

Przegląd Badań Edukacyjnych Educational Studies Review

ISSN 1895-4308

nr 57 (2/2025), s. 165–182

THE METHODS OF DATA COLLECTION
AND ANALYSIS
IN EDUCATIONAL RESEARCH

METODY ZBIERANIA
I ANALIZY DANYCH
W BADANIACH EDUKACYJNYCH



Kamila Kacprzak-Wachniew

Kazimierz Wielki University in Bydgoszcz, Poland

e-mail: kamila.kacprzak-wachniew@ukw.edu.pl

ORCID: <http://orcid.org/0000-0002-3668-1720>

Justyna Spychalska-Stasiak

Kazimierz Wielki University in Bydgoszcz, Poland

e-mail: joteska@ukw.edu.pl

ORCID: <http://orcid.org/0000-0001-7870-7469>

Principle-Based Concept Analysis in Educational Sciences: A Practical Guide to Methodology and Applications

<http://dx.doi.org/10.12775/PBE.2025.034>

Abstract

The article serves as a guide to the application of Principle-Based Concept Analysis (PBCA). This approach aligns the method with the interpretive paradigm. The use of this methodology in educational research enables a multidimensional theoretical and practical analysis of concepts that are variably defined and operationalized. A systematic review conducted using PBCA meets the criteria of replicability, credibility, and transparency of results, making it a valuable tool for advancing both the theoretical and practical foundations of the discipline. The aim of this article is to present the fundamental assumptions of PBCA, including specific directives that facilitate its application in educational research. The article outlines the theoretical and methodological foundations of the method, with particular emphasis on its phases and the four key principles – epistemological, pragmatic, linguistic, and logical – which enable effective comparison of concepts used in the study of education.

Keywords: principle-based concept analysis, systematic review, educational research, interpretive paradigm.

Introduction

Contemporary scientific research increasingly relies on the rigorous, systematic processing of data derived from the subject literature. In practice, however, the methodology of systematic literature review – although widely applied in health sciences and psychology – has yet to find its rightful place in pedagogy (Matera & Czapska, 2014; Bała et al., 2015; Lenart-Gansiniec, 2017; Orłowska et al., 2017; Mazur & Orłowska, 2018; Hensel, 2020; Stępień, 2023). Both in textbooks on pedagogical research methodology and in specialist literature devoted to academic writing, it is difficult to find detailed discussions or examples of its application. Meanwhile, in other disciplines within the field of social sciences – such as management, economics, or psychology – numerous Polish-language publications are available that describe the standards, procedures, and potential of such analyses.

This informational gap in the field of education sciences requires addressing not only for cognitive but also for practical reasons. Firstly, the discussed methodology fosters systematicity and a disciplined approach to working with scientific texts, which supports the development of key academic competencies at every stage of education – from undergraduate studies to doctoral research. Secondly, its skilful application enhances a crucial stage of any research project, namely the literature review, by teaching attentiveness, critical reflection on concepts, and sensitivity to their semantic nuances. Thirdly, a properly conducted systematic literature review can serve as a standalone foundation for a scientific article, master's thesis, or doctoral dissertation, provided that it has been carried out in accordance with clearly defined methodology.

This article is a practical guide to PBCA, presenting its philosophical/methodological foundations, stages, benefits, and challenges. Future articles will apply PBCA empirically and present results of the analyses conducted, focusing on the identified components of the concept and their potential significance for further research, educational practice, and the design of programs supporting adolescents in their developmental processes.

Theoretical and philosophical foundations of the Principle-Based Concept Analysis (PBCA)

The method described is based on the assumption that concepts are not merely logical theoretical constructs, but rather the result of existential experience and social co-being. PBCA thus draws from the epistemology and ontology of the humanities and social sciences, recognizing knowledge as temporally conditioned, contextual, and probabilistic (Kabusi & Khoddam, 2024, pp. 52–53).

At the heart of this method lies the idea of “probable truth”, meaning the most plausible understanding of a concept’s meaning at a given stage in the development of knowledge. Concepts, understood as dynamic constructs, change their meanings in response to successive scholarly contributions, making their ongoing monitoring one of the most important tasks of contemporary social sciences (Aghebati et al., 2014, p. 70; Kabusi & Khoddam, 2024, p. 53). This approach aligns the method with the interpretive paradigm, in which the analysis of knowledge does not aim at arriving at an absolute definition, but rather at exploring and reflecting on its meanings.

