

Supplement for: Conceptualisation of inquiry-based science in early childhood

Authors

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1 Empirical and theoretical excerpts

The excerpts are available on GitHub [link released upon acceptance of article]. Since excerpts were at times taken from different parts of an article, we used the word *BREAK* to designate that to passages of texts were not connected. Also, as part of the TNA, we made several changes directly in the excerpts. Thus, excerpts are not citations.

2 R-scripts

We have included the R-script files as supplemental materials. They are called 'createTheoreticalNetworks.r', 'createEmpiricalNetworks.r', and 'createMaps.r' respectively. They are included as a zip-file which also contains this document as well as folders with the excerpts. Running these files in R Studio produces networks in the graphml format, which can be imported to Gephi. For readers unfamiliar with R and R Studio, we have made .txt versions of each script which can easily be viewed in simple text editors, although we recommend installing and viewing in R Studio.

3 Network themes

This document contains network representations of the individual themes shown in the main manuscript's Figures 2 and 4. As such, they show the internal structure of each theme. Interested readers can download pdf-versions of each theme as well as a Gephi-version of all our maps and networks at [link to be provided upon acceptance of paper-attached as supplemental files].

In the following networks, size of circles (nodes) is proportional to weighted degree and colors represent within-network clusters. We have used the Yifan-Hu algorithm in software Gephi 0.9.2 for layouts.

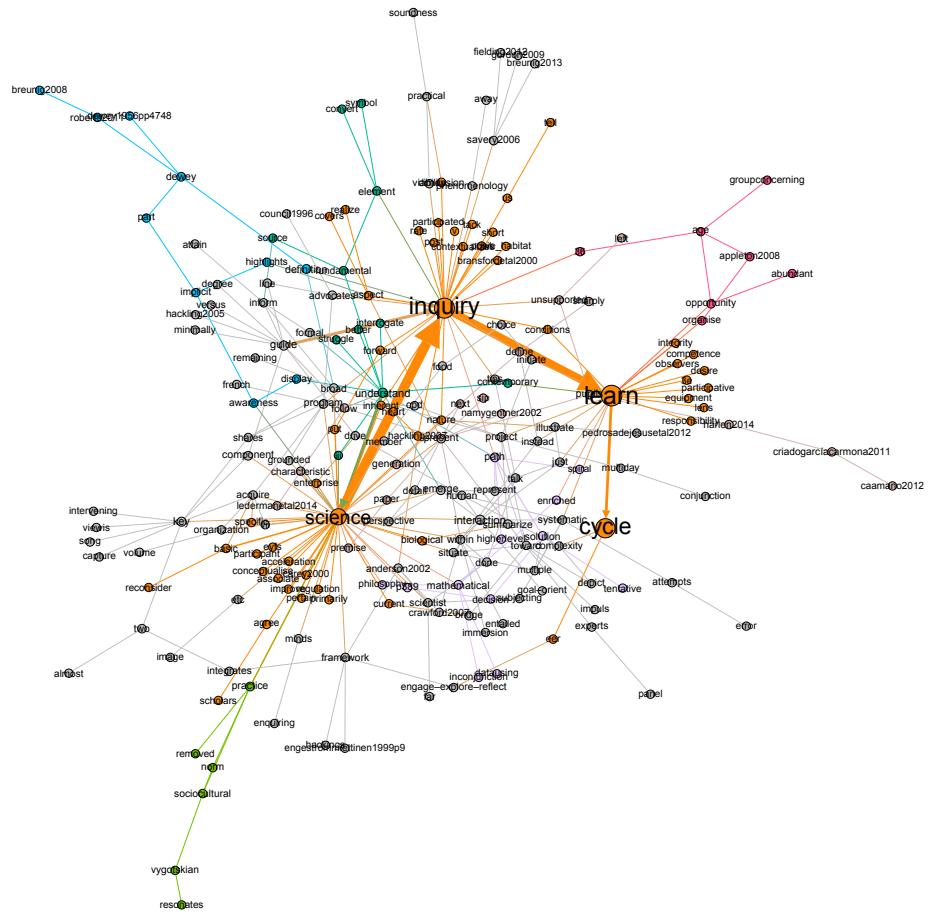


Figure 1: The network representation of theoretical theme 1: Learning science through inquiry.

3.1 Theoretical themes

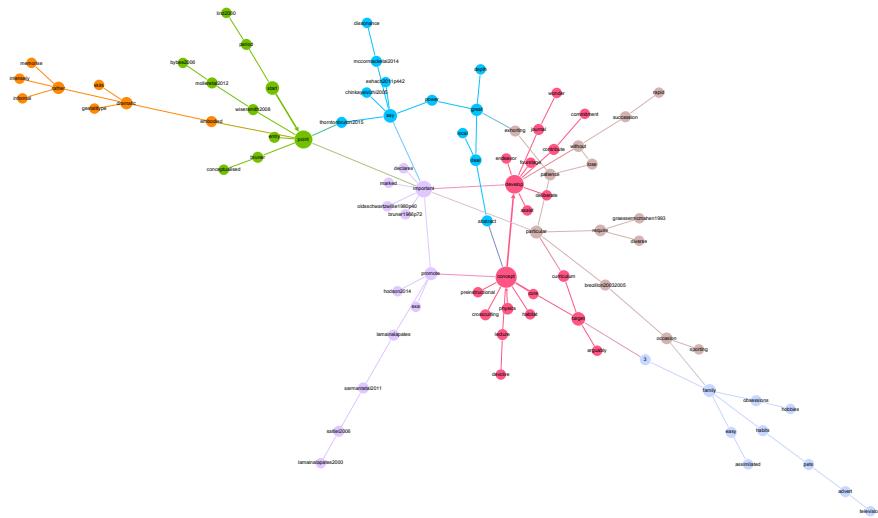


Figure 2: The network representation of theoretical theme 2: Development.

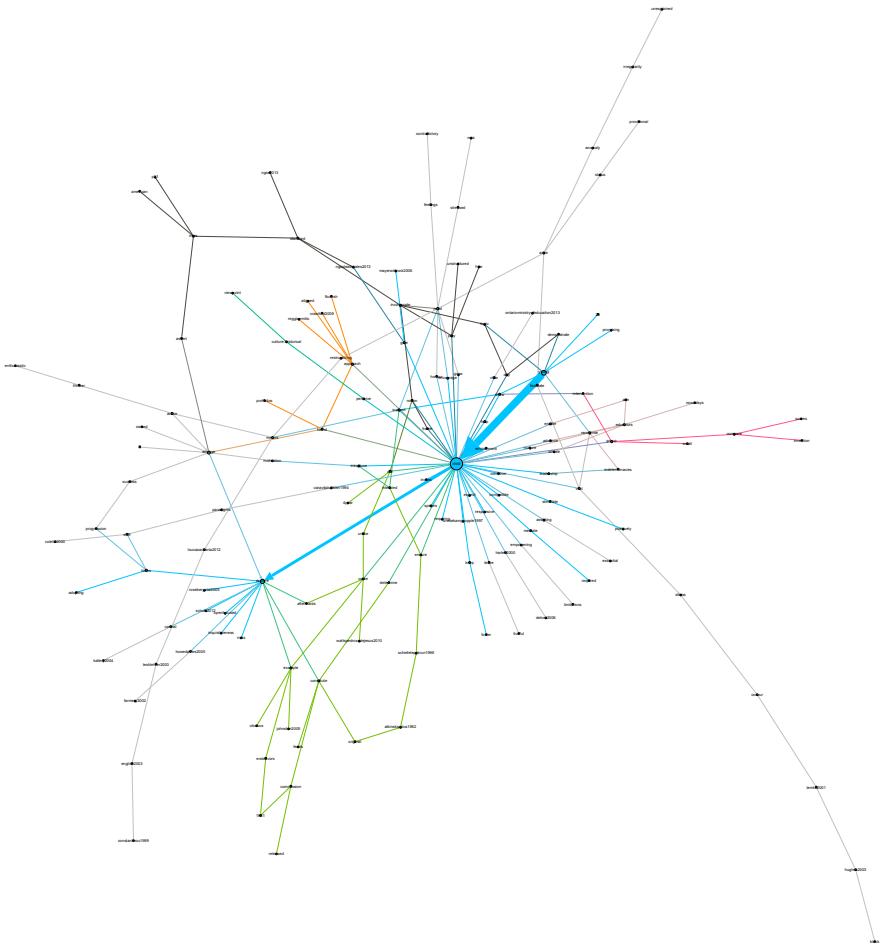


Figure 3: The network representation of theoretical theme 3: Development.

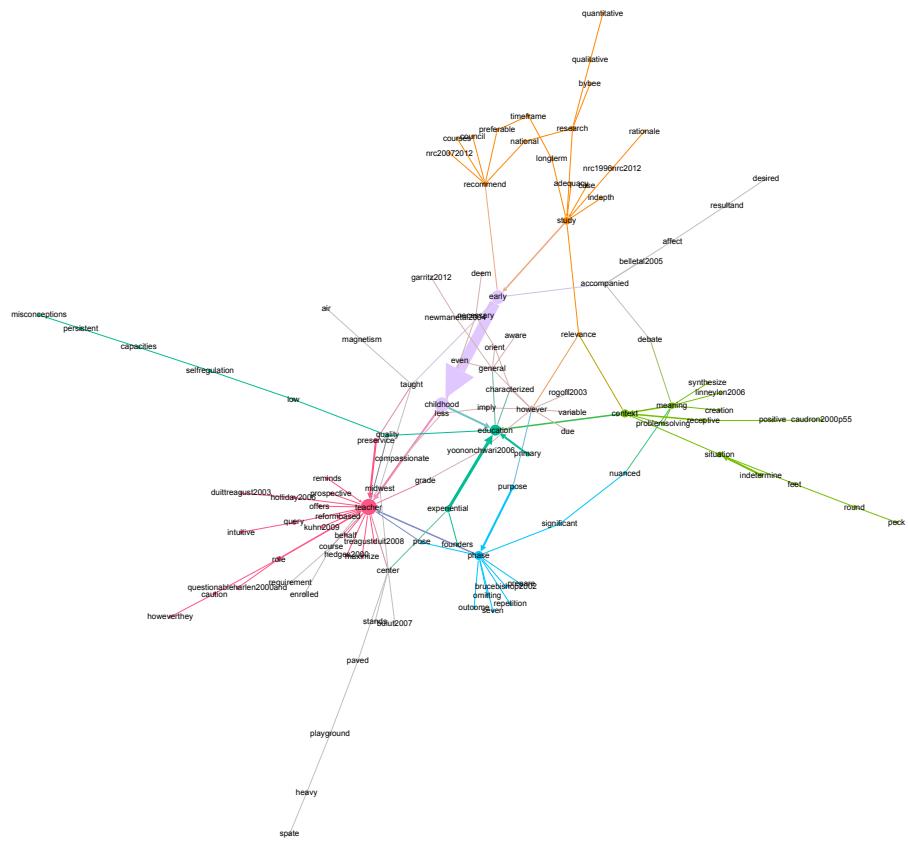


Figure 4: The network representation of theoretical theme 4: Experiential education.

