A hybrid network and topic analysis of the competence research area in educational contexts

https://teams.microsoft.com/l/meetup-join/19%3ameeting_Yzg4NmVmNWQtYzRmYS00YTBmLTg3YmUtYmZiNGE3ZTg0ODdh%40thread.v2/0?context=%7b%22Tid%22%3a%22e9662d58-caa4-4bc1-b138-c8b1acab5a11%22%2c%22Oid%22%3a%228ca0b4ef-f835-43c0-b03b-e47c077014de%22%7d

Felipe Urrutia Vargas
15/06/22

Summary of results

Data: Search

- WOS
  - TS=("competence-based education" OR "competence-based training" OR "competence-based curricul*" OR "key competenc*")
  - Document types: Articles and Review articles
  - Web of Science categories: Education Educational Research
  - Language: English
  - LINK

Data: Search

- SCOPUS
  - TITLE-ABS-KEY ("competence-based education" OR "competence-based training" OR "competence-based curricul*" OR "key competenc*")
  - Subject area: Social Sciences
  - Document type: Article, Review
  - Source type: Journal
  - Language: English
  - LINK

Tests

1. Run both the **Web of Science** and **Scopus** export files to **VOSviewer** separately. It would be interesting to see how the results differ from these two databases.
2. If it is possible, run both export files to **VOSviewer** at the same time. If it is not possible or easy to do, you can ignore this test.
3. Run the **Web of Science** export file also to **CitNetExplorer**. Then we can compare the differences of the **VOSviewer** and **CitNetExplorer** results with the same export.

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Test: Run each export files to VOSviewer

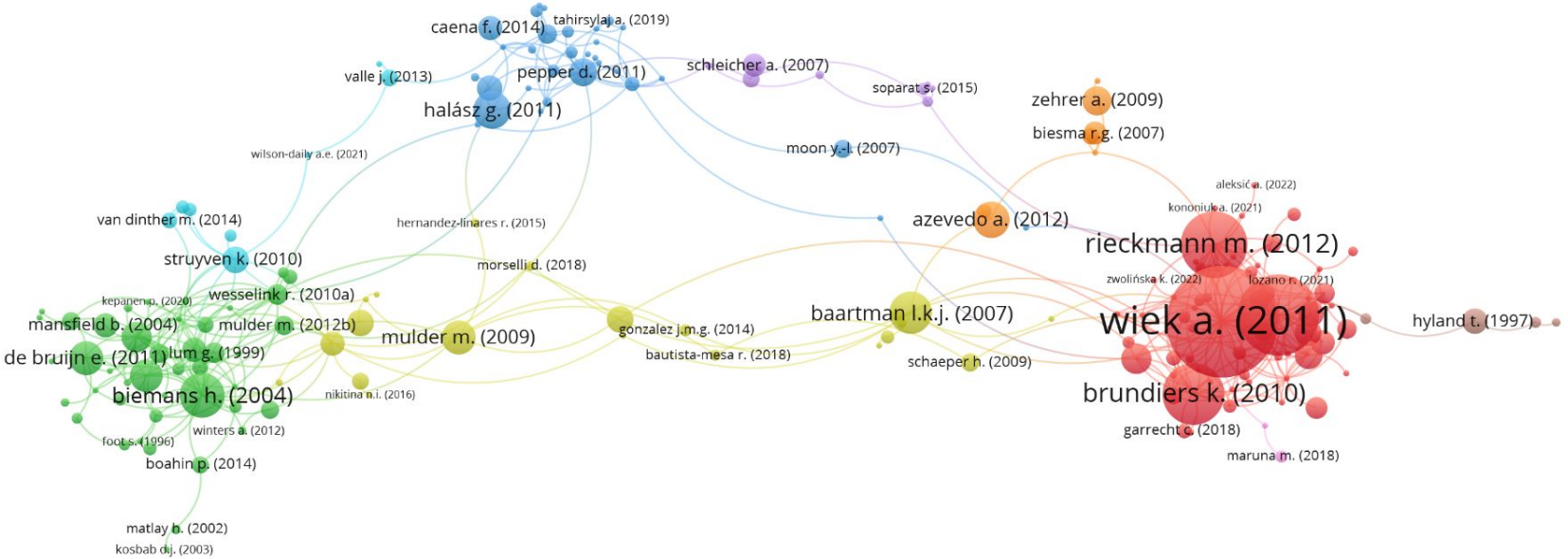
	Type file	What information?
SCOPUS	**CSV**	**ALL**
WOS	**Tab delimited file**	**Full Record and Cited References**

Data: Results

	Results
SCOPUS	**908**
WOS	**391**

Citation network

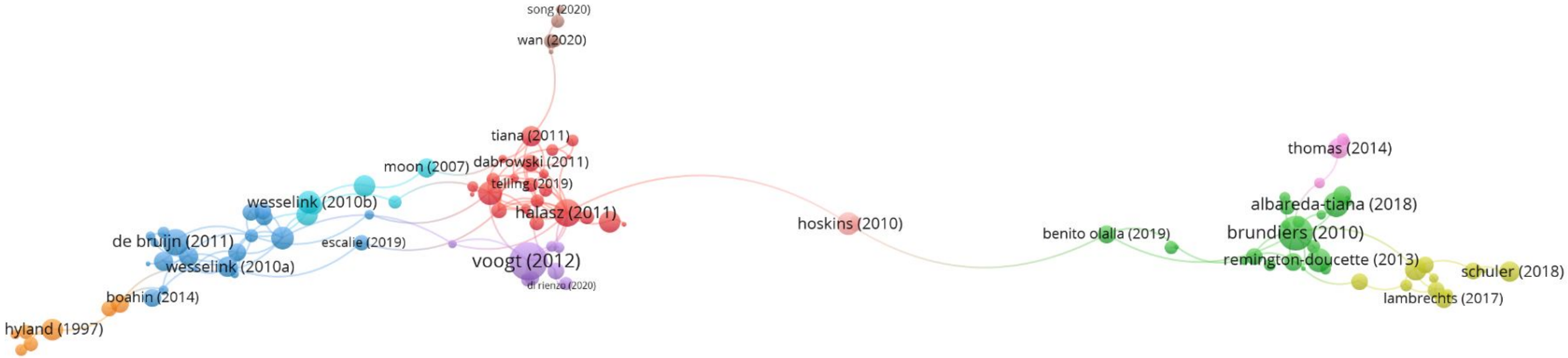
scopus
187 items
9 clusters



VOSviewer

Citation network

wos
114 items
10 clusters



VOSviewer

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Test: Run both export files to VOSviewer

Short answer: No

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Short answer: No

Why?

