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The Application of Constructivist Grounded Theory Methodology in an Urban Planning Doctoral Thesis

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Abstract

The aim of this paper is to show the potential value of using the constructivist grounded theory (CGT) methodology in the Urban and Regional Planning discipline. This is done by reflecting on the application of the CGT fundamentals defined by Kathy Charmaz, applied in a doctoral thesis in Urban and Regional Planning. The substantive area of research in which the thesis took place was the practical training experience of planners in becoming professionally registered. The thesis collected primary data through interviews with 14 planners who have undergone the process of practical training to record, document, and analyse their experiences as a prerequisite and requirement of professional registration. The use of the CGT methodology provides valuable insight into the registration process of planners in South Africa and encourages doctoral candidates to use CGT methodology with the aim of generating new knowledge and theory in the built environment. This paper recommends that CGT methodology should be encouraged, particularly when contributing to fields that are under-researched, limited, or non-existent.

Keywords

constructivist grounded theory, doctoral thesis, urban planning, substantive theory

Introduction

Grounded theory methodology is the brainchild of Barney G. Glaser and Anselm L. Strauss (1967) who investigated the ontology of sociology. It is a systematic research design and method used to analyse social research resulting in a theory generated from the data collected (Glaser & Strauss, 1967). Using grounded theory is appropriate when examining people who have experienced a particular process, action, or event (Charmaz, 2006; Leedy & Ormrod, 2005). This methodology emerged in 1967 from the belief that existing qualitative inquiries of analysis (at that time) were ill-defined, and lacked scientific rigour. Others criticised and scrutinised the legitimacy and 'science' of qualitative data – thus the development of a grounded theory to address these critiques (Allen & Davey, 2018).

Since its establishment, various nuances evolved, leading to different grounded theories; these types include: classic grounded theory (Glaser, 1978; Glaser & Strauss, 1967), Straussian grounded theory, constructivist grounded theory (Charmaz, 1995) and feminist grounded theory (Evans, 2013). Today, grounded theory is widely used in various disciplines such as nursing (Chen & Boore, 2009; Schreiber & Stern, 2001), geography (Geiselhart et al., 2012; Knigge & Cope, 2006; Lee, 2018), education (Conrad, 1982; Hutchinson, 1986; Kennedy & Lingard, 2006), anthropology (Bryant & Charmaz, 2007; Minnis, 1985; Pettigrew, 2000), psychology (Bryant & Charmaz, 2007; Charmaz & Smith, 2003; Mills et al., 2006), social work (Leedy & Ormrod, 2005; Oliver,

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2012) and sustainability and development planning practices (Schein, 2015; Van Huyssteen, 2018).

The use of grounded theory methodology is underutilised in urban planning research due to this being a relatively new profession with a limited number of studies on the development of the profession. However, it provides a rigorous but flexible approach and greater validity in generating new knowledge and theory in the built environment and practice of planning (Van Huyssteen, 2018). This is especially pertinent for a Doctor of Philosophy thesis, where the focus is on the contribution of new knowledge. The purpose of this article is to review our experience with applying CGT methodology developed by Kathy Charmaz in a doctoral thesis in urban planning. The focus of the thesis was the practical training experience of planners. Semi-structured interviews were conducted with 14 professional planners using the fundamentals of constructivist grounded theory to guide the data collection and analysis process. Thus, the objectives of this paper are to first, determine the applicability of the method in urban planning. Second, to determine the benefits of using the CGT methodology, and third, to explore the challenges of using the method in a doctoral thesis.

In the following sections, we review CGT methodology and its use in doctoral studies. We then reflect on the application of the CGT fundamentals in an urban planning doctoral thesis by Dunn (2021) which developed a conceptual framework to explain the practical training experience of planners in South Africa. The paper is concluded by reflecting on the limitations of the use of CGT methodology in urban planning and recommendations for the use of CGT in a doctoral thesis for knowledge generation in urban planning and planning education knowledge fields.

Constructivist Grounded Theory Methodology

Constructivist grounded theory emerged in 1995 through the works of Kathy Charmaz, when she contributed a chapter, 'Grounded theory', in the book *Rethinking methods in psychology*. In 2000, she contributed a chapter, 'Grounded theory: Objectivist and constructivist methods' in *The SAGE Handbook of Qualitative Research* (second edition). This was followed by the publication of *Constructing grounded theory: A practical guide through qualitative analysis* in 2006 and 2014, and in 2019, editorship of *The SAGE Handbook of Current Developments in Grounded Theory*.