It is important to emphasize that the purpose of using this method is not to generate a closed definition but rather to grasp the most probable truth about a concept by analyzing it in relation to four principles: epistemological, pragmatic, linguistic, and logical. In this sense, the method is both critical and reconstructive – it enables the identification of tensions, boundaries, and the evolution of a concept within a discipline. Thus, the concept is not analyzed in isolation but as an outcome of the social production of meanings within specific contexts. This makes the method particularly useful for examining complex, multilayered concepts that are subject to cultural, epistemic, or practical transformation.

Concept analysis examines concept maturity via structure, usage, representativeness, relationships with other concepts (Morse et al., 1996). Analyzing concepts improves understanding (Foley & Davis, 2017). It is an evaluative process using techniques to explore or develop concepts from literature or data, depending on the study goal/concept maturity.

The origins of the earliest approach within concept analysis can be traced to Wilson’s work (1963), which laid the foundation for subsequent develop-

ments. Currently, there are many approaches to concept analysis, but three are the most commonly used (Rodgers et al., 2018): the Wilson method (Walker & Avant, 2005), the evolutionary method (Rodgers, 1989), and principle-based concept analysis (Morse et al., 1996). The differences between them are indicated in Table 1.

Table 1. Key Differences Between Approaches to Concept Analysis

	Walker and Avant’s Model of Concept Analysis	Rodgers’ Evolutionary Concept Analysis	Principle-Based Concept Analysis
Goal	Developing a clear, precise, and operational definition	Understanding the evolution of a concept over time	Multidimensional theoretical and practical analysis
Philosophy	Concepts are static and can be universally defined	Concepts are dynamic and change over time	Concepts are complex and require a multifaceted approach
Methodological Approach	Identification of defining attributes	Historical analysis of the context	Evaluation based on four principles
Application	Operationalizing concepts	Research focused on changes in the meaning of concepts over time	Standardizing and improving the practical application of concepts
Temporal Perspective	Ahistorical	Considers temporal variability	Can be both historical and ahistorical

Sources: Rodgers, 1989; Morse et al., 1996; Walker & Avant, 2005.

PBCA developed from criticisms of Wilson-based methods (superficiality/lack of rigor) and Rodgers’ approach (contextuality/lack of comparison/philosophy). Criticisms included lack of argumentation, limited theory, and nonspecific attributes. Morse (1996) proposed maturity criteria (clear definition, characteristics, boundaries, antecedents/consequences) (Morse et al., 1996) guided by four principles: epistemological, pragmatic, linguistic, logical. In subsequent works (Penrod & Hupcey, 2005), strategies for the practical application of these principles were further refined. Smith & Mörelius (2021) enhanced methodological rigor by integrating PBCA with systematic searches, quality criteria, and qualitative analysis, using a phased approach. This improves analysis quality via transparency, reliability, and replicability.

Methodological requirements and stages of the process

The analytical procedure outlined within the described method unfolds across three phases: preparation, analysis, and results development. Each phase consists of four specific stages that structure the research process and enhance its transparency. A concise overview of these stages is presented in Table 2, which organizes the characteristics of each step according to the proposal by Smith and Mörelius (2021).

Table 2. A Phased Approach to Conducting a Principle-Based Concept Analysis

PHASE	STAGE 1	STAGE 2	STAGE 3	STAGE 4
1. PREPARATION	Determine the concept of interest	Develop a protocol	Systematic literature search	Screen articles
2. ANALYSIS	Initial note-taking	Adapt and pilot test the quality criteria tool	Quality criteria assessment	Integrate data
3. RESULTS	Quality criteria findings of the included articles	Summative conclusion of the four principles	Conceptual components	Theoretical definition

Source: Smith & Morelius, 2021, p. 5.

In the following sections of the article, each phase and its corresponding stages will be characterized in detail. Familiarity with this structure constitutes the foundation for the correct application of the method in research and is essential for ensuring its reliability and validity in the context of concept analysis.

Phase 1: Preparation

The preparation phase serves to plan and structure the analytical process. It involves the deliberate selection of the concept to be analysed, the development of a review protocol, systematic searching, and the selection of literature. This is the stage during which the researcher formulates the theoretical framework, defines the scope of the material, and prepares tools applicable

to the subsequent analysis. As can be inferred from Table 2, the preparation phase requires the gradual implementation of four procedural stages by the researcher.