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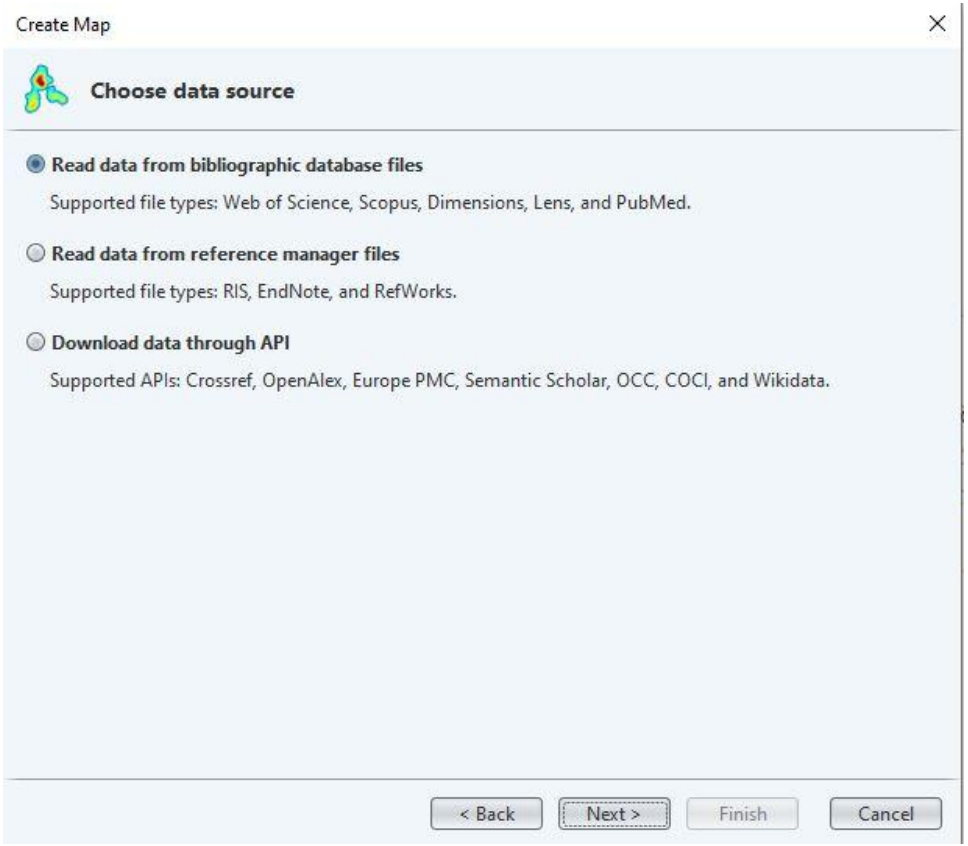
Short answer: No

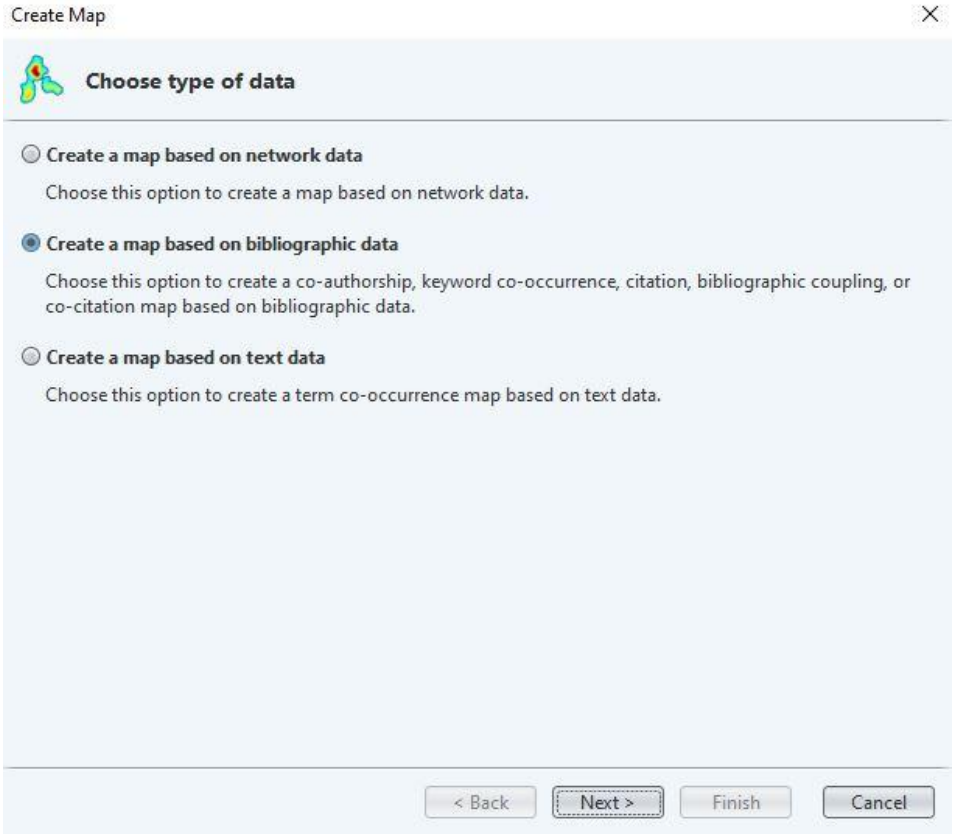
Why?



Test: Run both export files to VOSviewer

Short answer: No

Why?



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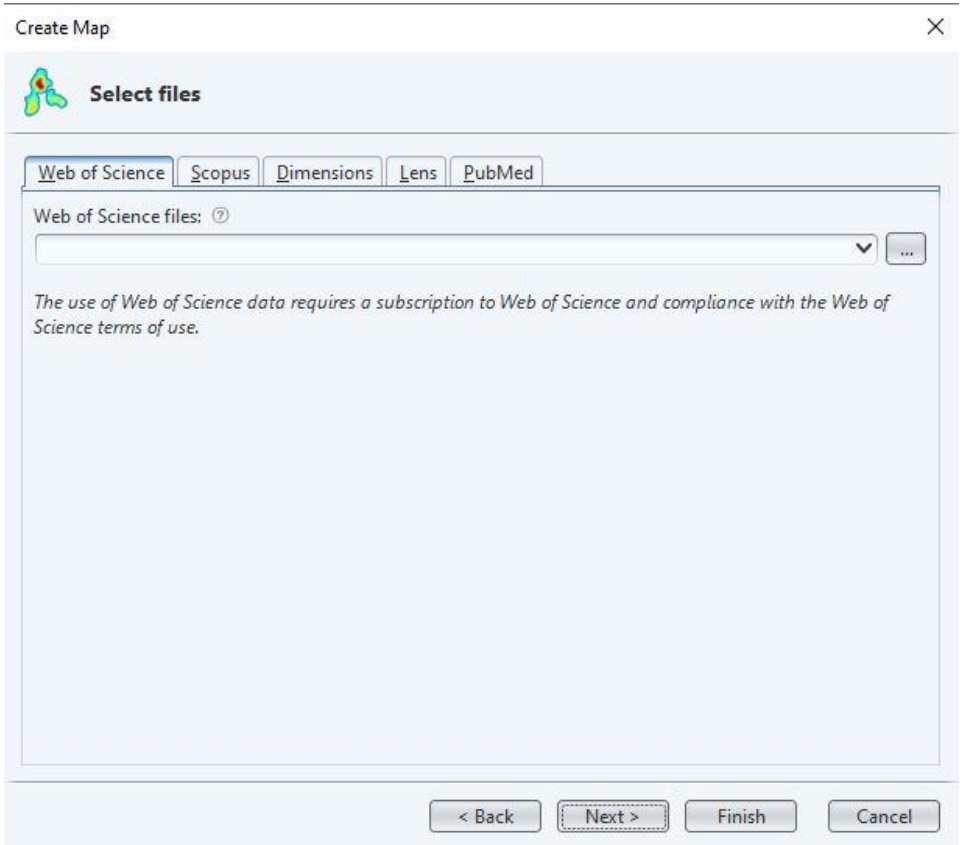
Short answer: No

Why?



