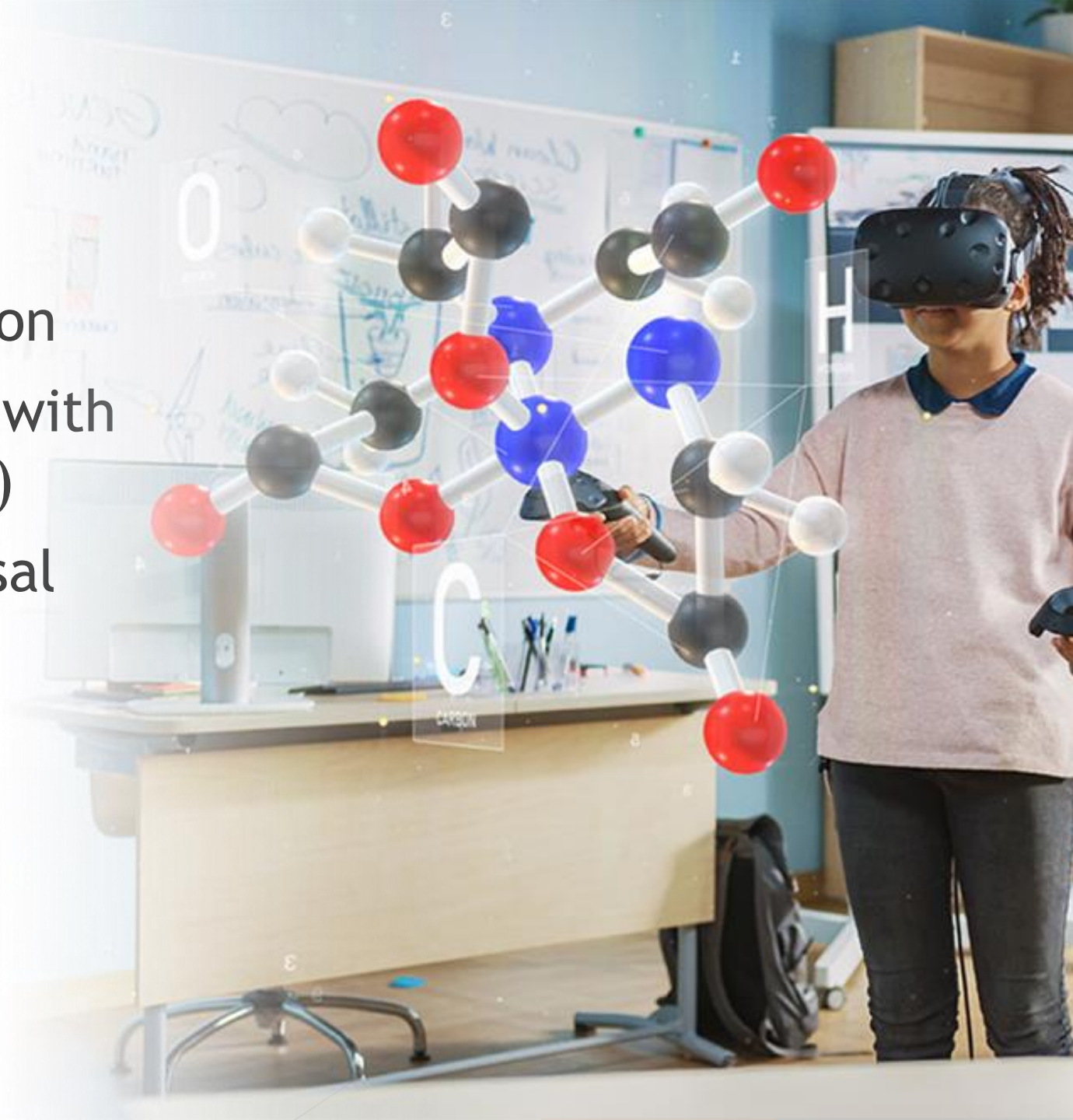
PEDAGOGICAL POTENTIAL OF AUGMENTED REALITY IN FORMING AN INCLUSIVE EDUCATIONAL ENVIRONMENT IN SECONDARY SCHOOL

Why AR in Inclusion?

- Equal access to quality education
- Removing barriers for students with special educational needs (SEN)
- Personalization through Universal Design for Learning (UDL)
- Foundation for motivation and participation



Case Studies

- **Chemistry (Chile, AR VR Molecules Editor)** – 3D molecules; improved understanding of abstract concepts; +80% motivation

- **Literature (Indonesia, ARps app)** – for pupils with dyslexia, visual impairments, and autism; avatars, adaptive audio, tactile feedback; increased emotional engagement

- **Autism (USA)** – AR/VR “safe zones” for social and vocational skills; long-term skill retention

Benefits and Challenges

Benefits:

- Motivation (+80% in studies)
- Accessibility through mobile devices
- Collaboration and social integration
- Sustainable and eco-friendly

Challenges:

- 70% of studies highlight lack of teacher training
- Limited devices and internet in rural schools
- Ethical concerns: privacy and algorithmic bias
- Need for more in-depth research in secondary schools to assess long-term impact

Conclusions

- AR reduces textual overload and clarifies abstract ideas
- Enhances emotional understanding and empathy in literature
- Supports pupils with autism in developing social and vocational skills
- Challenges: training, infrastructure, ethics
- Future: AR/AI/VR integration and curriculum adoption