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Thematic analysis in the area of education: a practical guide

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ABSTRACT

This paper addresses the growing popularity of thematic analysis (TA) in education research and the lack of a comprehensive guide tailored specifically for this field. Despite the frequent citation of prominent psychologists like Braun and Clarke, there remains a gap in methodological guidance for education scholars. Through a systematic literature review of TA in education from 2014 to 2024 (n = 30 articles), this study synthesises and critiques the meaning, application and limitations of TA as discussed in relevant scholarship. The findings are used to develop a much-needed revised TA guide for researchers specifically in the field of education, highlighting the significance of this study for research practice.

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1. Introduction

This paper explores thematic analysis (TA) and develops a practical guide for its application in education. Despite the popularity of TA in education research, there is a lack of a comprehensive guide tailored specifically for this field. Many education scholars (e.g. Yeung & Yau, 2022; Kushnir, 2023; Kushnir et al., 2024) often cite psychologists like Braun and Clarke (2006), who became prominent figures in TA. Previous attempts to address this gap, such as those by Peel (2020) and Xu and Zammit (2020), focus on practitioner and beginner research, respectively.

This paper targets a broader audience, including university students embarking on their first research projects and experienced scholars seeking a comprehensive resource for TA in education. It aims to review pertinent studies on TA in education, analyse its meaning and critique its applicability, and provide a revised guide for conducting TA. Unlike Peel (2020) and Xu and Zammit (2020), this paper offers a critical review, a revised guide for TA for education researchers and practical examples of TA application.

This paper relies on a systematic literature review of relevant methodological scholarship and proceeds in the following way. First, what is known about TA outside the 'boundaries' of Education as a discipline is discussed. Then, a systematic literature review as a research method for this paper is outlined. This is followed by the analysis of the 'what', the 'how' of TA as well as TA's limitations. This discussion of the findings is provided, specifically with regard to the area of Education, summarising key points into an updated guide for future researchers.

2. Thematic analysis outside the 'boundaries' of education: the current go-to framework by education researchers

Debating the boundaries of disciplines is beyond the focus of this paper. However, it is important to acknowledge that despite the interdisciplinary nature of Education (McCulloch, 2002) as well as,

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arguably, other disciplines, what is making these disciplines distinct requires attention with regard to research methods used in those areas. As mentioned above, the focus on TA in education research is extremely scarce, with only two publications zooming in on the issue (Peel, 2020; Xu & Zammit, 2020). This section explains what is known about TA outside the area of Education.

The conceptualisation of TA should not be under-prioritised in relation to TA's application, given the variety of similar analytical techniques that exist, namely content analysis, discourse analysis and narrative analysis. The similarity of analysis in different methods of qualitative data analysis was acknowledged in methodological literature a quarter of a century ago (Seidel, 1998) and has been debated since. What concerns TA, it has been a 'flexible' research method (Braun and Clark, 2006: 5) and its juxtaposition to content analysis and discourse analysis has been an ongoing scholarly conversation. For instance, Clarke et al (2015: 222) claim that TA 'has often been used interchangeably with terms like "content analysis"'. Numerous articles discussing their similarities and differences are a testimony to the attempts to draw a line between these two methods (e.g. Neuendorf, 2018; Humble & Mozelius, 2022). The same is true for TA and discourse analysis (Jaspal, 2020; Braun & Clarke, 2021a).

The following could be considered a standard definition of TA, 'Thematic analysis is a method for systematically identifying, organizing, and offering insight into patterns of meaning (themes) across a data set' (Braun & Clarke, 2019: 591). So what makes TA distinct from other pattern-based qualitative analytic approaches? According to Braun and Clarke (2021a), the following key points are crucial in making TA distinct: (1) flexibility, (2) subjectivity and reflexivity, (3) theme development, (4) analytic process and (5) diversity within TA. First, this method of analysis is noted for its flexibility with regard to theoretical frameworks and research questions that guide the analysis. Unlike methods such as grounded theory or interpretative phenomenological analysis, which are tied to specific theoretical foundations, reflexive TA can be adapted to various theoretical perspectives. Second, TA emphasises the researcher's active role in the analysis process. It acknowledges that themes are not simply discovered but are created through the researcher's engagement with the data. This contrasts with methods like coding reliability approaches, which aim for objectivity and consistency through multiple coders. Contrastingly, discourse analysis, for instance, focuses on how language constructs social realities and power dynamics, examining the 'why' behind language use (Jaspal, 2020). Third, themes in TA are developed through a deep, iterative engagement with the data, focusing on patterns of shared meaning underpinned by a central organising concept(s). This is different from qualitative content analysis, which often involves more straightforward categorisation of data (Braun & Clarke, 2019). Content analysis tends to quantify the presence of certain words or concepts within the data, whereas TA seeks to interpret the underlying meaning and patterns (Neuendorf, 2018; Humble & Mozelius, 2022). Fourth, TA involves a recursive process of coding and theme development, where the researcher moves back and forth between different phases of analysis. This contrasts with more linear approaches like some forms of grounded theory (Braun & Clarke, 2019). While grounded theory often follows a more structured, step-by-step process, it still retains significant elements of constant comparison and theoretical sampling. For example, Straussian grounded theory involves iterative cycles of data collection and analysis, where emerging theories are constantly compared with new data (Urquhart, 2022). Finally, TA has various approaches, ranging from those prioritising coding reliability to those emphasising reflexivity and subjectivity (Braun & Clarke, 2019).