Charmaz added to the original development of classic grounded theory by stating that although theories are inductive and emerge from the data, she believed that theories do not merely emerge but are constructed by researchers based on the data (Charmaz, 2006, 2008). This process arises through observation and interaction with the data and theoretical knowledge about the topic. Therefore, grounded theory includes a systematic approach to collecting and analysing empirical data (Charmaz, 2008). How a researcher goes about this approach and what research strategies are used to achieve a constructed theory depend on the specific approach to grounded theory they use.

Classic grounded theory enquires about a research topic with no preconceived questions, whereas the constructivist grounded theory starts with specific questions about a research topic (Evans, 2013). This implies that some knowledge about this research topic is already available, but further questioning leads to a constructed grounded theory about that topic. Therefore, a constructivist grounded theory starts with a literature review to determine what has already been done, as does the Straussian grounded theory, albeit more vaguely. However, constructivist grounded theory includes an in-depth, three-phase interaction with the literature (Charmaz, 2006, 2014).

The classic grounded theory process of analysis emerged with a rigorous coding process, but was, over time, transformed and reinterpreted by other scholars who adopted a more flexible process. Although there are nuances on how the data is analysed between the different approaches, the process of collecting and analysing the data is aimed at generating a new theory. Classic grounded theory analysis methods are largely positivist, where human behaviour is explained by developing explanations of the phenomenon under review. However, the analysis methods of Strauss and Charmaz focus on explanations of interactions; thus, adopting a post-positivism and constructivism theory (Charmaz, 2006, 2014). The use of the grounded theory methodology in feminist research included the use of grounded theory as an analysis process to explain complex topics creatively. The step-by-step coding process used in the analysis process is a strength of classical grounded theory.

Grounded theory was originally defined as having two typologies – substantive and formal (Glaser & Strauss, 1967). Substantive theory generation is regarded as involving an explicit or localised focus (Merriam, 2002). Examples of substantive theory generation are found in knowledge fields related to work-life, frail care, ecological challenges, and, as in this case, the practical training experience of planners. Formal grounded theory is defined as a more extensive research framework, such as gender or power roles (Glaser & Strauss, 1967). However, both typologies are based on research grounded in the data (Glaser & Strauss, 1967).

The Use of Grounded Theory as Applied in This Doctoral Thesis

The use of grounded theory in a doctoral thesis is particularly useful when knowledge about a research domain is either 'inadequate or non-existent' (Leedy & Ormrod, 2005, p. 142). In the planning practicum field, there is minimal knowledge on the experiences of planners who have completed their practical training to become professional planners in South Africa and registered with the South African Council for Planners (SACPLAN) (Dunn, 2021; Van Huyssteen, 2018). Hence,

grounded theory was established as the most directed qualitative inquiry for this research. Allen and Davey (2018) advocate using grounded theory as a tool for researchers in the built environment due to its underutilisation in the field and as it provides a flexible approach and increased validity in generating new knowledge and theory. This is especially pertinent for doctoral studies, where the contribution of new knowledge is crucial.

There are aspects to the research design that can be challenging for researchers new to the method, such as the coding process (Holton, 2007). Although the grounded theory analysis process is rigorous but systematic, and allows for flexibility, a practical guide to assist in applying these coding methods may be helpful for a novice researcher.

The originators of grounded theory methodology believed that no literature should be included to maintain objectivity and reduce preconceived bias. The rationale is that researchers can be influenced by known theoretical frameworks and established theories. However, Charmaz advocates for a three-step literature review: initial, ongoing and final. The role of the research in constructing theories 'depends on the researcher's view; it does not and cannot stand outside of it' Charmaz (2014, p. 239). Therefore, the constructivist grounded theory supports an overview of the literature as the process and interaction with the data collection and analysis is not outside the research process. The literature assists in understanding the topic broadly and allows the researcher to identify boundaries (i.e., theoretical frameworks), which is critical for a doctoral thesis. Lastly, grounded theory is regarded as a 'scientific' qualitative research method, which bodes well for the standard of research conducted for a PhD (Allen & Davey, 2018).

Constructivist Grounded Theory Fundamentals

All grounded theory types share some fundamental principles, but some nuances exist in collecting, coding, and analysing the data. It must include codes and categories that are constantly compared until theoretical saturation is reached. A coalescence of these processes results in the generation of new knowledge. We made use of five fundamentals for theory generation in this doctoral thesis: (1) constructing theory, (2) theoretical sampling, sensitivity and saturation, (3) coding process, (4) constant comparison and (5) memoing. The section below reviews and reflects on the potential value of using the CGT methodology as applied in an urban planning doctoral thesis.