Determine the concept of interest

This stage involves identifying a term that is widely used in educational research yet remains imprecisely defined, ambiguous, or exhibits inconsistencies in its usage. It is crucial that the selected concept holds significance for the given discipline while also meeting two key criteria: it should neither be entirely new (due to the lack of sufficiently broad source material) nor fully conceptually mature (which would rather justify the use of quantitative approaches).

Develop a protocol

The second stage concerns the development of a protocol review, which serves as an official document detailing the objectives of the review, research questions, inclusion and exclusion criteria for texts, theoretical framework, and the data analysis plan. The protocol may also include preliminary coding categories and the structure of a quality assessment tool. In drafting this document, it is advisable to follow the guidelines for writing protocols outlined by PRISMA (*Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols*) (www.prisma.org) or the recommendations developed by Cochrane (www.cochrane.org).

Systematic literature search

Systematic literature searching involves the deliberate and structured exploration of selected academic databases that collect scholarly works differing in terms of discipline, language, type of scholarly output (e.g., monographs, journal articles, book chapters, conference papers, etc.), and accessibility. Information on the most important scientific databases and effective strategies for searching them can be found, among others, in the works of Pulikowski (2018) and Matysek & Tomaszczyk (2020), which offer guidance on collecting and organizing subject literature using reference management software and other digital tools.

Screen articles

The stage of selecting collected sources requires the researcher to establish final inclusion and exclusion criteria for determining which articles will proceed to further analysis. These criteria should be tailored to the specificity of the concept and the objectives of the analysis. They may include, for example, thematic scope, methodological quality, language of publication, or type of source (e.g., empirical article, review, theoretical paper). To enhance the credibility of the process, it is recommended to involve a second reviewer and, if the selection is conducted in a team, to perform an intercoder reliability test.

Phase 2: Analysis

The analysis phase involves a systematic examination of the collected source material with reference to four guiding principles: epistemological, pragmatic, linguistic, and logical. According to the assumptions laid out by Morse and colleagues (1996), each of these principles directs the analysis toward a different aspect of the concept: its definition and differentiation (epistemological), its usefulness and practical adequacy (pragmatic), its linguistic coherence and terminological accuracy (linguistic), and its relationships with other constructs within a theoretical framework (logical). The aim is to identify attributes, boundaries, connections, antecedents, and consequences via critical/comparative reading.

Initial note-taking

Creating initial notes involves the process of skimming through the selected articles and making initial annotations that identify how the concept functions within each text. Particular attention is paid to the context in which the concept appears, related terms, methods of data collection and analysis employed, as well as the theoretical frameworks used to define it. This type of exploratory reading enables a preliminary understanding of the concept's semantic scope and the style of its usage within the given corpus of materials.

Adapt and pilot test the quality criteria tool

At this stage, the researcher prepares and adjusts a tool for assessing the quality of each article in relation to the four PBCA principles:

- **Epistemology:** How the concept is defined and understood.
- **Pragmatics:** The tools and methods used to measure or explore the concept.
- **Linguistics:** Comments on the consistency and use of terms related to the concept.
- **Logic:** Any theoretical frameworks mentioned about the concept.

A detailed description of these principles is presented in Table 3. The presence of each principle in the analysed material is evaluated on a 0–2 scale. This tool should first be piloted on a small sample (e.g., 5–10 articles) to assess its clarity, validity, and practical applicability. The pilot phase helps to identify ambiguities in the criteria, interpretive inconsistencies, and any need to refine the categories. It is also recommended to involve more than one researcher during this stage, as this allows for testing the consistency of ratings (e.g., by comparing assigned scores and discussing discrepancies). The outcome of this stage is a fully developed tool, ready for systematic application in the subsequent phases of analysis.

Quality criteria assessment

This stage involves evaluating each article individually in terms of the epistemological, pragmatic, linguistic, and logical quality of the concept's representation. The results are recorded in a tabular format, which facilitates subsequent comparisons and helps identify both strong and weak sources within the dataset.

Integrate data

The coded data are synthesized into thematic summaries, which enable comparison of findings across texts and principles. The researcher looks for patterns, differences, inconsistencies, gaps, and potential contradictions in the representations of the concept. Data integration involves not only collat-

ing the results but also interpreting them – this means connecting coherent themes, identifying dominant topics, and pointing out areas of ambiguity. Thematic, framework, or content analysis can be used. This stage yields organized data for each principle.

