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THE METHODS OF DATA COLLECTION
AND ANALYSIS
IN EDUCATIONAL RESEARCH

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Qualitative Content Analysis – A Research Method in Social Science*

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Abstract

This paper discusses qualitative content analysis (QCA) as one of the qualitative research methods and its prospective implementation in social research. The article presents the genesis of the content analysis method, with emphasis on the QCA technique. It scrutinises the scope, characteristics, basic principles and techniques of QCA. It also tackles the issue of methodological rigour criteria and quality assurance measures of this research method, aimed at ensuring the credibility of the research. This article also demonstrates the general run of the QCA model proposed by Mayring. Finally, this paper evaluates computer-aided research as part of QCA.

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Keywords: research methods, qualitative research, content analysis, qualitative content analysis, qualitative content analysis theorised by Mayring.

Introduction

One of the most widespread classifications of research employed in social sciences is its division into qualitative and quantitative research. When measurement scales cannot be applied, qualitative research is employed (Kaczmarczyk, 2014, pp. 49–54). In the field of social sciences, qualitative research is progressively becoming more customary. Disappointed with the results of analyses obtained through quantitative methods, researchers seek new methods that provide the opportunity to observe and analyse social reality (Konecki, 2009, p. 25).

This paper aims to present qualitative content analysis (QCA) as one of the research methods and its prospective implementation in social research. The article's methodology refers to indirect research methods based on a critical analysis of the source literature, logical analysis and construction.

QCA is well-founded in many social science disciplines, including psychology, pedagogy, management, economics and sociology. This analysis comprises the evaluation and interpretation of texts or written communication through the technique of systematic analysis according to a predetermined scheme, generating categories or systems of categories within the limits of the text under study. Notably, there is no single preeminent QCA, but there are a few more or less similar methods with the same nomenclature with comparable procedures proposed by several authors.

Scope of the concept and its characteristics

Contemporary content analysis dates back to World War II, when Allied intelligence units carefully tracked the number and types of popular songs played by European radio stations (Wimmer & Dominick, 2011, p. 156). The key event that won recognition for quantitative content analysis as a tool for media researchers was the publication of *Content Analysis in Communication Research* by Bernard Berelson in 1952, making quantitative content analysis

a popular research technique and codifying this field for years to come (Krippendorff, 2018, p. 14).

Considering the definition of quantitative content analysis, it would be most appropriate to start with the classic and still-cited definition by Berelson, who is also widely recognised as the creator and codifier of the method (Szczepaniak, 2012, p. 84). According to this author, content analysis is a research technique that serves to objectively, systematically and quantitatively describe the explicit content of a message (Berelson, 1952, p. 18).

Klaus Krippendorff (2018, pp. 24–25) defines content analysis as a research technique used to create reproducible and valid conclusions from texts on the contexts of their use. However, according to Fred Kerlinger's definition, quantitative content analysis is a method of examining and analysing communication in a systematic, objective and quantitative way, whose purpose is to measure specific variables (Kerlinger, 1986, pp. 525–526).

Early criticism of quantitative content analysis established a sharp dichotomy between the quantitative and qualitative variants of the method, reflecting the division between the adherents of quantitative and qualitative research paradigms (Schreier, 2012, p. 14). As quantitative content analysis has evolved and become more sophisticated, it has increasingly been applied to less obvious content, and many proponents have argued that the distinction between qualitative and quantitative types of content analysis is artificial (Krippendorff, 2004, pp. 15–17).

One of the first authors to describe the concept of QCA in the 1950s was Siegfried Kracauer (1952, p. 637). He applied this idea to communication and believed that the terms “qualitative analysis” and “quantitative analysis” did not allude to entirely different approaches and could be complementary. The author pointed out that qualitative analysis, by definition, differs from quantitative analysis in that analysis is performed without considering frequency, in which the selection and rational organisation of such categories that summarise the substantive meaning of a given text are of particular importance to test appropriate assumptions and hypotheses. It was no earlier than the second half of the 1970s that the first techniques and procedures for QCA were developed and applied (Ulrich et al., 1985). In the following years, the first publications appeared, presenting and proposing detailed techniques and de-

scribing the process of conducting scientific research using QCA (Mayring, 1985; 1991).

