

# Applying Thematic Analysis to Analyse Qualitative Data: A Researcher's Experience

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## ABSTRACT

The employment of qualitative descriptive approaches, for example, descriptive phenomenology, content analysis, and thematic analysis, are appropriate for researchers who want to use a comparatively low level of explanation, in contrast to grounded theory or hermeneutic phenomenology, which requires a higher level of interpretive complications. Sri Lankan low socio-economic students' motivation and engagement was examined employing the Motivation and Engagement Scale-Junior School. According to the Scale's guidelines least motivated and engaged 24 students, and 12 teachers and 12 principals were selected using purposive sampling method to conduct interviews to identify the school-related conditions impacting their motivation and engagement in learning. Those interview responses were analysed using thematic analysis. Therefore, how thematic analysis was undertaken to analyse qualitative data is discussed in this paper. There are two objectives; to examine the thematic analysis approach employed to analyse qualitative data and to examine the stages of thematic analysis employed to analyse qualitative data. Accordingly, data driven (inductive) and semantic approach was employed. Adhering to the six main stages of thematic analysis, four main themes were identified; students: quality of classroom relationships, quality of curriculum and resources, teachers, and principals: quality of participants in the system, and quality of curriculum resources. Findings of this study will be helpful for researchers when conducting their own research to identify the themes in relation to the school-related conditions impacting early adolescents' motivation and engagement in learning in low socio-economic contexts.

**Keywords:** Thematic analysis, Thematic analysis approach, Thematic analysis stages

## INTRODUCTION

As stated by Cohen, Manion, and Morrison (2011), qualitative data analysis comprises data organisation, process, and explanation. Vaismoradi, Turunen, and Bondas (2013) argues that the employment of qualitative descriptive approaches, for example, descriptive phenomenology, content analysis, and thematic analysis, are appropriate for researchers who want to use a comparatively low level of explanation, in contrast to grounded theory or hermeneutic phenomenology, which requires a higher level of interpretive complications.

Sri Lankan low socio-economic students' motivation and engagement was examined employing the Motivation and Engagement Scale-Junior School introduced by Martin (2014). That scale measures the age 9-13 students' motivation and engagement in learning. Therefore, in the first quantitative phase, the scale was administered to 220 students in Monaragala and Nuwara Eliya districts in Sri Lanka. According to the scale's guidelines least motivated and engaged 24 students and 12 teachers, 12 principals were selected, for interviews in the second qualitative phase to identify the school-related conditions impacting students' motivation and engagement in learning. Those interviews were analysed using thematic analysis introduced by Braun and Clarke (2006). That is the theoretical basis of this paper.

There are two main objectives formulated in relation to this study.

1. To examine the thematic analysis approach employed to analyse qualitative data
2. To examine the stages of thematic analysis employed to analyse qualitative data

There are numerous diverse ways to approach thematic analysis (e.g. Alhojailan, 2012; Boyatzis, 1998; Javadi & Zarea, 2016). Braun and Clarke (2006) described thematic analysis as a fundamental approach for qualitative analysis. It is a process of identifying, analysing, and searching for themes or patterns to identify repeated items particularly related to the research topic. Braun and Clarke (2006) argued that themes do not simply emerge from the data but are derived by the researcher who plays a lively role in recognising them, choosing which are of interest and importance, and reporting themes to readers. King and Harrocks (2010), noted that the purpose of thematic analysis is to look for patterns of themes among the entire data set, emphasising what respondents have in common and how they differ. Hence, the aim of analysis is not only to generate themes, but also to organise those themes in a manner that represents how they are conceptualised to link to each other. This process might involve some degree of hierarchy in relationship, in determining which key themes include sub-themes (Braun & Clarke, 2006). Nowell, Norris, White, and Moules (2017) stated that, if there is no focus on rigorous and relevant thematic analysis it impacts the credibility of the research process. There are, however, some weaknesses of thematic analysis. In particular, the overlap between themes may be an issue (Braun & Clarke, 2006). In this paper it is discussed how thematic analysis approach and steps were applied to analyse the particular qualitative dataset.