There have been numerous attempts to produce 'a practical guide' for TA. Examples include the works of Maguire and Delahunt (2017), Forbes (2022), Braun and Clarke (2022b) and Nieman (2023), all titled the same 'Thematic analysis: A practical guide' except for Maguire and Delahunt (2017) whose publication is entitled 'Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars'.

It would not take long to persuade anyone new to TA that the methodological literature on TA is dominated by the two big names in it, namely Braun and Clarke. They have produced a staggering number of publications on the topic. Examples of only their joint work, excluding work co-authored with other scholars (e.g. Braun et al., 2016), include: Braun and Clarke (2006, 2012, 2014, 2019, 2021a; 2021b, 2022a; 2022b, 2023, 2024) and Clarke and Braun (2013, 2017). Judging by the remarkable four/five-figure citations on search databases that their articles have received, Braun's and Clarke's works could be considered foundational texts on TA.

Their work, however, may be limited by disciplinary boundaries as both of them are psychologists, and most of their work is published in Psychology journals (e.g. Braun & Clarke, 2021b; Braun et al.,

2022). They have made attempts to discuss how TA can be used in other fields in addition to psychology, such as in Sport and Exercise (Braun et al., 2016), Health and Wellbeing (Braun & Clarke, 2014) and recently specifically in Palliative Medicine (Braun & Clarke, 2024). However, the area of Education which is the focus of this paper has not been explored by them yet and remains notably an under-researched area.

3. The systematic literature review method

A systematic literature review (Van Dinter et al., 2021) of the available research on TA in the (interdisciplinary) area of Education published in the last 10 years between 2014–2024 was conducted, aiming to critique and synthesise all research that provided answers to the following important research question: *What is the meaning of TA in the area of Education and how to use it in Education research?* A critical analysis and synthesis of the research that answers this research question will help us develop a guide for TA for Education researchers, who have had to rely on the guides for TA developed in other areas, such as Psychology.

The 2014–2024 timeframe was chosen with the aim to cover the recent period when TA has become a popular method of qualitative analysis, with the 2nd of December 2024 being a cut-off point for data collection for this paper. According to Squires (2023), while TA was first described in the 1970s, it started gaining popularity in the late 1990s and early 2000s. The current paper focuses on the last 10 years when TA has, arguably, gained its popularity in social science research.

The systematic review conducted adheres to the guidelines for systematic reviews outlined in the recent PRISMA 2020 statement (Page et al., 2021). The search was conducted on the institutional database pulling the results from three search databases, namely Scopus, Pro Quest and the Education Resources Information Centre (ERIC). The use of the institutional database as a gateway to the search on the named databases assisted in obtaining a total number of unduplicated search returns from these databases in addition to being able to work separately with each of them and their search return results. Three search databases common in the field of Education have been used in order to take advantage from the complementing benefits in terms of the search that each of the databases offers and not be limited by the shortcomings of any one of them if the search was conducted on one database (Gusenbauer & Haddaway, 2020). Figure 1 demonstrates the search procedure that was applied. It is worth noting that the figures for unduplicated results in steps 1 and 2 are smaller than the cumulative of the returns for each of the databases in those steps. This is because some of the returns across the databases are duplicates.

