

# Exploring the use of generative AI in education: Broadening the scope

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## Full paper available in proceedings:

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[https://doi.org/10.1007/978-3-031-61691-4\\_19](https://doi.org/10.1007/978-3-031-61691-4_19)

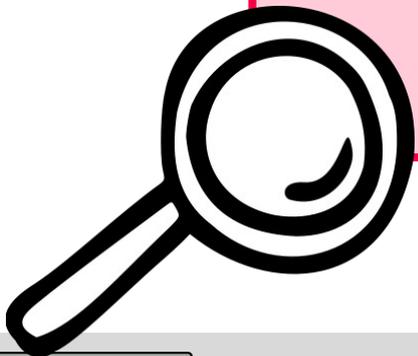
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# Generative AI in education

= Artificial intelligence creating original content based on prompts

How does generative AI affect teaching and learning in schools and higher education in individual subjects?

How does the community perceive the usage of generative AI in education?



# Scope

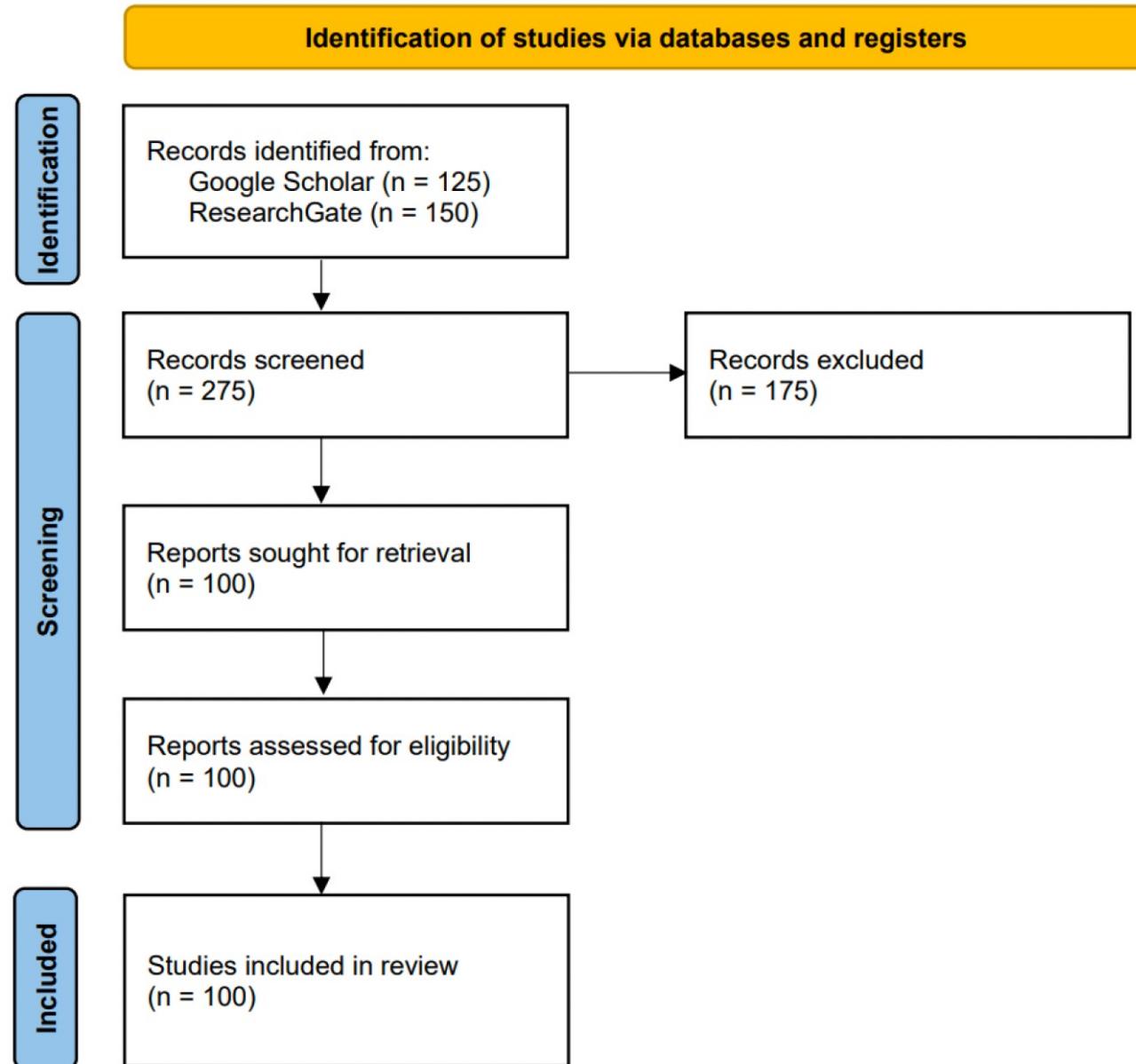
- What is AI used for
- Subjects where AI is used
- Educational level where AI is used
- Type of research
- Perceived impact of AI