QCA is a method of systematical description of the meaning of qualitative material obtained through the attribution and classification of subsequent parts of the material into categories of coding frames that form a basis for QCA and include all the meanings that appear in the description and interpretation of the material under study (Schreier, 2012, p. 1).

QCA is also defined as a research method of subjective interpretation of the textual data strings through a process of systematic classification, coding and identification of themes or patterns (Hsieh & Shannon, 2005, p. 1278).

Ulla Graneheim and Berit Lundman (2004, p. 110) describe QCA as a method of analysis of qualitative data that concentrates on the theme as well as the context and highlights differences and similarities within codes and categories, enabling the analysis of not only explicit and descriptive but also implicit and interpretative content.

Michael Patton (2002, p. 453), on the other hand, defines QCA as any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings.

QCA emphasises the role of the researcher in coining a meaning. It stresses the freedom of categories to emerge from the data and to recognise the meaning to fathom the context in which the analysed element appeared (Bryman, 2012, pp. 380–388).

Philip Mayring (2002, p. 114; 2010c, p. 469) describes QCA as the systematic analysis of texts as part of the gradual processing of material using theory-based category systems, without premature quantification. The text coding applied to the category system, with main categories, subcategories and category definitions, enables the unravelling of the meaning hidden in the analysed text. According to Mayring and Brunner (2009, p. 673), QCA presents a method of message assessment according to a certain process of dealing with categories, which is systematic, based on rules and theory and which considers the methodological rigour criteria.

Mayring (2019, pp. 3–4) itemises the following important issues of QCA:

- It is run according to a category system. Categories are understood as meaningful aspects of the text based on short linguistic formulas.

- It is based on inquiries. Analytical inquiries for a text are rooted in the primary inquiry of the research project.

It is characterised by strict control and a systematic approach. The methods of conduct describe a strict procedure because they have been proven in numerous research processes carried out to date.

- Eight analysis techniques have been developed as part of QCA, viz., summary analysis, inductive category creation, narrow context analysis, broad context analysis, formal structuring, content structuring, typological structuring and scaled structuring. It is also possible to use deductive category creation.
- The principles of QCA for particular techniques are not arbitrary but have a theoretical basis in text processing procedures analysed in cognitive psychology and psycholinguistics.

Christoph Stamann, Markus Janssen and Margrit Schreier (2016, p. 5) aver that all QCA methods share a common feature, i.e. the systematisation of communication content for interpretation based predominantly on the rules of conduct.

In turn, Udo Kukartz (2012, p. 39) opines that QCA is a form of evaluation in which the understanding and interpretation of the text are essentially more important than in the case of classical analysis, which is limited to the analysis of the explicit content of the text. Then the author lists the most important principles of QCA as the centrality of categories for analysis, systematic way of proceeding with a clearly defined system of rules within individual stages, classification and categorisation of all the material, use of techniques for creating categories from the material, hermeneutically interpreted reflection on the material and the interactive form of its origins, recognition of the methodological rigour criteria and striving for uniformity among coders of the research material.

According to Mayring (2014, p. 39), the basic assumption of QCA is the preservation of the strengths of quantitative content analysis and, in this context, the development of techniques for systematic, qualitatively oriented text analysis. Mayring, instead of using the term QCA, proposes qualitatively oriented text analysis based on categories (2019, p. 634).

There appears to be no single individual QCA method since individual authors propose similar yet slightly different procedures for evaluating and

interpreting the material through the QCA technique they apply. The most important authors of procedures for QCA include Mayring (2014), Kuckhartz (2012; 2014) and Schreier (2012).

QCA is commonly employed in the field of social sciences, as reflected by, *inter alia*, research in the disciplines of pedagogy and psychology, e.g. research on interactions in online communities (Pfeil & Zaphiris, 2009, pp. 1–16), the experiences and observations of teachers about hybrid teaching during the pandemic (Batac et al., 2021, pp. 225–243), increasing learning outcomes (Cuenca, 2021, pp. 298–313) and school psychology (Leech & Onwuegbuzie, 2008, pp. 587–604).

