A Study on Research Trend Analysis of Education in Korea

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Abstract. This study is an analysis of themes and their connectivity through a keyword-network text analysis of theses listed in The Journal of Educational Research, the leading academic journal of education in Korea. This paper examined 355 theses published from 2006 to 2015. The results of the analysis revealed that the keyword “academic achievement” appeared most frequently (34 times), followed by “self-efficacy” (24), “learner” (17), “curriculum” (16), and “education” (14). The overall structure of the network between the keywords follows the small-world network model. A network of 39 keywords was constructed using the hub keywords such as “learner,” “evaluation,” “academic performance,” “efficacy,” and “curriculum.” The network text cluster diagram reveals the diversity of sub categories in the theory of education. This paper aims at identifying the core themes in the theory of education and investigating the connectivity among them.

Keywords: network text analysis, keywords, education research, research trends

1 Introduction

The analysis of research themes, research areas, and research methodologies in a certain field of study can help us understand and measure the characteristics and progress within the corresponding field. Furthermore, one can grasp the systems that have been introduced and established, the issues that have emerged, and the kinds of problems involved and predict the future of the field of study. For these reasons, trend analysis and meta-analysis are conducted in most fields of study.

Research on the theory of education has been largely focused on its sub categories such as educational psychology [1], educational administration [2], and educational...
technology [3]. By identifying the progress and characteristics of the theory of education, we may predict future research trends in the theory of education and thus make policy suggestions toward the development of the educational system.

This study analyzes theses listed in The Journal of Educational Research published by the Korean Educational Research Association, the leading educational research organization in Korea, to investigate the identity and research trends of educational thesis and identify the relationship between its core concepts.

2 Research Methods

2.1 Object

In this study, we analyzed 355 theses listed in the journal published by the Korean Educational Research Association, The Journal of Educational Research, from 2006 to 2015. We collected keywords that the authors of these theses selected for their corresponding abstracts (Korean version).

2.2 Methods

Network text analysis applies social network analysis techniques to perform content analysis and literature analysis. A network that is built by linking relations between words appearing in texts is examined to interpret a message [4]. Through content analysis, individual attributes, such as the frequency of a word appearing in texts, are identified. Through an analysis of a social network, the relational attributes of a word appearing in texts are derived [5]. In the content analysis stage, the focus is on the frequency of a word found in the data, and in the stage of social network analysis, a network diagram is analyzed based on the concept of a sociogram.

2.3 Procedures

Each of the 355 theses used highly different criteria for selecting keywords and expressed the same concept using different words. After we read and comprehended the abstracts, or the texts of all theses, a preliminary coding was conducted. We finally sorted 851 keywords into 657 categories through a coding process.
3 Results

3.1 The Keywords of Educational Research

The analysis of keywords of 355 theses published during the past ten years in *The Journal of Educational Research* revealed 1,556 keywords of 1,213 types. Academic performance is the keyword that most frequently appeared, followed by self-efficacy (24 times), learner (17), curriculum (16), education (14), teaching and learning, multicultural (each 13), motives, leadership, level of satisfaction, private education (each 11), and youth and a sense of efficacy (each 10).

Self-efficacy related to educational psychology emerged as the core research theme of education in Korea. Self-determination, sense of efficacy, and autonomy, which showed maximum frequency next to self-efficacy, were closely linked to the self-efficacy as well. Moreover, it should be noted that as the number of multicultural families increases, multicultural education and multiculturalism, which are associated with educational welfare, appeared with significant frequency. In addition, many theses were written about e-learning, a sector of educational technology that is closely related to teaching and learning, teaching methods, and digital learning methods.

3.2 Network text analysis

Among the 851 keywords, 39 keywords showed maximum frequency of 6 or more. These were selected as the core keywords, and a network text analysis of these core keywords was conducted. The result of the analysis is shown in Figure 1. First, in terms of the overall structure of the network, the network between the core keywords follows the pattern of a small-world network model, meaning that the major research subjects of education are organically linked and that there is a keyword acting as a hub linking these core keywords.
Second, in the network text cluster diagram as shown in Figure 2, a network of the core keywords forms a cluster of two to three words. Various patterns of clusters suggest a variety of sub sectors in the theory of education. It was found that core keywords such as “capability” and "private education" were researched independently, not being associated with other core keywords.
5 Conclusion

The analysis of research trends using content analysis has been in practice for a long time, even in educational research. However, research on the trend of educational research and analysis of network using network text analysis are rare. This study helped in identifying the overall trends of educational research and carried out a microanalysis to identify core themes and understand their relationship to each other.

This research is limited in that its research object was confined to theses listed in The Journal of Educational Research of the Korea Educational Research Association and its research period was limited to the recent ten years. Future research may explore new implications by applying network text analysis on overall educational research and considering core themes of various kinds of research to find connectivity among them.

References