## RESEARCH METHODOLOGY

Explanatory sequential mixed methods research design was employed in the main study. However, this paper is based on the second phase; qualitative. Accordingly, 24 students were selected based on the scores of the Motivation and Engagement Scale-Junior School (Martin, 2014) and, 12 teachers, and 12 principals were selected using purposive sampling method to conduct interviews. Interview responses were analysed using thematic analysis. Accordingly, semi-systematic approach and the six stages of thematic analysis introduced by Braun and Clarke (2006) were applied to analyse qualitative data.

## RESULTS AND DISCUSSION

The thematic analysis approach employed to analyse qualitative data

Braun and Clarke (2006) identified three main approaches to thematic analysis: (1) Inductive versus theoretical thematic analysis (ways in themes or patterns in data identified); (2) semantic or latent themes (which themes are to be identified); and (3) essentialist/realist versus constructionist (what can say about data and inform how theories meaning) thematic analysis.

Patton (1990) argues that in the inductive approach themes are recognised as being strongly connected to the data itself. However, the deductive (theoretical) approach is determined by the researcher's theoretical or analytic concentration in the area and is therefore more clearly analyst driven (Braun & Clarke, 2006). In this study, the inductive approach was used for data analysis. The data were coded without attempting to fit them into a pre-existing coding structure (Table 1).

**Table 1: Examples of coded extracts**

Data extracts	Coded for
“I don’t like to learn mathematics. I hate mathematics periods. I cannot understand that”	Subject likes and dislikes
“I like reading books. But there is no library in our school”	Lack of facilities
“Some teachers blame and punish me for not doing homework and not listening to the lesson. So, I feel very embarrassed in front of classmates”	Punishments
“In this school lots of students are frequently absent to the school. But there is no action taken by the school administration. This school administration is so problematic”	Absenteeism
“Most of the students do not like learning. They must concentrate in learning. Learning is the only thing make them forward”	Valuing learning
“Teachers are also not motivated in teaching this kind of students. How do they motivate students towards learning? Teachers just come for their jobs”	Teachers’ motivation

In relation to the inductive approach Braun and Clarke (2006) advised that if the data collection derives from interviews, the themes identified might carry little connection to the exact questions which were asked of the participants. Furthermore, inductive analysis is a procedure of coding the data without attempting to fit them into a pre-existing coding structure, or the researchers’ analytic presumptions. In this data-driven approach, researchers can have confidence that they will arrive at a required endpoint, because they do not know where it will be (Boyatzis, 1998). Braun and Clarke (2006) highlighted that a theme captures something significant about the data according to the research question and represents some level of patterned reactions or sense in the dataset. A theme is typically wider than a code in that it includes many aspects. A high-quality code will capture one thought; a theme has a central organising concept but will hold many diverse thoughts or aspects connected to it (Braun & Clarke, 2013).

Braun and Clarke (2013) explained that themes could be discovered from a data-driven “bottom-top” method based on what is included in the data. Or they could be discovered in a rather “top-down” way in which the investigator employs the data to discover exacting theoretical views. Braun and Clarke (2006) believe that researchers should not disregard their theoretical and epistemological commitments and should not code in an epistemological void. According to Boyatzis (1998), the label should be developed at the end of the procedure of writing or creating the code. The label should be theoretically expressive to the incident being researched, obvious and brief, expressing the spirit of the theme in the fewest words possible, and relevant to the data. Keeping these tenets in mind, data were coded with a theoretical and epistemological commitment, and the themes named accordingly.

In the semantic approach, the themes are explored in the open or external views of the data (Braun & Clarke, 2006). The analyst should consider only the words of the participants. As Patton (1990) explained, the analytic process ideally involves a progression from description, where the data have basically been organised to show patterns in semantic content and summarised to interpretation, and where there is an attempt to theorise the significance of the patterns and their wider meanings and implications. In this study, the semantic approach was used because the themes were explored within an open or external meaning of the data while an attempt was made to consider patterns and their connotations.

In summary, a data driven (inductive) and semantic approach was employed for thematic analysis in this study. It should be noted that software was not used to analyse the qualitative data; that is, these data was analysed using manual techniques involving colour coding and working through the transcript.

