



Artificial Intelligence in Higher Education

A Systematic Literature Review on Impact,
Applications, and Future Directions

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Research Aims



Review existing literature on the impact and application of AI in higher education to determine:

- RQ1: In what ways can AI enhance pedagogical practices?
- RQ2: How can AI be adapted in diverse learning environments?
- RQ3: What are the implications of AI?

Methodology

- Systematic Literature Review using SCOPUS
- Peer reviewed articles, conference papers, reports
- 2013-2024
- Search terms: ‘artificial intelligence’, ‘higher education’, ‘teaching’, ‘teaching and learning’, ‘teaching methods’, ‘teaching learning strategies’ and ‘assessment’





Review results



Systematic Literature Review

- 207 documents (131 articles, 76 conference papers)
- most published since 2023 (121 articles, 58%)
- Main areas of publication: Computer Science (115), Social Sciences (104), Engineering (61), Mathematics (26), Decision Sciences (18)
- Main countries of publication: China (39), USA (21), Spain (15), Australia (15), India (14)

Systematic Literature Review

- 54 papers excluded after reviewing abstracts
- 153 papers taken into consideration
- most published since 2023 (107 papers, 70%)
- Main areas of publication: Unspecified (88), Medicine / Health Sciences (15), Language Learning / Translation (12), Mathematics / Engineering (9), Computing / IT (7)
- Main countries of publication: China (32), India (10), Australia (10), UK (9), USA (8)



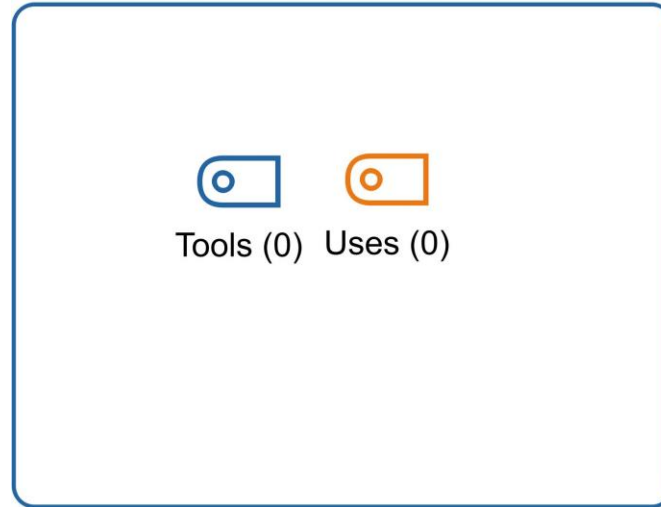


Findings



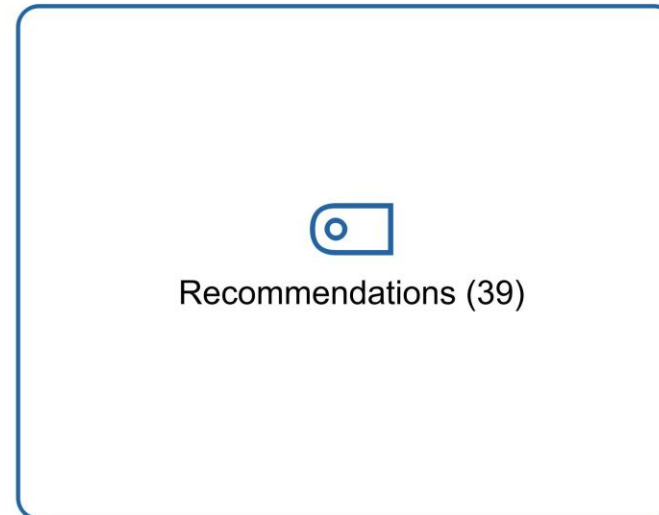
Key Themes

RQ1: In what ways can AI enhance pedagogical practices?