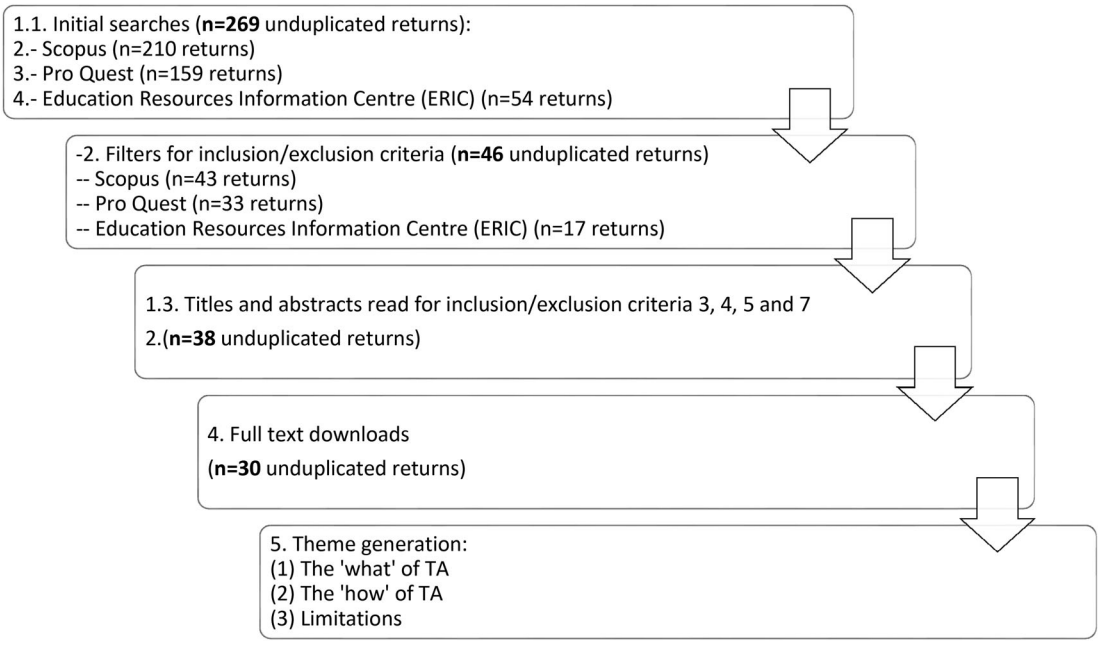

Figure 1. Literature search procedure.

The inclusion and exclusion criteria used are outlined in Table 1 below.

The titles and abstracts from the 46 results returned in the second stage of the literature search procedure (Figure 1) were read during the third stage of the literature search procedure with the inclusion/exclusion criteria 3, 4, 5 and 7 (Table 1) in mind. Seven articles were deleted based on criterion 7, four articles were deleted based on criterion 3 and another four articles – based on criterion 4. An additional article was deleted from the list as it turned out to be written in a different language (criterion 5) while only the title was presented in English and this other language.

Seven articles were found to have applied a meta-thematic analysis – i.e. a (systematic) review of literature sources – even though the title presented the method initially as TA. Based on the exclusion criterion 7, these articles were omitted from the review. Similarly to the method of analysis in this paper, the systematic literature review is not treated equally to the TA applied to primary data in the articles collected for analysis.

Checking the returns based on criterion 3 revealed some unrelated articles even though they were published in education journals, thus, having been returned based on 'education' being a key word in those journals. For instance, the articles titled 'Exploring T-shirt slogans by content and thematic analysis' was deemed irrelevant.

Furthermore, checking the returns based on criterion 4 revealed a few other medical education-related articles with the foci on anaesthesia (n = 1), pharmacy (n = 2), nursing (n = 1) which were also deleted. While I acknowledge the intersection of medicine with medical education, since TA in the area of medicine has already started being advanced by Braun and Clarke (2014, 2024), medical education was excluded for the search results to keep the number of articles manageable. Without these exclusions, the search result would have hit 119 returns.

30 was the final number of selected articles, following the search reduction procedures outlined in Table 1. The three findings that were generated through the critical analysis and synthesis of the literature are outlined in the next section, serving as a foundation for the guide for using TA by education researchers next in the subsequent section.

4. Findings

The findings below are structured around the key areas that have been emphasised in the literature: the 'what' and the 'how' of TA and the limitations of TA. While overlaps amongst these areas are acknowledged, the separations amongst them are preserved for analytical purposes.

Table 1. Inclusion and exclusion criteria.

N	Inclusion criteria	Exclusion criteria	Application method
1	Published between 2014 and 2024	Published before 2014 or after the 2nd of December 2024	Search filters for these dates were applied
2	Peer-reviewed articles	Such outputs as theses and dissertation although reviewed by supervisors and examiners were not included as they did not go through a more rigorous review during a publication process The same goes for books and book chapters	Data-base searches included only peer reviewed returns
3	The keywords 'thematic analysis' (two words appearing unseparated) and 'education' appear in the title of the article or journal	Neither of the keywords appear in the title of the article or journal	Search filters for these keywords were applied
4	The keywords 'health', 'medicine', 'medical' do not appear in the article	None of the keywords appear in the article, including any other key words related to medicine that may reveal themselves in the titles and abstracts 3rd stage of the literature search procedure (Figure 1)	Search filters for eliminating the pre-identified keywords were applied and then the titles and abstracts of the articles were read to check for other related key words
5	Published in English	Published in a language other than English	No results were returned in another language
6	Full text available in open access	Full text not available	Open access filter applied
7	Publications based on primary data and theoretical publications based on literature reviews	Publications which are commentaries and which apply meta-thematic analysis, i.e. of literature sources (even if it is initially presented as thematic analysis)	The abstracts of the returned results were read

4.1. The 'what' of TA

This section explains key features of TA, instrumental to understanding its meaning: TA is a method of analysis suitable for different areas of the interdisciplinary field of Education; TA is a primarily qualitative research method; TA is guided by researchers' theoretical frameworks.

4.1.1. The suitability of TA for different areas of education

Articles that used TA were returned from different areas of Education highlighting its interdisciplinary nature, such as religious education (Riegel & Delling, 2019), environmental education (Benavides-Lahnstein & Ryder, 2020), early childhood education (Mehmet et al, 2023), physics education (Santoso et al., 2022), etc. This demonstrates that TA is a method of analysis applicable to various domains within the interdisciplinary field of Education. Section 4.2 below details how TA has been used in these articles'.