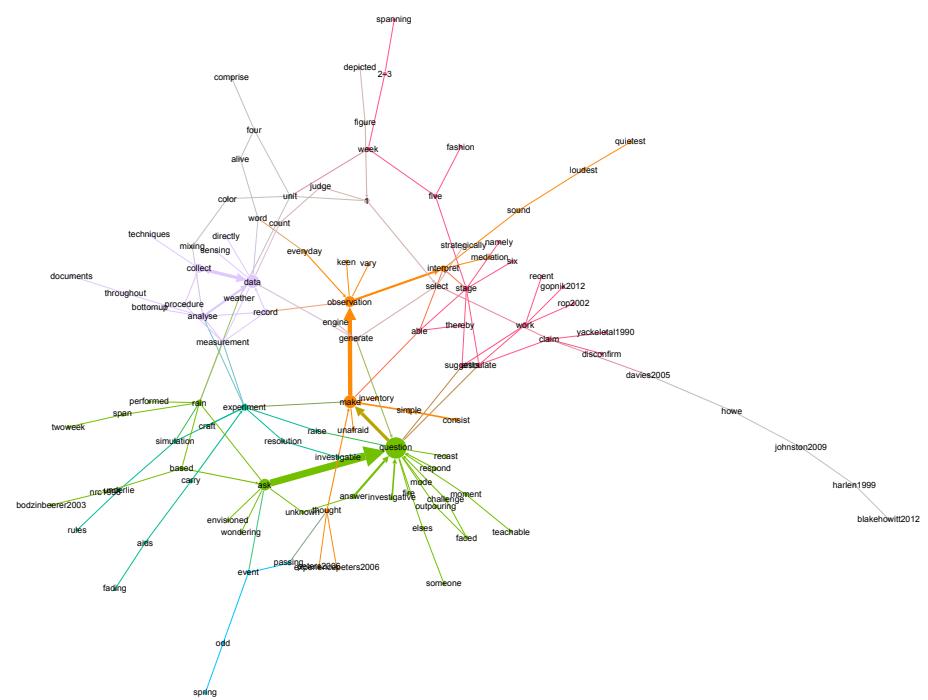


Figure 5: The network representation of theoretical theme 5: Ask questions.

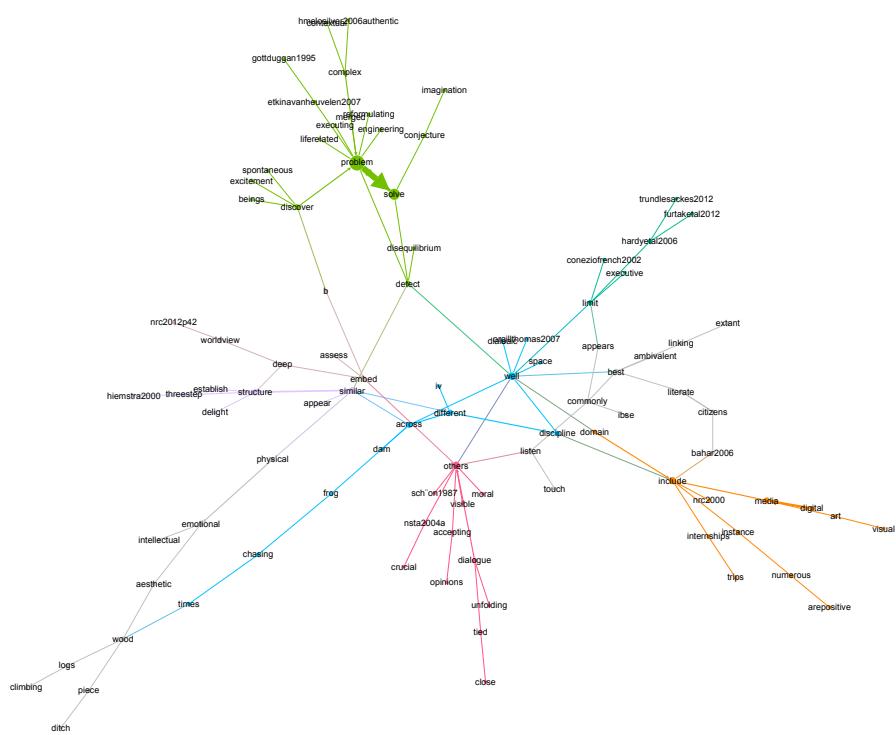


Figure 6: The network representation of theoretical theme 6: Problem solving.

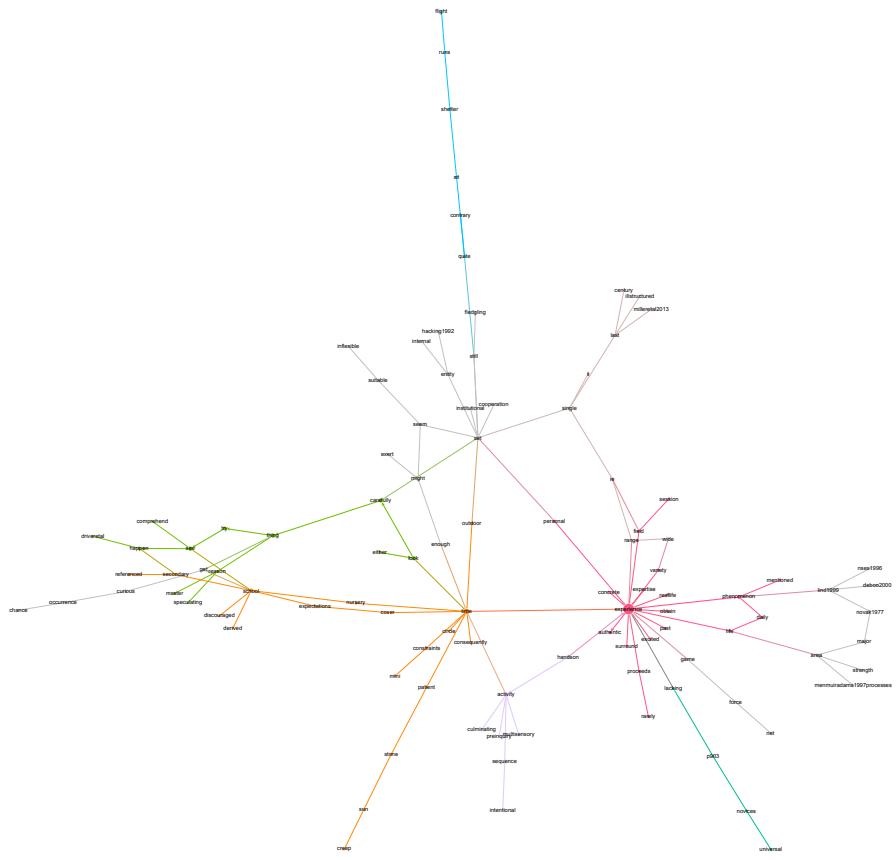


Figure 7: The network representation of theoretical theme 7: Hands on authentic experience.

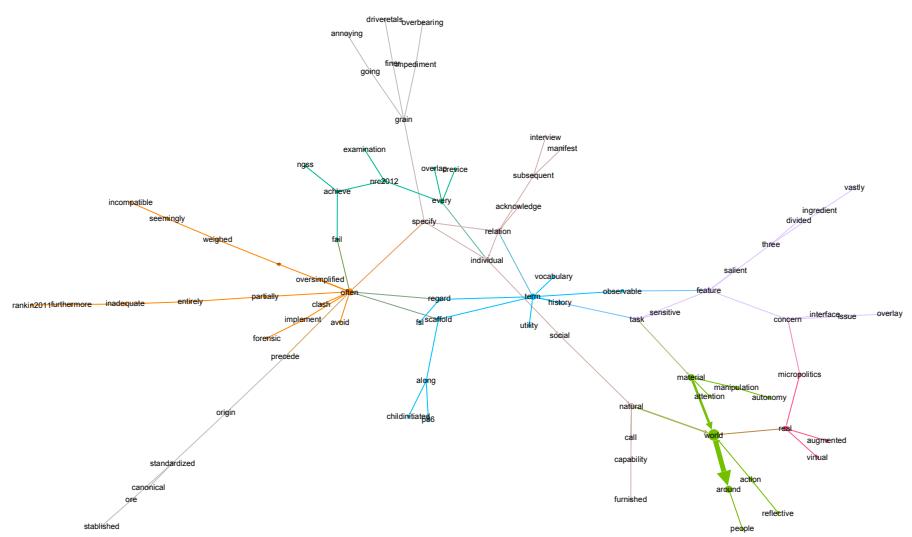


Figure 8: The network representation of theoretical theme 8: Surrounding world.

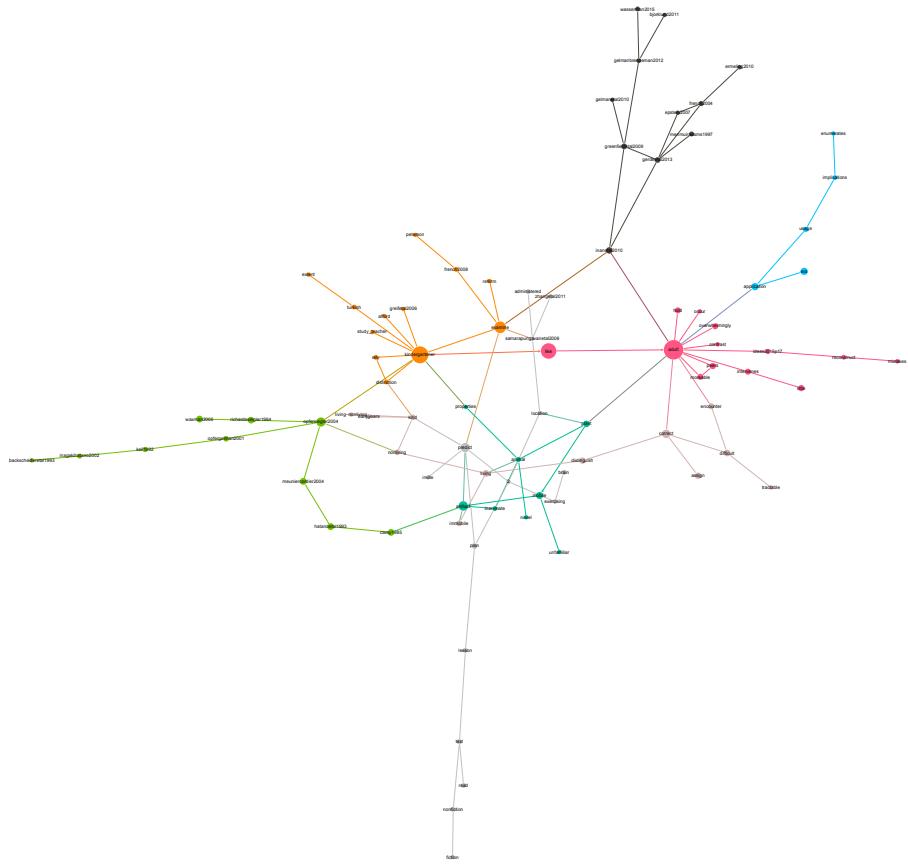


Figure 9: The network representation of theoretical theme 9: Agency of children during inquiry.