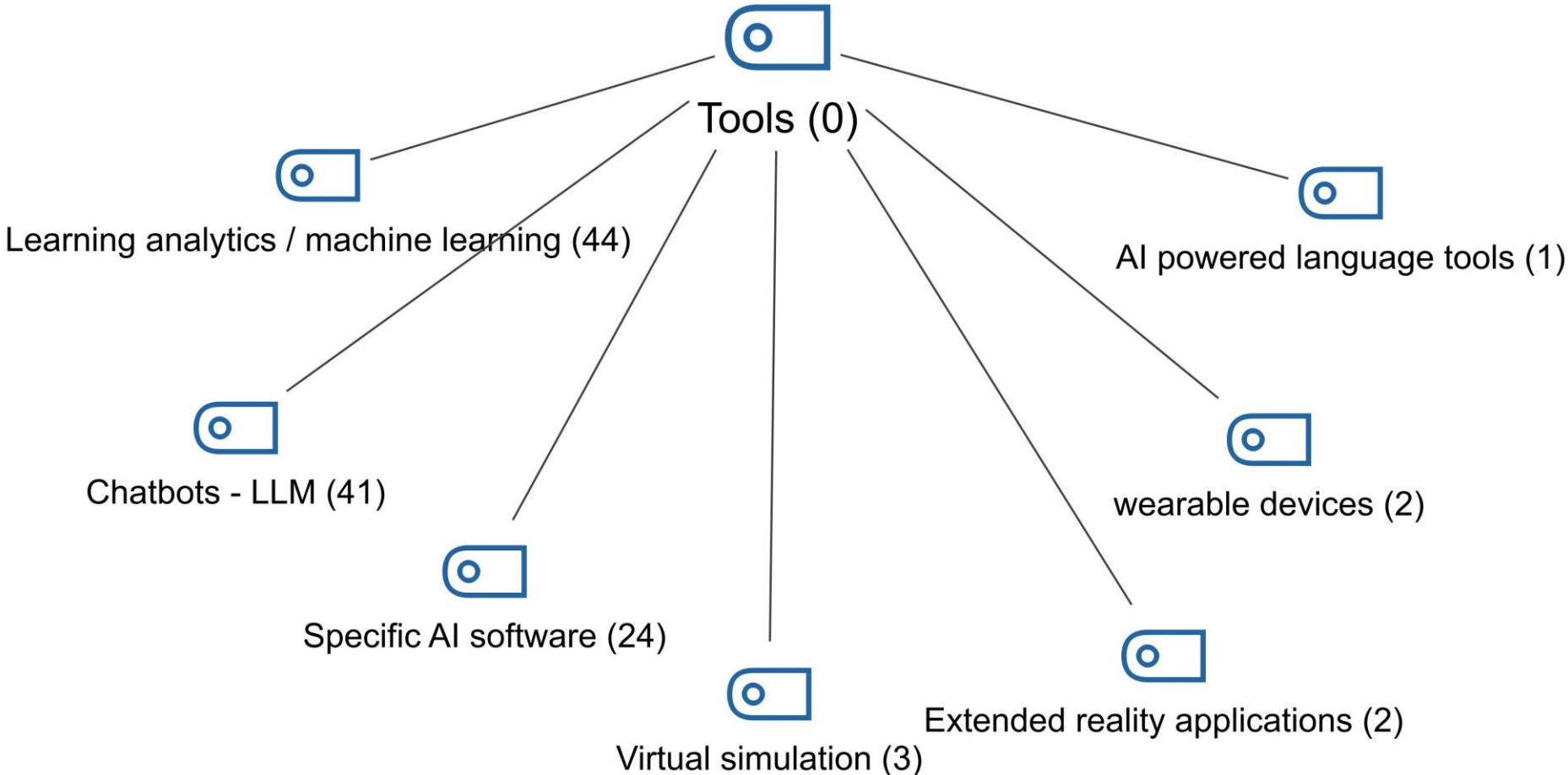


RQ2: How can AI be adapted in diverse learning environments?