This research method is also adopted in the disciplines of management and quality sciences, as well as economics and finance. The author of this publication has conducted many studies based on the method of QCA according to Mayring, surveying, for example, the behaviour of Polish and foreign businesses on foreign markets or analysing the purchasing behaviour of consumers in retail (Komor, 2017; Komor, 2020; Komor & Krawczyk 2021; Komor & Wójcik 2022; Zielke et al., 2023). To discuss in detail the application of the QCA technique according to Mayring in social sciences, including the interdisciplinary approach, and as part of case study research, the author of this monograph met with Prof. Dr. Philipp Mayring at Alpen-Adria University in Klagenfurt.¹

This paper presents the QCA technique proposed by Mayring, often used in scientific circles worldwide to analyse research material. Michaela Gläser-Zikuda, Gerda Hagenauer and Melanie Stephan (2020) also emphasise that QCA developed by Mayring is an appropriate and frequently used method in empirical educational research. The importance of procedures and techniques of QCA according to Mayring in scientific research is manifest in the author's publications regarding this research method being cited over 79,000 times, according to Google Scholar and the so-called Author's H-index is 56.

¹ On 22 October 2012, the author of this publication met with Prof. P. Mayring in Klagenfurt, Alpen-Adria-Universität Klagenfurt [University of Klagenfurt], Zentrums für Evaluation und Forschungsberatung (ZEF) [Center for Evaluation and Research Consulting], Universitätsstr. 65–67, A-9020 Klagenfurt.

The basic principles of qualitative content analysis

QCA is possibly the most common method employed in qualitative document analysis, involving the examination of themes lying at the heart of the analysed materials (Bryman, 2012, pp. 380–388). It is a favourable method if the research question is descriptive. QCA is an effective technique, especially when it comes to summarising and describing key aspects of a specified material (Schreier, 2012, p. 1).

The basic principles of QCA methodology are presented below (Mayring, 2008, p. 10; Mayring, 2010c, pp. 12–13; Mayring, 2014, pp. 39–42; Mayring & Fenzl, 2019, pp. 636–637):

- In QCA, the material is set out in a communication model in which the authors of the texts, the socio-cultural background, the environment of the textual origins, the effects of the text and the target groups are identified, and it is determined as to which parts of this communication model are to be fulfilled by analysing the statements in the text.
- QCA follows strict rules that enable the understanding and checking of the conducted analysis.
- QCA is systematic, which means that the units of analysis are predetermined.
- The category system is the central instrument of the analysis, which also contributes to the credibility of the adopted procedure, which should in turn enable others to reconstruct or reproduce the analysis.
- The basic process consists of assigning rule-based categories to specific fragments of the text as per the principles of content-analytical unit allocation.
- Stages of quantitative methods may be included in QCA, but their use needs to be justified.

Analogously to other qualitative research methods, QCA maintains the criteria of methodological rigour, i.e. objectivity, reliability and accuracy. The main criteria are intra-coder and inter-coder agreement. Inter-coder consistency means that after the analysis has been completed, the evaluation is reassessed from scratch, without considering the formerly assigned categories. This is an indicator of the procedure's stability and, therefore, a measure of reliability. An independent recoder is used to determine inter-coder agree-

ment. The match of the said agreement is therefore the criterion of objectivity. Utter compliance cannot be an objective because interpretative elements require some freedom, especially when categories are created inductively.

The course of qualitative content analysis model

This paper presents the general run of the QCA model proposed by Mayring (2010b, pp. 59–60). The model enables the creation of categories and category systems for material analysis. The general course of the procedure demonstrated in the model commences with establishing the research material, analysis of the situation of origin, formal characteristics of the material, determining the context of the analysis and theoretical distinction of the questions and issues constituting the five general initial steps of the analysis. The procedure does not always follow the model presented in Figure 1 because it depends on many factors, such as the specificity of the research material, the purpose of the analysis, or the scope of the research questions.