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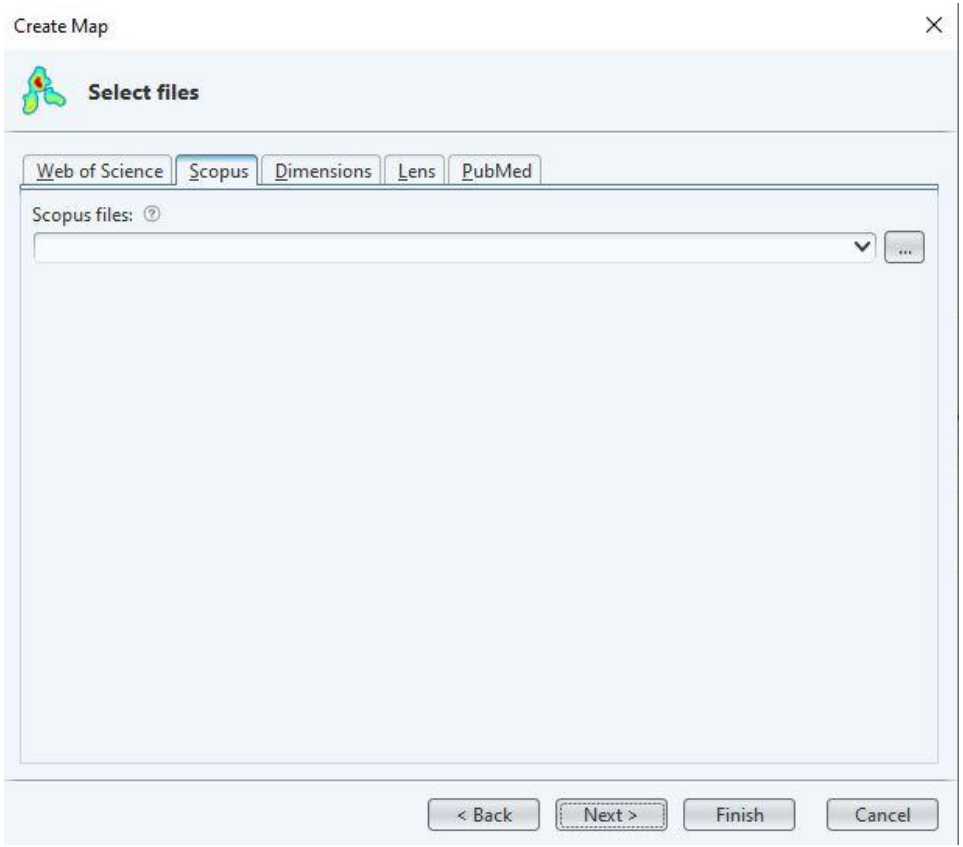
Short answer: No

Why?



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Test: Run WOS export file to CitNetExplorer

Requirements

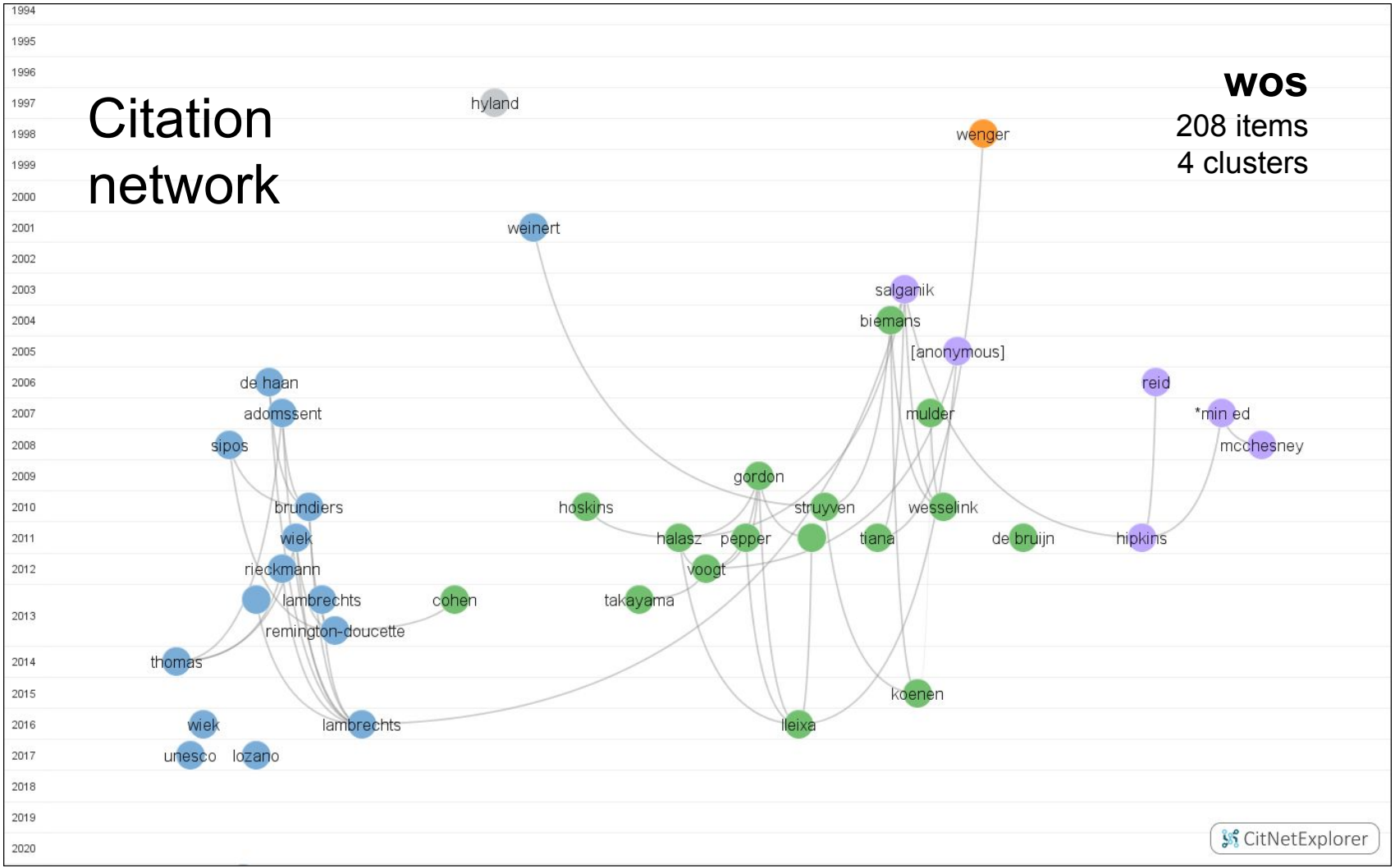
- Tab delimited file
- Exclude *Early access articles*

Test: Run WOS export file to CitNetExplorer

Requirements

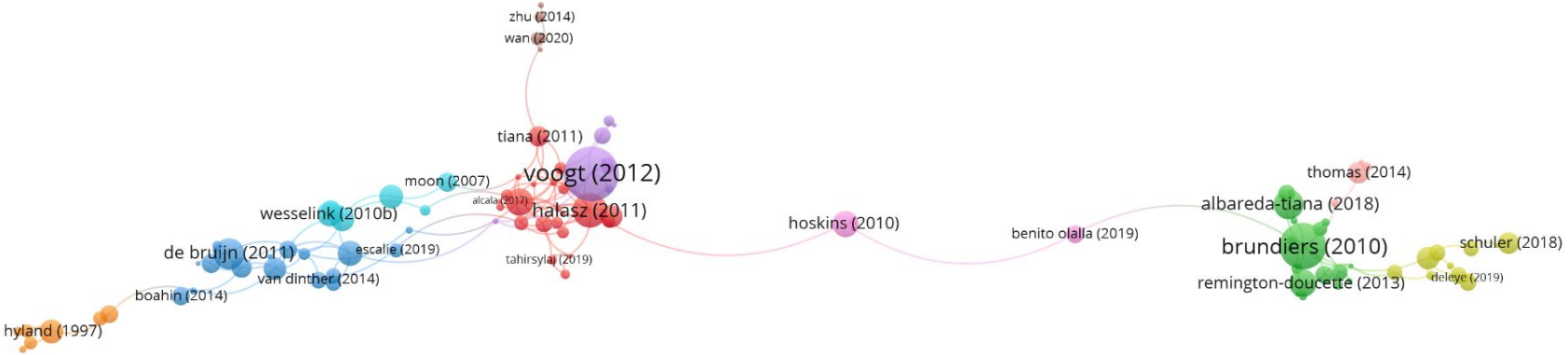
- Tab delimited file
- Exclude *Early access articles* → from **391** to **369** results

