

Digital technology in physical education teacher education: a scoping review

*Ove Østerlie, Geir Olav Kristensen, Steven K. Holland,
María José Camacho Miñano, Sue Whatman*



ove.osterlie@ntnu.no



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“Digital Technology in Physical Education Teacher Education in a post COVID19 era” (DiTePETE)



Background

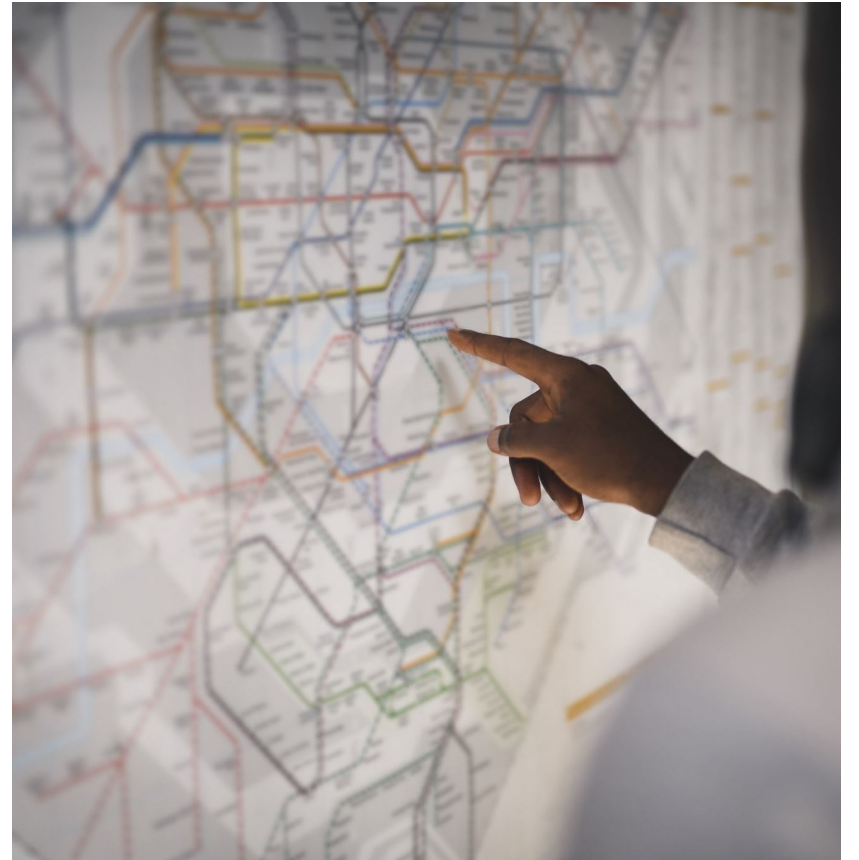
Health and Physical Education (HPE) is experiencing rapid transformation in the wake of COVID19 and the collective turn towards hybrid and online learning and the use of digital technology in teacher education around the world.

What does this mean for embodied programs such as Physical Education Teacher Education (PETE)?

Objectives

A scoping review was conducted to systematically map research into the use of digital technology in PETE, as well as to identify existing gaps in knowledge. The following research questions were formulated:

1. What characterises the included studies (e.g., year, country, participants etc.)?
2. How are digital technologies used as tools in PETE?
3. How are digital technologies used as pedagogy in PETE?
4. How is the use of digital technologies in PETE perceived by students and staff?



A magnifying glass is positioned over a bar chart. The chart has two groups of bars, one labeled 'Q2' and one labeled 'Q3'. Each group contains two bars, one blue and one green. The magnifying glass is focused on the 'Q2' group, making it appear larger and more detailed. The background is a light blue color.

Methodology

- Recommendations for conducting scoping reviews (Campbell et al., 2023; Levac et al., 2010; Munn et al., 2018), and the PRISMA-ScR checklist (Tricco et al., 2018) were applied in this review.
- Registered prospectively with the Open Science Framework, OSF registry (Registration <https://doi.org/10.17605/OSF.IO/Q7RUD>).
- The Covidence online review management tool (<https://www.covidence.org/>) was used throughout the process of searching, screening, extraction, and reporting.
- Databases: ERIC, Pubmed, SPORTDiscus, Scopus, web of science, Education Source, Dimensions, ProQuest Education

