PathRAG application in adaptive learning with generative AI for inclusive and sustainable education

Juárez Cádiz, R. – RIED-29(1)
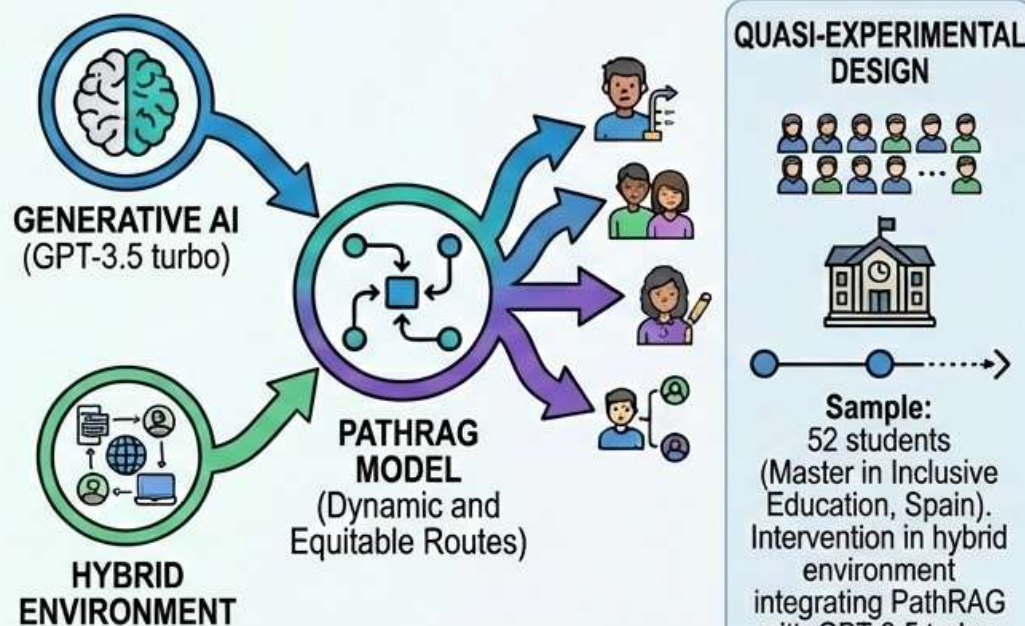
CONTEXT: CHALLENGE OF INCLUSIVE AND SUSTAINABLE EDUCATION

Need to personalize learning in diverse university contexts, framed by the SDGs.

Objective: Reduce the access and participation gap through advanced educational technology.

PATHRAG SOLUTION AND METHODOLOGY

GENERATIVE AI (GPT-3.5 turbo)

HYBRID ENVIRONMENT

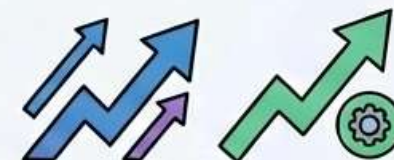**PATHRAG MODEL** (Dynamic and Equitable Routes)

QUASI-EXPERIMENTAL DESIGN

Sample: 52 students (Master in Inclusive Education, Spain). Intervention in hybrid environment integrating PathRAG with GPT-3.5 turbo.

RESULTS AND TRANSFORMATIVE IMPACT

SIGNIFICANT IMPROVEMENTS: Active participation, competency achievement, and perception of inclusion (especially in SEN and access difficulties).

HIGH SATISFACTION: Positive assessment of the utility of personalized routes.

Conclusion: PathRAG boosts more equitable and adaptive learning, evidencing the transformative potential of generative AI for sustainable and inclusive education, although it requires more robust future studies.