Citation network



Citation network

wos
208 items
4 clusters



VOSviewer

Main questions from test results

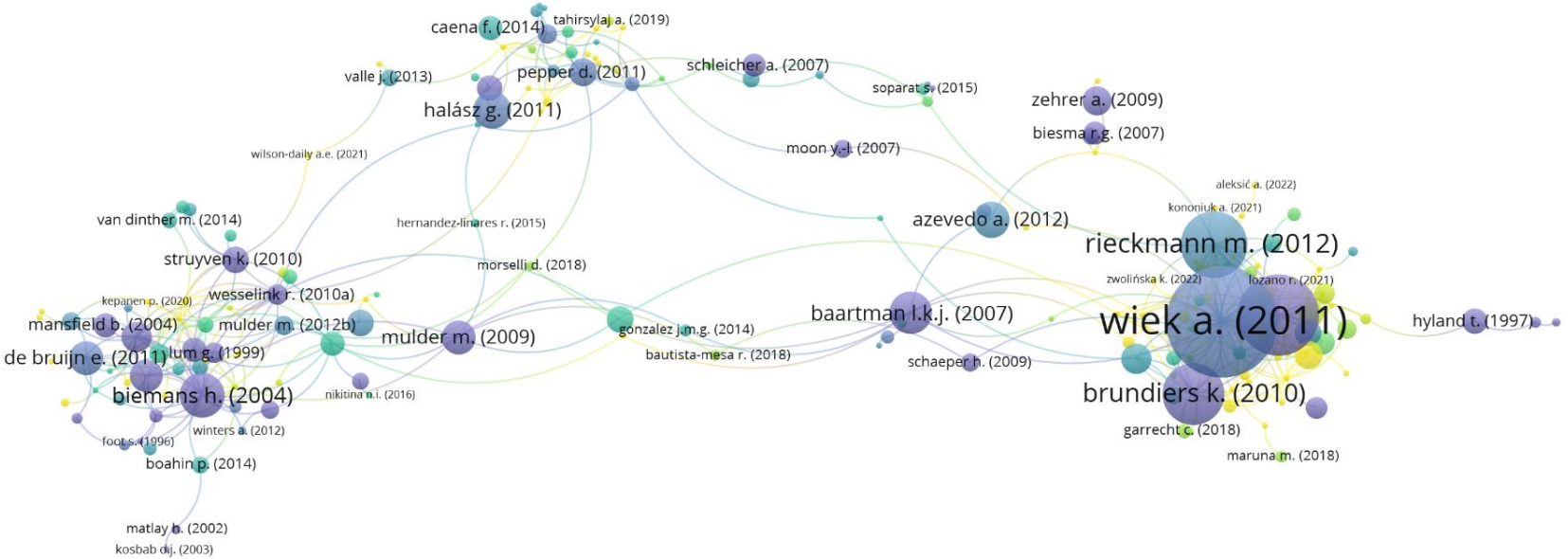
1. Run each export files to VOSviewer
   a. Use Scopus?

2. Run both export files to VOSviewer
   a. Try to merge the export files?

3. Run WOS export file to CitNetExplorer
   a. ?

Citation network

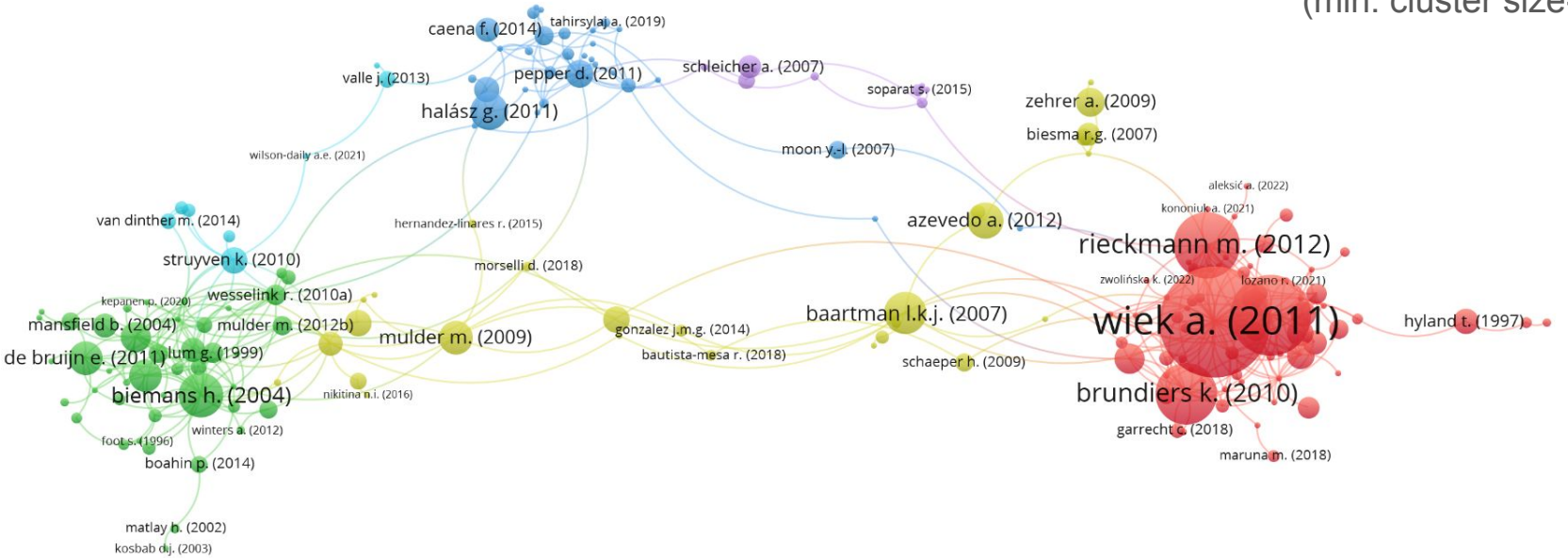
scopus
187 items
Time colormap



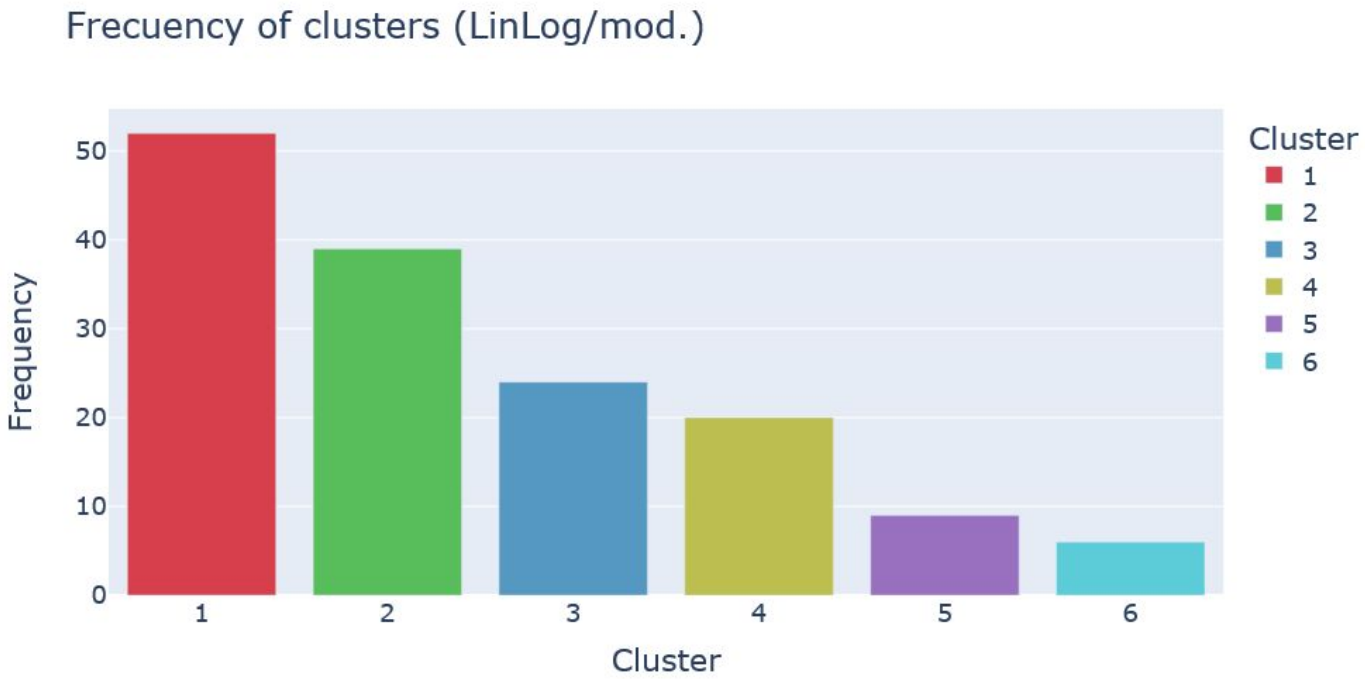
VOSviewer

Citation network

scopus
187 items
6 clusters
(min. cluster size=8)