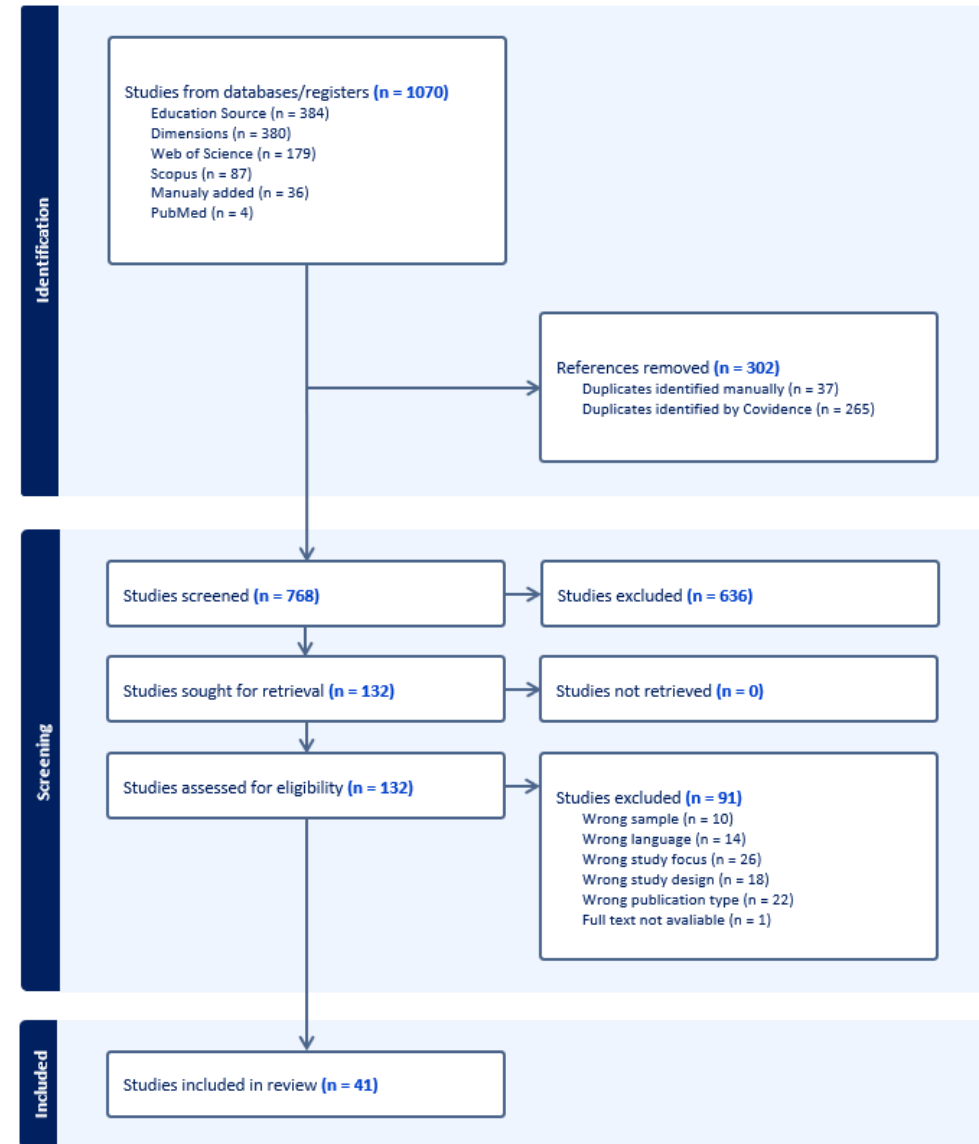


Eligibility criteria

- Studies published between 2010 and 2023.
- Full, empirical articles published in English in peer-reviewed journals
- Studies which included PETE students and/or staff
- Studies where the use of digital technology in PETE was main method or main element of delivering the course rather than incidentally mentioned.

