

Retrospective View and Thematic Mapping on the Studies of Self-advocacy of Students with Disabilities: A Bibliometric Analysis

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Abstract: Self-advocacy is known as an important skill for students with disabilities especially to participate in an inclusive social environment. The present study aimed to explore the root and foundation of the studies of self-advocacy of students with disabilities by identifying the impactful works, authors, and themes via bibliometric study. We retrieved a sample of 180 articles related to this topic from the Scopus database. The VOS viewer was applied to perform this bibliometric analysis, specifically by co-citation and co-occurrence analysis. We identified David W. Test has put the foundation on the studies of self-advocacy of students with disabilities. Moreover, the studies of self-determination were a root for the studies of self-advocacy. This study also provided insight related to the potential application of self-advocacy, such as in higher education and employment setting. This study will be valuable for researchers and practitioners in special education who are interested to explore this area.

Keywords: bibliometric, education, self-advocacy, students with disabilities, VOS viewer

INTRODUCTION

Self-advocacy is one of the fundamental personal factors for students with disabilities' academic success. Self-advocacy was described as a set of skills owned by students with disabilities to strategically communicate the support they need to potential supporters (Stodden et al., 2003). Students with disabilities need this skill to navigate barriers, lack of accessibility, and lack of accommodation in academic settings. Students with disabilities who were able to advocate themselves were portrayed as empowered individuals. By practicing self-advocacy, students with disabilities often succeed to get the needed support (Daly-Cano et al., 2015; Pfeifer et al., 2020). Moreover, their academic environments understood more about how to provide support or accommodation for students with disabilities so it promoted an insight to build an inclusive practice in academic settings. Even further, self-advocacy could inspire management in academic institutions to enact equal access and anti-discrimination policies for students with disabilities. Thus it attracted practitioners in special education to support the development of self-advocacy of students with disabilities and scholars to conduct empirical research regarding this area.

To date, many scholars published their findings related to the self-advocacy of students with disabilities in various reputable peer-reviewed journals. The body of knowledge related to the self-advocacy of students with disabilities can be obtained fully by reviewing these publications. Several systematic review methods can be employed to get a deeper understanding of a specific topic, such as systematic literature review, meta-analysis, scoping review, and rapid review (Grant & Booth, 2009). These aforementioned methods help us to build a deeper understanding of a topic by taking advantage of the numerous publications of findings. Each method has its advantages and disadvantages, so the choice of the review method depends on the purpose of the review.

The purpose of this study was to look forward to the root and foundation of the studies of self-advocacy of students with disabilities by identifying the impactful works, authors, and themes. Thus in this study, we review works of literature regarding the self-advocacy of students with disabilities using bibliometric analysis. Bibliometric analysis was introduced as a science mapping tool that had been growing rapidly used to understand the structure of a specific scientific topic (Donthu et al., 2021). The bibliometric employed quantitative analysis for classifying and visualizing research articles by using metadata stored in trusted journal databases. The use of bibliometric is driven by a need to evaluate the scientific findings (Ellegaard & Wallin, 2015). In this study, the bibliometric analysis is affordable to give us an insight into the foundational aspects of studies of the self-advocacy of students with disabilities.

METHOD

The Scopus database was selected as the bibliographic article database since it is known as the biggest indexed database and one of the most comprehensive peer-reviewed journal databases. The data was searched on 12 January 2022, restricted only to peer-reviewed articles and empirical studies. We used Boolean operators logic keyword: “self advocacy” AND (student OR school OR education) AND disabilit*. We retrieved 180 articles that were published between 1988 to 2022.

We used co-citation analysis and co-occurrence analysis, both of which were part of the bibliometric analysis technique. Co-citation analysis is a science mapping technique that assumes publications that are cited together frequently have similar themes and interests. Co-citation analysis is beneficial to find the most influential publications and scholars regarding related areas (Donthu et al., 2021). We performed 2 kinds of co-citation analysis including cited references and cited authors. Whereas co-occurrence analysis is a technique that examines the actual content of the publication itself. Like logic in co-citation analysis, the co-occurrence analysis assumes that keywords that frequently appear together have a thematic relationship. Thus co-occurrence analysis is suitable to enrich the interpretation of co-citation analysis in mapping the thematic clusters (Donthu et al., 2021). For co-occurrence analysis, we performed author keywords that are the keywords were submitted by the authors. VOSviewer (version 1.6.17 on Mac OS) was employed to perform co-citation analysis and co-occurrence analysis.