To examine the stages of thematic analysis employed to analyse qualitative data

Qualitative data were analysed employing the six main stages of thematic analysis as structured by Braun and Clarke (2006): (1) becoming familiar with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the final report.

### **Stage 1: Data familiarisation**

The first stage involved data transcribing, reading, and re-reading the entire data set, and writing down the initial meanings and views (Braun & Clarke, 2006). During this stage, the field notes were transcribed to conduct the analysis. The process of transcription was a good method for immersing and familiarising the researcher with the data (Braun & Clarke, 2006). Following transcription of the interviews, the researcher read and re-read each transcript and documented a list of ideas and notes concerning what were included within the data and how these notes and ideas might be of interest within the context of the study.

### **Stage 2: Generating initial codes**

The second stage started when the researcher was very familiar with the data and had generated a list of views (Braun & Clarke, 2006). This stage encompassed the production of the preliminary codes of the data. A code identifies a characteristic of the data that seems attractive to the researcher and refers to the most essential element or segment of the data that could be evaluated in a significant manner pertaining to the incident. Codes vary from the unit of analysis themes that are often wider and may capture several codes (Braun & Clarke, 2006).

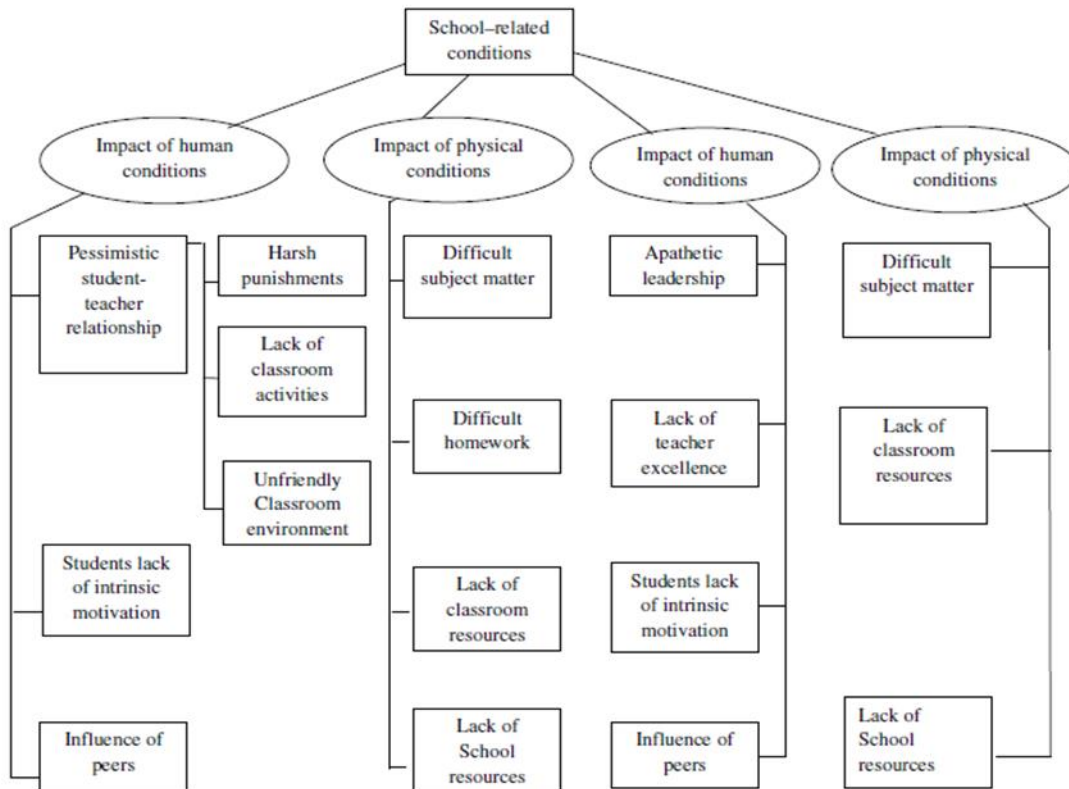
A high-quality thematic code is one that grasps the qualitative treasures of the incident. It is functional in the research analysis, interpretation, and presentation. A high-quality thematic analysis has five aspects: a label, an explanation of what the theme refers to, an explanation of how to be aware of the occurrence of the theme, an explanation of any qualifications or eliminations to the recognition of the theme, and examples (positive and negative) to reduce probable uncertainty when looking for the theme (Boyatis, 1998).