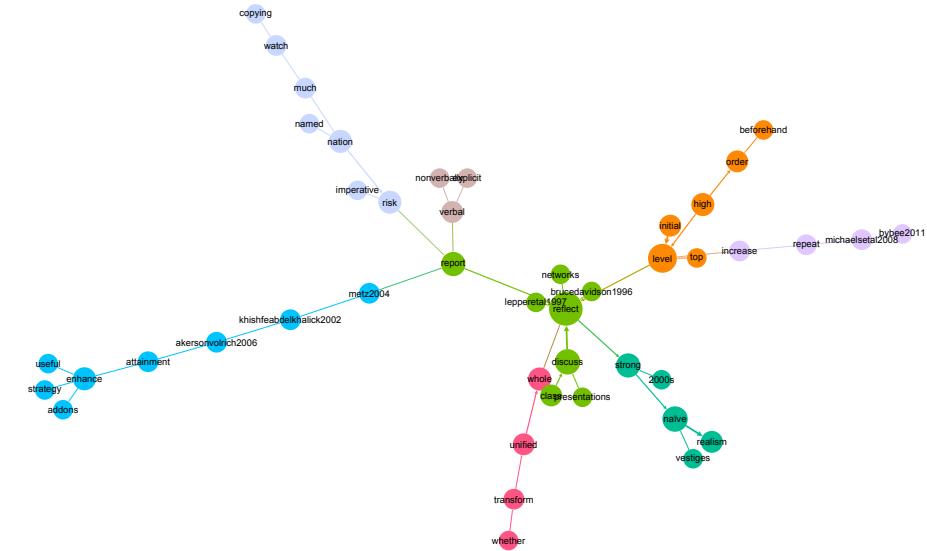


Figure 10: The network representation of theoretical theme 10: Reflect and discuss.

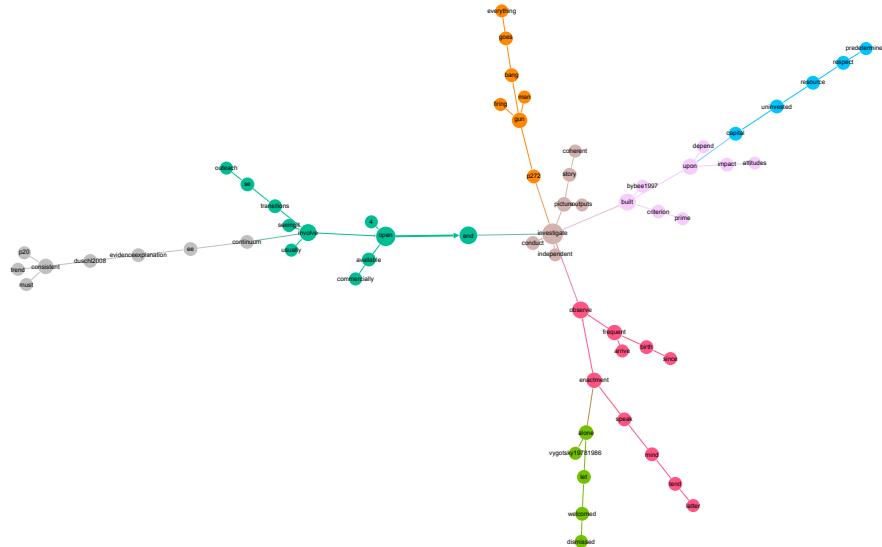


Figure 11: The network representation of theoretical theme 11: Development.

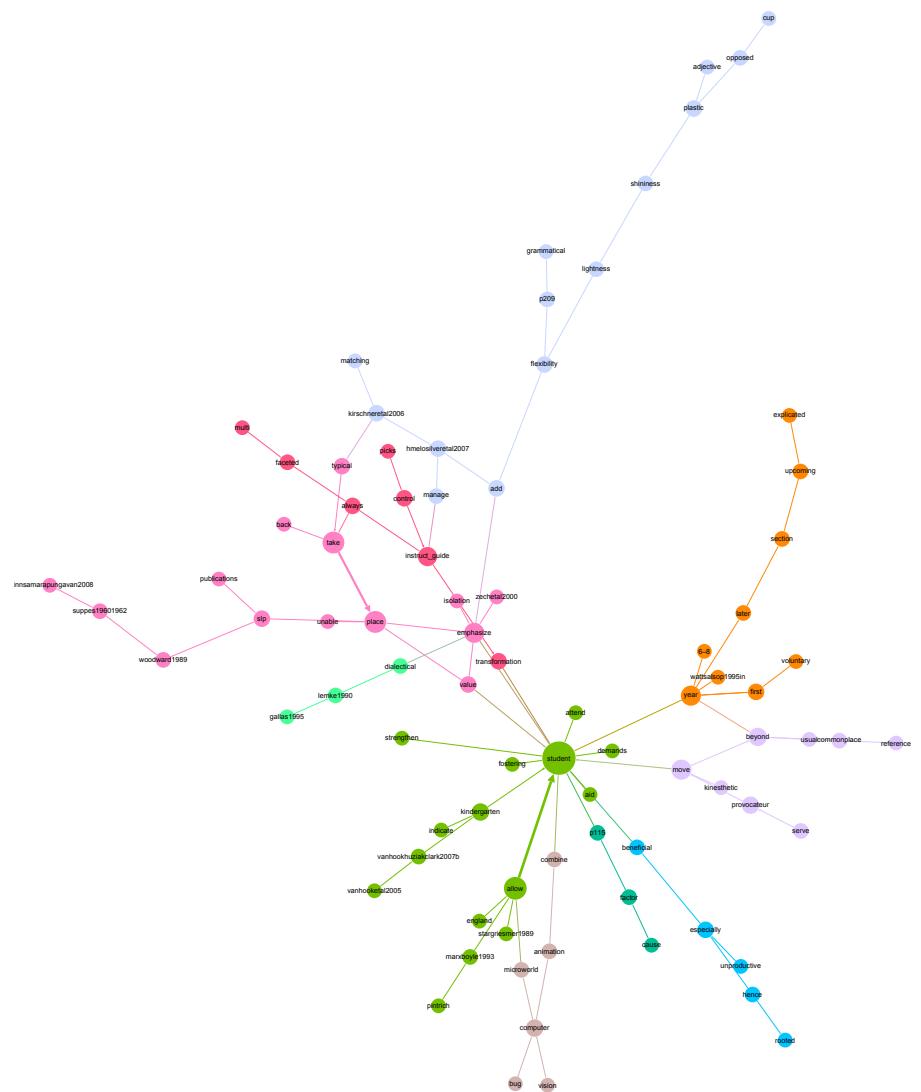


Figure 12: The network representation of theoretical theme 12: Allow student expressiveness.

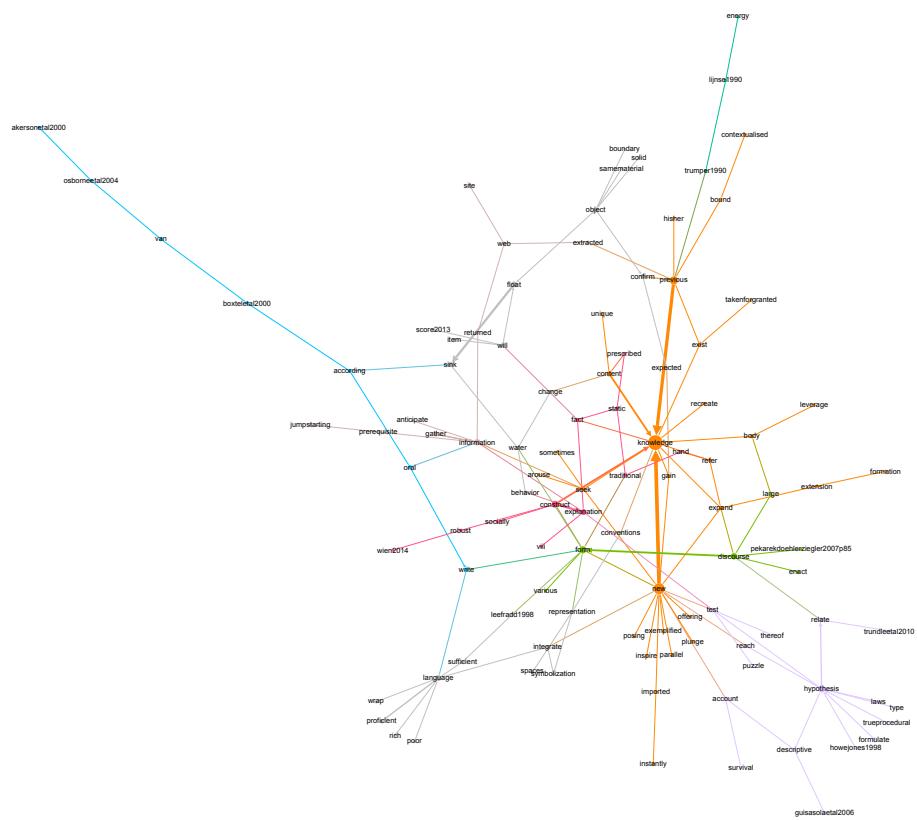


Figure 13: The network representation of theoretical theme 13: Previous and new knowledge.

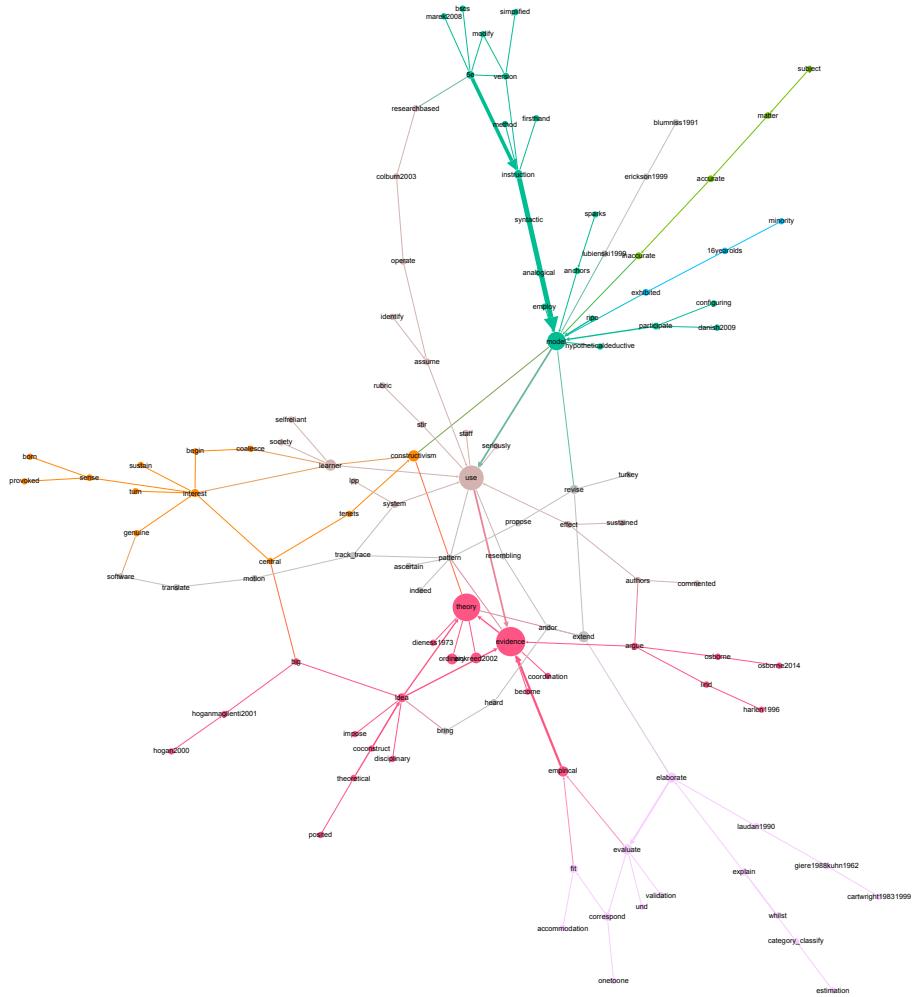


Figure 14: The network representation of theoretical theme 14: Instruction model and evidence.