VOSviewer

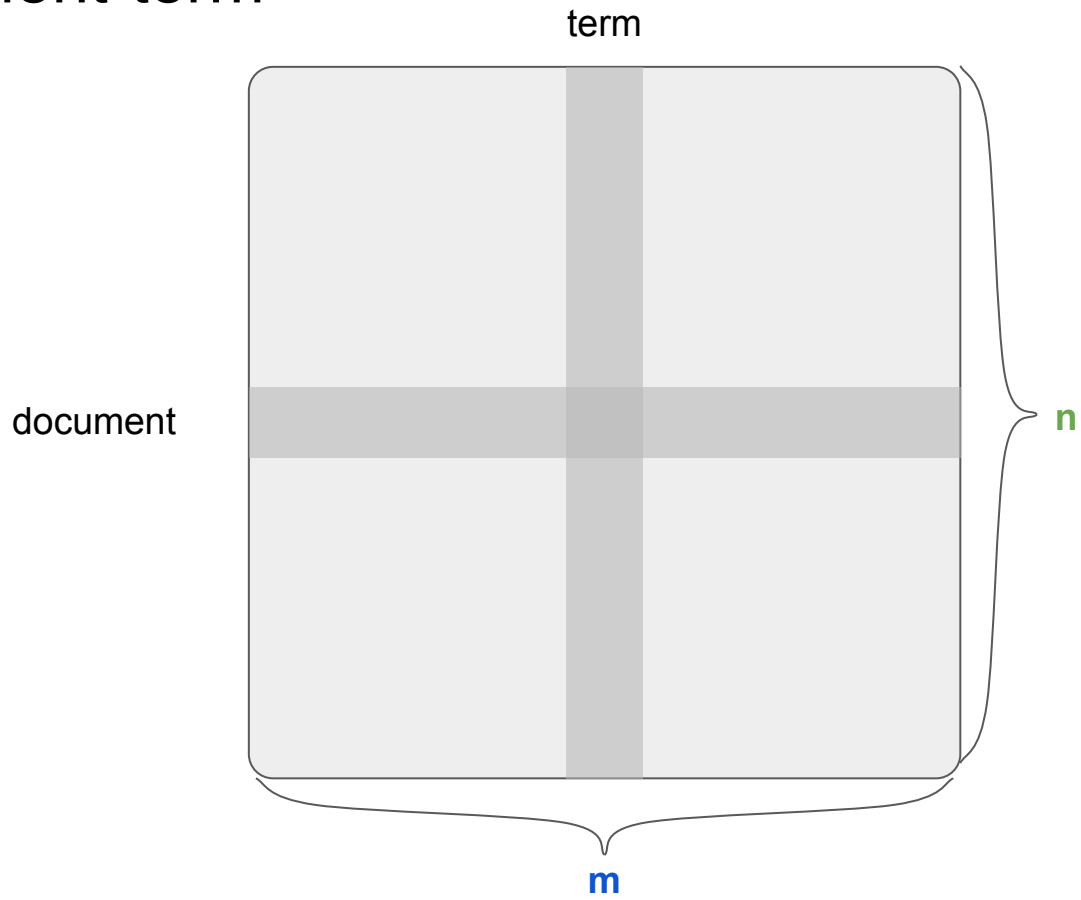


Cluster	Frequency
1	52
2	39
3	24
4	20
5	9
6	6

Matrix document-term

term
Words or tokens

document
Sequence of terms



document-term

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document = Title + Abstract + Author Keywords + Index Keywords

Title = An online Delphi study to investigate the completeness of the CanMEDS Roles and the relevance, …

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Author Keywords = Allied health disciplines; CanMEDS; Continuous professional development; Delphi study; Key competencies; Midwifery; Nursing; Roles

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Index Keywords = article; audiology; Belgium; clinical article; consensus; content analysis; controlled study; curriculum; Delphi study; education; Flanders; human; human experiment; interprofessional education; …

document-term

= An online Delphi study to investigate the completeness of the CanMEDS Roles and the relevance, formulation, and measurability of their key competencies within eight healthcare disciplines in Flanders. Background: Several competency frameworks are being developed to support competency-based education (CBE). In medical education, extensive literature exists about validated competency frameworks for example, the CanMEDS competency framework. In contrast, comparable literature is limited in nursing, midwifery, and allied health disciplines. Therefore, this study aims to investigate (1) the completeness of the CanMEDS Roles, and (2) the relevance, formulation, and measurability of the CanMEDS key competencies in nursing, midwifery, and allied health disciplines. If the competency framework is validated in different educational programs, opportunities to support CBE and interprofessional education/collaboration can be created. Methods: A three-round online Delphi study was conducted with respectively 42, 37, and 35 experts rating the Roles (n = 7) and key competencies (n = 27). These experts came from non-university healthcare disciplines in Flanders (Belgium): audiology, dental hygiene, midwifery, nursing, occupational therapy, podiatry, and speech therapy. Experts answered with yes/no (Roles) or on a Likert-type scale (key competencies). Agreement percentages were analyzed quantitatively ….