Table 3. Quality Criteria Tool for a Phased Principle-Based Concept Analysis

Epistemology	Is the concept of ... clearly defined and differentiated from other concepts?	Quality criteria score
	E1: Is the concept of ... defined?	
	Yes: An understandable and detailed definition of ... is clear in the literature.	2
	Partly: Implied conceptual meaning of ... is offered through a sentence (either from the findings or from cited research) or using attributes and characteristics (frequent words or expressions used to describe the experience of ...).	1
	No: There is not a clear and detailed definition or implied meaning of ... in the literature.	0
	E2: Is ... differentiated/distinguished from other concepts (e.g. relational competence, relational skills)?	
	Yes: There is a documented differentiation/distinction between the concept of ... and other key concepts.	2
	Partly: Other key concepts are presented as uniquely different yet related (e.g. as antecedents/preconditions, consequences, or outcomes) to ..., and at the same time there may also be some distinction shown with other concepts.	1
	No: Other key concepts are not/distinguished from ...	0
Total epistemology rating (0–4)		
Pragmatic	Is the concept applicable and useful?	
	P1: Is the concept of ... useful and applicable within psychology (e.g. researching ... through the study purpose/aims of the research/identification of knowledge gaps, findings, and recommendations)?	
	Yes: It is clearly stated how ... is useful and applicable for describing or explaining phenomena within the discipline.	2
	Partly: It is clearly stated to some extent how ... is useful and applicable for describing or explaining phenomena within the discipline.	1
	No: It is not clearly stated how ... is useful and applicable for describing or explaining phenomena within the discipline.	0

Table 3 (continued)

Epistemology	Is the concept of ... clearly defined and differentiated from other concepts?	Quality criteria score
	P2: Has the concept of ... been appropriately measured/explored and evaluated (e.g. ethical considerations, sample, measures used, policies/interventions developed)?	
	Yes: ... has been measured/explored and evaluated as appropriate to improve health outcomes.	2
	Partly: ... has been measured/explored and evaluated to some extent as appropriate to improve health outcomes.	1
	No: ... has not been measured/explored and evaluated appropriately to improve health outcomes.	0
Total pragmatic rating (0–4)		
Linguistic	Is ... used consistently and appropriately within the scientific literature?	
	L1: Is the concept of ... or the language or the key attributes and characteristics around ... identified and used consistently within the whole article?	
	Yes: ... is used consistently or the language or the key attributes and characteristics that describe ... are used consistently within the article.	2
	Partly: ... to some extent is used consistently or the language or the key attributes and characteristics to describe ... are to some extent used consistently within the article (e.g. other terms are used but key terms are identifiable and to some extent used consistently).	1
	No: ... is not used consistently or the language or the key attributes and characteristics to describe ... are not used consistently within the article (e.g. various terms are used).	0
	L2: Is the concept of ... or the language or the key attributes and characteristics around ... used appropriately within the context of the article?	
	Yes: ... is described appropriately or the key language or the attributes and characteristics to describe ... are described appropriately.	2
	Partly: ... to some extent is described appropriately or the language or the key attributes and characteristics to describe ... are to some extent described appropriately.	1
	No: ... is not described appropriately or the language or the key attributes and characteristics to describe ... are not described appropriately.	0

Table 3 (continued)

Epistemology	Is the concept of ... clearly defined and differentiated from other concepts?	Quality criteria score
Total linguistic rating (0–4)		
Logical	Does the concept hold its boundaries when integrated with other concepts?	
	L1: Does the concept of ... hold its boundaries through theoretical integration with other related concepts (e.g. in theories, models, or frameworks)?	
	Yes: ... is discussed and theoretically integrated into theories, models, or frameworks alongside other related concepts with evidence of conceptual boundaries.	2
	Partly: ... is discussed and to some extent theoretically integrated into theories, models, or frameworks alongside other related concepts with some evidence of conceptual boundaries.	1
	No: ... is not discussed or theoretically integrated into theories, models, or frameworks alongside other related concepts with no evidence of conceptual boundaries.	0
Total logical rating (0–2)		
Total score:		
Overall quality scoring scale:		
• 12–14 Provides significant information to advance understanding of ...		
• 9–11 Provides good information to advance understanding of ...		
• 5–8 Provides some useful information to advance understanding of ...		
• 0–4 Provides minimal information to advance understanding of ...		

Phase 3. Results

The final stage organizing findings. Its purpose is to create a coherent description including attributes, boundaries, antecedents, and consequences. The researcher synthesizes data via the four principles to conclude on concept maturity, coherence, and its potential applicative value (Morse et al., 1996; Penrod & Hupcey, 2005).