The next step sets a detailed model run as per the general model, prepared for a specific material analysis. The definition of analysis techniques and the determination of category definitions and the category system are also done at this stage. The author of the procedure, besides the basic analysis techniques included in the above model, also proposes a technique classification divided into summary analysis, inductive category formation, narrow and broad context analysis, and structuring: formal, substantive, typological and scaling (Mayring 2002, p. 115; 2010b, p. 65, pp. 113–115; 2019, p. 3). The following step is to establish the units of analysis, i.e. coding, context and evaluation. The suitable development of the category system is always at the centre of QCA; however, to increase the precision of the content analysis, it is vital to determine the following units of analysis: coding (the smallest part of the material that can be assessed and may be labelled a category), context (the volume of the material that can be identified as a category), evaluation (determining the order in which individual parts of the text should be evaluated) (Mayring, 2010b, p. 59).

Categories are a collection of elements sharing some common features and are always broader in scope than the objects they designate; they are concepts developed specifically, such that they are thought to represent real-

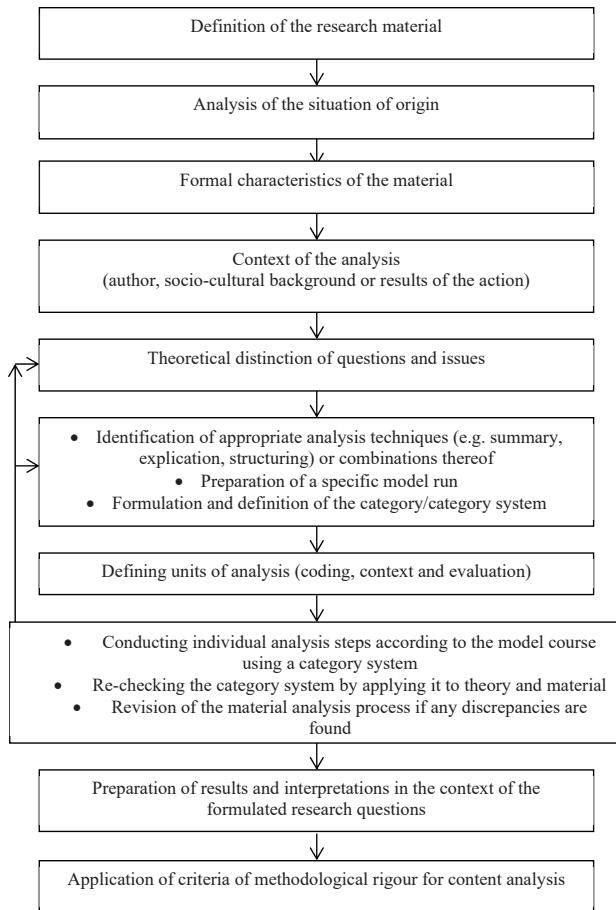


Figure 1. The general run of the QCA model according to Mayring

Source: Mayring, 2010b, p. 60.

world phenomena (Krippendorff, 2004, p. 54; Bryman, 2012, p. 709). A category system is a classification key established based on common factors or themes that emerge from the data itself, necessary to conduct content analysis (Lisowska-Magdziarz, 2004, p. 55; Wimmer & Dominick, 2011, p. 165). The coding unit is a “concept,” the very part of the analysis unit that can be interpreted meaningfully *vis-a-vis* the category and that corresponds to one

subcategory of the coding frame (Schreier, 2012, p. 133; Szczepaniak, 2012, p. 88). A context unit is a unit of textual matter that determines the limits of information to be included in the description of recording units. It is part of the adjacent material required to understand the meaning of a given coding unit (Krippendorff, 2004, p. 101; Schreier, 2012, p. 133). Notes are usually a quick way to capture ideas that arise while collecting, condensing and displaying data, drawing and testing conclusions, and final reporting (Miles et al., 2014, p. 97). Coding is how the analysed data is defined. It represents classifying data segments using a short name, a code that simultaneously summarises and squares each fragment of data (Charmaz, 2006, p. 43; Gibbs, 2018, pp. 38–40).