4.1.2. The definition of TA

TA is defined in a similar way in most of the studies that were reviewed – by relying of Braun and Clarke's definitions, especially from their 2006 article. Gjerde et al. (2021: 3) emhasise that 'Thematic analysis is a foundational type of qualitative analysis', while Hillmayr et al. (2024: 6) quote that it is 'a flexible and useful research tool, which can potentially provide a rich and detailed, yet complex, account of data' (Braun & Clarke, 2006, p. 78). It allows us to identify, analyze, and report (different or similar) themes within our data'.

4.1.3. The interconnection between TA and a chosen theoretical framework

In 14 out of the 30 articles, a determining link between TA and a chosen theoretical framework is emphasised. This link is key in understanding that TA is steered by the theoretical framework which according to Benavides-Lahnstein and Ryder (2020: 44) acts as a 'lens' in the analysis. Theoretical frameworks 'influenced' (de Carvalho & Skipper, 2019: 507; Barnard et al., 2022: 6; van der Velden, 2023: 790) 'guided' '(DeJarnette & González, 2016: 38; Anis et al., 2018: 352; Chang & Wang, 2021: 4; Sen, 2022: 205; Yeung & Yau, 2022: 184; van Rhijn et al., 2023: 5) and "helped"' (Yaqoob et al: 47, 2018; Ann & Aziz, 2022: 19; Shaker, 2023: 6; Bengson, 2024: 15) with the analyses undertaken by the scholars in the sources that have been analysed. Such a tight link between TA and theoretical frameworks is not surprising in the reviewed articles, as most of them rely of Braun and Clarke's ideas about this link. Lowe (2023: 738) encapsulates their ideas well in a direct citation 'Braun and Clarke (2006) describe this analysis as being 'driven by the theoretical interest in the area'.

While the role of theoretical frameworks in TA is undeniable, the extent to which they influenced theme generation varies slightly across the reviewed sources. This variation highlights the flexible nature of TA as explained by Braun and Clarke (2006). Numerous authors highlight how theoretical frameworks dictated the themes (e.g. DeJarnette & González, 2016; Anis et al., 2018; de Carvalho & Skipper, 2019; Chang & Wang, 2021; Sen, 2022; Yeung & Yau, 2022; van Rhijn et al., 2023). For example, for de Carvalho and Skipper (2019: 507), 'The theoretical framework influenced the thematic analysis by focusing on key aspects such as social skills, sense of community, and diversity'. In another similar example, Benavides-Lahnstein and Ryder (2020: 44) adopted Sauvé's typology of Environmental Education (EE) as a theoretical framework to explore primary school teachers' conceptions of EE, whereby 'Sauvé's typology was used in the thematic analysis, concentrating on aims of EE, concept of the environment, and examples of EE teaching and learning activities'. Aside from these scholars that relied on their theoretical frameworks to pre-determine the directions for their overarching themes, a few other scholars such as Anis et al. (2018) used their theoretical frameworks to inform their analysis without pre-determining the umbrella themes. The scholars explored challenges faced by Malaysian private institutions were guided by the theoretical framework in the identification of themes such as facilities, curriculum, competition, finance, accreditation etc. The framework they adopted was the absence of problems model, introduced by Cheng and Tam in 1997. According this this model, 'quality of education exists at a higher level where problems are absent. This model suggests that it is often simpler to identify problems within an educational institution than to assess its overall quality. Hence the scholars, embark on thematically

coding what groups of challenges their participants have identified to later make claims about the quality of education within the institutions of their interest.

4.2. The 'how' of TA

Building on the key features of TA as a predominantly qualitative analytic method outlined above, it is timely to dwell on how TA is applied to the analysis. The below covers key phases of analysis in TA, what constitutes a theme, induction and deduction in TA as well as manual/automatised TA.

4.2.1. Key phases of analysis in TA

27 out of the 30 articles rely on the ideas and/or framework of conducting TA as developed by Braun and Clarke in their numerous works. A few other articles, along with referring to Braun and Clarke, cite other scholars that have written about TA along Braun and Clarke. For instance, Godfrey (2023) also cite Srivastana and Hopwood (2009), while Rico and González Pastor (2022) also refer to Coffey and Atkinson (1996).

Only three out of the 30 articles that have been reviewed do not rely on Braun and Clarke's ideas on TA, proving the landslide influence of these two big names in TA in the area of Education. First, DeJarnette and González (2016) use Lemke's (1990) framework for TA in the area of geometry. Second, Rico and González Pastor (2022) use Saldanya's (2015) three levels of coding in TA. Finally, Green et al. (2024) – the only study based on quantitative analysis – rely on Grimmer and Stewart's (2013) Latent Dirichlet allocation as a tool for TA. Aside from this, an additional article by Prevett et al. (2021) integrates Braun and Clarke's TA with cluster analysis.