document-term

Pre-processing of document

document-term

Pre-processing of document

- lower
- remove_stopwords
- strip_punctuation
- strip_short
- stem_text

document-term

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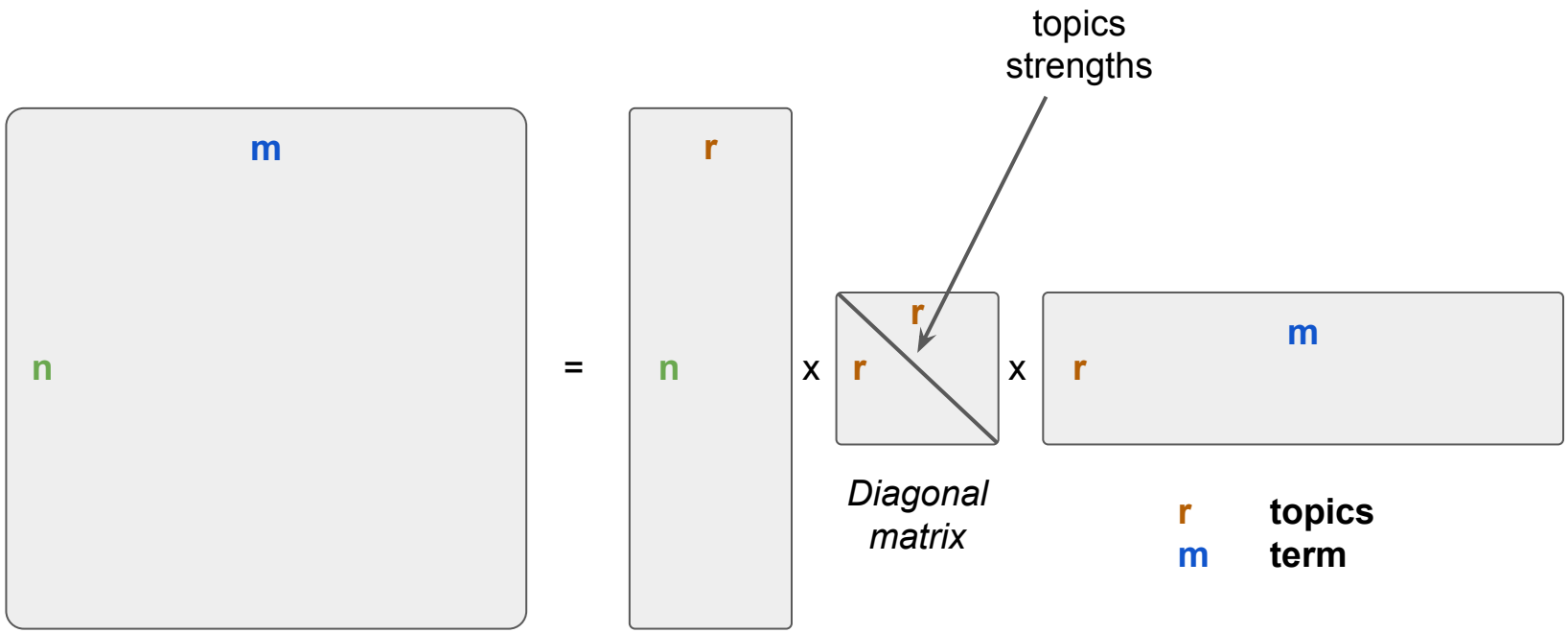
onlin delphi studi investig complet canm role relev formul measur kei compet healthcar disciplin flander background compet framework develop support compet base educ cbe medic educ extens literatur exist valid compet framework exampl canm compet framework