RESULT AND DISCUSSION

Result(S)

Co-citation Analysis

We found collectively in 180 articles there were 7.282 cited documents. All cited documents came from 3.419 publications and were published by 9.886 authors. Then we analyzed the cited references and cited authors.

Table 1. Top 5 references with the highest link strength, citation, and number of links in studies on self-advocacy of students with disabilities

Citation	Total links strenght	Number of links	References (author, year, publication)
10	69	51	Test, Fowler, Wood, et al., (2005), <i>Exceptional children</i>
8	78	56	Test, Fowler, Brewer, et al., (2005), <i>Remedial and special education</i>
7	68	55	Cobb et al., (2009), <i>Career development for exceptional individuals</i>
6	39	35	Eckes & Ochoa (2005), <i>American secondary education</i>
6	55	50	Field et al., (2003), <i>Remedial and special education</i>

Of the 7.282 cited documents (secondary documents), 210 documents met the threshold (cited by minimum 2 articles). In incited references analysis, 29 documents were excluded since did not have an adequate association with each other, then left 181 documents to be analyzed further. Overall, Test, Fowler, Brewer, et al., (2005) was the article which has the greatest total links strength and number of links then Test, Fowler, Wood, et al., (2005) was the article that have the most citation. Both of these articles were a literature review about self-advocacy intervention for students with disabilities. Test, Fowler, Wood, et al., (2005) recommended a conceptual framework consisting of components on self-advocacy which is widely used as a reference in future studies on self-advocacy of students with disabilities. Some articles did not discuss self-advocacy specifically but focused on self-determination (i.e Cobb et al., 2009; Field et al., 2003) and transition (Eckes & Ochoa, 2005). We present the top 5 cited references in table 1. The visualization regarding cited reference mapping and network is present in figure 1.

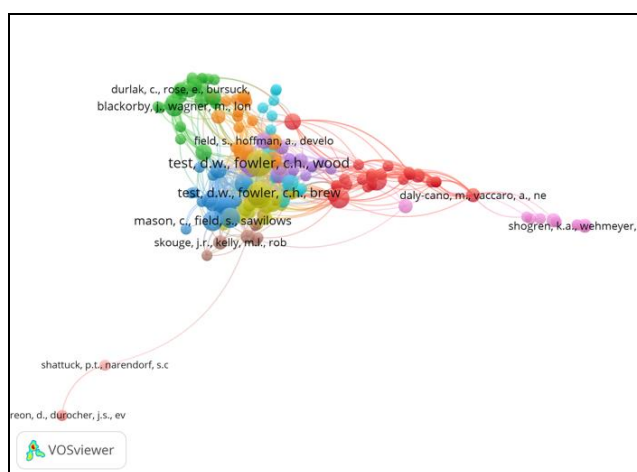


Figure 1. Visualization cited reference mapping and network on studies on self-advocacy of students with disabilities

Of the 9.886 authors who published their work, 57 authors met the threshold (their names cited minimum in 20 articles). From co-citation analysis, we found that Michael L. Wehmeyer and David W. Test were the two authors who were most cited. Michael Wehmeyer is a Professor of Special Education at the University of Kansas, US then David W. Test is a Professor in the Department of Counseling, Special Education, and Child Development at the University of North Carolina at Charlotte, US. The majority of Wehmeyer’s work is related to the self-determination of persons with disabilities (i.e Shogren et al., 2007; Wehmeyer et al., 2000; Wehmeyer & Palmer, 2003). Whereas as mentioned before, David W. Test is well-known for developing a conceptual framework of self-advocacy and widely use afterward. Moreover, David W. Test published several other publications related to self-advocacy, such as Test & Neale (2004) and Walker & Test, (2011). Table 2 present the top 5 authors in this field. Visualization of cited authors mapping and network present in figure 2.