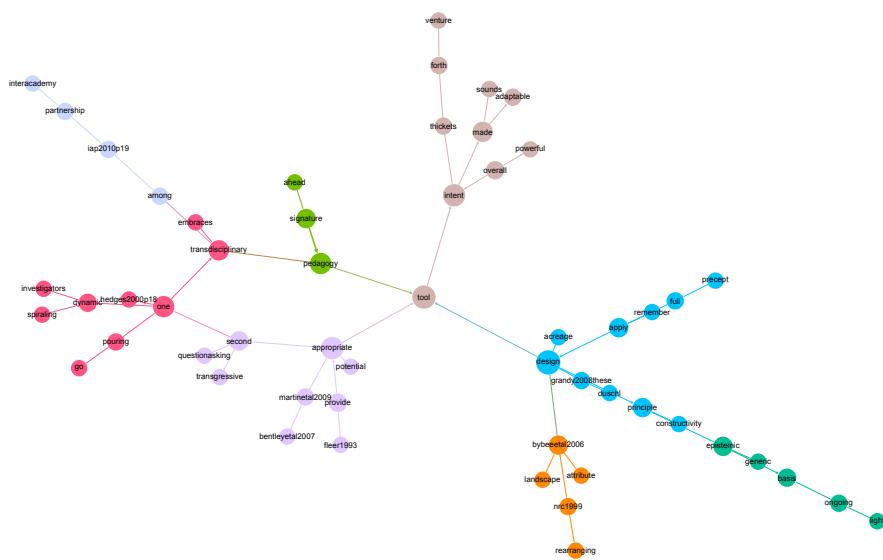


Figure 15: The network representation of theoretical theme 15: Transdisciplinary practice.

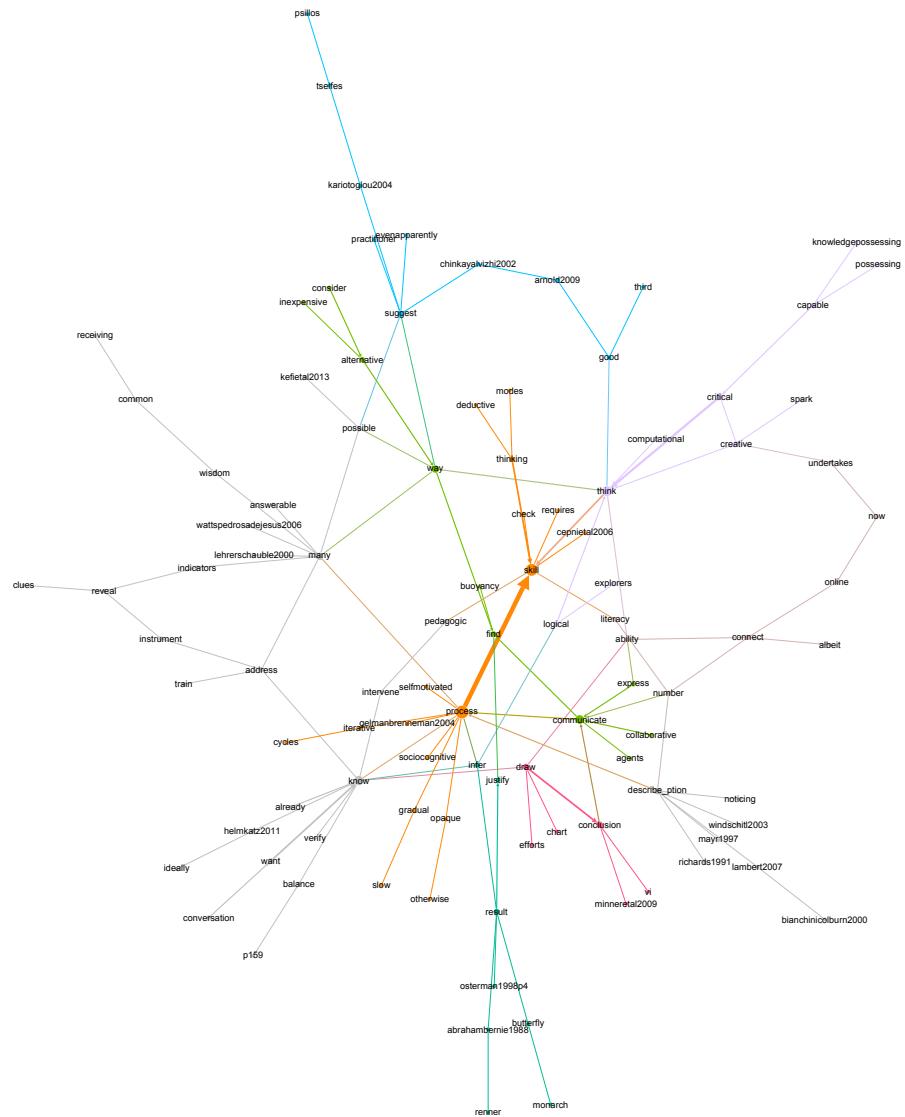


Figure 16: The network representation of theoretical theme 16: Process skill.

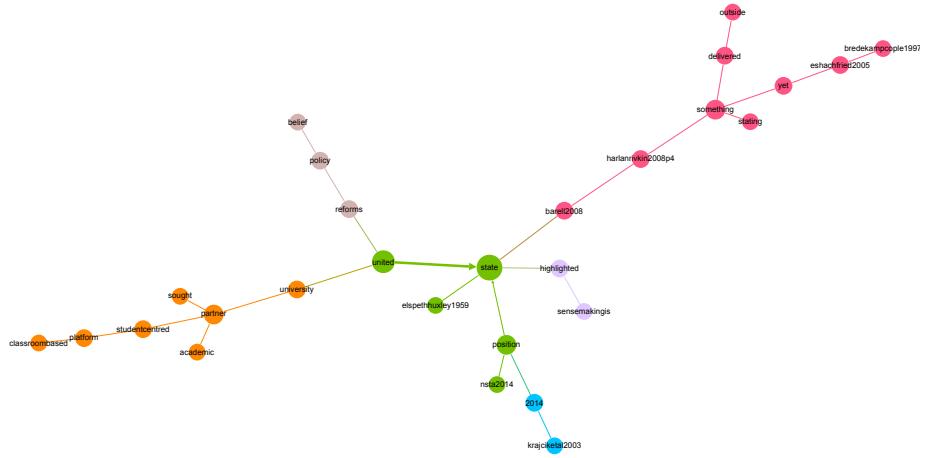


Figure 17: The network representation of theoretical theme 17: Educational/Political context.

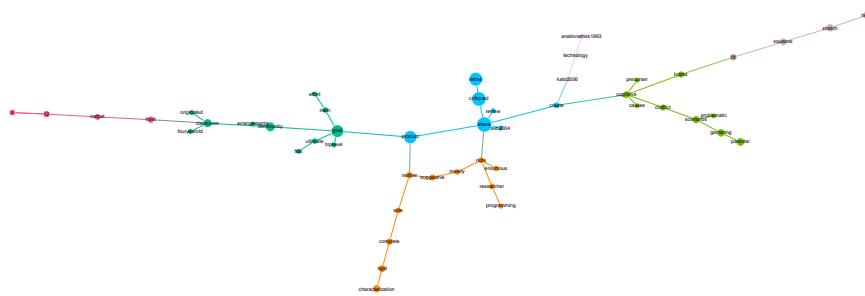


Figure 18: The network representation of theoretical theme 18: Share products with others.

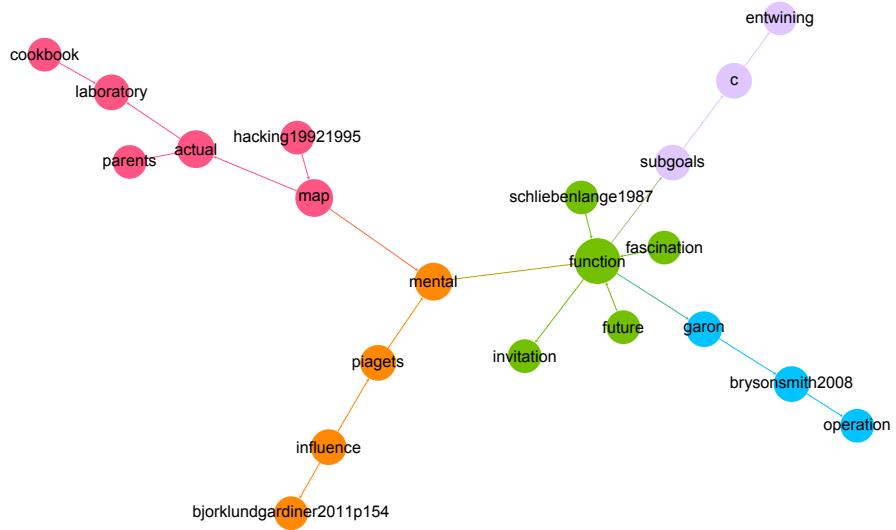


Figure 19: The network representation of theoretical theme 19: Influence of mental function.

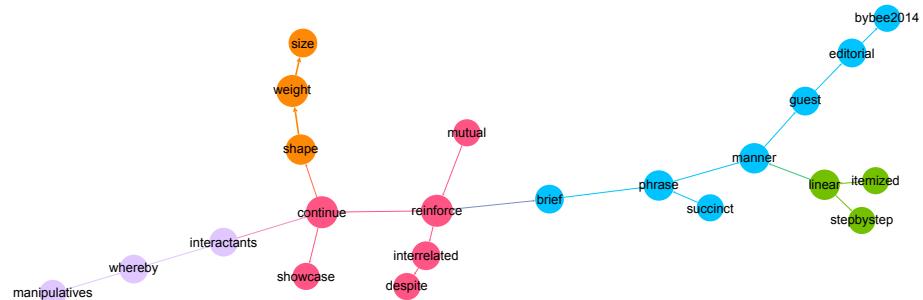


Figure 20: The network representation of theoretical theme 20: Inquiry not linear.

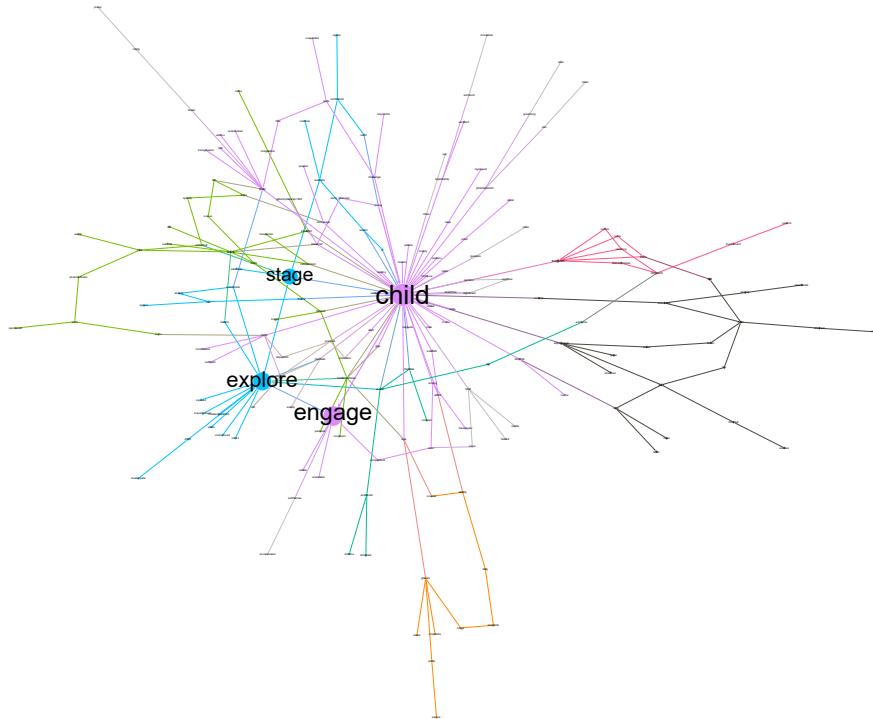


Figure 21: The network representation of empirical theme 1: Young child explores.

