

INCLUSIVE COLLECTIONS IN STEM FIELDS: A SCOPING REVIEW



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What are Inclusive Collections?

Inclusive collections include content created by and about people from different backgrounds, cultures, and viewpoints *.

*ALA: [Inclusive and Diverse Collections](#)



Why Develop Inclusive Collection in STEM?

STEM:

Science

Technology

Engineering

Mathematics



Address historical biases and gaps in STEM



Make visible the contributions of marginalized communities



Help underrepresented groups see themselves reflected in STEM fields



Support belonging, retention, and diversification of STEM education and workforce



Bring diverse perspectives that strengthen research and innovation



Challenges in Inclusive Collections in STEM

- STEM Publishing is dominated by a small number of publishers, especially English and Western publishers
- Limited metadata makes it difficult to identify inclusive content or author identities
- STEM authors do not consistently articulate positionality
- Inclusive STEM work is often taken up by social science or EDI researchers, rather than integrated into mainstream STEM scholarship
- Integrating EDI into STEM collections can be challenging with disciplinary cultures that emphasize objectivity and neutrality



Research Objectives

Examine the extent to which equity, diversity, and inclusion (EDI) principles are reflected in STEM collections in academic libraries.



Methodology – Scoping Review

- Searched four databases:
 - LiSA, Scopus, Web of Science, and Engineering Village
- Search period: April - May 2025
- Review tool: Covidence
 - 2 step screening (title and abstract & full-text)
 - 2 reviewers for each step
- Modified JBI data extraction form to capture study details



Inclusion criteria

- Collection
 - Focus on print materials and electronic journals, monographs, electronic resources as well as special collections
- STEM fields
 - agriculture, architecture, astronomy, biology, chemistry, computer science, engineering, environmental sciences, geology, mathematics and statistics, and physics
- Academic libraries
- EDI perspectives
 - race, ethnicity, marginalized populations, people with disability
- Published between 2015-2025

Exclusion criteria

- Not STEM fields
- Non-academic libraries
- Other EDI focus (e.g., policies, strategies)
 - not focused on collections
- Non-English literature
- No theses or dissertation
- Summary/review of an original article