Focus on new (April 2023 and later) work, building on previous work (Jahic, Ebner, Schön 2023)

# Literature Review: Search criteria

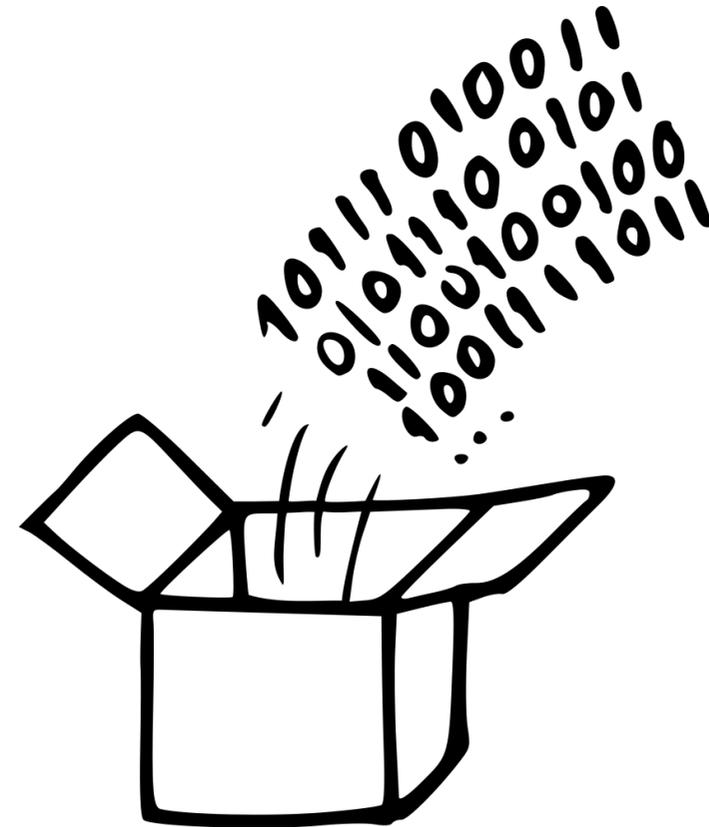
- Databases: Google Scholar, Researchgate
- Keywords: Generative AI in (subject) or (field of science)
- Period: April 2023 onwards  
→ some older papers included for relevance
- Language: English

