



Perceived Benefits and Challenges for Faculty and Research Scientists in Education Regarding Collaboration with Researchers in Other Disciplines

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Abstract

For the past several decades, collaboration in research has become an increasing phenomenon, especially across various disciplines including education and other sciences; however, this does not come without its respective advantages and disadvantages. Our research project focuses on the perceived benefits and obstacles encountered by researchers in education when collaborating with researchers in other disciplines. This research delves into the innate issues that collaboration across disciplines employ, such as communication barriers and differing levels of commitment, as well as the immense advantages, such as the inclusion of multiple perspectives and the overall immersion in other fields. In previous studies, research has been conducted on the significance of gender differences in research collaboration, the collaboration preferences of women in interdisciplinary sciences, and the specific factors involved in disciplinary and interdisciplinary approaches in research collaborations. Our project differs from past research because it tackles the specific experiences of researchers in education and their collaborations with scientists in other disciplines, analyzing the likelihood of educators collaborating with those not in education. The research aims to discover the specific reasons behind the desire for educators to work on interdisciplinary collaboration and what obstacles come along with those endeavors. We found the three main themes regarding the advantages of research collaboration: exposure to broader methods of research, newer perspectives, and different ideas. We also found the three main themes regarding the disadvantages of research collaboration: time constraints, language barriers, and differences in expectations or understanding.

Introduction

Collaboration serves one of the most significant roles in research by broadening perspectives and increasing the scope of research. However, it also comes with its fair share of difficulties regarding collaboration between researchers of different disciplines. The certain advantages and disadvantages of collaboration between researchers in education and those in other disciplines have not been thoroughly explored. In order to fully comprehend the effects of collaborative research on faculty and scientists in education, it is important to first survey the involved researchers and assess the main perceived benefits and challenges.