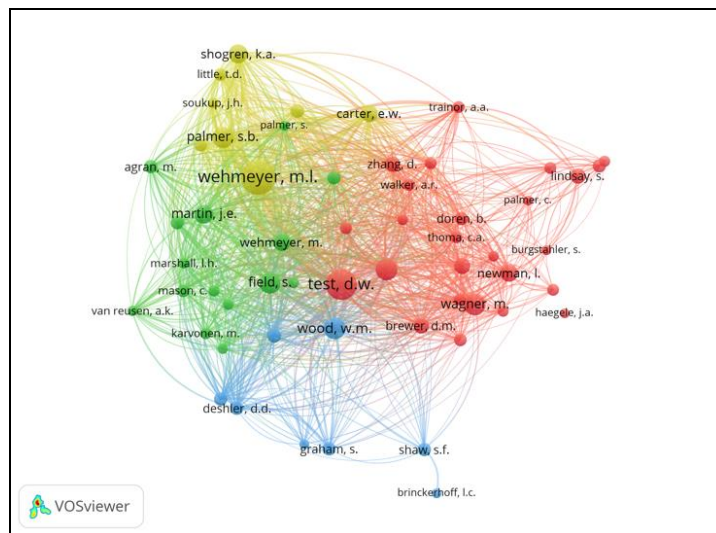


Figure 2. Visualization cited authors mapping and network on studies on self-advocacy of students with disabilities

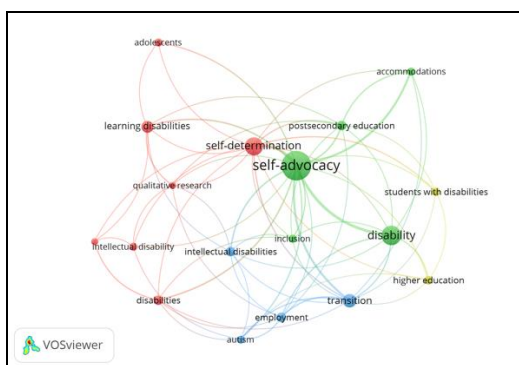


Figure 3. Network and Density visualization of co-occurrence analysis on the studies on self-advocacy of students with disabilities

Table 2. Top 5 the most cited authors in studies on self-advocacy of students with disabilities

Rank	Author	Total Cited	Total Link Strength	Background and Institution
1	Michael L. Wehmeyer	212	7.568	Professor Special Education University of Kansas, US
2	David W. Test	166	5.512	Profesor Departement of Counseling, Special Education and Child Development, University of North Carolina at Charlotte, US
3	Wendy M. Wood	86	3.008	Associate Profesor Departement of Counseling, Special Education, and Child Development, University of North Carolina, US
4	Catherine H. Fowler	86	2.884	University of North Carolina, US
5	Mary Wegner	83	1.866	SRI International US

Co-occurrence Analysis

Of the 414 keywords that were proposed, 18 met the threshold (minimum appeared in 5 articles). The list of keywords is presented in Table 3 then visualized in Figure 3. Term self-

advocacy was found in a majority of articles and it is no wonder since we focus on the studies on self-advocacy itself. The findings regarding the keyword provided an insight into the findings in the previous co-citation analysis. From figure 3, we found several themes were arisen lately, such as higher education and employment.

Table 3. Most occurred keyword in studies on self-advocacy of student with disabilities

Total link strength	Occurrence	Number of links	Keyword
54	42	16	Self-advocacy
21	23	9	Disability
25	20	14	Self-determination
21	13	11	Transition
10	11	7	Learning disabilities
10	8	7	Disabilities
12	8	8	Employment
10	8	8	Intellectual disabilities
13	8	9	Postsecondary education
7	7	6	Higher education
6	7	5	Students with disabilities
Total link strength	Occurrence	Number of links	Keyword
11	6	5	Accommodations
4	6	3	Adolescents
10	6	7	Autism
8	6	7	Inclusion
5	6	5	Intellectual disability
5	5	4	Education
8	5	7	Qualitative research

Discussion(s)

Based on our data, the publications related to this field have been developing at least since 1988. Therefore, the study on self-advocacy of students with disabilities is a recent topic. Based on the result of the co-citation analysis, we noted that David W. Test was the prominent scholar who put the foundation on the studies on the self-advocacy of students with disabilities. His most significant works were published in 2005, entitled *A Conceptual Framework of Self-advocacy for Students with Disabilities* published in *Remedial and Special Education* (Test, Fowler, Wood, et al., 2005) and *A Content and Methodological Review of Self-advocacy Intervention Studies* published in *Exceptional Children* (Test, Fowler, Brewer, et al., 2005).

In the first paper, Test, Fowler, Wood, et al. (2005) compiled various definitions of self-advocacy in a chronological term. The initial definition of self-advocacy originated from the civil rights movement and was conceptualized as an act or a skill thereafter. Test, Fowler, Wood, et al., (2005) also developed a comprehensive conceptual framework of self-advocacy based on their literature review and the input from stakeholders. The components of self-advocacy include knowledge of self, knowledge of rights, communication, and leadership.