Once the researcher had read and become familiar with the content of the data and had created a list of ideas about the data, the initial coding process began. By providing complete and equal concentration to every individual transcript, the researcher coded the data manually using different colours. During this process, the researcher highlighted fascinating aspects (extracts) in the data that might form the foundation of repetitive patterns (themes) and wrote their codes on the side of transcripts (Braun & Clarke, 2006). By the completion of this stage, the researcher had generated a list of codes that collated with the data extracts. Table 1 provides an example of extracts and their codes.

### **Stage 3: Searching for themes**

This stage follows the early coding and collecting of the data (Braun & Clarke, 2006). It involves categorisation of the diverse codes into possible themes and sub-themes. Braun and Clarke (2006) noted that visual representations (e.g., tables or mind-maps) might be useful in sorting codes into themes and sub-themes.

During this stage, the researcher examined the codes identified in the previous stage to uncover broader patterns of meanings (overarching themes and sub-themes within them). The researcher then organised the codes and sorted them into candidate themes and sub-themes based on their overlap and similarity in meaning. At this stage, the researcher developed the initial thematic map (Figure 1). It was basically based on school-related conditions stated by students, teachers, and principals.



**Figure 1: Initial thematic map**

**Stage 4: Reviewing themes**

This stage involved the review and modification of the candidate themes and sub-themes recognised in the previous stage. Braun and Clarke (2006) explained that some themes or sub-themes may be abandoned (e.g., if there are not enough data to support them), merged (e.g., two seemingly disconnected themes might form one theme), and/or broken down to create additional themes or sub-themes.

The first level encompasses reviewing the themes against the coded data extracts to ensure that all the collected data extracts for every theme create a logical pattern. The second level entails reviewing the candidate themes alongside the whole data set to check for the validity of individual themes according to the data set and to ascertain whether they accurately reproduce the connotations apparent in the data set as an entity.

**Stage 5: Defining and naming themes**

Stage five starts when the researcher has an acceptable thematic map of the data (Braun & Clarke, 2006). At this point the researcher recognises the spirit of every theme and decides what section of the data each theme is represented by. Although the researcher had already given working titles to the themes, in this stage the researcher reflected further on the themes and ensured they were concise, rich, and coherent, and presented a worthwhile image of leading patterns in the data that deal with the research questions.

Creswell (2007) argued that the way to ensure the trustworthiness of qualitative analysis procedures is to ask others to inspect the data. These could be colleagues who are well versed in qualitative research and the subject area of the research, or they could be external auditors, persons not allied with the research who

evaluate the database and the qualitative outcomes employing their own measures. To this end, the researcher validated the resulting themes and the coded extracts for each sub-theme by discussing them with two colleagues who had expertise in qualitative data analysis. After stages 4 and 5, the thematic map evolved to the final map as presented in Figure 2.