12 out of the 30 articles explain specifically how they have utilised Braun and Clarke's six phases of TA (Anis et al., 2018; de Carvalho & Skipper, 2019; Riegel & Delling, 2019; Chang & Wang, 2021; Lenvik et al., 2021; Ann & Aziz, 2022; Yeung & Yau, 2022; Godfrey, 2023; Sasidharan & Kareem, 2023; van der Velden, 2023; van Rhijn et al., 2023; Hillmayr et al., 2024):

1. Familiarising: Immersing oneself in the data to understand its depth and breadth;
2. Coding: Generating initial codes from the data;
3. Generating Themes: Collating the codes into potential themes;
4. Reviewing Themes: Checking if the themes work in relation to the coded extracts and the data set;
5. Defining and Naming Themes: Refining the specifics of each theme and the overall story of the analysis;
6. Writing Up: Producing the report.

Rico and González Pastor (2022) outline of Saldanya's (2015) three levels of coding in TA deserves attention too, given its applicability in different area of Education, unlike the specific focus of the framework that DeJarnette and González (2016) use for geometry and Green et al. (2024) application for a framework for quantitative analysis with the use of TA. The three mentioned levels of coding include:

a) Open coding. The initial step was to read and re-read the questionnaires to gain a general understanding of what the participants were reporting … The coding started with an initial open coding of relevant portions of text to capture data related to the research question …
b) Axial coding. This second step explored the relationship of categories: data were pieced together after open coding allowing connections between categories with a view to forming more precise and complete explanations.
c) Selective coding. This consisted in reducing codes to themes by searching for common elements in codes and producing a discursive set of theoretical propositions by connecting the categories, thus building a set of research outcomes (Rico & González Pastor, 2022: 182).

The above two frameworks seem to intersect. Saldanya's (2015) open coding seems to relate to Braun and Clarke (2006) stages 1 and 2, axial coding – to stages 3 and 4, while selective coding seems to be equal to stage 5.

It is also important to mention that Peel (2020) and Xu and Zammit (2020), who focus on TA in the field of Education for practitioner research and beginner research, respectively, do not add much to the above discussion of TA. The former source, while claiming to contain a guide only provides a comparative table of Braun and Clarke's phases of TA as presented in Creswell (2013), Merriam (2009) and Miles et al (2014). The latter source also presents Braun and Clarke's phases of analysis and while not reviewing them in light of any critique, should be complimented on providing examples of how to apply each of the six phases in practice.

4.2.2. Induction and deduction in TA

TA presupposes engaging with both inductive and deductive reasoning – approaches that, respectively, draw general conclusions from specific cases or derive specific predictions from general principles. Many scholars in the reviewed articles are explicit about this (Benavides-Lahnstein & Ryder, 2020; Gjerde et al., 2021; Barnard et al., 2022; Bengson, 2024; Johansen et al., 2024). While we may find sources that claim to have conducted their analysis only inductively (e.g. Greenland & Moore, 2022; Harrison et al., 2022), it would be a mistake not to acknowledge the presence of deduction in the influence of the theoretical framework, and hence, the research question(s) on TA. Godfrey (2023: 5), citing Braun and Clarke (2006), points out exactly this – that 'patterns, themes, and categories do not emerge on their own. They are driven by what the inquirer wants to know and how the inquirer interprets what the data are telling her or him according to subscribed theoretical frameworks (p. 77)'. Lenvik et al. (2021) and Lowe (2023) avoid the error of claiming only induction in their TA by acknowledging the influence of their theoretical frameworks on their analysis.

Induction and deduction – or better to swap them around: deduction and induction – are positioned as two separate 'rounds' of TA in Benavides-Lahnstein and Ryder (2020: 48). In the first round, guided by Sauve's Environmental Education typology as a theoretical/conceptual framework, the scholars coded their participant-teachers responses about their ideas about Environmental Education. In the second round, Sauve's typology was used 'to reorganise the data according to the concept of environment, the aims of EE, and examples of EE teaching and learning activities'. In another example, Anis et al. (2018), first guided by their theoretical framework, developed 135 codes which yielded 21 sub-themes. Then, based on these sub-themes, the scholars generated 8 overarching themes based on the key pillars of their theoretical framework.

4.2.3. What is a theme in TA

Based on Braun and Clarke's reasoning, a theme in TA captures something important about the data in relation to the research question posed (Hillmayr et al., 2024). Importantly, according to Godfrey (2023: 6) who refer to Clarke and Braun (2013), a theme cannot be '"formulated unless the codes forming it represented the views of around two thirds of the total sample'.

4.2.4. Manual and automatised TA

In most of the articles, TA was conducted manually. An annotated codebook was used to facilitate the manual analytic process by Shaker (2023) and Godfrey (2023). Shaker (2023: 2) explains that TA with a codebook 'combines a "structured approach to coding through the use of a codebook or coding frame, (some) early theme development, a typical conceptualization of themes as topic summaries … [and consideration of] researcher subjectivity as a resource for research" (Braun & Clarke, 2022a, p. 6)'.