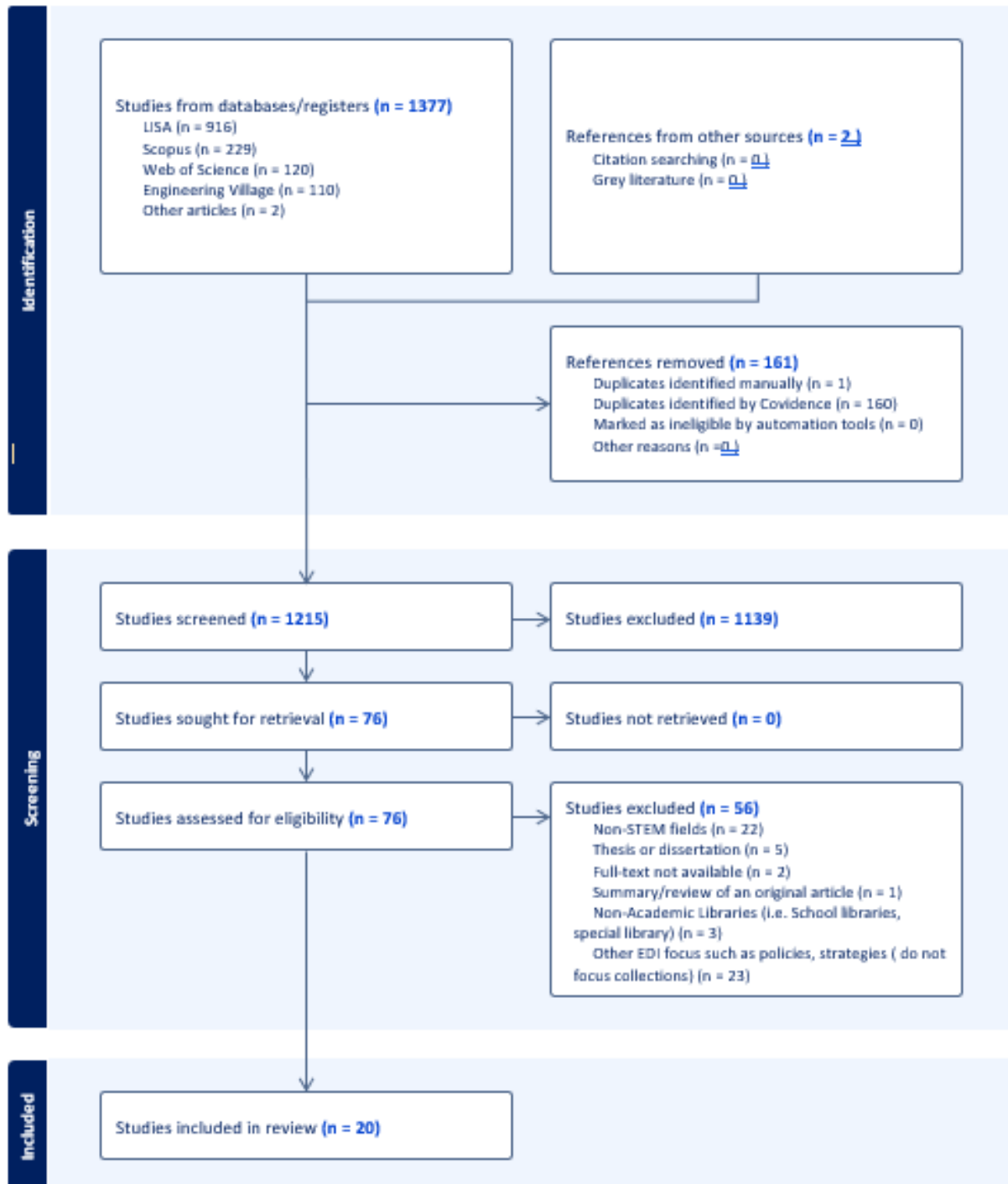
PRISMA Flow Chart

1377 articles retrieved

1215 articles screened based on title and abstract

76 articles assessed based on full-text

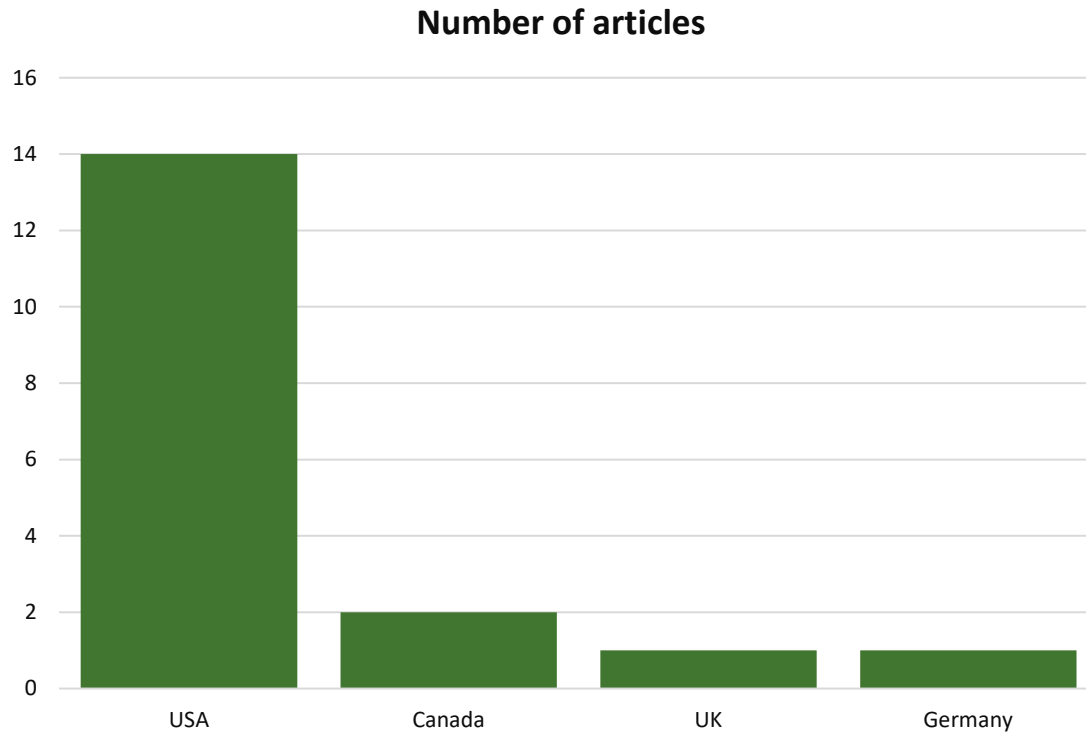
20 articles included