contrast compar literatur limit nurs midwiferi alli health disciplin therefor studi aim investig complet canm role relev formul measur canm kei compet nurs midwiferi alli health disciplin compet framework valid differ educ program opportun support cbe …

Latent semantic analysis



Latent semantic analysis: **Cluster 1**

Number of (main) topics: 4

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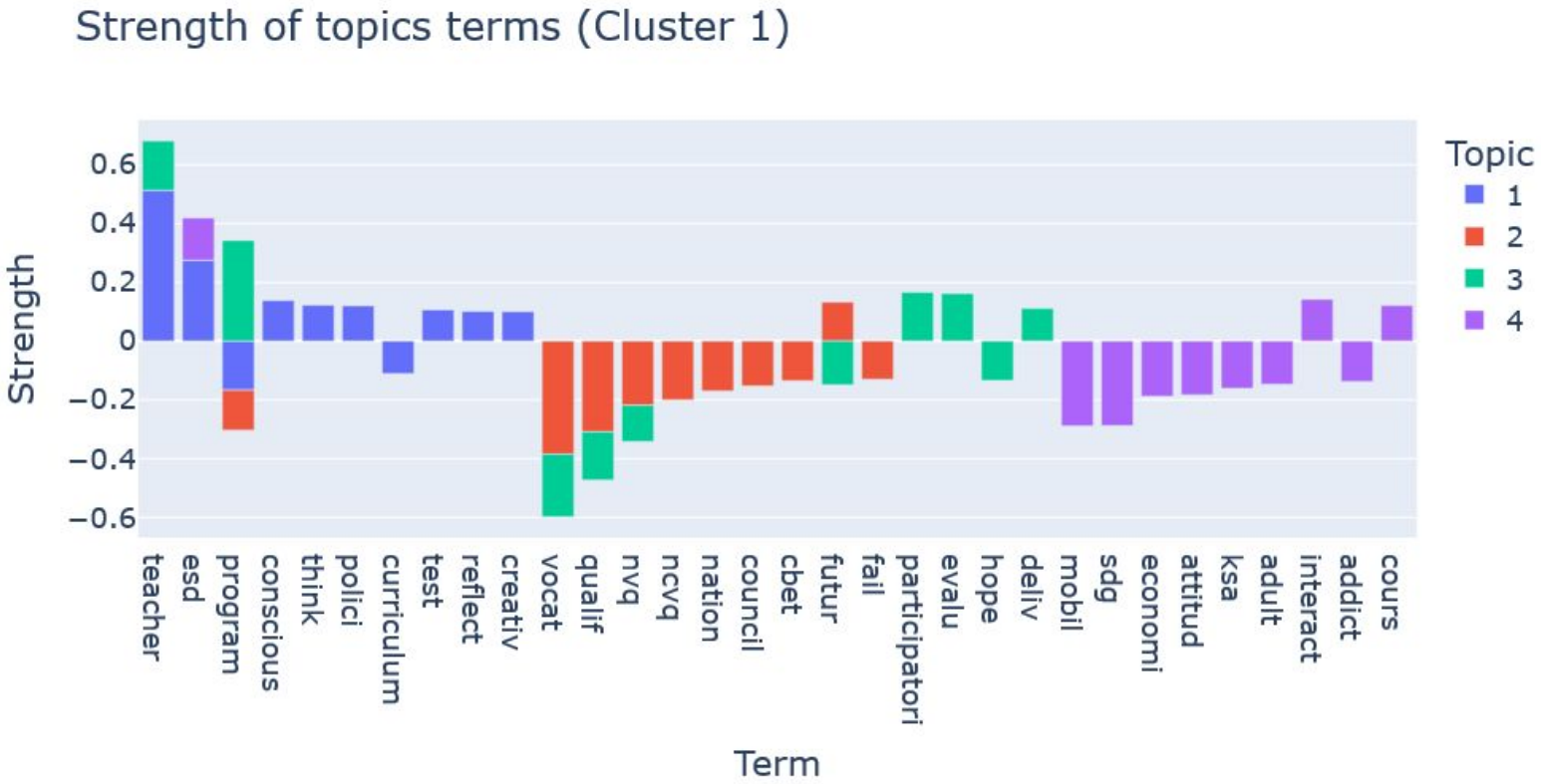
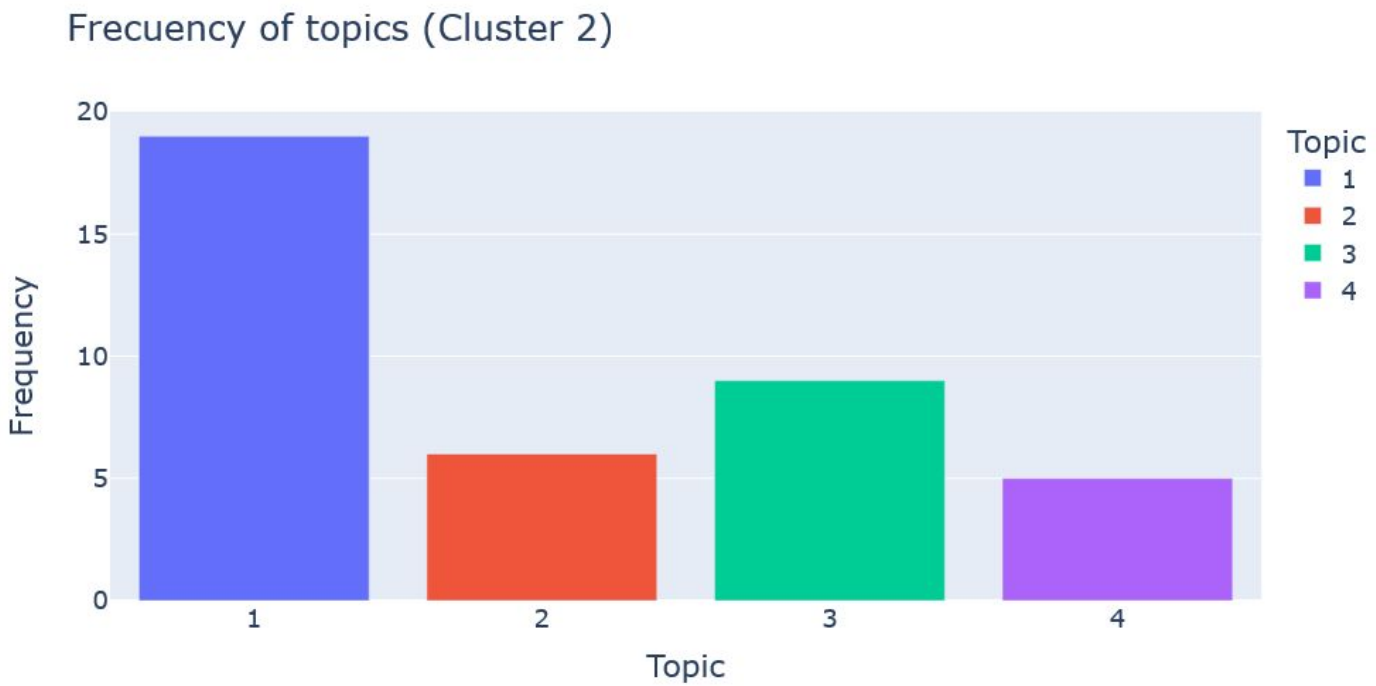
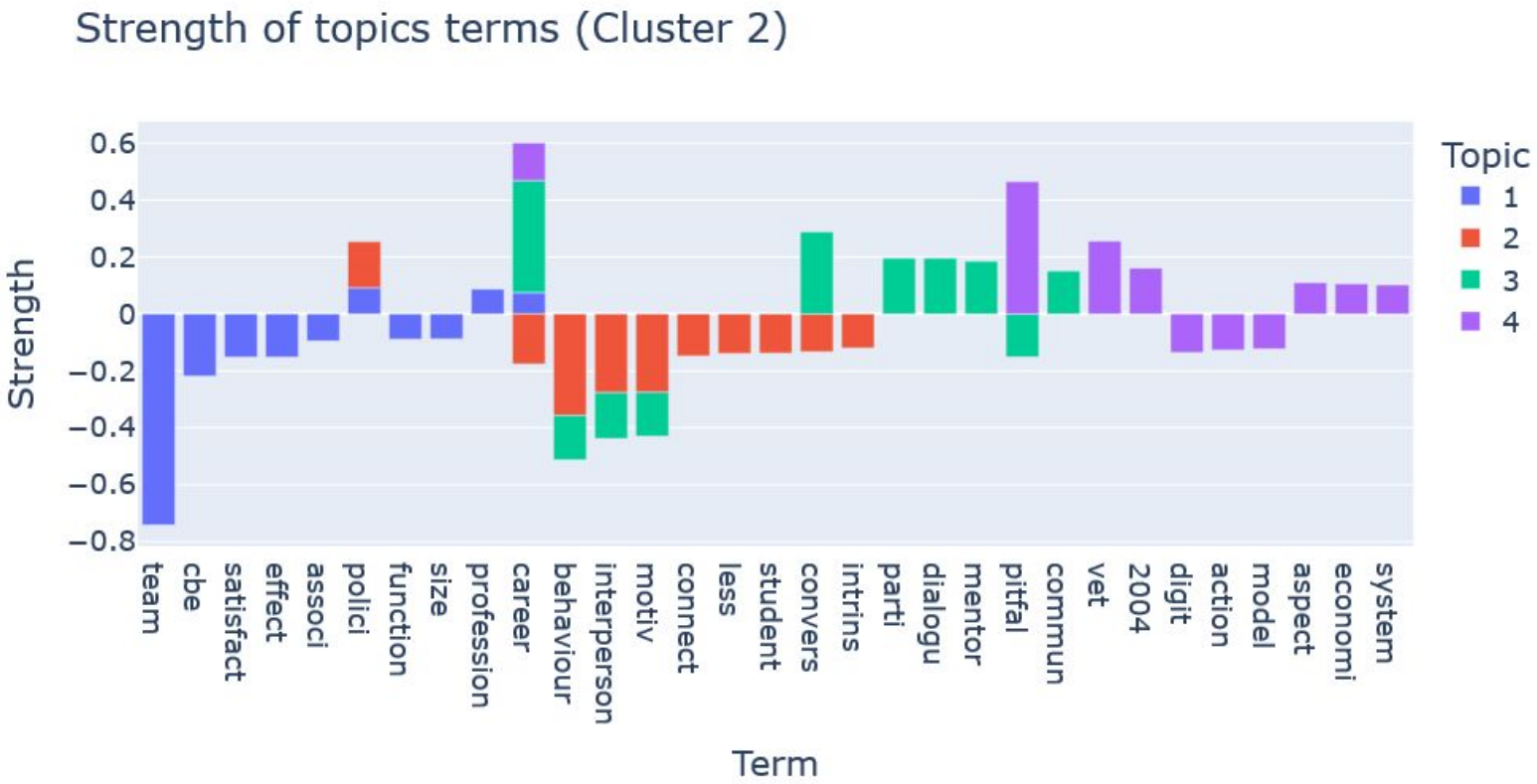