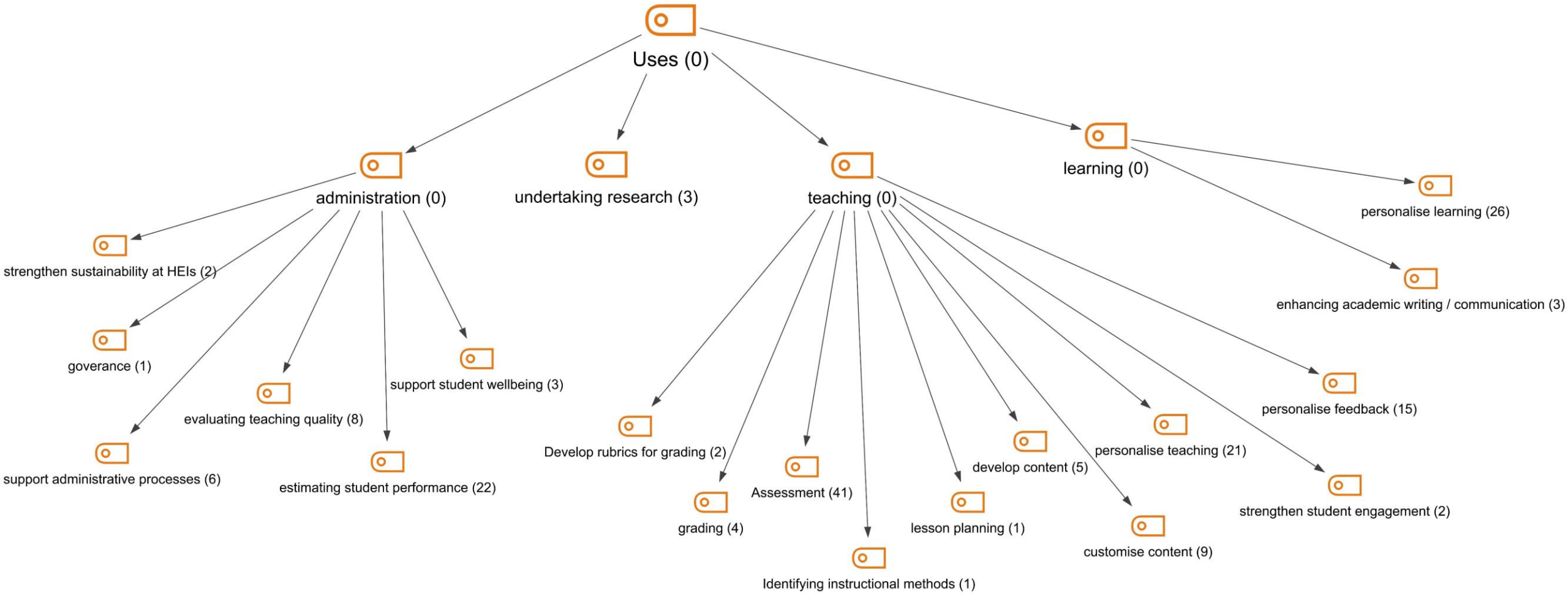
RQ3: What are the implications of AI?