Results



Countries

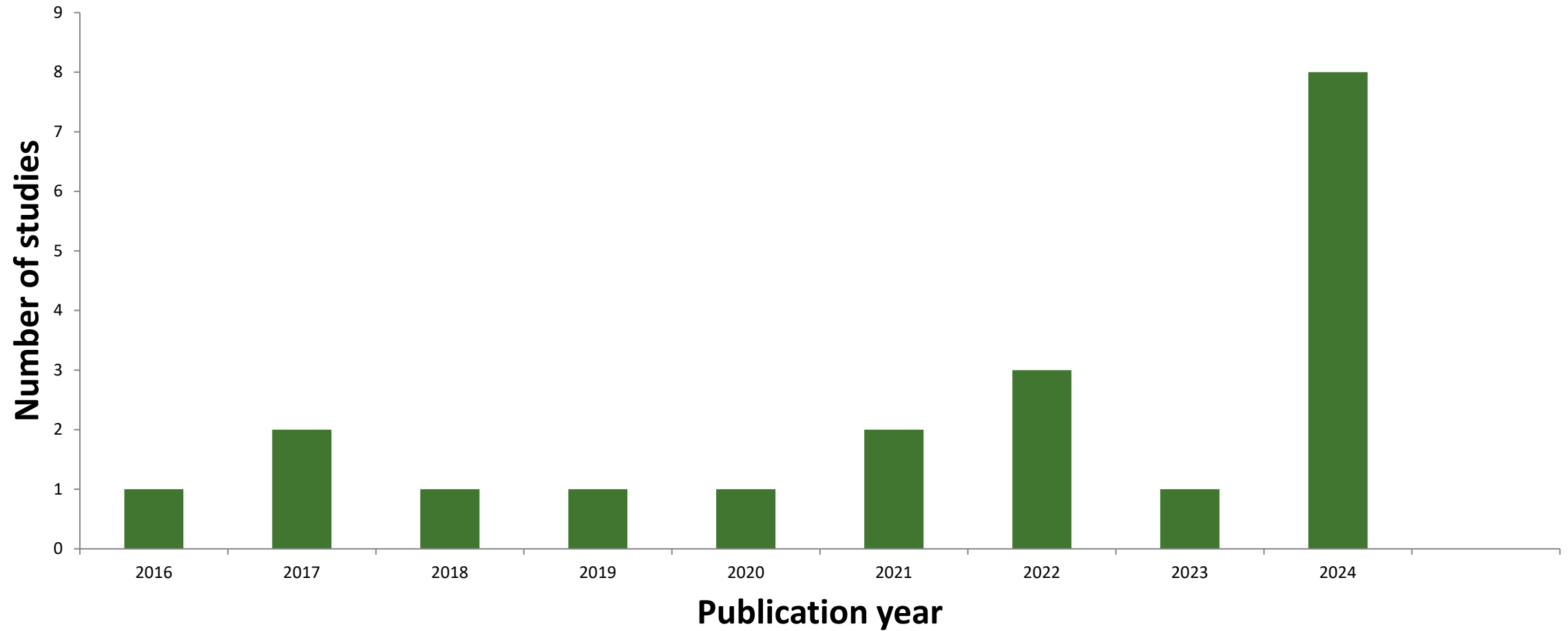


STEM Fields

- Most studies discussed STEM fields in general
- Specific STEM fields:
 - Biology/botany
 - Engineering
 - Earth and Planetary Sciences
 - Architecture
 - Mathematics