6 Literature Review



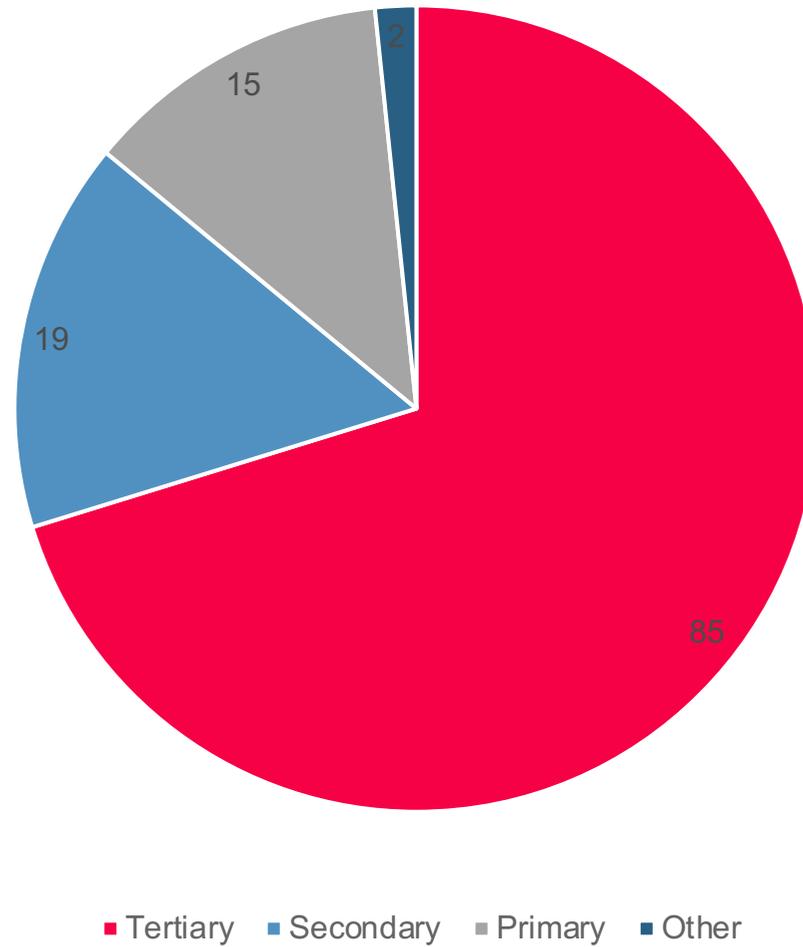
# Data extraction and analysis

- Separate document for keeping track
  - Duplicates discarded
- Summary, categories:
  - educational level
  - perceived impact
  - Subject
  - type of study