3.2 Empirical themes

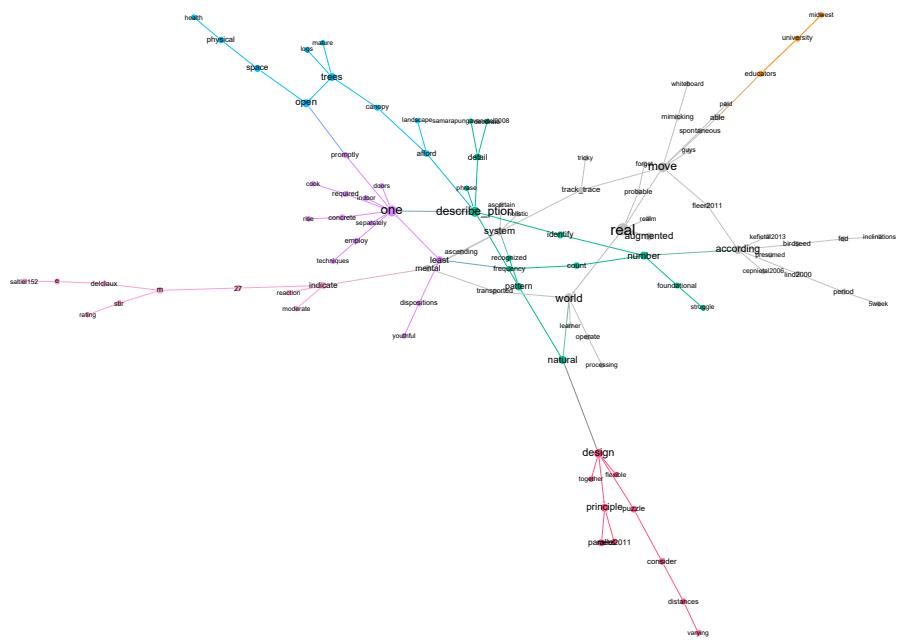


Figure 22: The network representation of empirical theme 2: Real world.

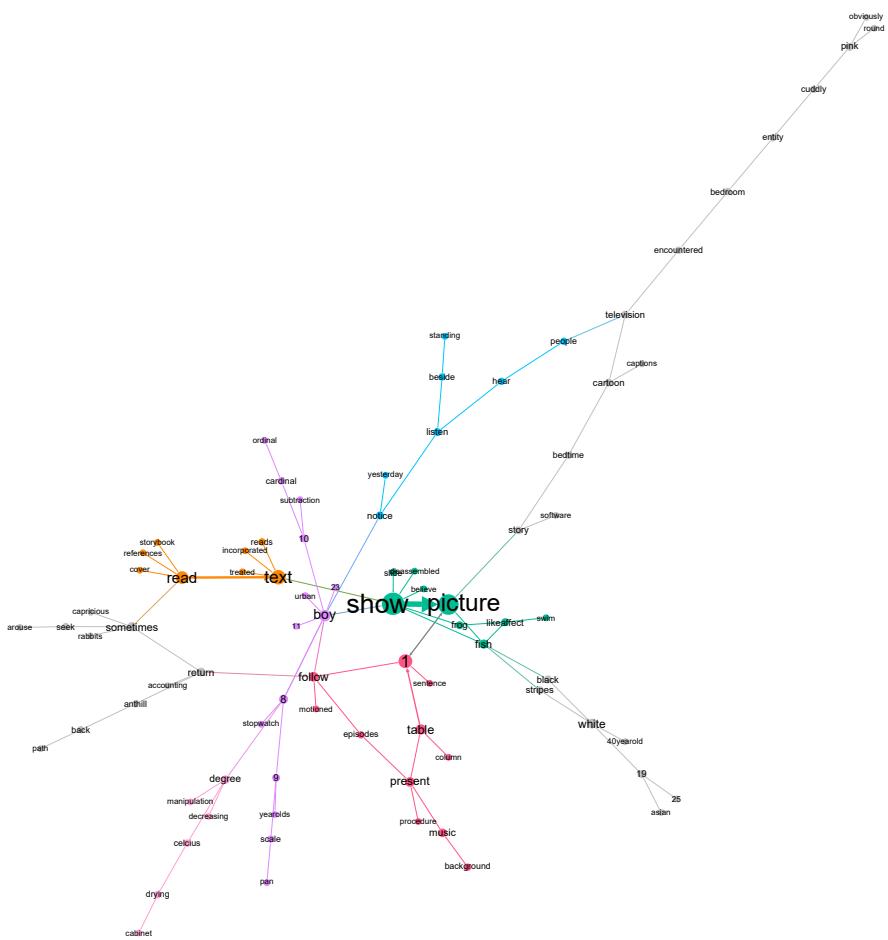


Figure 23: The network representation of empirical theme 3: Read text and show picture.

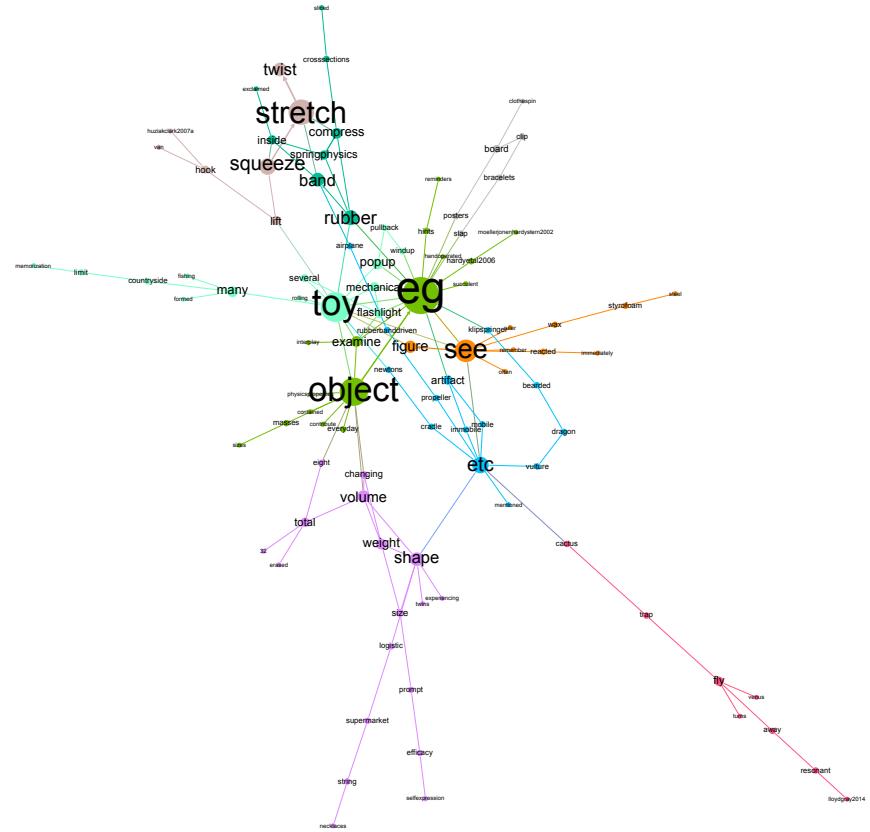


Figure 24: The network representation of empirical theme 4: Everyday Object.

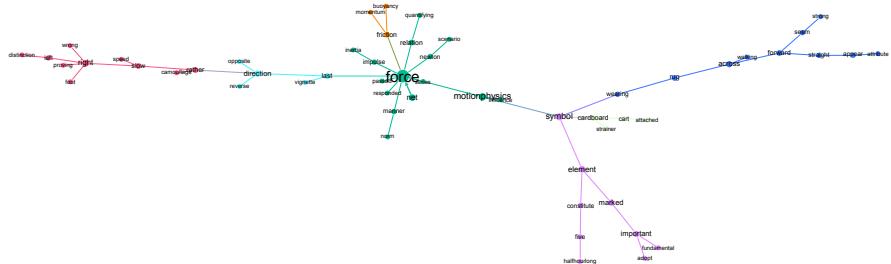


Figure 25: The network representation of empirical theme 5: Force and motion in physics.

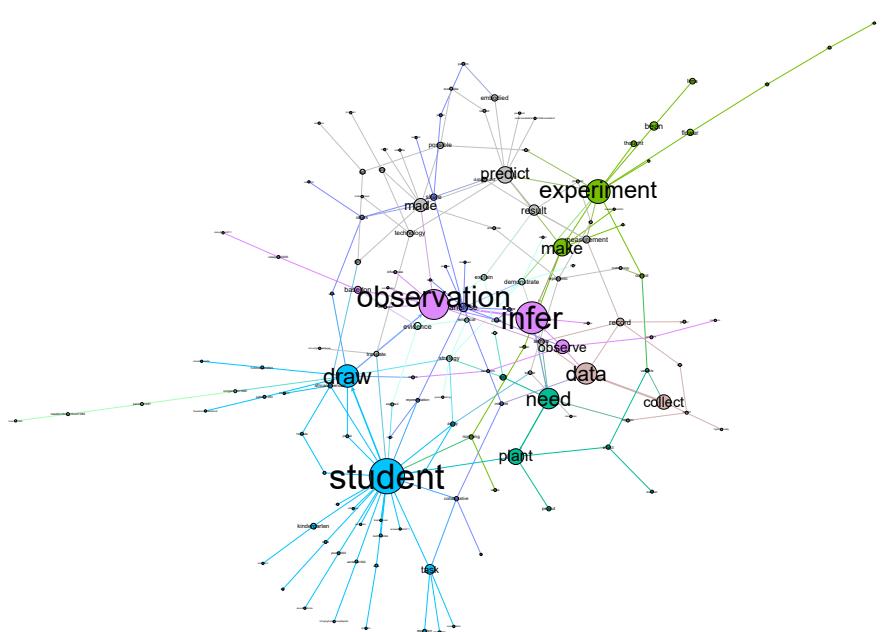


Figure 26: The network representation of empirical theme 6: Observe, analyse, and infer evidence.

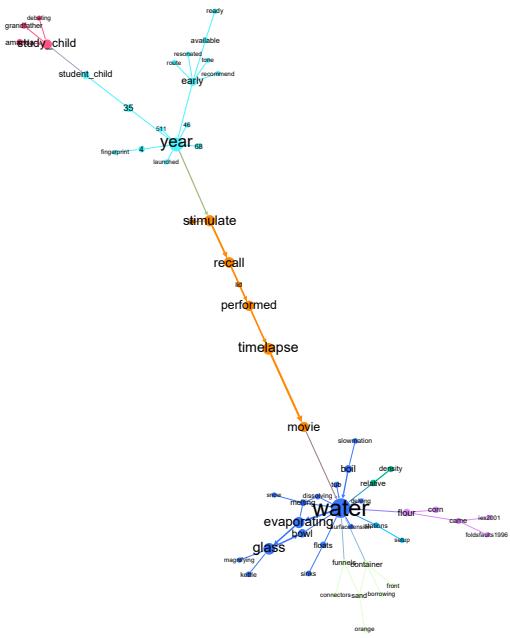


Figure 27: The network representation of empirical theme 7: Water.