The results are typically presented in the form of tables, concept maps, or narrative descriptions, which illustrate the complexity of the concept and how it functions in the literature. According to the guidelines of Smith and

Mörelus (2021), this phase should be conducted in a transparent manner, aligned with previously established quality criteria, in order to enhance the credibility and replicability of the analysis.

This phase also enables the formulation of recommendations for future research directions, highlighting areas in need of further conceptual clarification or empirical exploration. Its implementation includes four procedural stages, described below.

Quality criteria findings of the included articles

Present the overall quality evaluation for each of the four principles across the analysed literature (Smith & Mörelus, 2021). Identify high-scoring texts and areas with gaps/inconsistencies. Data can be presented in tables or visually. The goal is to identify key texts, disproportions, and understand representation quality. Decisions are made on which sources to use for synthesis of the concept's components and which content will be used to formulate its theoretical definition. This approach enhances the transparency of the analysis, strengthens its rigor, and allows for a clear distinction between high-quality data and marginal content.

Summative conclusion of the four principles

Formulate separate synthetic conclusions for each principle: epistemological, pragmatic, linguistic, logical (Morse et al., 1996; Penrod & Hupcey, 2005; Smith & Mörelus, 2021). Capture tendencies, inconsistencies, gaps. Conclusions cover definitions/semantic range (epistemological), functions/applications/contexts (pragmatic), linguistic forms/consistency (linguistic), and connections in frameworks (logical).

It is recommended that these conclusions be presented in a clear and organized manner – for example, in the form of tables, thematic summaries, or visual maps – which facilitates the identification of the concept's internal structure and its semantic dynamics. This stage lays the foundation for identifying the key components of the concept and for the final formulation of its theoretical definition.

Conceptual components

Based on the results of the analysis conducted in accordance with the four PBCA principles, three main components of the concept are identified: pre-conditions, characteristics, and outcomes (Morse et al., 1996; Penrod & Hupcey, 2005).

Preconditions refer to the conditions that must be met for the concept to exist or be realized. These may include, for example, individual competencies, specific social circumstances, or institutional and cultural structures. *Characteristics* are the constitutive properties necessary for a phenomenon to be classified as an instance of the analysed concept. These should be as clear, consistent, and recurrent as possible across the source material. *Outcomes* concern the effects, results, or functions stemming from the presence of the concept. They may take cognitive, emotional, social, organizational, or other forms, depending on the nature of the concept and the context in which it appears.

Each of these components should be illustrated with quotations from the source material and accompanied by analytical commentary that explains their significance and function within the structure of the concept. To increase clarity, the components may also be summarized in tabular form, which facilitates synthesis and the development of the theoretical definition.

It is advisable that the components be clearly distinguishable from one another and that the relationships between them are logically coherent and theoretically grounded. This stage aims to construct a richer, more nuanced representation of the analysed concept and to lay the foundation for its precise theoretical definition.

Theoretical definition

At the final stage of the analysis, a proposed definition of the concept is formulated – one that is flexible, well-argued, and grounded in the data collected and organized according to the principles of PBCA (Morse et al., 1996; Penrod & Hupcey, 2005). This definition is neither normative nor fixed. Its purpose is to reconstruct the most probable and coherent understanding of the concept within a specific disciplinary and temporal context (Smith & Mörelius, 2021).

The definition should incorporate all three components of the concept – preconditions, characteristics, and outcomes – and reveal the relationships between the concept and other theoretical categories. Such a definition may serve as a reference point in further empirical research, in academic teaching, in the construction of diagnostic tools, and in design practice, especially in areas where precise operationalization of terms is essential.

Thanks to the structured progression of the PBCA method, the researcher is equipped with a detailed action plan, in which each stage responds to specific research questions and leads to a gradual, data-driven conceptualization. The method aligns with the epistemological assumptions of concept analysis as a dynamic, contextual, and cognitive process.

Potential applications of PBCA in the social sciences

PBCA studies are lacking in pedagogy, but examples from other social sciences show the method's potential. For example, Bernard (2015) conducted a PBCA-based analysis of the concept of student engagement, identifying its dynamic elements (behavioural, cognitive, emotional), as well as its preconditions and educational outcomes. The findings contributed to the reform of curriculum design and the improvement of engagement measurement tools.