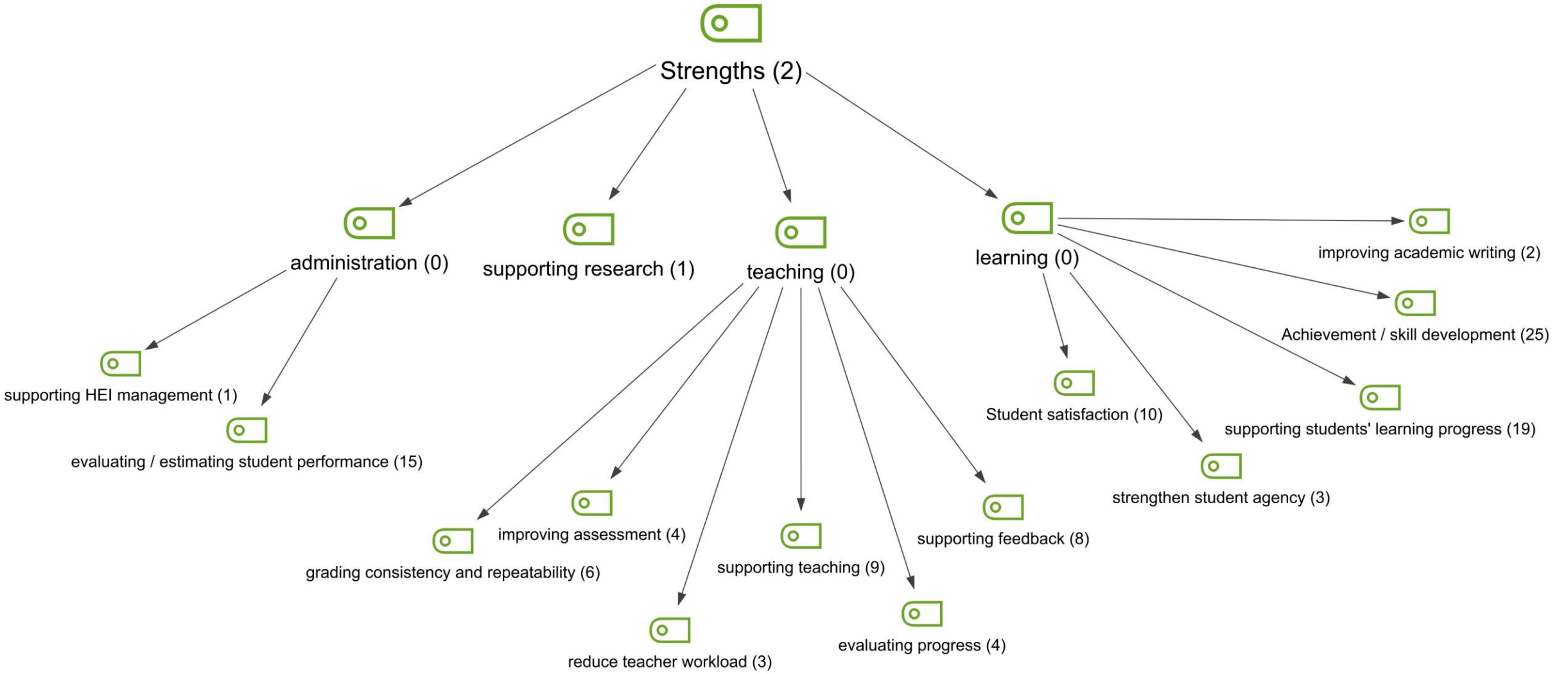
In what ways can AI enhance pedagogical practices?