Subsequently, individual steps of the analysis are carried out according to the model run through a category system, and the system categories are rechecked and corrected *vis-a-vis* the theory and material if required. The above process is run on the so-called second level, which is an important element of the QCA model. At this level of category correction, the methodological rigour criteria of the analysis are evaluated; thus, it is also possible to re-establish the selection criteria or code definitions and re-run the QCA. Thereafter, a re-analysis can be delivered along with re-designating the analysis techniques and determining the category definitions, as well as preparing a new model run (as indicated graphically in Figure 1). The analysis can also be reviewed at an earlier stage, restating the questions and issues based on the available theory. Rerunning the analysis is used to further reduce the research material. Occasionally, the process may be applied several times. The final stages of the analysis include result and interpretation preparation concerning the determined research questions and application of the methodological rigour criteria of the QCA.

Qualitative content analysis techniques

Numerous content analysis techniques have been proposed by individual authors. For example, Kuckhartz (2012, pp. 77–131) mentions three basic techniques: content structuring – an analysis that reduces the research material by using both the available research material and existing theories or methodological assumptions; evaluative content analysis, where the researcher

aims to estimate, classify and evaluate the content, often tied to a specific case in which the categories are expressed ordinally, and type-building content analysis, which enables the creation of typologies according to similar features of certain elements in a methodically controlled way.

Margrit Schreier lists four strategies for generating categories based on given material (Schreier, 2012, pp. 107–125):

- Gradual summarisation of the material: This strategy consists of four steps: (1) paraphrasing all relevant parts of the material, (2) “streamlining” each paraphrase by removing anything that sidetracks from the main statement, (3) comparing paraphrases and creating a more general paraphrase based on similarity and (4) creating category names and definitions.
- Adaptation of coding from grounded theory: In grounded theory, coding consists of three stages: open, axial and selective.
- Subsumption: This is a strategy of generating data-based subcategories to an already existing main category.
- Contrasting: This is a strategy for developing data-driven categories, particularly suitable for collating two types of materials.

Hsiu-Fang Hsieh and Sarah Shannon (2005, pp. 1279–1285) also discuss three different approaches to QCA: conventional, directed and summative. Conventional content analysis involves coding categories derived directly and inductively from the raw data itself. Directed content analysis involves the use of more analytical codes and categories derived from existing theories and explanations relevant to the subject of study. Summative content analysis starts with existing words or phrases and counts them; then a researcher elaborates on the study to include underlying meanings and themes detectable in the data.

As part of QCA, eight detailed analysis techniques were proposed and developed by Mayring (2002; 2019, p. 4), i.e. summary analysis, inductive category creation, narrow context analysis, broad context analysis and formal, substantive, typological and scaling structuring. The author points out that in nominal techniques, the generated categories are deductive and might be either ordinal or categorical, whereas typological and substantive forms can be considered mixed techniques, and the decision about which specific content analysis technique to use depends on the establishment of the research

question. In one excerpt from the text, it is possible to use a single technique or several simultaneously (Mayring, 2019, p. 4).

Summary content analysis aims to reduce the material by, for example, generalisation, selection or merging and creating new, shorter statements in the form of a category system, while maintaining the sense and correct conveyance of the original text material, as well as comparing the created category system with the original material (Mayring, 2002, p. 95; 2010b, pp. 67–70).

Narrow and broad context analysis are two techniques belonging to the explication group. These techniques are intended to introduce further explanations or enrich certain parts of the research material with additional information, or to bring closer fragments of the text requiring better understanding and interpretation by supplementing the material concerning the context, thus contributing to the comprehension of the phenomena under study. Explication, as a content analysis technique, is a contextual analysis in which it is precisely defined where the search for additional contextual material takes place. It should be carried out systematically using a broad context that concerns information external to the text, i.e. the author, audience, socio-cultural background, non-verbal materials, or additional information about the origins of a given material, and a narrow context, which is a direct reference to the text environment, which may be e.g. defining/explanatory, correctional/modifying or embellishing/descriptive (Mayring, 2002, pp. 117–118; 2010b, pp. 85–89).

The structural technique, within which four items are distinguished, is particularly fascinating. It comprises the following forms: formal (the internal structure of the material is distinguished according to specific formal rules), substantive (the research material is summarised into specific topics and substantive scopes), typological (involves searching for characteristic features in the material that can be grouped, and then describes them in detail), scaling (defines features for individual dimensions on a point scale and then assesses and evaluates the research material on these grounds) (Mayring, 2010b, p. 94).