Publications by Year

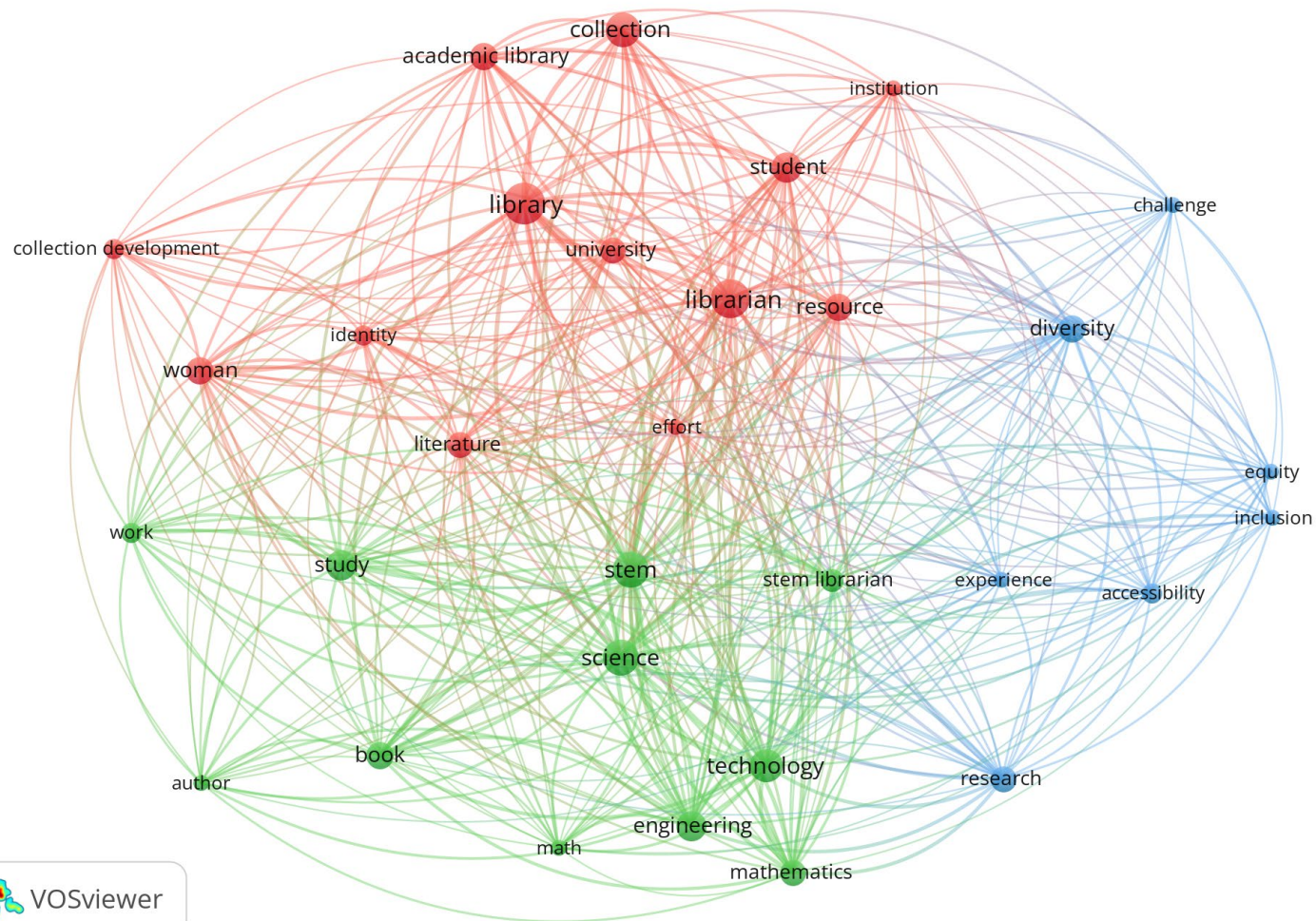


EDI perspectives

- Most studies discussed about inclusive collections in general.
- Specific perspective included:
 - Women in STEM education and workforce
 - BIPOC students in STEM
 - Accessibility issues for people with disabilities
 - Lack of non-Western perspectives in STEM collection and curriculum