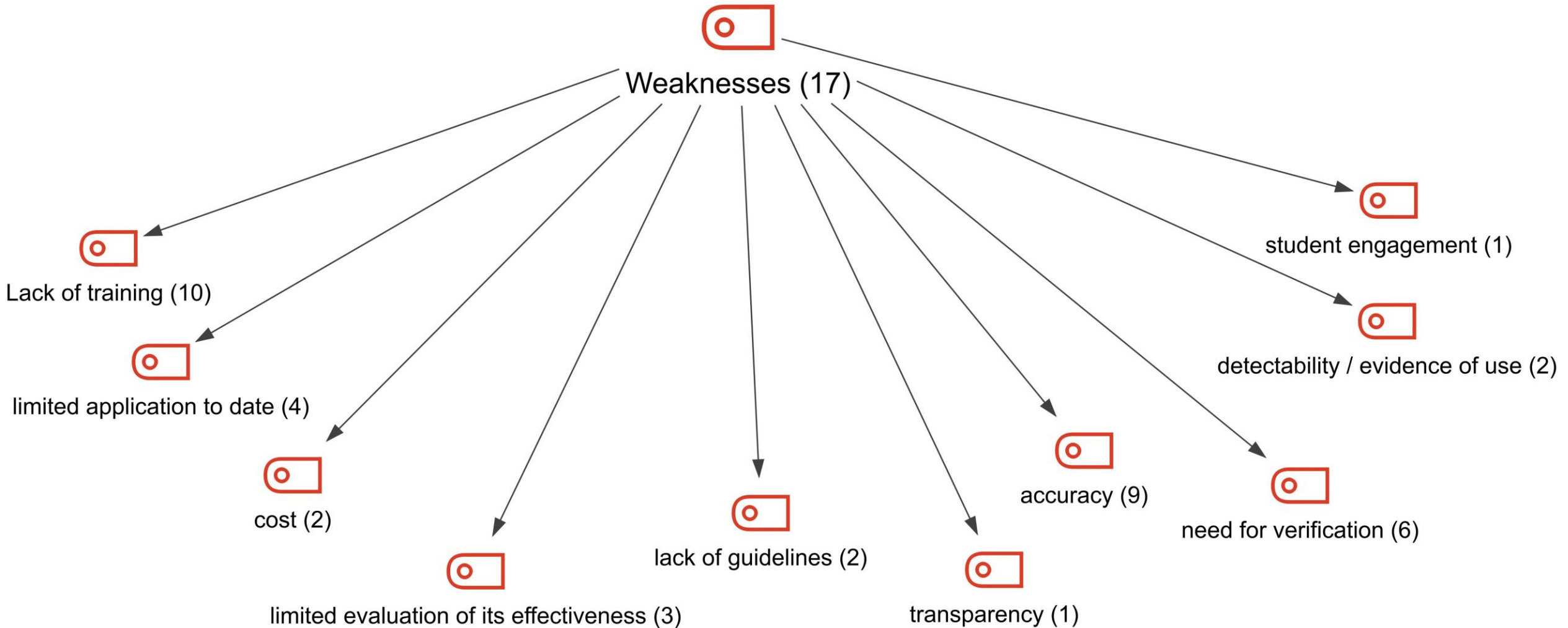
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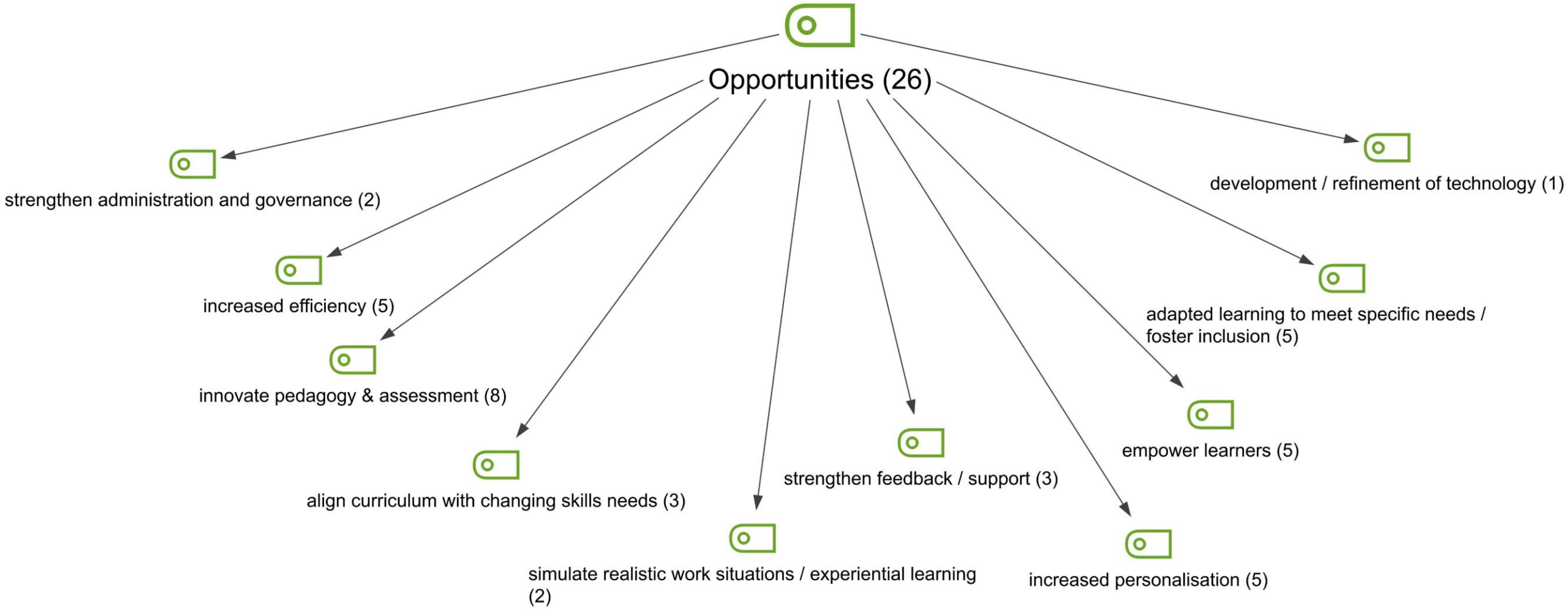
Application & Implications of AI