Automatised analysis was conducted by Ann and Aziz (2022) who used the Atlas.ti software, Yaqoob et al. (2018), Gjerde et al. (2021), van Rhijn et al. (2023) and Johansen et al. (2024) who used NVivo, Lasekan et al. (2024) who used an advanced PDF Content Analytical tool AskYourPDF Research Assistant, Green et al. (2024) who used a machine learning algorithm VADER, and Marín et al. (2018) who used a computer-based analysis relying on a text-mining tool by Leximancer (2016). Moreover, Yaqoob et al. (2018) who used NVivo utilised it for triangulating the results initially recorded manually in a Ms Excel Sheet.

4.3. Limitations of TA

The key overlapping limitations of TA mentioned in the articles include: (1) TA's subjectivity, (2) its iterative nature which it time-consuming and puts consistency and ability to capture all the nuances into question, and (3) a potential oversimplification of the results and a loss of context.

4.3.1. Subjectivity

Some authors are critical of the subjectivity inherent in TA as, according to them, it can affect the reliability and validity of findings. Anis et al. (2018) and Bengson (2024) highlight that TA relies heavily on researchers' interpretations, introducing bias, especially if researchers have preconceived notions. This can lead to selective coding and theme identification, skewing results. Godfrey (2023) and Hillmayr et al. (2024) echo these concerns, noting that researchers' biases and preconceptions can influence theme identification and interpretation, undermining analysis robustness. Green et al. (2024) add that the iterative nature of TA can exacerbate these biases, as researchers may unconsciously reinforce initial interpretations through repeated coding cycles. Despite this critical account of the subjectivity in TA, it is worth referring back to Braun and Clarke (2006) that it is precisely this level of subjectivity that makes for good research. They argue that this subjectivity allows researchers to bring their unique perspectives and insights to the analysis, which can lead to richer and more nuanced findings. Rather than diminishing the reliability and validity of the research, subjectivity enhances it by acknowledging the active role of the researcher in interpreting the data. After all, complete objectivity is not a goal in TA as it would be unattainable – researchers' engagement with the data adds depth and meaning to the analysis.

Instead of aiming for objectivity in TA, developing a strategy for researchers to reflect on their positionality to mitigate biases is a productive endeavour in TA. An example of such a strategy is producing a positionality statement or section in a paper, dissertation or thesis – a reflection where the researcher acknowledges their own background, perspectives, and biases, and how these may influence their research (Holmes, 2020).

4.3.2. Iterative nature of TA: time-consuming, putting consistency and ability to capture all the nuances into question

Benavides-Lahnstein and Ryder (2020) and Lenvik et al. (2021) note that TA is time-consuming and requires significant effort to ensure proper coding and analysis. Researchers must continually revisit and refine their codes and themes (Chang & Wang, 2021). This is particularly challenging with large, diverse datasets (Greenland & Moore, 2022). Additionally, TA may not fully capture the nuances of participants' experiences, especially in culturally diverse contexts, leading to a superficial understanding (Ann & Aziz, 2022; Green et al., 2024).

4.3.3. Oversimplification and loss of context

According to the reviewed articles, TA can lead to data oversimplification and loss of context. DeJarnette and González (2016) and Ann and Aziz (2022) note that coding and categorising data can strip away important situational aspects. Di Leva (2023) also highlight that researchers' unfamiliarity with the context can cause misinterpretation. TA may also fail to capture the full range of participants' experiences, especially with insufficiently detailed data (Di Leva, 2023; Harrison et al., 2022). TA may also oversimplify large, diverse datasets, leading to superficial understanding (Yaqoob et al., 2018; Yeung & Yau, 2022). However, these concerns could be overridden by equipping researchers with the necessary knowledge of TA and skills in applying it.

5. A Revised guide for using TA by education researchers

Following on from the critique of the findings generated by the systematic literature review of TA in Education, the revised TA guide for Education researchers that is proposed below builds on Braun and Clarke's reflexive TA, considering similar stages of TA in other scholars' work (e.g. Saldanya, 2015), and advances two main aspects of TA's use in the field of Education. First, based on the idea that TA is flexible (Braun & Clarke, 2021a), I am proposing that researchers position themselves on a continuum with

the deductive-dominant approach and the inductive-dominant approach on its ends, based on how the theoretical framework is used to guide the analysis. Second, considering Braun and Clarke (2006) six phases, the existence of successfully applied alternatives in the area of Education (e.g. Saldanya's (2015) three levels of analysis) and the discussion of TA's limitations, the below guide offers a revised list of phases and provides examples to the most contested aspects of TA such as coding and the identification of themes.

Phases of TA:

Induction ↑
Deduction ↓

1. *Identifying key words/phrases and producing codes*
2. *Searching for tentative themes*
3. *Reviewing and establishing (and if needed – renaming, restructuring) themes*
4. *Establishing the order (and hierarchy) of the themes*

The positioning of the phases of TA on the continuum above indicates that the first phase of TA would normally involve more induction than the last one, and the other way around for deduction, with the last phase expecting to involve more of it. While the research question(s), and resultingly, the data is guided by the theoretical framework, allowing for induction at the start of TA allows to capture patterns that otherwise might be missed, if say, the analysis fully followed pre-determined categories from the theoretical framework (i.e. deduction).

