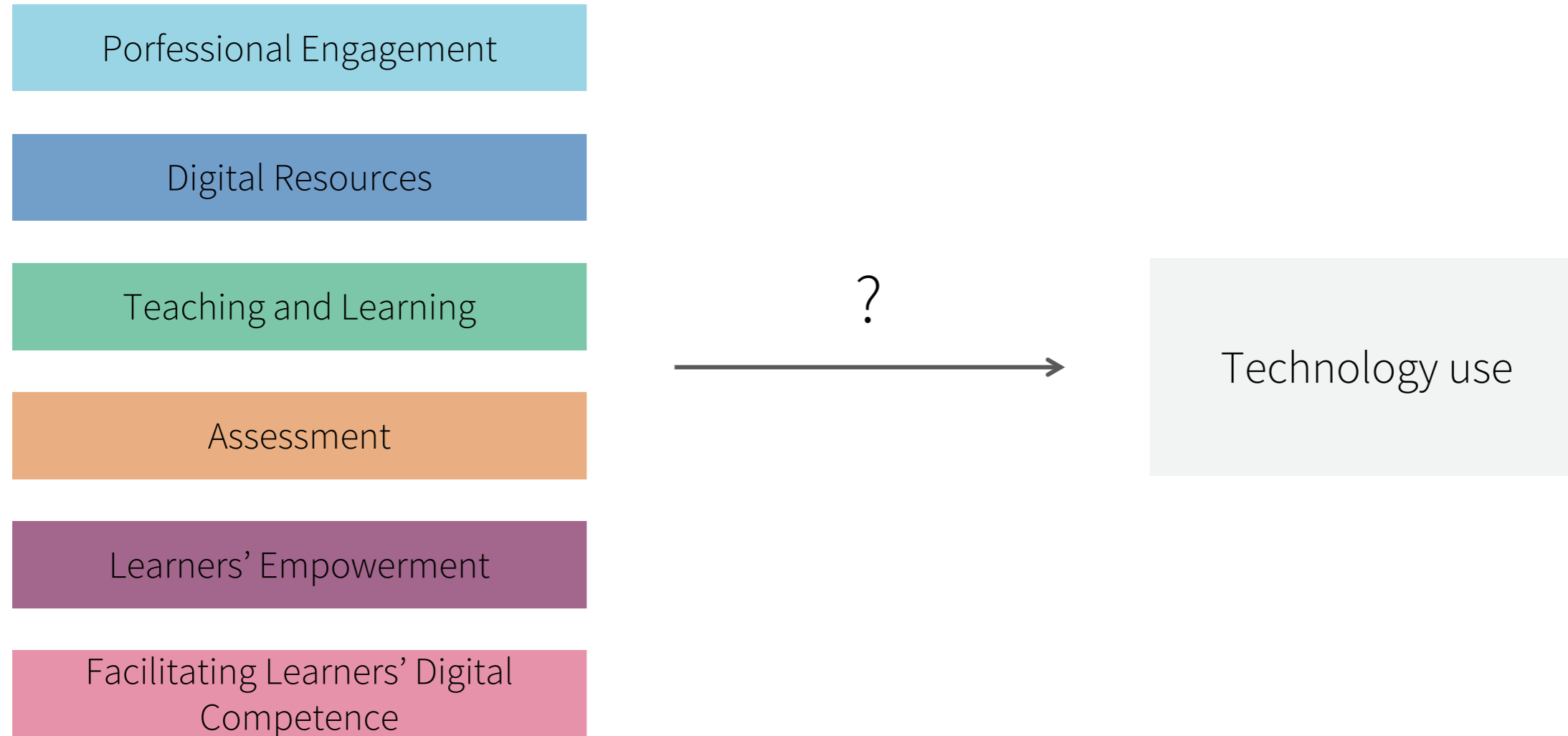
# TEACHERS' DIGITAL COMPETENCE (DigCompEdu)



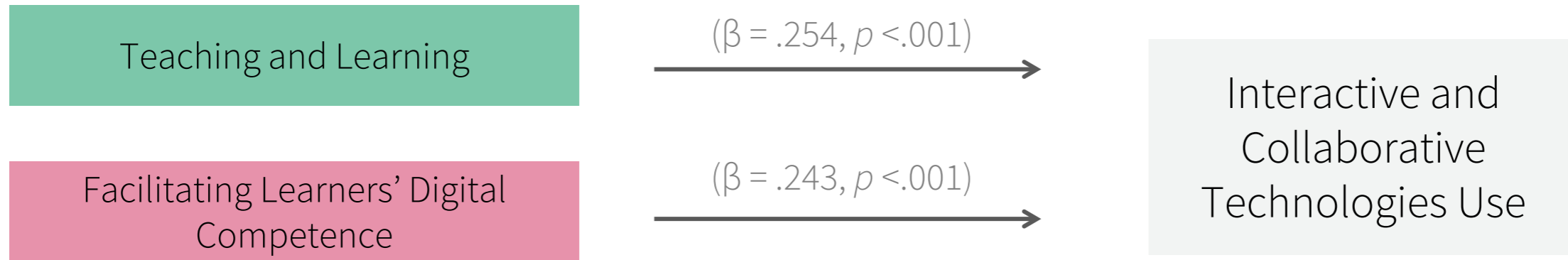
# Swiss VET teachers' Digital Competence (SFUVET Study, 2020)