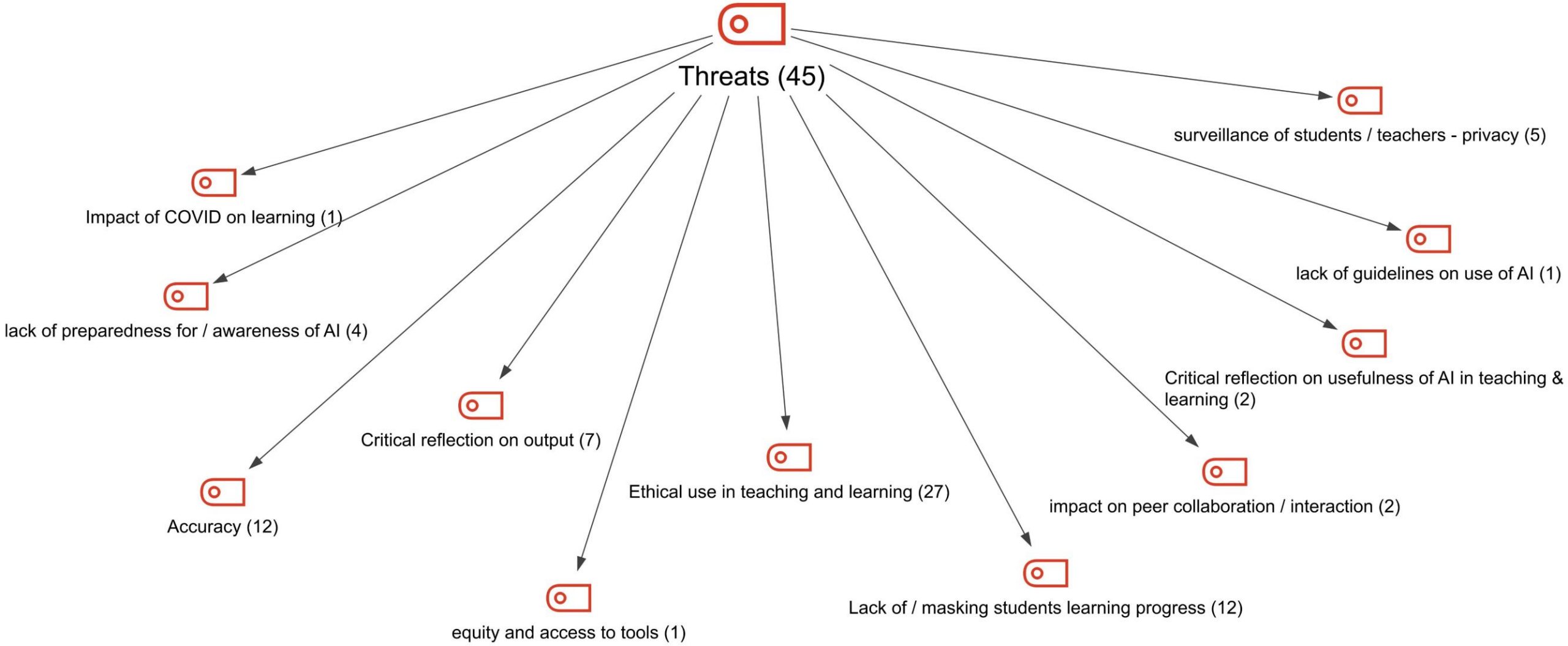
Application & Implications of AI



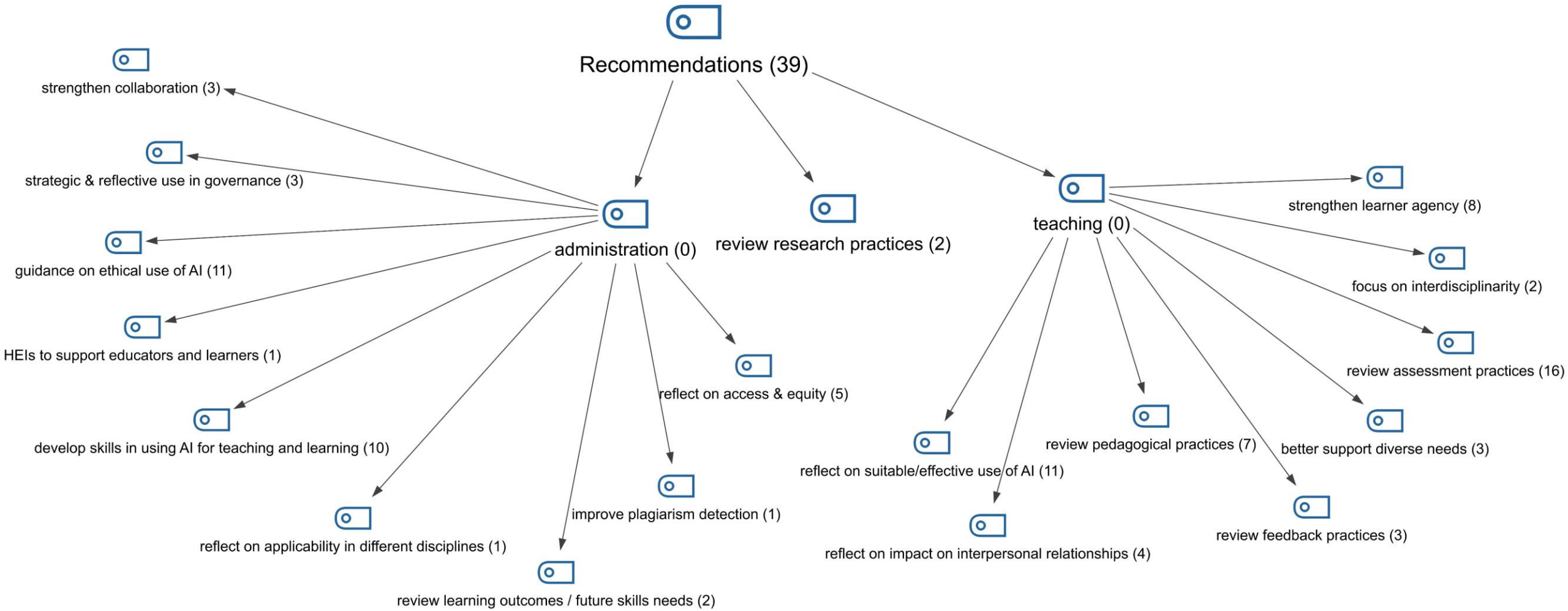
Application & Implications of AI



Application & Implications of AI



Recommendations





Conclusions

Conclusions

- Emergent topic
- Application of AI in the field of education deserves further exploration
- Learning analytics / machine learning and application of LLM dominant
- Application in teaching, learning and governance evident, research less so
- Strengths: improving governance, student support, increased efficiency, innovative approaches to teaching and learning, personalization
- Weaknesses: Lack of training, evidence of effectiveness, accuracy, reliability, evidence of use and impact on student learning, data privacy, lack of guidelines

Recommendations

- Reflective and strategic use of AI in governance
- Collaboration between HEI, policy makers and developers
- Review application and effectiveness of AI in education particularly in supporting inclusive practices and strengthening student agency
- Provide support to staff and students on the use of AI
- Develop guidelines for the use of AI in teaching, learning, research and administration
- Review course content, pedagogical / assessment practices, feedback mechanisms





Thank you

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