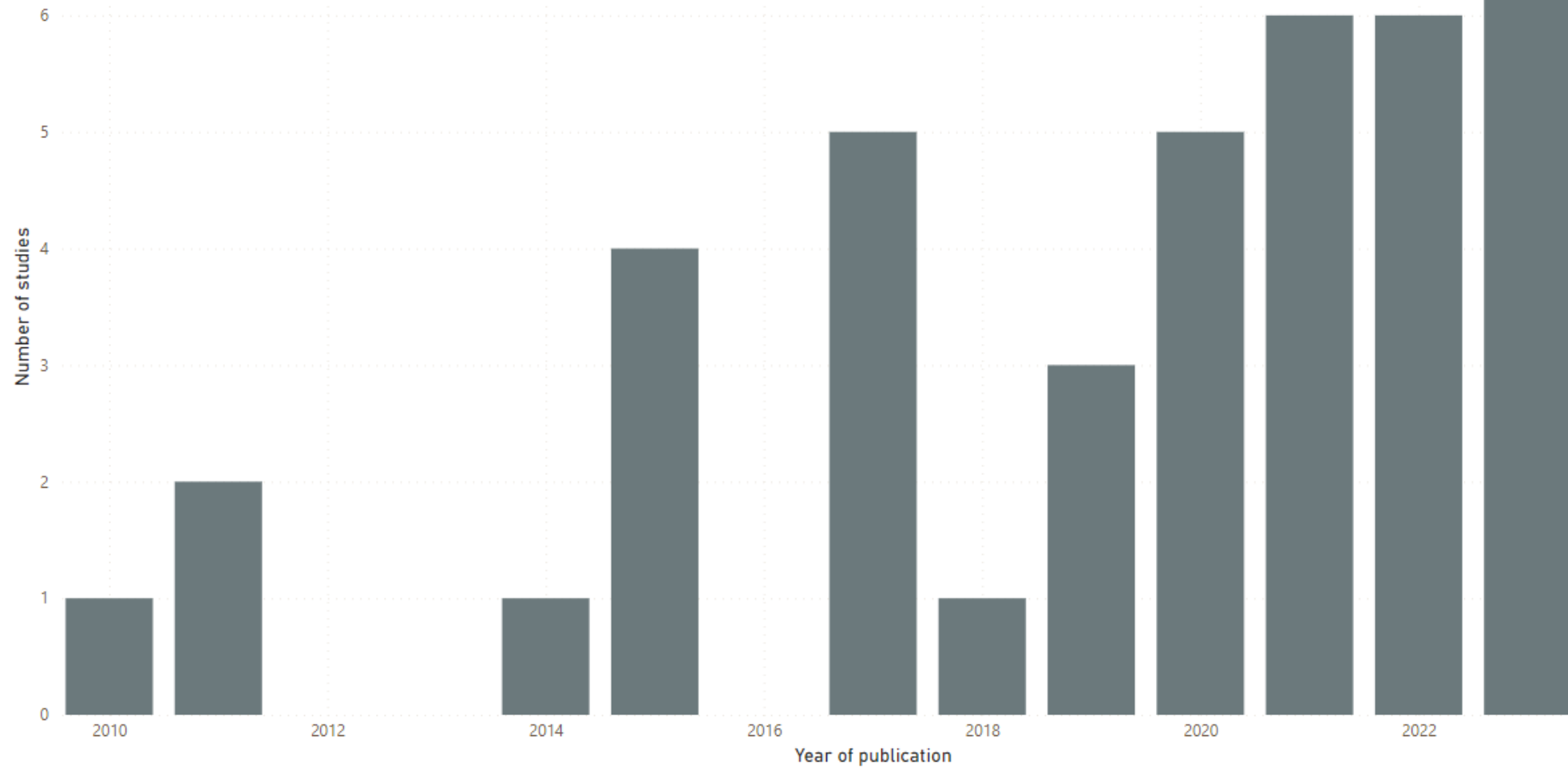
PRISMA flowchart of the study selection process