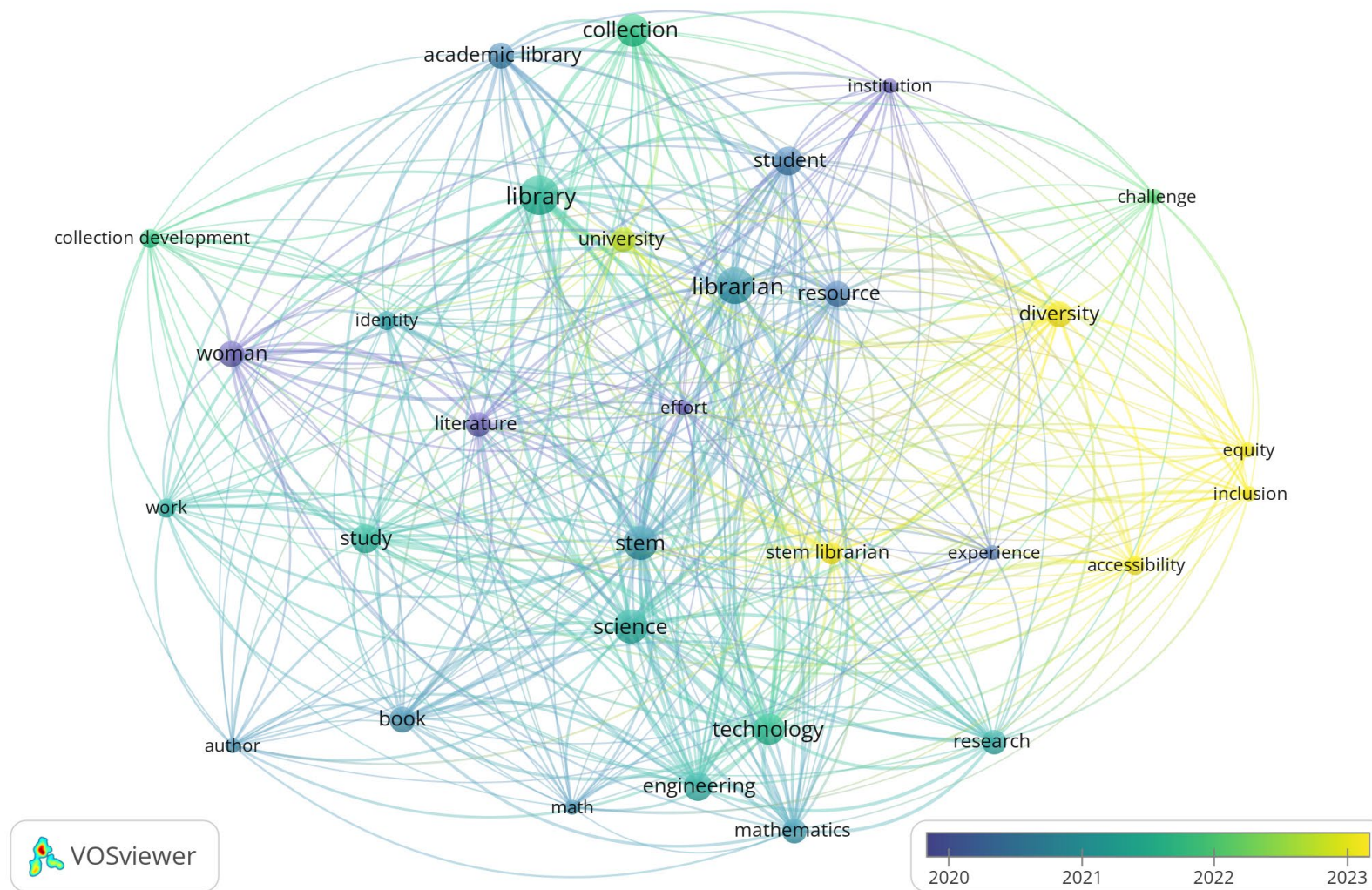


Visualization of Research Clusters

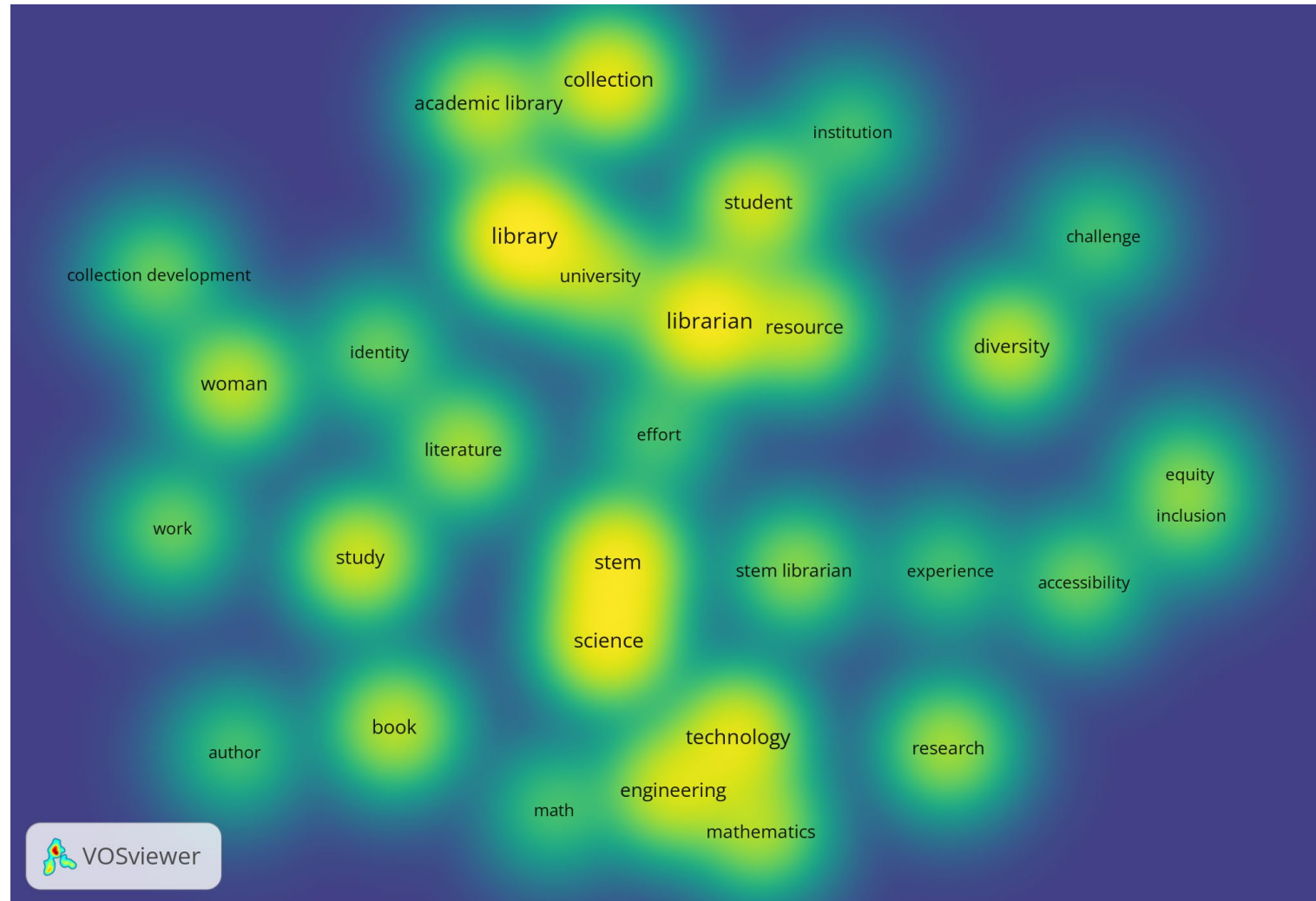


- Identity, Representation, & Library Collection
- STEM Literature and scholarly output
- EDI and Access

Evolution of Research Topics



Areas of Research Concentration



Recommendations

- Must use a variety of strategies to collect
 - Need to go beyond the traditional book vendors
 - Getting recommendations
 - Using social media
 - Sharing strategies across the field
- Promotion is key
 - Gaining partners in the departments to be included in the curriculum
 - Ensuring the collection is well-advertised across campus
- To support publishing of diverse authors
- Require more review of materials in other languages or other countries
- Require updated citation metrics that include ethical considerations



Research Gaps

- More research on inclusive STEM collection practice from non-Western libraries
- Need more research on how to collect:
 - more publications from diverse countries and in other languages
 - research by Indigenous and/or black people in STEM
 - research by individuals with disabilities





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