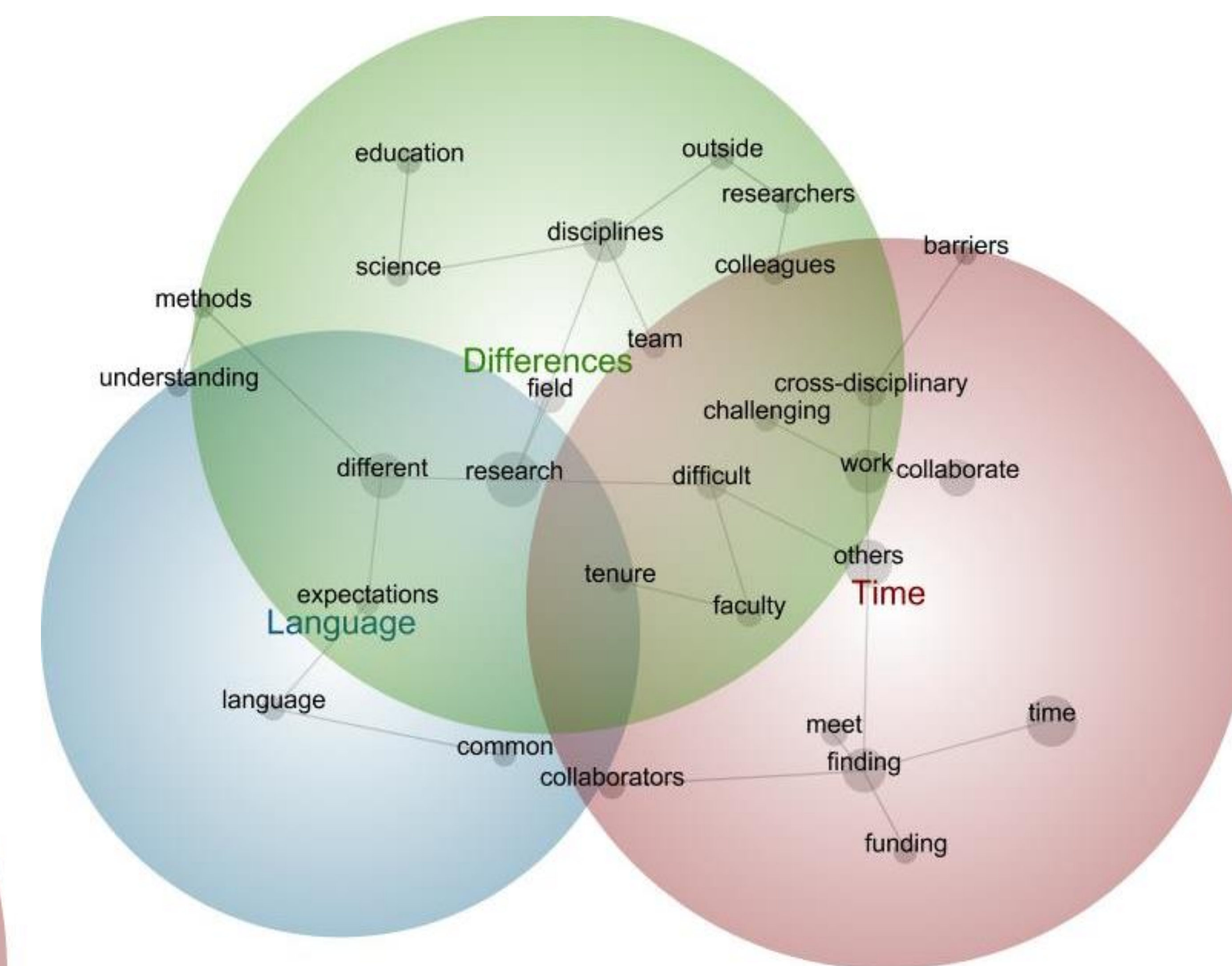
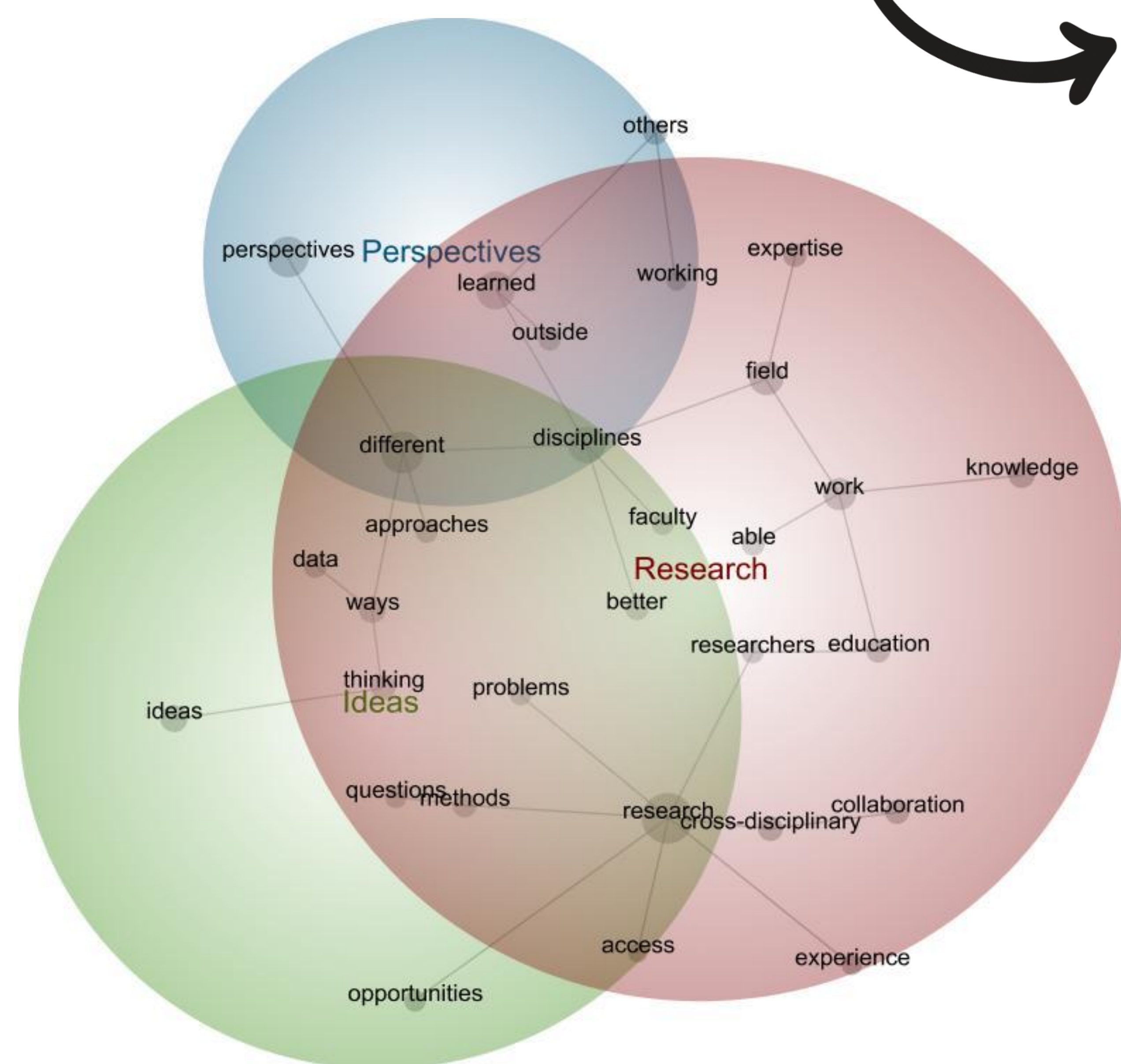
Methodology