Latent semantic analysis: **Cluster 2**

Number of (main) topics: 4

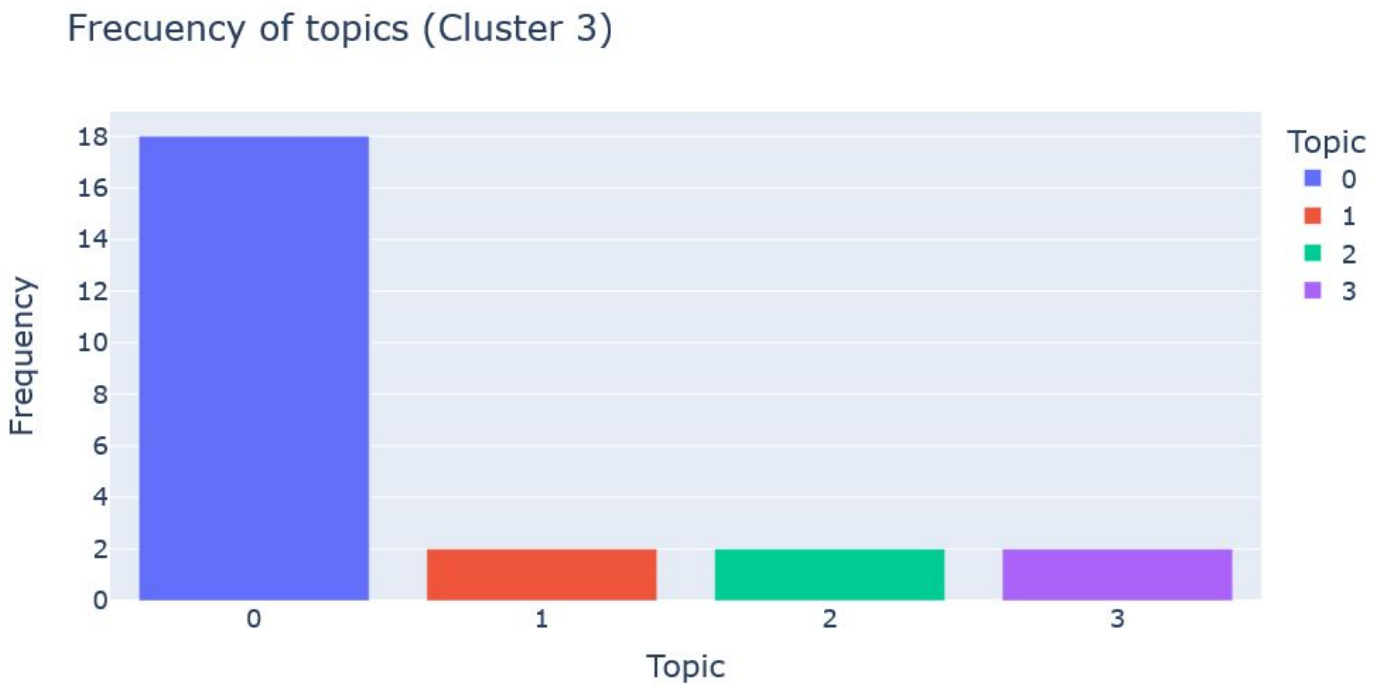


Latent semantic analysis: **Cluster 2**

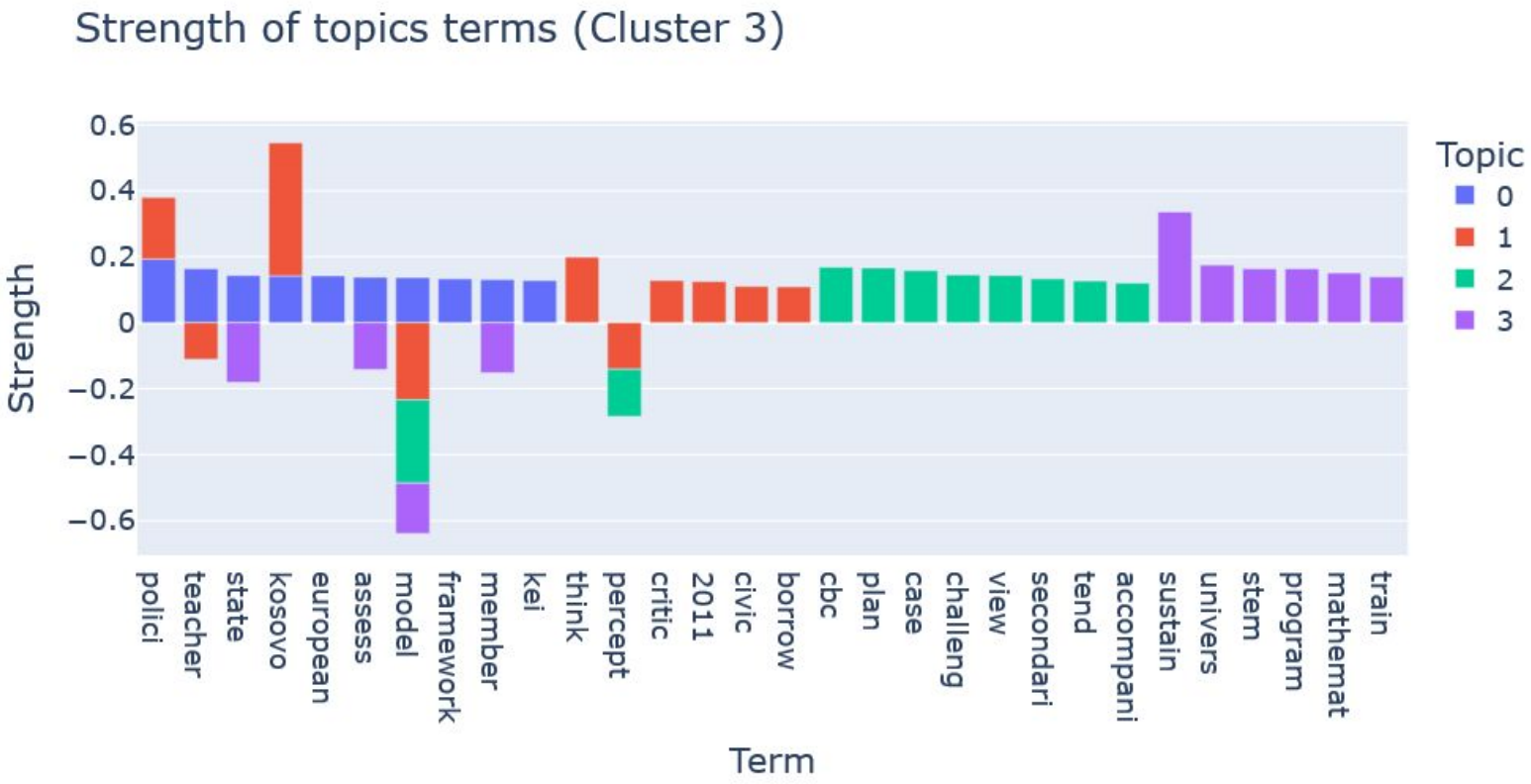


Latent semantic analysis: **Cluster 3**

Number of (main) topics: 4

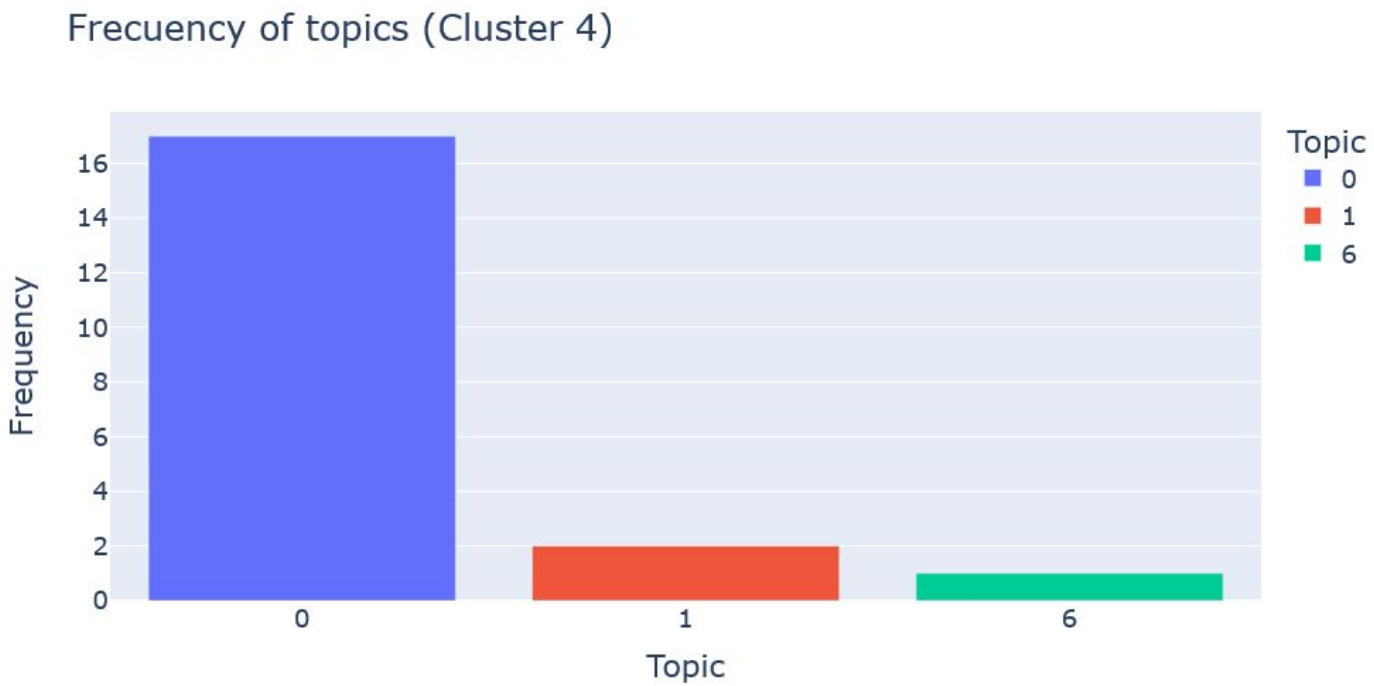


Latent semantic analysis: **Cluster 3**



Latent semantic analysis: **Cluster 4**

Number of (main) topics: 3



Latent semantic analysis: **Cluster 4**