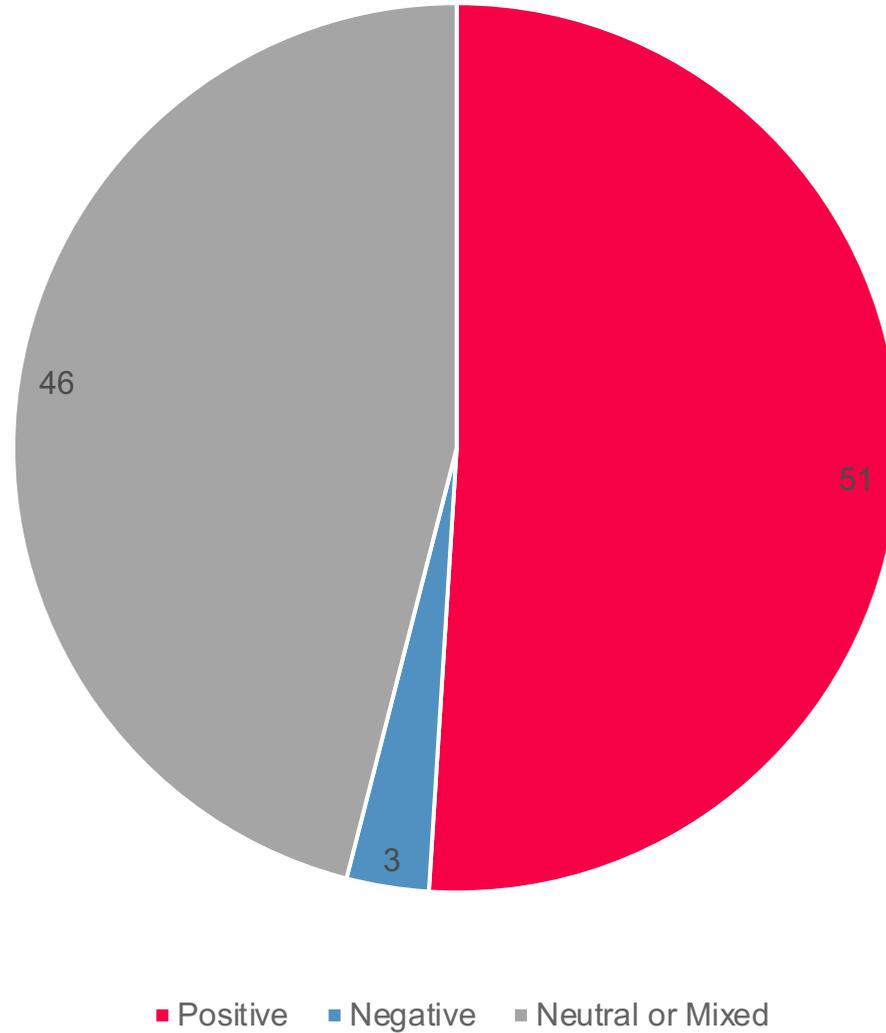
# Results

Level of Education



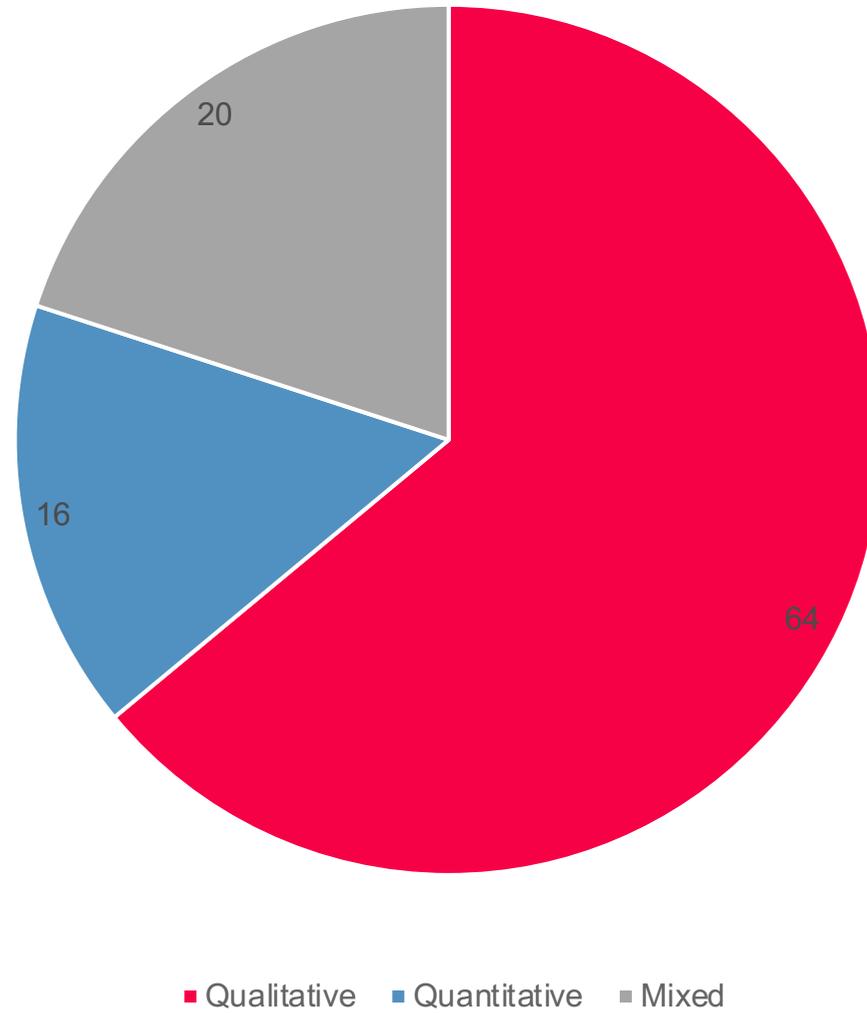
# Results II

Perceived Impact



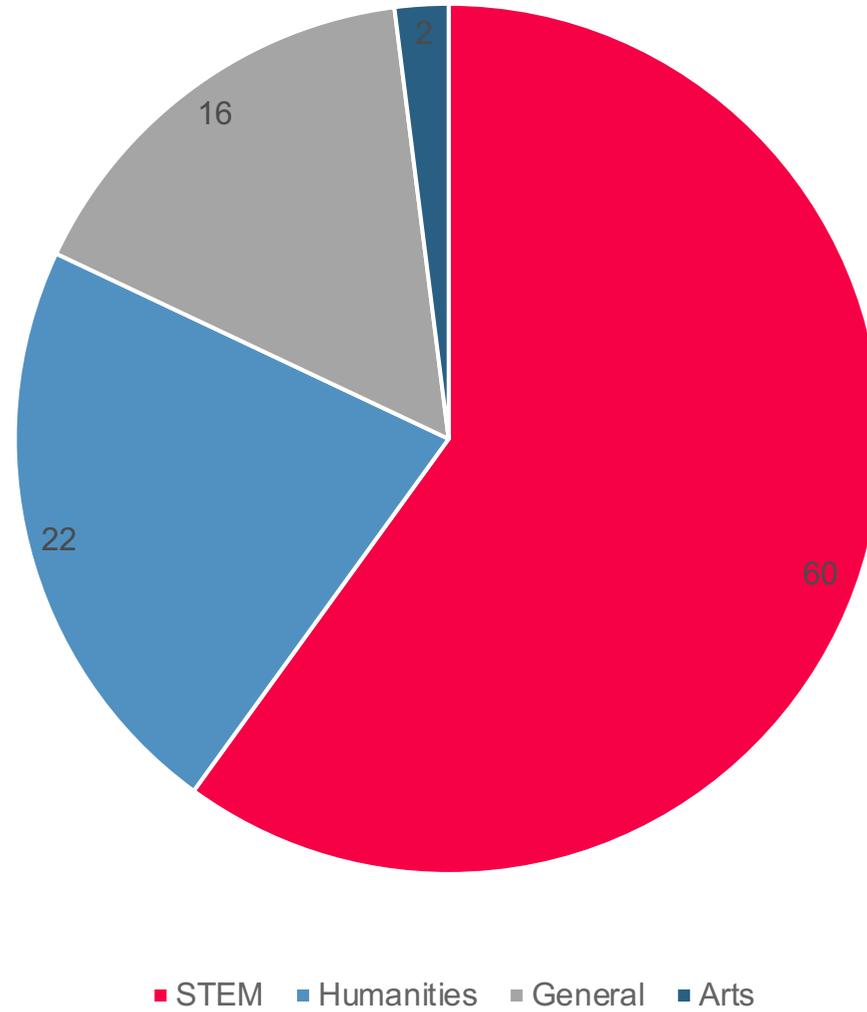
# Results III

Type of Study



# Results IV

Main Subject / Field of Science



# Uses of Generative AI

## Teaching:

- Lesson / curriculum planning
- Assessments
- Feedback
- Content creation
- Research assistance
- Administration

## Learning:

- Tutoring
- Homework assistance – writing, grammar checks, research
- Specialised learning

# Impacts of Generative AI

## Positive:

- Easy content creation
- 24/7 availability of support
- More accessible (translates languages and levels)
- Customised responses

## Negative:

- Over-standardisation
- Diminished student-teacher interaction
- Educational / digital divide
- Ethical concerns

## Limitations and outlook

- Rapidly evolving field
- Earlier papers excluded



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- Generative AI in Arts, Humanities and Social Sciences
  - Changes to traditional teaching paradigms?
  - Practical experiments to determine opportunities and limitations



# Thank you!

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