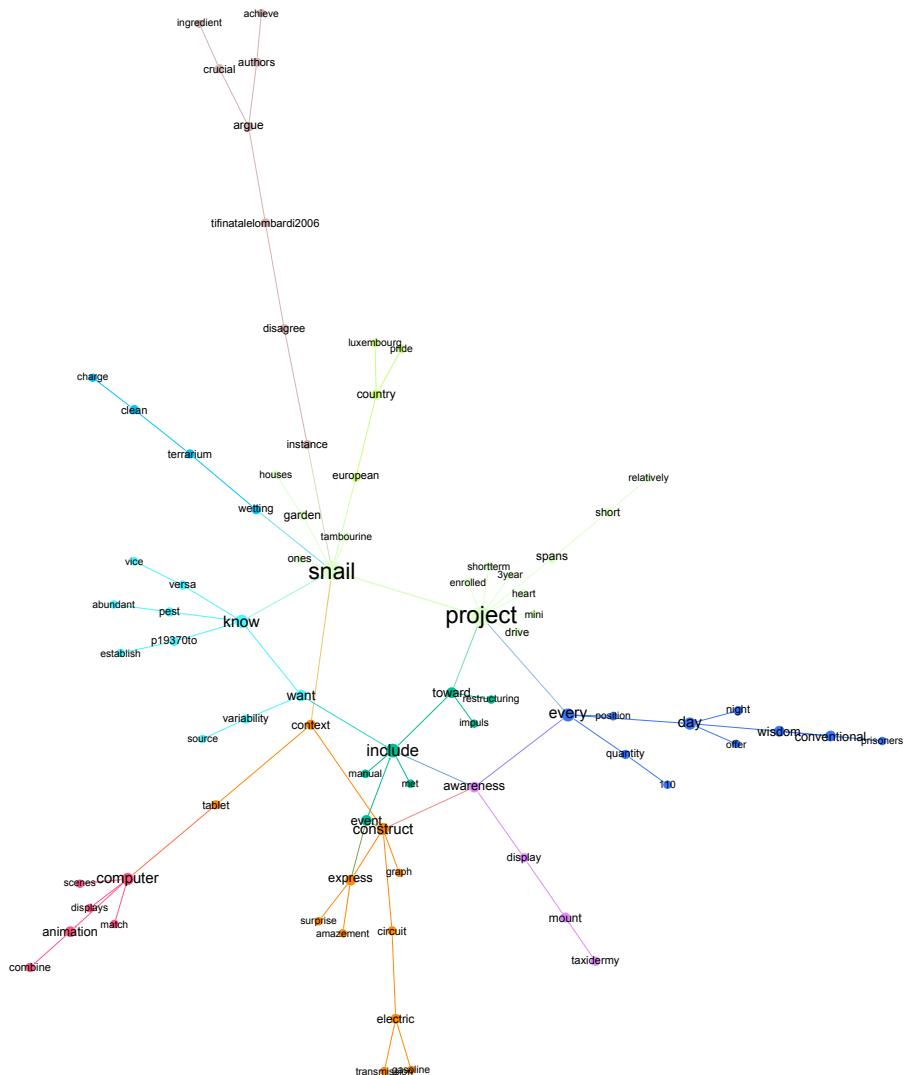


Figure 28: The network representation of empirical theme 8: Snail project.

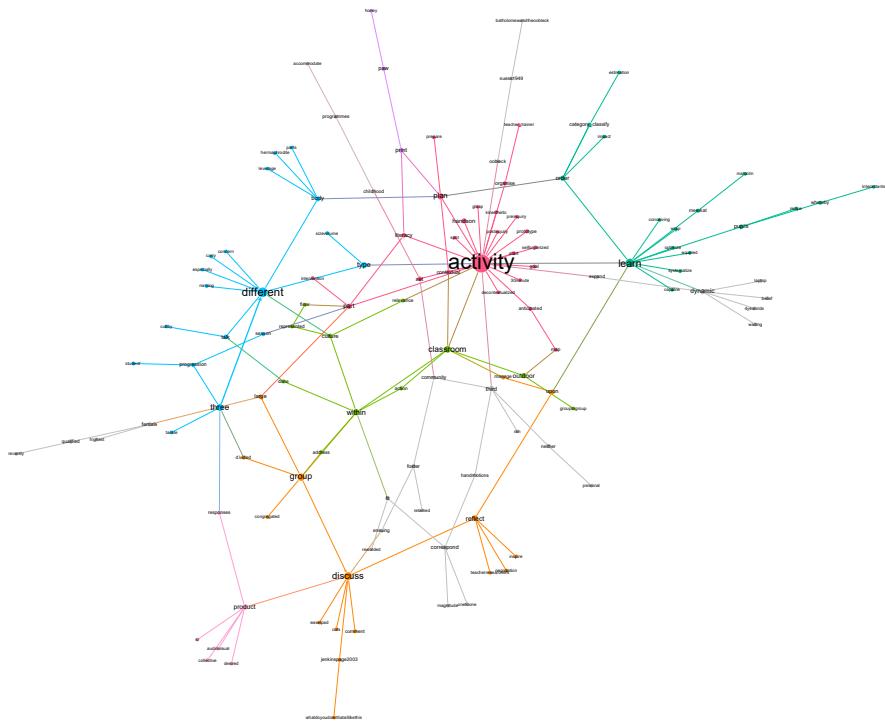


Figure 29: The network representation of empirical theme 9: Hands-on activities and group discussions.

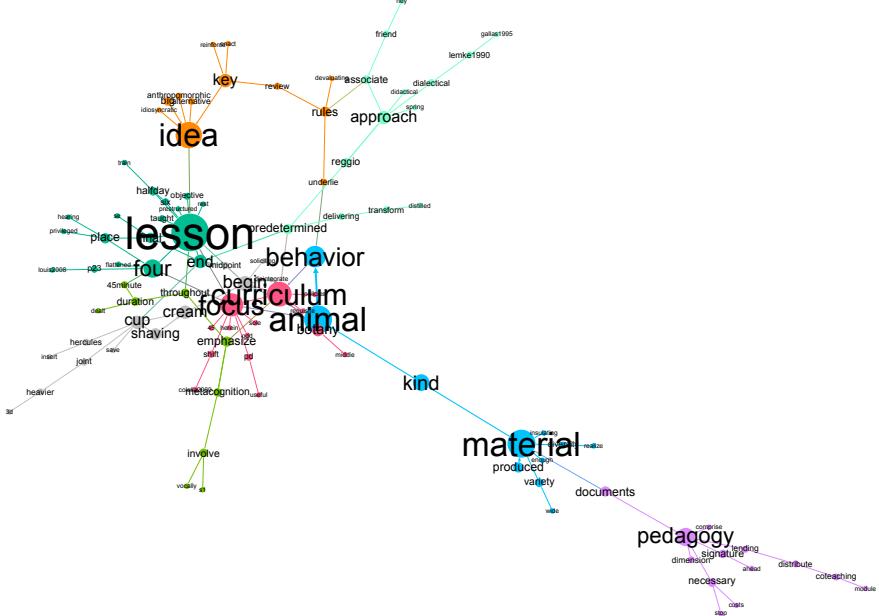


Figure 30: The network representation of empirical theme 10: Curriculum focus in lesson.

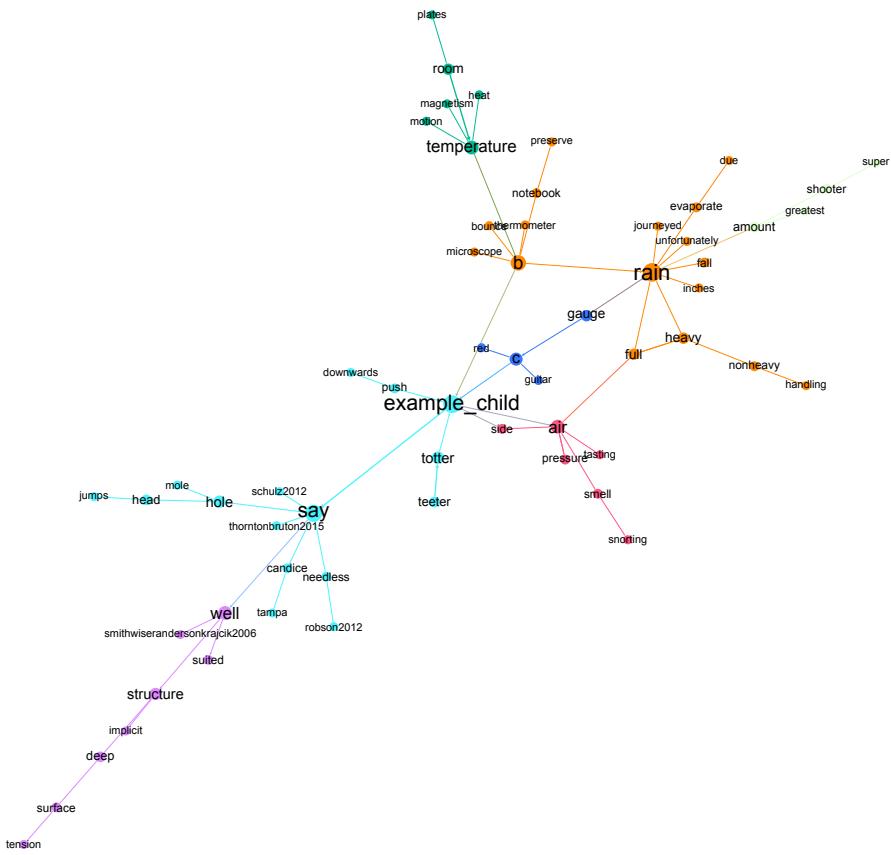


Figure 31: The network representation of empirical theme 11: Temperature, rain, and magnetism.