An explanation for each of the phases is offered below with illustrative examples from my own datasets where TA has been applied. While my examples are from manual TA, automatised analysis procedures in TA are also helpful and their popularity is growing (e.g. van Rhijn et al., 2023; Johansen et al., 2024).

1. Identifying key words/phrases and producing codes

Do not ignore the stage of data collection

In primary research, you inevitably start noticing what is emphasised or silenced, what is mentioned recurrently, etc in the data you are generating. While data analysis might appear to follow data collection, Gibbs (2007) contends that the distinction between these stages is quite blurred. There is no specific point at which data analysis starts; it can even begin simultaneously with data collection when you can already start taking a note of what may later be identified into key words/phrases.

Mark key words/phrases in the collected data

I recommend marking (e.g. highlighting, underlining) key words/phrases in the collected data (e.g. interview transcripts, policy texts) where you can apply different colours/text formatting to signify different categories of meanings which will form the basis of the codes, and subsequently – tentative themes in the next phase. This process may take a couple of iterations to establish different codes for the categories of meaning and matching colours. Some fragments of text may also get marked more than ones given their relevance to more than one code (see the phrase 'EHEA can facilitate' in Figure 2 – it is both highlighted and underlined). Automatised TAs will accommodate adaptations of the highlighting procedure to whatever is available in the software.

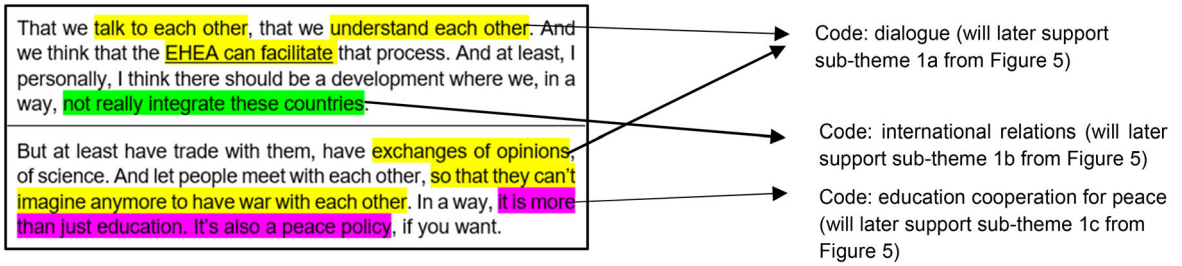

Figure 2. Example of marking key words/phrases in the text to produce codes.

The groups of key words/phrases marked in the same way due conveying a similar meaning will form a code.

2. Searching for tentative themes

Name tentative themes

Based on the different categories of meaning and matching colours, identify tentative themes. Depending on the scope of the dataset, you may end up with either a reduced number of tentative themes than the categories or even the same number if the dataset is small.

List supporting data extracts under each of the tentative themes

Make sure to preserve the source of the extracts as you will need to cite at least some of them when writing up a paper, dissertation, etc. You can either keep you're the marked version of the key words/phrases or delete the markings for this and subsequent phases. Figure 3 preserves the markings of three codes (which all later support sub-theme 1a from Figure 5): in blue (code: having something in common), grey (code: collaborative work) and yellow (code: dialogue) conducted in phase 1.

3. *Reviewing and establishing (and if needed – renaming, restructuring) themes*

Reread the tentative themes and supporting data extracts to ensure correct matches and structure

Reread the names of the tentative themes and the supporting quotations with the highlighted key words/phrases and assigned codes to these key words/phrases. You may find yourself renaming some of these initially deemed 'tentative' themes and/or restructuring what data extracts support which tentative theme. The number of the tentative themes may also change in this process as some of the tentative themes may become combined while some may be broken down to bear new tentative themes. This phase of TA, dedicated to polishing the established themes and their matching data extracts, results in turning the tentative themes into more established themes. This phase of TA may overlap partly with the next phase in the process of ordering and possibly hierarchising the established themes.

4. Establishing the order (and hierarchy) of the themes

Establish a hierarchy amongst the themes, if applicable

Reread the established themes to identify any higher-level themes, the number of which would, logically, be smaller than the number of what would become (sub)themes. A sub-theme is a hierarchically lower analytical category derived from codes, whereas a theme is a broader category that typically encompasses multiple sub-themes. However, not all themes will have sub-themes, such as theme 3 in Figure 5. In small datasets, it is possible that no themes would relate to one another in a liner way, with no hierarchy amongst them.

Establish the order of the themes in which they are going to be presented in research outputs

Given that same-level themes are related linearly (e.g. sub-themes of a theme are on the same level relative to one other), their order may depend on their relationship to the research questions and the 'weight' of each theme. Themes supporting earlier research questions or parts of a single research question are presented first, while those related to later questions or parts are presented next. If these decisions are irrelevant to the research question(s), stronger themes supported by more data extracts should be presented first.