The research was conducted by creating a series of spreadsheets with a list of ten 4-year public universities from each state across the U.S. Then, a Google extension tool was used to mass extract emails from university websites, and those respective emails were placed onto the spreadsheets to form a database of contacts. From there, the survey including questions regarding the perceived advantages and disadvantages of collaboration across disciplines was emailed to approximately 20,000 education researchers nationwide, and 980 educators responded. Their responses were placed in separate Excel spreadsheets categorized by advantages and disadvantages. We entered the responses from our sample into Leximancer v4.5, a natural language software tool that analyzes qualitative data and creates concept maps based on broader textual themes. From these concept maps, we were able to determine the biggest factors that come into play in relation to the benefits and challenges of collaboration between educators and researchers in other disciplines to discover the possible flaws within cross-collaboration, as well as the possible catalysts for educators to engage in research with scientists in other fields.

Results

The qualitative data from our survey was entered into a software called Leximancer, which created concept maps based on the major themes that came up among the advantages and disadvantages of collaboration in research. We found that the three major themes for advantages of research collaboration: wider range of research approaches and expertise, a broader range of ideas, and access to different perspectives. Alternatively, we found that the major themes for disadvantages of research collaboration: differences in background or expectations, time constraints, and language barriers.

The perceived disadvantages of collaboration in research fell under three categories: differences, time, and language. Many participants in our survey had discussed the disadvantages more in depth, mentioning that limited timeframes, differences in culture (languages, understandings, etc.), and differences in educational backgrounds (i.e. research methods used or areas studied) contributed to the difficulties of collaboration in research.



The perceived advantages of collaboration in research fell under three major concepts: perspectives, research, and ideas. Many participants in our survey had delved deeper into the advantages, explaining that a wider range of perspectives and ideas, as well as diversity in research backgrounds (i.e. different levels of expertise, a variety of knowledge, and different approaches to research) provided further enrichment in research collaboration.

Conclusion/Discussion

These results generalize the major advantages and disadvantages of collaboration in research enough for the main ideas to be digestible, however, the results are also specific enough to pinpoint the different facets of each advantage and disadvantage that contribute to the overall concept maps. The byproducts of cross-disciplinary research enhance collaboration while also presenting the possible challenges that may be encountered. From these results, we can see which areas of research collaboration, like differences across backgrounds or time constraints, may need more focus in order to improve and encourage more collaboration in research. These findings imply that there is a need for researchers to take the time to learn more about those in other disciplines and the different approaches, methods, and cultural backgrounds of other researchers. Additionally, although there are difficulties with funding and finding the time to collaborate and communicate with other researchers, the benefits that broader perspectives and more expertise provide may outweigh the possible downsides of research collaboration. Further research may be required to determine the extent to which obstacles in collaboration may hinder the efficiency and appeal of collaborative interdisciplinary research.

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