In another study, PBCA enabled the identification of the conceptual components of intellectual curiosity and the relationships among them. The results of the analysis were integrated into a theoretical definition of intellectual curiosity, which has significant implications for the design of learning environments and educational programs (Russell, 2013). Although these studies focused on nursing education, they effectively illustrate the usefulness of PBCA for issues that are also relevant to the field of education.

There are also PBCA-based analyses of concepts that have clear applications in pedagogy. For instance, resilience was examined using PBCA in the context of psychological robustness during the perinatal period and early motherhood (Hannon et al., 2022), while the concept of self-organization, following its analysis in the context of chronic illness, was redefined to make it less abstract and more applicable (Beecher, 2020).

We see multiple potential areas of application for PBCA within educational sciences. Concepts such as student autonomy, social competence, edu-

cational inclusion, and well-being at school – among many others – could be analysed through PBCA to clarify their definitions and applications in educational literature.

Limitations of the method

PBCA is systematic/reflective but has limitations. It is time-consuming and depends on literature quality/researcher experience (Penrod & Hupcey, 2005). It requires interpretive flexibility, which can challenge inter-rater reliability. It demands high epistemological/methodological awareness. There is a lack of a single standardized tool/manual.

The application of the method also demands a high level of epistemological and methodological awareness in order not to treat the four principles as rigid categories, but rather as frameworks for reflective inquiry (Smith & Mörelius, 2021). An additional difficulty, particularly for novice researchers, lies in the lack of a single standardized tool or manual. While the quality assessment tool proposed by Smith and Mörelius (2021) significantly supports the analysis, its effectiveness depends on contextual adaptation to the concept under study and the discipline in which it is applied.

Another challenge is the difficulty of operationalizing PBCA results in subsequent quantitative research. Theoretical definitions derived from PBCA are by nature contextual, dynamic, and often incompatible with measurement requirements. As Morse et al. (1996) previously noted, PBCA is also not suitable for newly emerging concepts or those rarely present in the literature, as the lack of source material prevents a full analysis based on the four principles.

For these reasons, PBCA is best suited to concepts that are widely used, controversial, or semantically overloaded, rather than as a universal method. It is also important to emphasize that the theoretical definition developed at the end of the process is context-bound and should be regarded as a starting proposition, well-grounded in current literature, but intended for further testing, adaptation, and development in specific research or practical projects (Penrod & Hupcey, 2005; Smith & Mörelius, 2021).

Summary

The Principle-Based Concept Analysis (PBCA) method offers a systematic yet flexible tool for the critical analysis of concepts in the social sciences, particularly within the field of education. Its strength lies in its ability to organize theoretical terms by referencing four key principles – epistemological, pragmatic, linguistic, and logical – as well as the components of a concept: pre-conditions, defining characteristics, and outcomes. The application of PBCA allows researchers not only to capture the current understanding of a given term but also to identify its conceptual potential and limits of applicability.

PBCA provides a methodical plan for systematic knowledge organization, leading to a transparent theoretical definition. It bridges literature analysis and empirical research, supporting academic education.

References

- Aghebati, N., Mohammadi, E., Ahmadi, F., & Noaparast, K. B. (2014). Principle-Based Concept Analysis: Intentionality in Holistic Nursing Theories. *Journal of Holistic Nursing*, 33(1), 68–83, doi: 10.1177/0898010114537402.
- Bała, M. M., Leśniak, W., & Jaeschke, R. (2015). Proces przygotowywania przeglądów systematycznych, z uwzględnieniem przeglądów Cochrane [Process of Developing Systematic Reviews, Including Cochrane Reviews]. *Polskie Archiwum Medycyny Wewnętrznej*, 125, 16–25.
- Bernard, J. (2015). Student Engagement: A Principle-Based Concept Analysis. *International Journal of Nursing Education Scholarship*, 12(1), 111–121, doi: 10.1515/ijnes-2014-0058.
- Foley, A. S., & Davis, A. H. (2017). A Guide To Concept Analysis. *Clinical Nurse Specialist: The Journal for Advanced Nursing Practice*, 31(2), 70–73, doi: 10.1097/NUR.0000000000000277.
- Hannon, S. E., Daly, D., & Higgins, A. (2022). Resilience in the Perinatal Period and Early Motherhood: A Principle-Based Concept Analysis. *International Journal of Environmental Research and Public Health*, 19(8), 4754, doi: 10.3390/ijerph19084754.
- Hensel, P. (2020). *Systematyczny przegląd literatury w naukach o zarządzaniu i jakości* [Systematic Literature Review in Management and Quality Sciences: Applications and Examples]. Wydawnictwa Uniwersytetu Warszawskiego Sekcja Wydawnicza Wydziału Zarządzania UW, doi: 10.7172/978-83-66282-19-3.2020.wwz.2.