THE EHEA AS A UNIFYING PLATFORM

... [the BP is] about unity and having a European common mindset, feeling at home in Europe. – B1

...for Germany, the EHEA is also a way to promote, or use soft power to promote, certain standards and to also have a way of cooperation... the European Higher Education Area is a place where you can come together and have dialogues – B3

We would rather see the importance of the Bologna Process in this area now as a forum for exchange. And coming to a common understanding of what higher education should be all about. – B4

Figure 3. An example of supporting data extracts for a tentative theme.

1. THE EHEA AS A PLATFORM FOR POLITICAL COOPERATION AND PEACE PROMOTION

1a. THE EHEA AS A UNIFYING PLATFORM

... [the BP is] about unity and having a European common mindset, feeling at home in Europe. – B1

...for Germany, the EHEA is also a way to promote, or use soft power to promote, certain standards and to also have a way of cooperation... the European Higher Education Area is a place where you can come together and have dialogues - B3

[data omitted]

1b. THE EHEA AS A TOOL TO DEVELOP FRIENDSHIP BEWEEN THE EU AND NON-EU COUNTRIES (INCL. THE POST-SOVIET SPACE)

In the beginning [in the BP], there was really much hope to diminish the split between east and west - B1

in Europe, it's even more critical, more challenging to have team 'EHEA'. Of course, you've got two areas in one, EU and non-EU, and the western side and the eastern side... it's a strategy to be in the EHEA as a member – C2

[data omitted]

Figure 4. An example of an extract of a hierarchised list of themes and matching data extracts.

Make sure to produce a document with the (hierarchised) themes and matching data extracts

By the end of this phase you should end up with an analysis document that would list all the themes (e.g. if applicable, overarching themes and their sub-themes) and data extracts (e.g. quotations) that support and represent them (Figure 4).

Produce a copy of the above document excluding the data extracts

It is also helpful to have a bird's eye view of all the themes (and sub-themes) without the long lists of supporting data extracts.

1. The EHEA as a platform for political cooperation and peace promotion
   - 1a. The EHEA as a unifying platform
   - 1b. The EHEA as a tool to develop friendship between the EU and non-EU countries (incl. The post-soviet space)
   - 1c. BP and politics, BP can't be politically neutral
   - 1d. Germany's sense of responsibility (and soft power) for ensuring cooperation in the European region
   - 1e. The importance of France's support for Germany in its efforts

2. Why Russia and Belarus are suspended and not expelled from the EHEA
   - 1a. Reacting to the war was unquestionable: by suspending but preserving a 'frozen' platform to give a message about future intensions and helping those in Russia and Belarus who are against the war
   - 1b. Compromise: suspending means not retaining and not expelling
   - 1c. Cooperation with Russia in and beyond he after the war
   - 1d. Education (he) as the last bridge to burn/first to establish

3. The war gave the EHEA a new purpose after the appetite for the BP had subsided

Figure 5. An example of a list of themes and sub-themes.

6. Conclusion

This paper has presented a systematic literature review of TA in the field of Education. The systematic literature review was chosen in the effort to locate pertinent primary studies on TA and conduct analysis to achieve a deeper understanding of the meaning and applicability of TA specifically in the area of

Education. Based on the 'what' and the 'how' of TA as presented in relevant literature as well as the mentioned limitations of TA, an adjusted guide for Education researchers has been proposed in this paper.

What this guide offers that others do not is that this guide provides a refined version of how TA has been applied in Education and what its limitations have been, based on a systematic review of relevant literature. While this guide builds on Braun and Clarke's reflexive TA as an umbrella over a range of TA approaches, it advances two main aspects of TA's use in the field of Education.

Firstly, considering the flexibility of TA as highlighted by Braun and Clarke (2021a), I suggest that researchers position themselves on a continuum ranging from a deductive-dominant approach to an inductive-dominant approach, depending on how the theoretical framework guides their analysis. Secondly, taking into account Braun and Clarke (2006) six phases, the successful application of alternative methods in the field of Education (such as Saldana's (2015) three levels of analysis), and the discussion of TA's limitations, the following guide presents a revised list of phases. It also provides examples addressing the most debated aspects of TA, such as coding and theme identification.

Future research into the implications of relying on this guide by Education researchers may help to further advance this guide.

Ethics statement

The research design of the project that has inspired this paper was informed by BERA (2024) Ethical Guidelines for Educational Research.

Disclosure statement

No potential conflict of interest was reported by the author(s).

About the author

Dr Iryna Kushnir is an Associate Professor at the Nottingham Institute of Education at Nottingham Trent University. Prior to this, she held academic posts at the University of Edinburgh and the University of Sheffield. Dr Kushnir's interdisciplinary research combines the following main areas: higher education policy and sociology, European integration and social justice. She is particularly interested, and has published widely, in the area of the higher education policy and politics of the European Higher Education Area. Her interdisciplinary approach has led to empirical and theoretical contributions, which reveal how education policy on one hand and Europeanisation processes on the other hand are interrelated and mutually shape one another. A wider societal impact of Dr Kushnir's work is in co-establishing and co-developing the Ukrainian Education Research Association which has become the biggest national research association in Ukraine and a hub for education research and quality.

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