The point of convergence of all the researchers lies in their need to check and demonstrate that their study is credible; therefore, it is paramount to consider the methodological rigour criteria when evaluating the quality of research.

Methodological rigour criteria

In QCA, as in other research methods, it is important to ensure its credibility by considering the classic methodological rigour criteria, i.e. objectivity, reliability and validity. According to Mayring (2010b, pp. 116–118; Mayring & Brunner, 2009, pp. 677–678), the systematic application of methodological rigour criteria in research is an important element of QCA; it is also substantial to consider specific methodological criteria of the said analysis:

- **Objectivity:** In QCA, the inter-coder reliability criterion is used, i.e. several people independently evaluate the same research material and then collate the consistency of coding.
- **Reliability:** Establishing intra-coder reliability is an important criterion, which means that when the evaluation and analysis of the research material have been completed, it is rerun to examine the consistency of the re-coding of the text with the original one.
- **Validity:** To reach this, it is crucial to create systems of categories and code scenarios based on theory, as well as to establish rules and principles of text analysis based on theory.

In the case of QCA, the criteria of inter-coder and intra-coder reliability are particularly important. Especially in the case of inter-coder reliability, when several analysts work on the same material and the coding results differ immensely between them, it does not need to lead to the abandonment of the analysis but may enable better understanding and identification of errors and eventually result in modification of the analysis tools (Mayring, 2012, p. 117; 2014, p. 42).

In the case of QCA, partial inter-coder correspondence of the material is sufficient. Utter compliance cannot be the objective of the research because interpretative elements require some freedom, especially in the case of inductive category creation (Mayring, 2012, p. 117; 2019, p. 637).

Krippendorff relates the methodological rigour criteria of content analysis mainly to reliability and validity. He classifies three types of reliability: stability, reproducibility and accuracy (Krippendorff, 2004, pp. 216–241). He also divides validity into three types: content validity (which distinguishes sampling and semantic validity), internal structure validity (which distin-

guishes structural and functional validity) and lastly, correlative and predictive validity (relations to other variables) (Krippendorf, 2004, pp. 318–338).

Matthew Miles, A. Michael Huberman and Johnny Saldaña (2014, pp. 271–275), discussing content analysis quality standards, divide them into five main issues which are somewhat overlapping:

- (1) Objectivity/confirmability of qualitative work is the relative neutrality and freedom from biased researchers. This criterion is sometimes called “external validity,” borrowed from classical quantitative terminology.
- (2) Reliability/dependability/auditability: The basic problem is whether the research process is consistent and relatively stable over time and between researchers and methods.
- (3) Internal validity/credibility/authenticity: Some researchers believe that this traditional quantitative construct has no place in qualitative research and alternative terms such as probability and persuasively written account are preferred. Other qualitative methodologists continue to use the term deliberately because it suggests a more rigorous attitude towards the work.
- (4) External validity/transferability/fittingness: This criterion allows one to answer the question of whether the conclusions from the study are more important and to what extent they can be generalised.
- (5) Utilisation/application/action orientation: Even if the research results are important and transferable, one needs to know what the effects of the research are on its participants, both researchers and research subjects.

On the other hand, Ines Steinke (2009, pp. 270–279) distinguishes the following five central criteria, also called basic criteria, to ensure the correct evaluation of qualitative research: indication of appropriate methods, empirical anchoring, generalisation, intersubjective verifiability and meaning.

Moreover, the authors proposing the procedure of QCA also propose specific methodological rigour criteria, e.g. Mayring (2002, pp. 144–148) itemises the following six general criteria for the methodological rigour of qualitative research, including QCA: documentation of the research process, safeguarding interpretations with arguments, guiding principles, proximity to the subject, communicative validation and triangulation.

Besides the aforementioned methodological rigour criteria, Schreier (2012, pp. 71–72) emphasises that when creating a coding frame, the following requirements should also be considered: one-dimensionality, mutual exclusivity, completeness and saturation. Unidimensionality means that each dimension in the coding frame should capture only one aspect of the material (Schreier, 2012, pp. 71–72). The second requirement of a coding frame indicates that the subcategories within are mutually exclusive, meaning that each segment of material can be assigned to only one subcategory (Krippendorff, 2004, p. 130). Completeness, therefore, becomes truly significant only when considered together with accuracy (Schreier, 2012, pp. 76–77). The last criterion of saturation requires constructing a coding frame such that each subcategory is used at least once when conducting QCA (Schreier, 2012, p. 77).