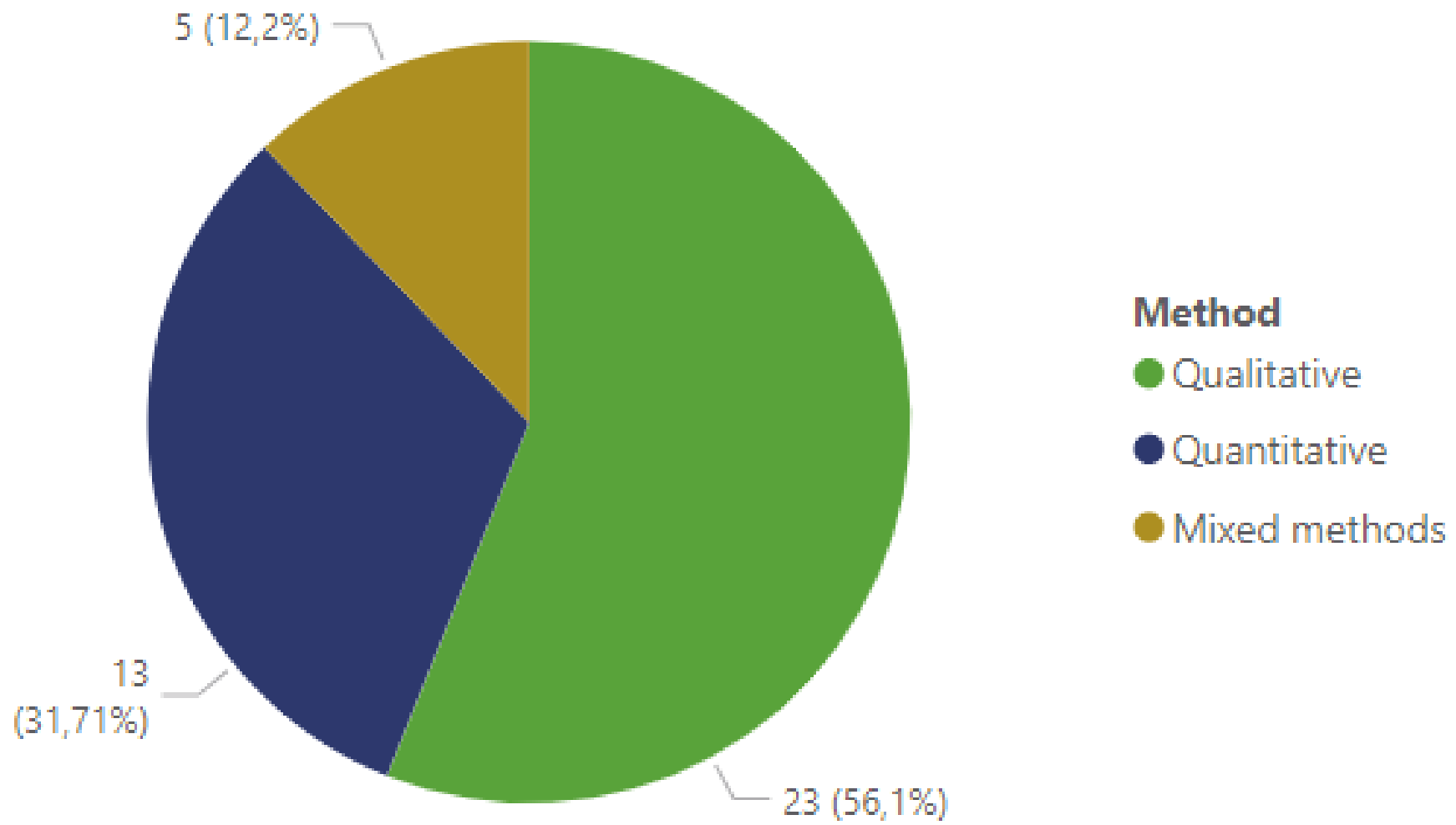
41 included studies

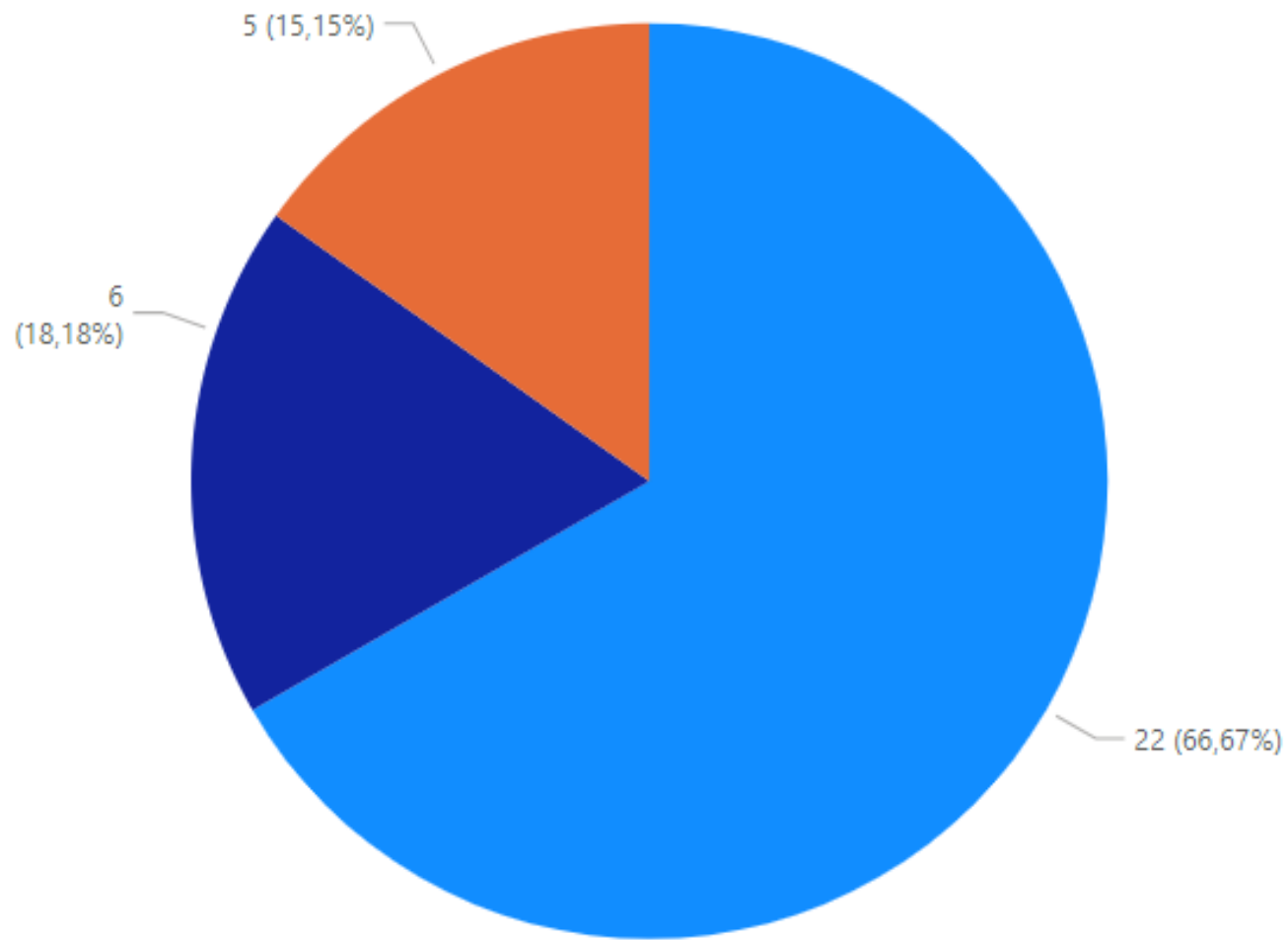


RQ1: What characterises the included studies (e.g., year, country, participants etc.)?









Study level

- Undergraduate (year 1-3)
- Graduate/major (year 4+)
- Not specified



In summary

The characteristics of the included studies are that almost half of the studies have originated in the USA and Australia as single countries of origin, but with Europe as the largest collective.

Most studies have concerned undergraduate PETE, with a slight majority (56.1 %) having been conducted exclusively with qualitative methods.

RQ2: How are digital technologies used as tools in PETE?



Video recordings of teaching



Social Media



Podcast



Other tools and apps.



RQ3: How are digital technologies used as pedagogy in PETE?

- Online courses
- Blended learning / flipped learning
- Gamification



In summary

- RQ 2. Recordings of teaching are the dominant form of reported digital technology tool in PETE, with podcasting the least reported.
- RQ 3. Online teaching is the dominant mode of digital technology pedagogy with gamification the least reported.

RQ 4: How is the use of digital technologies in PETE perceived by students and staff?

- Video recordings, SoMe and Podcast
 - Most studies reported positive outcomes or results of this practice, typically enhanced motivation, reflection and effectiveness, and a general positive perception among students. Few negative impacts were observed, but one study reported on hampered feedback quality
- Other tools and apps
 - Positive development of pedagogy and practice and facilitating communication
- Online PETE
 - Motivation, effectiveness, and pedagogical skills were often reported as positive outcomes, while negative perceptions were connected to engagement, writing skills and technical issues.
- Blended and Flipped Learning, and gamification
 - positive impacts regarding motivation, learning and self-directedness, while time consumption and workload was negative perceptions.



Conclusions

Despite these advancements, there are some notable lacks in contemporary research on the integration of digital technology in PETE.

- Long-term impact studies
- Equity concerns
- Effective integration strategies
- Teacher attitudes and perceptions

Addressing these research gaps is essential to ensuring that the integration of digital technology in PETE, is effective, equitable, and responsive to the evolving needs of educators and learners.

References

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