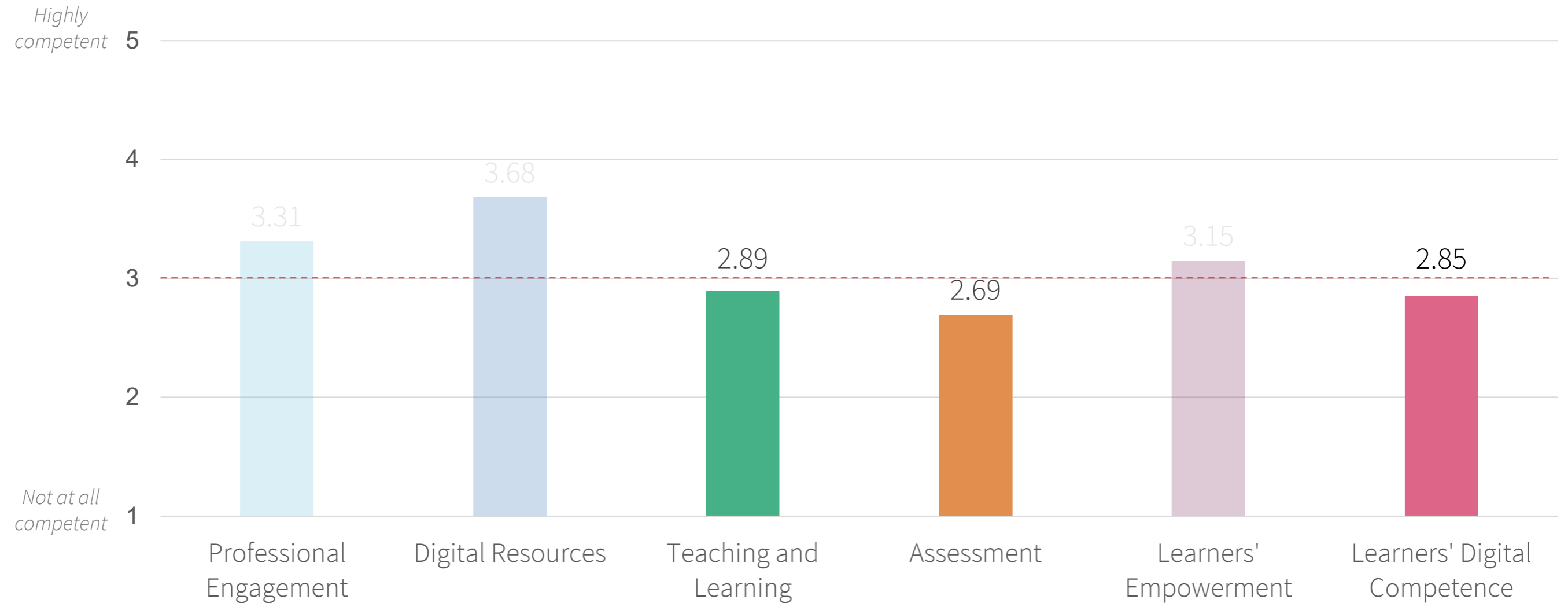
# What digital competences predict technology use?



# What digital competences predict technology use?



# Swiss VET teachers' Digital Competence (SFUVET Study, 2020)



# Findings and implications

The two competences that best predict the use of interactive-collaborative digital tool are among the least developed in the VET teachers' sample.



The need of basic and continuing training for VET teachers.

# Conclusion

Erfahrraum model as pedagogical guidance to design training for developing VET teachers' digital competence.

Technology integration focuses on students' learning needs.



# Thank you for your attention!



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A promotional banner for SFUVET international courses. It features a photograph of two men in conversation. The man on the left is older, with grey hair, wearing a blue polo shirt and smiling. The man on the right is younger, with brown hair, seen in profile. The background is a blurred indoor setting. The banner has a purple and green geometric design at the bottom. A blue hexagon contains the text 'NEW COURSES Register now!'. A white text box on the right contains the course details and registration information. At the bottom, the text reads 'SITUATION-BASED INSTRUCTING IN VET OFFERING EXCELLENCE WORLDWIDE'.

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