- Kabusi, M., & Khoddam, H. (2024). Principle-Based Concept Analysis: A Narrative Review from a Nursing Perspective. *Journal of Nursing Advances in Clinical Sciences*, 1(1), 51–58, doi: 10.32598/JNACS.2401.1007.
- Lenart-Gansiniec, R. (2021). *Systematyczny przegląd literatury w naukach społecznych. Przewodnik dla studentów, doktorantów i nie tylko* [Systematic Literature Review in the Social Sciences: A Guide for Students, Doctoral Researchers, and Beyond]. Warszawa: Wydawnictwo Naukowe SCHOLAR.
- Matera, J., & Czapska, J. (2014). *Zarys metody przeglądu systematycznego w naukach społecznych* [Outline of the Systematic Review Method in the Social Sciences]. Warszawa: IBE.
- Matysek, A., & Tomaszczyk, J. (2020). *Cyfrowy warsztat humanisty* [The Humanist's Digital Workshop]. Warszawa: Wydawnictwo Naukowe PWN.
- Mazur, Z., & Orłowska, A. (2018). Jak zaplanować i przeprowadzić systematyczny przegląd literatury [How to Plan and Conduct a Systematic Literature Review], *Polskie Forum Psychologiczne*, 23(2), 235–251, doi: 10.14656/PFP20180202.
- Morse, J. M., Mitcham, C., Hupcey, J. E., & Cerdas, M. (1996). Criteria for Concept Evaluation. *Journal of Advanced Nursing*, 24(2), 385–390, doi: 10.1046/j.1365-2648.1996.18022.x.
- Orłowska, A., Mazur, Z., & Łaguna, M. (2017). Systematyczny przegląd literatury: na czym polega i czym różni się od innych przeglądów [Systematic Literature Review: What It Is and How It Differs from Other Types of Reviews]. *Ogrody Nauk i Sztuk*, 7, 350–363, doi: 10.15503/onis2017.350.363.
- Penrod, J., & Hupcey, J.E. (2005). Enhancing Methodological Clarity: Principle-Based Concept Analysis. *Journal of Advanced Nursing*, 50(4), 403–409, doi: 10.1111/j.1365-2648.2005.03405.x.
- Pulikowski, A. (2018). *Modelowanie procesu wyszukiwania informacji naukowej: strategie i interakcje* [Modeling the Process of Scientific Information Retrieval: Strategies and Interactions]. Katowice: Wydawnictwo Uniwersytetu Śląskiego.
- Rodgers, B. L. (1989). Concepts, Analysis and the Development of Nursing Knowledge: The Evolutionary Cycle. *Journal of Advanced Nursing*, 14(4), 330–335, doi: 10.1111/j.1365-2648.1989.tb03420.x.
- Rodgers, B. L., Jacelon, C. S., & Knafl, K. A. (2018). Concept Analysis and the Advance of Nursing Knowledge: State of the Science. *Journal of Nursing Scholarship: An Official Publication of Sigma Theta Tau International Honor Society of Nursing*, 50(4), 451–459, doi: 10.1111/jnu.12386.
- Russell, B. H. (2013). Intellectual Curiosity: A Principle-Based Concept Analysis. *Advances in Nursing Science*, 36(2), 94–105, doi: 10.1097/ANS.0b013e3182901f74.

- Smith, S., & Mörelius, E. (2021). Principle-Based Concept Analysis Methodology Using a Phased Approach with Quality Criteria. *International Journal of Qualitative Methods*, 20, doi: 10.1177/16094069211057995.
- Stępień, B. (Ed.) (2023). *Systematyczny przegląd literatury w naukach ekonomicznych. Metodyka, przykłady* [Systematic Literature Review in the Economic Sciences: Methodology and Examples]. Poznań: Wydawnictwo: UEP.
- Walker, L. O., Avant, K. C. (2005). *Strategies for Theory Construction in Nursing*. 4th Edition. New Jersey: Pearson Prentice Hall.
- Wilson, J. (1963). *Thinking with Concepts*. Cambridge, England: Cambridge University Press.