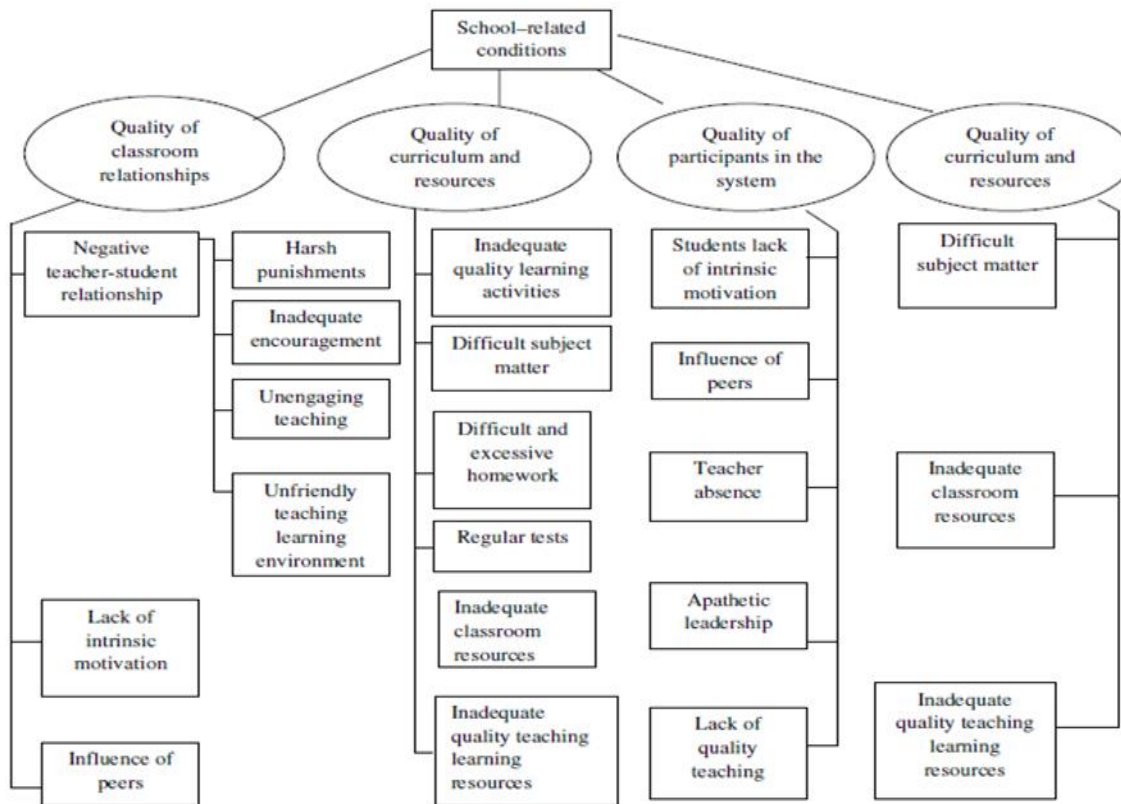


Figure 2: Final Thematic Map

### Stage 6: Producing the final report

After a set of themes and their sub-themes are identified and finalised, the last stage comprises creating the final report. Braun and Clarke (2006) suggest that the final report should offer a logical, brief, non-repetitive, reasonable, and fascinating explanation of the data shows among and inside themes. They also suggest that extracts need to be fixed in a logical way that offers the narrative the researcher is telling about the data, and the logical description should go further than explanation of the data and ultimately produce an argument according to the research questions.

## CONCLUSION

In summary, to examine the school-related conditions impacting early adolescents' motivation and engagement in learning, a data driven (inductive) and semantic approach was employed in thematic analysis in this study. Six main stages of thematic analysis were employed (1) becoming familiar with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the final report, accordingly, in relation to students' responses two main themes emerged: quality of classroom relationships and quality of curriculum and resources. In theme one, quality of classroom relationships; negative teacher-student relationship and influence of peers emerged as sub-themes. Under the sub-theme, negative teacher-student relationship, four categories were identified: harsh

punishments, inadequate encouragement, un-engaging teaching, and unfriendly teaching-learning environment. In theme two, inadequate quality learning activities, difficult subject matters, difficult and excessive homework, regular tests, inadequate classroom resources, and inadequate quality teaching - learning resources emerged as sub-themes. Under the main theme, quality of participants in the system, three common sub-themes emerged from both teachers' and principals' responses: students' lack of intrinsic motivation, influence of peers, and teacher absence. Other than those three common themes, from the teachers' interviews "apathetic leadership", and from the principals' interviews "lack of quality teaching" also emerged separately. Under the main theme of quality of curriculum and resources, three sub-themes emerged from both teachers' and principals' interview data: Difficult subject matter, inadequate classroom resources, and inadequate quality teaching-learning resources. It is imperative that, thematic analysis can be used to analyse qualitative data to get a better understanding about the participants' responses. Analysing qualitative data might be a challenge for many researchers. In this study, Braun and Clarke (2006) thematic analysis framework was applied to data drawn from a motivation and engagement research. This will be helpful for researchers when conducting their own research to identify the themes in relation to the school-related conditions impacting early adolescents' motivation and engagement in learning in low socio-economic contexts.

## DISCLOSURE STATEMENT

This study has no conflict of interest.

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