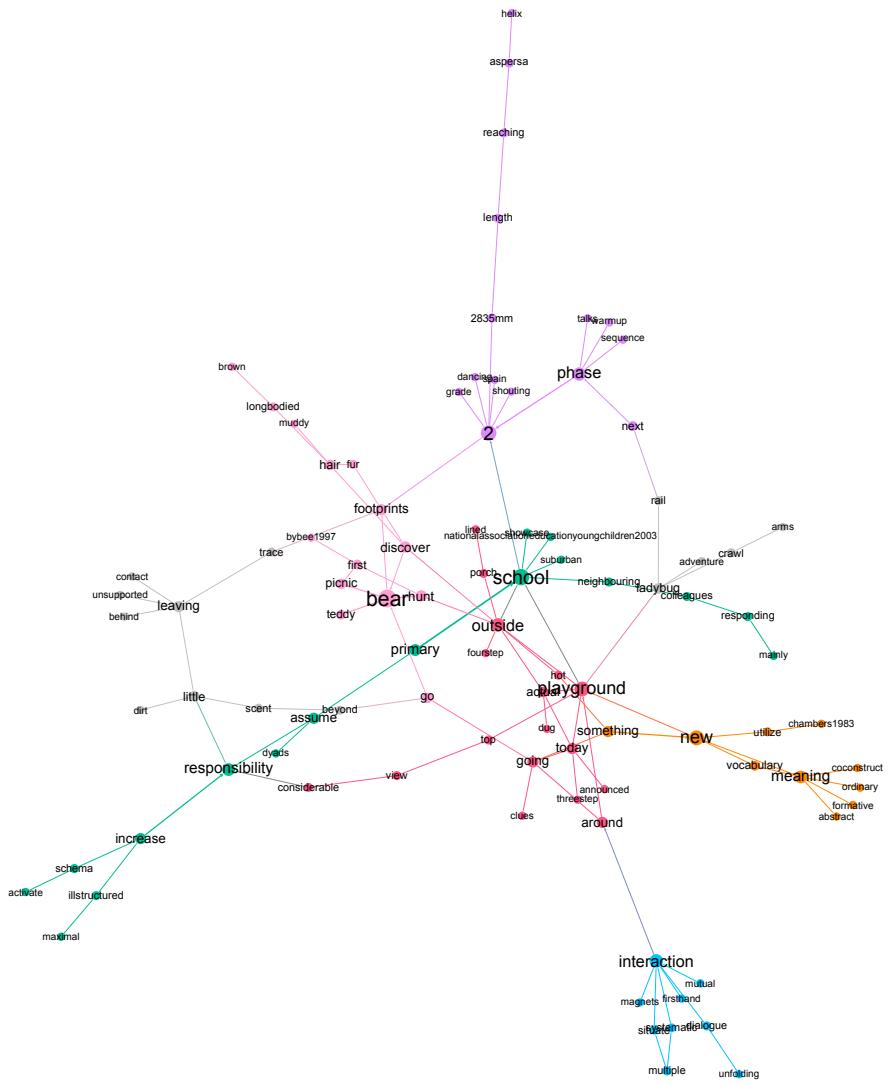


Figure 32: The network representation of empirical theme 12: Interaction around playground.

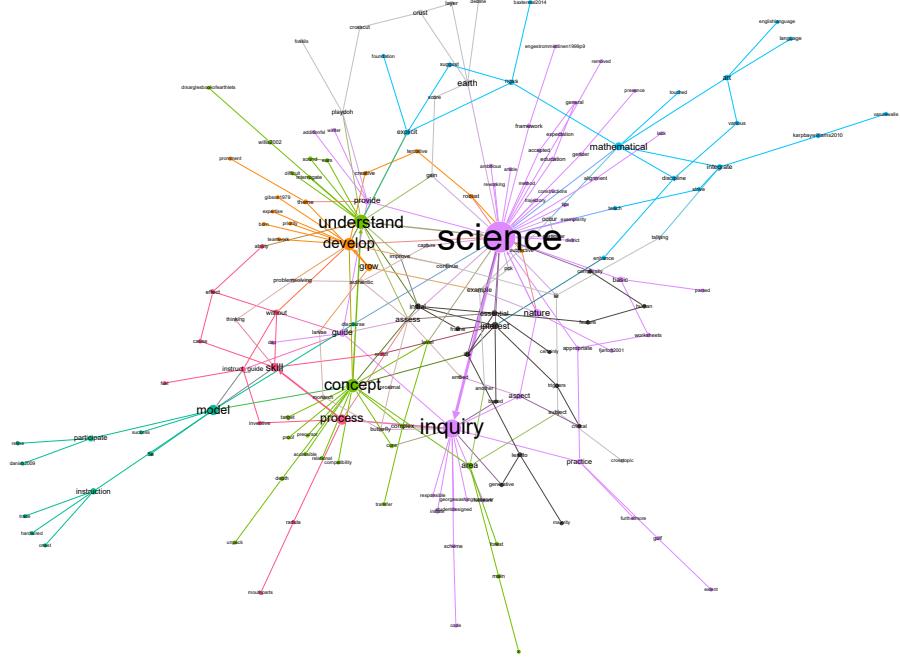


Figure 33: The network representation of empirical theme 13: Understanding science through inquiry.

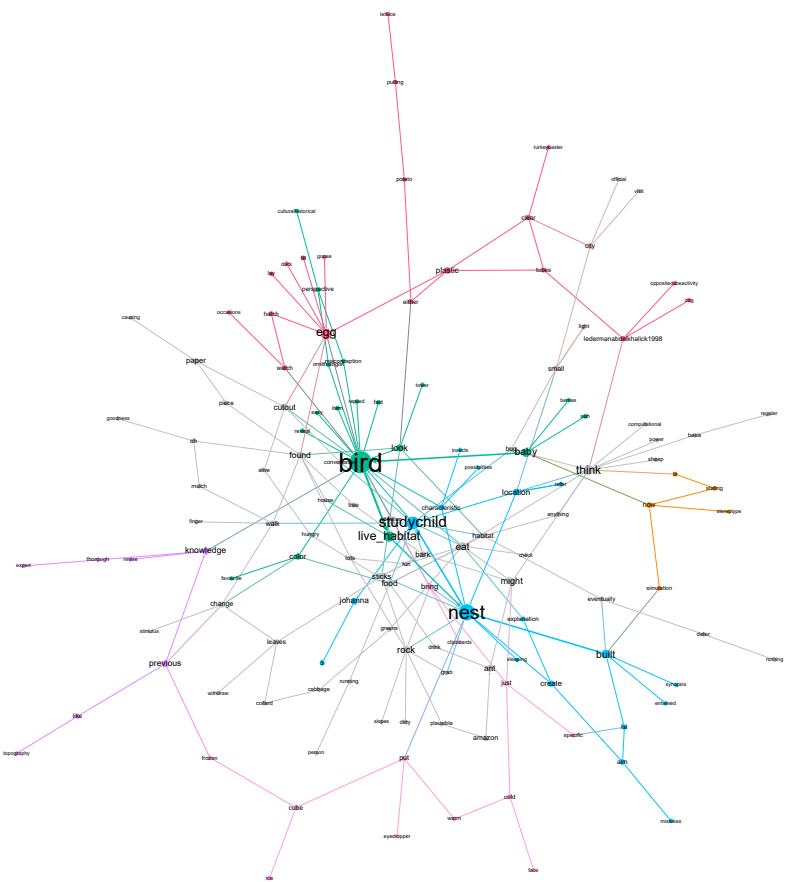


Figure 34: The network representation of empirical theme 14: Birds nest and eggs.

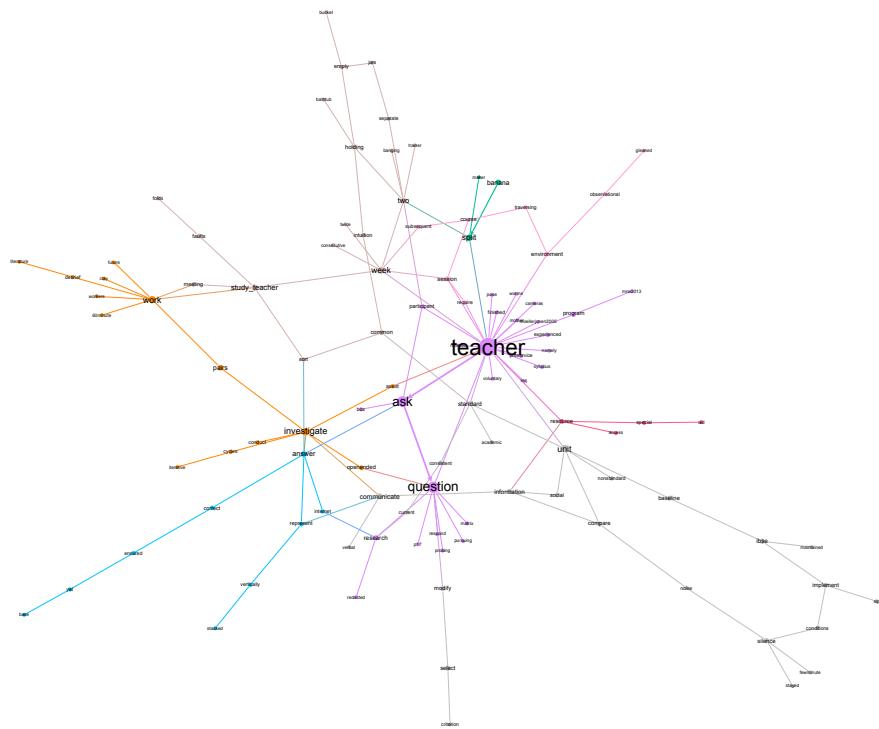


Figure 35: The network representation of empirical theme 15: Teacher asks questions.

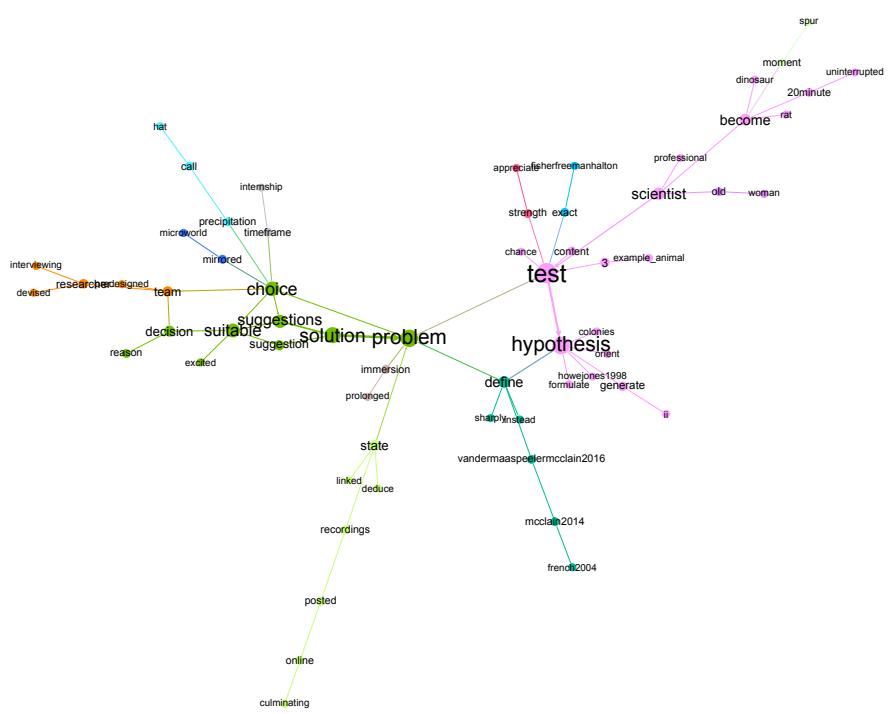


Figure 36: The network representation of empirical theme 16: Test hypotheses.