Bruce Berg and Howard Lune (2017, p. 41) also raise the issue of safeguarding the methodological quality of QCA. First, conclusions drawn from patterns evident in the data must be confirmed to ensure that they are factual and not just the wishful thinking of the researcher. Second, verification involves ensuring that all procedures used to reach the conclusions have been clearly articulated. This way, another researcher could potentially reproduce the study and analysis procedures and draw comparable conclusions.

Interesting pieces of information were presented by Maximilian Goener and Moritz Krell (2020, pp. 211–215), who identified the criteria for methodological rigour and measures to ensure correctness in the implementation of the QCA method based on the analysis of 50 articles published in the *Zeitschrift für Didaktik der Naturwissenschaften* (ZfDN; tłum. German Journal of Science Education), in which QCA with a system of deductive-inductive categories was employed. Eleven criteria of correctness were identified, with the predominance of classic criteria, i.e. validity, reliability and objectivity. In turn, of the 16 identified quality assurance measures, the most frequently used were deductive and inductive methods of creating categories, checking the consistency between examiners, the so-called inter-coder agreement (these measures were used in over 20 articles), documentation of the research process, systematic approach in the procedure, theoretical sampling, communicative validation and triangulation (used in over 10 articles).

Qualitative content analysis software

In research, CAQDAS computer software (the so-called Computer-Assisted Qualitative Data Analysis Software) can be used to analyse qualitative data, especially for computer-aided QCA. One common assumption is that CAQDAS accelerates the data analysis process (Fielding & Lee, 1998; MacMillan & Koenig, 2004; Mangabeira et al., 2004). These programmes are often used in the analysis of source materials to facilitate QCA. The leading applications include Atlas.ti, Nvivo, MaxQDA, QCMap, HyperRESEARCH, Aquad, CLAN, Transana, Quirkos, ELAN, QualCoder, f4analyse, Condens and Dedoose. The software facilitates the analysis of various types of data, e.g. in-depth interviews, various types of texts, images, videos and even heterogeneous types of data from social networking sites. It also enables coding statements or utterances, creating links between them, as well as creating individual categories and their systems.

Most programs also include statistical capacity, such as word frequency counts, code frequency counts and even transfer of converted qualitative data to a quantitative data analysis program. Some pieces of software can also import and associate quantitative data with a qualitative data set, enabling mixed methods analysis (Saldaña, 2013, p. 63).

Conclusion

At present, QCA is well-established in the canon of research methods, not only in the field of social sciences but also in medical and health sciences. Recently, the role of QCA in source material research has been growing in numerous disciplines, such as pedagogy, psychology, management, quality and economic sciences, to name a few. The method is also progressively employed in many scientific works to analyse source material in case study research (Komor, 2017, p. 232). In this context, an interesting perspective is advanced by Florian Kohlbacher (2006, p. 1), who believes it possible to use case study research as a research strategy and QCA as a method of source material research. The author also advocates the implementation of QCA in the evaluation and analysis of source data as part of the conducted case study research.

Recent years have been characterised by the spread of qualitative research in the social sciences, including QCA. The concept of a passive, distanced observer is being abandoned. The emphasis is now on action research, participatory action research and participant-oriented research (Bocharova & Kamińska, 2022, pp. 316–317). At the turn of the 20th and 21st centuries, the number of pedagogical research projects conducted using qualitative methods increased impressively, and their technical level is gradually increasing as well, as reflected in the numerous, increasingly advanced scientific works (Kubinowski, 2016, p. 5).

Though it is difficult to predict the exact direction of the development of qualitative methods in Poland and beyond, it can be reasonably assumed that they will become even more widespread and applied, especially in the field of social sciences (Bocharova & Kamińska, 2022, p. 324). In conclusion, the importance and use of QCA in scientific research will continue to increase in the future, especially in the social sciences.

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