In the second paper, Test, Fowler, Brewer, et al., (2005) reviewed 25 self-advocacy interventions then concluded that people with varying disabilities and varying ages can learn self-advocacy. There were various strategies that can be used to teach self-advocacy such as role-play, prompts, videos, and content in published curricular packages. Most teaching strategies were claimed to have a positive effect on self-advocacy. However, it should be interpreted with caution since some studies had methodological weaknesses. This paper also

strengthened the conceptual framework proposed in the first study even though fewer proposed strategies stressed teaching components: knowledge of rights and leadership.

Studies on the self-advocacy of students with disabilities cannot be separated from self-determination studies. Through the cited-authors data, the influential scholars on self-determination studies also influenced the foundation of studies on the self-advocacy of students with disabilities, such as David L. Wehmeyer and Susan B. Palmer from the University of Kansas, Lawrence, US. The co-occurrence analysis confirmed that ideas wherein keyword self-determination were widely emerged in self-advocacy publications (i.e. Daly-Cano et al., 2015). Vice versa findings related to self-advocacy were declared in several self-determination publications (i.e. Algozzine et al., 2001; Field et al., 2003). Self-advocacy is often intertwined with self-determination but in most of the pieces of literature, self-advocacy was defined as a sub-skill in self-determination (i.e. Algozzine et al., 2001; Field et al., 2003; Wehmeyer & Palmer, 2003). Shogren et al., (2015) stated that in causal agency theory-the latest theory on self-determination- self-advocacy was one of the skills included in agentic action which was defined as an action in the service of purposiveness. Algozzine et al., (2001) proposed that self-advocacy was a crucial skill in the self-determination construct. Overall, we assumed that self-determination is an umbrella study of self-advocacy for students with disabilities.

Through co-occurrence analysis, we got an insight into the themes related to studies on self-advocacy of students with disabilities, such as transition, postsecondary education, accommodations, and inclusion. In recent years, themes related to higher education (see Bruce & Aylward, 2021; Moriña & Biagiotti, 2021; Pfeifer et al., 2020) and employment (Almalky & Alqahtani, 2021; Lindsay et al., 2021) have emerged. The workplace and higher education have a common situation, notably, both of them is an adult social inclusive environments and demand full of independence. In some way, persons with disabilities may not perform equivalently compared to typical persons except they get reasonable accommodation and accessibility. It is convinced that self-advocacy was an advantageous personal skill to navigate the lack of support, accommodation, and accessibility in workplace and higher education settings. Communication as a core skill in self-advocacy facilitates a person with disabilities to get support from their surroundings (Pfeifer et al., 2020; Vornholt et al., 2013).

Based on the explanation above, we could identify influential scholars and references that build the foundation of studies on the self-advocacy of students with disabilities. We recommend researchers and practitioners who are interested in studies on self-advocacy of students with disabilities manage to understand and criticize a concept offered by these scholars and the findings from these references. We also found several themes that could direct the content and context related to studies on the self-advocacy of students with disabilities. In sum, this bibliometric study is beneficial as a starting point and guidance, especially for a beginner who is interested in studies on the self-advocacy of students with disabilities.

We concluded that a bibliometric analysis was a practical method to get insight into a related topic. We got data mapping, network, and visualizing in a short term. While the bibliometric study has allowed us to the identified foundation of the studies on self-advocacy of students with disabilities, but so far we only used a literature indexed in the Scopus database. Further, we should overlooked other sources, such as another database (such as Google Scholar) and the grey literature database which maybe also have meaningful findings. Therefore we suggest doing a more comprehensive review involving comprehensive available works of literature from various literature databases. Still, we also got several issues related to data cleaning by using VOSviewer. For the further bibliometric study, we proposed to find complementary tools in terms of cleaning the data.

CONCLUSION

To conclude, we identified that David W. Test was the most influential scholar in studies of self-advocacy of students with disabilities, and the self-determination concept was the root of this study. Several recent themes were recommended in delving into the self-advocacy of students with disabilities, such as higher education and employment. The bibliometric study is a practical method to give us insight into the structure of knowledge in related studies efficiently. Whereas we point out several limitations so we suggest this study was responded to be a starting point for a more complex and comprehensive further review.

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