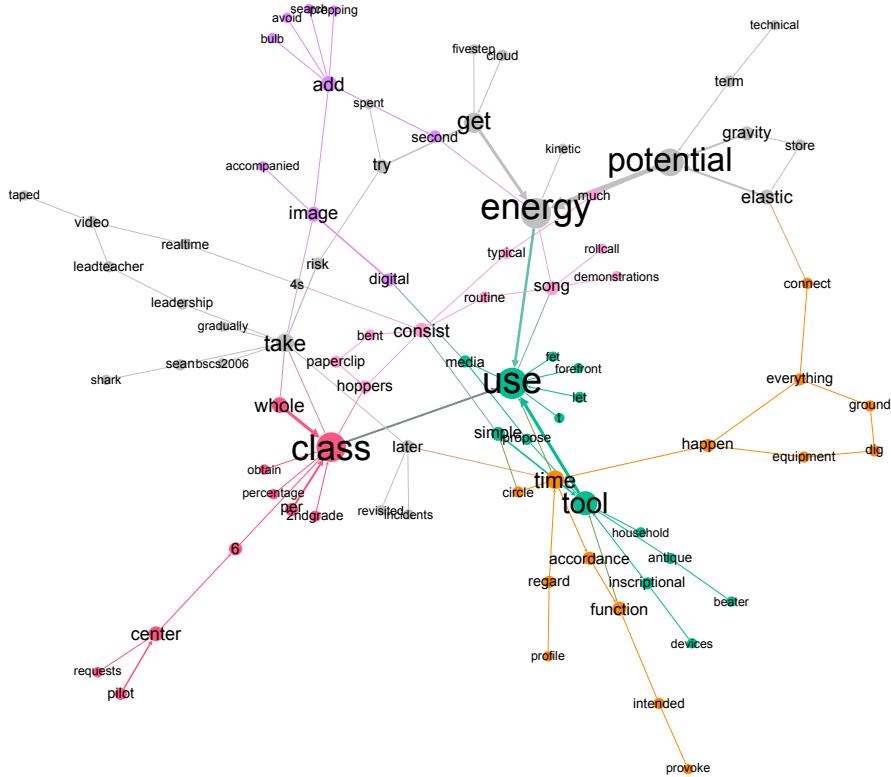


Figure 37: The network representation of empirical theme 71: Class use of tools and concepts.

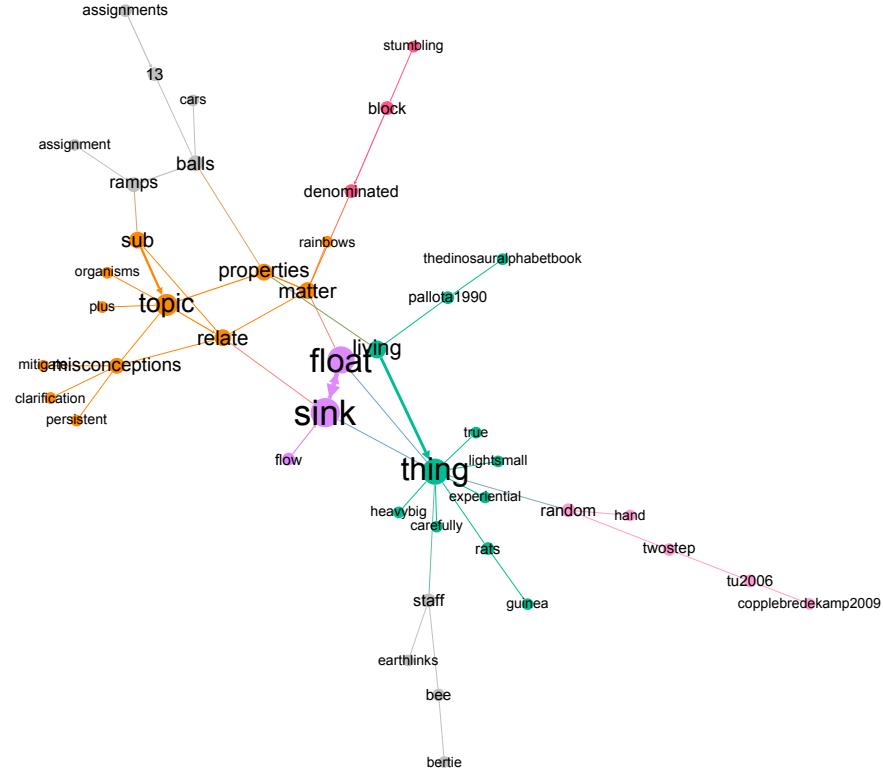


Figure 38: The network representation of empirical theme 18: Snail project.

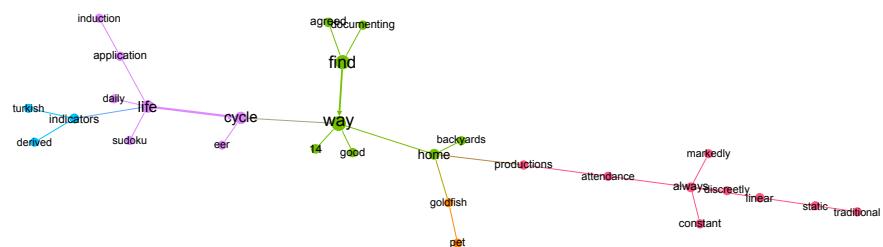


Figure 39: The network representation of empirical theme 19: Hands-on activities and group discussions.

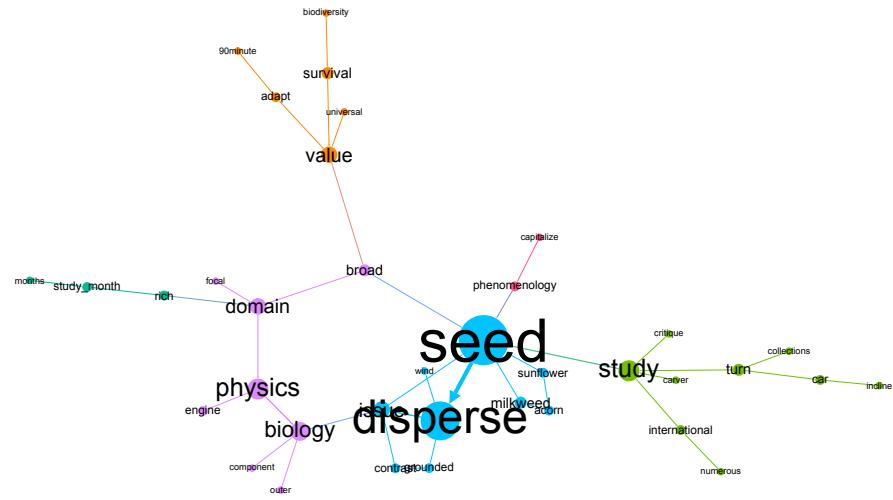


Figure 40: The network representation of empirical theme 20: Seed dispersal.

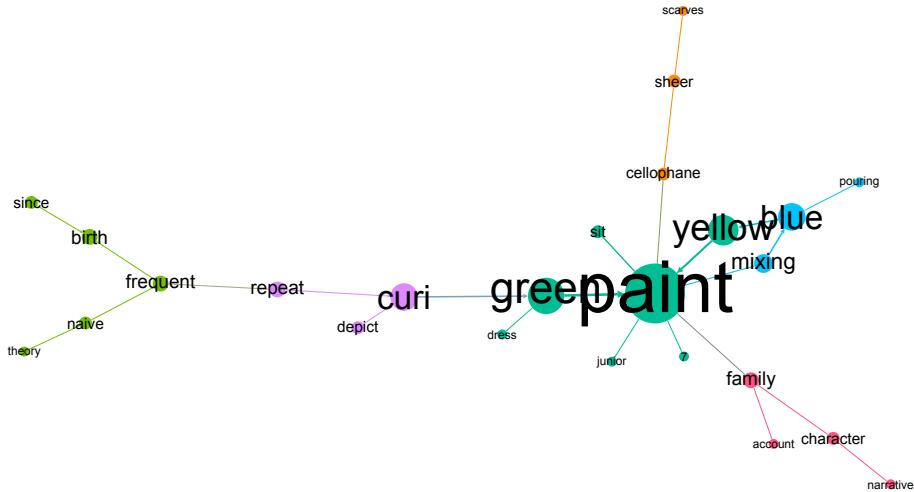


Figure 41: The network representation of empirical theme 21: Colour mixing.

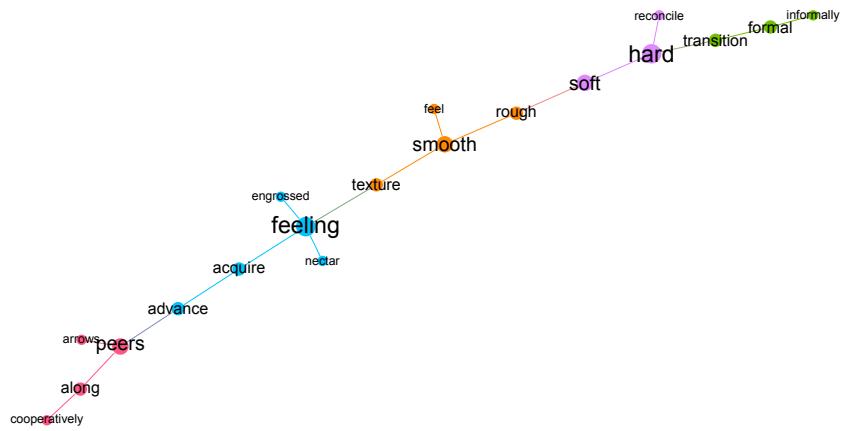


Figure 42: The network representation of empirical theme 22: Hard or smooth transition.

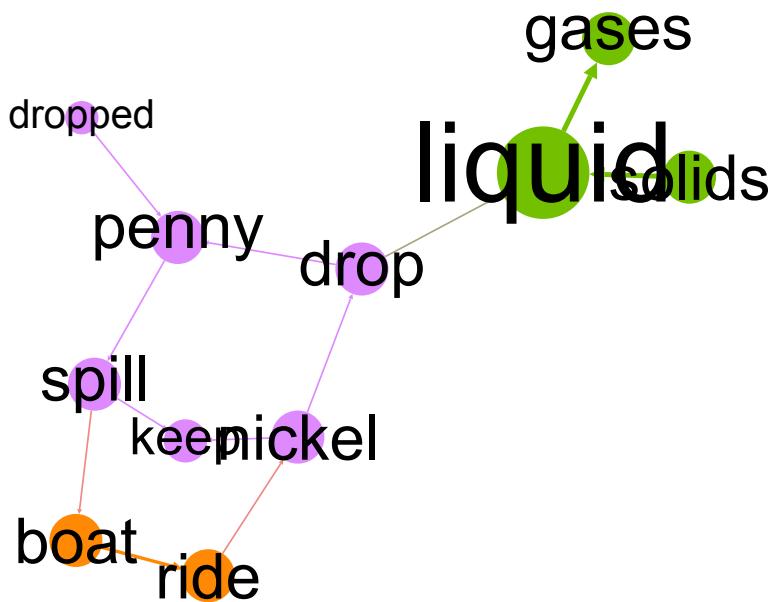


Figure 43: The network representation of empirical theme 23: Solids, liquids, and gasses.

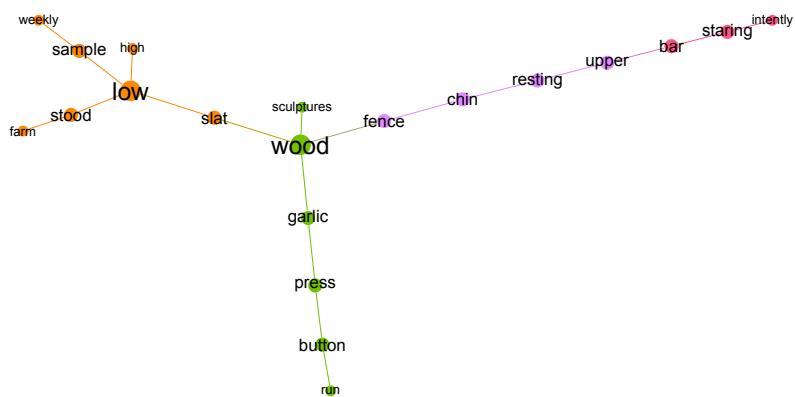


Figure 44: The network representation of empirical theme 24: wood.