Constructivist Grounded Theory Fundamental 1: Constructing Theory

The development of a theory can be in the form of a visual model, a verbal statement, or a series of hypotheses (Leedy & Ormrod, 2005). Positivist and interpretive theory approaches are identified by Charmaz (2006). Positivist theory aims to explain the generality and universality of interrelated phenomena. Generating a positivist theory describes the relationship between ideas, generates hypotheses, and verifies or tests emerging theoretical knowledge to constructed assumptions. An interpretive theory focuses on understanding how and why a phenomenon is the way it is, rather than providing an explanation (Charmaz, 2006). Therefore, the emerging theory is based on the interpretation of the phenomenon studied. It allows for the development of patterns, looking at causes and multiple realities, rather than relying on a linear understanding of theoretical knowledge, a singular belief and knowledge of the phenomena under investigation. Thus the interpretive CGT allows for subjectivity. Given the understanding of how theory is developed, this research produced interpretive theory to contribute to knowledge.

Adopting the constant comparative method and our interaction and engagement with the data lends the process to rigorous scrutiny and analysis of the data (Charmaz, 2006). Charmaz (2006, p. 179) further stressed that the 'grounded theory journey relies on interaction' that stems from how a researcher views the world, the interactions with the data, the ideas that emerge, the conversations about this event or experience and how all these interactions allow one to create meaning from the data to generate theory. Thus, Charmaz (2006) believes that 'interaction is interpretive'. Although Glaser and Strauss (1967) advocated for the emergence of a theory that 'resolves the main concern', Charmaz (2006) argued that such emergence depends on the researcher's point of view. Therefore, due to the interaction and interpretive nature of theory generation, the ***construction*** of that theory is immanent. Thus, Charmaz (2006, p. 178) notes: 'we can view grounded theories as products of emergent processes that occur through interaction.' In constructing the theory, we conducted a further review of the literature once the data analysis was complete, which enabled us to reconceptualise the findings based on existing ideas to develop relevant grounded theory. Thus, constant interaction occurred throughout the research process.

Applying Constructivist Grounded Theory to This Doctoral Thesis. We constructed a theoretical framework premised on theories from two disciplines: urban planning and psychology. One set included career development theories focused on professional and personal development, such as Super's career development theory, career construction theory, work adjustment theory and self-determination theory. These professional and personal development theories provided a basis for understanding the practical training experience of planners. The merging of these disciplines and subdisciplines contextualised this doctoral thesis. Applying career development theories is not unique to planning scholarship, as can be seen in the work of Van Huyssteen (2018). The merging of two disciplines to generate new knowledge is unique to CGT and is a strength in a field that is relatively new and is

exploring issues that are under-researched. Thus, including career development theories from psychology in urban planning highlighted the uniqueness of the CGT methodology. This inclusion led to the understanding of the growth trajectory of planners through studying their personal and professional development throughout their practical training process. Thus, we developed a framework that explains how in-training planners develop, evolve and grow throughout their practical training. The study's findings have also contributed to an understanding of research in a largely unexplored area and offer new insights into the knowledge of practical training of planners and their professional development process. We found that the practical training process has produced competent professional planners through various adaptability strategies employed by the in-training planners. Our research offers valuable and unique insights into the professionalisation processes post-degree, barriers, and coping mechanisms of urban planners at the beginning of their professional career throughout the practical training period in South Africa.

The evaluation of the constructed theory is determined by a set of criteria drafted by Kathy Charmaz (2006, p. 182). It is an additional step in solidifying, supporting and verifying the generation of new knowledge, all of which are crucial for a doctoral thesis. Each criterion includes questions to enable the researcher to verify how they were answered in the emerging grounded theory. This method of evaluation is unique to CGT. Table 1 below is an example of the evaluation criteria used to construct new knowledge and theory in the thesis. No qualitative research methodology exists that includes such an evaluation of one's research. Herein, planning researchers can generate new knowledge by verifying their research's credibility, originality, resonance and usefulness.

Constructivist Grounded Theory Fundamental 2: Theoretical Sampling, Sensitivity and Saturation

Theoretical Sampling. Theoretical sampling is an iterative process of 'jointly collecting, coding and analysing data' (Glaser & Strauss, 1967, p. 45). It allows the researcher to determine what information to collect and where, to construct a theory, thus alluding to new thematic and theoretical categories that may add to the construction of a theory (Charmaz, 2006). Categories refer to a collection of data that pertain to the same theme or body of theory. These are usually descriptive categories that explain what the data is all about (Charmaz, 2006). The constructivist grounded theory methodology allows the researcher to go back to the data, collect more data for clarity, ask questions, gather information about other emerging issues, and explain the meaning attributed to the theoretical code. Furthermore, this process adds to the validity of the data by clarifying misunderstandings and biases unknowingly created by the researcher.

In reflection on the theoretical sampling, it is evident that adapting the initial interview questions and extending the sample might have contributed to the richness of data and the value of the study. We note that these limitations exist, but it is important to acknowledge them for the future generation of knowledge.

Theoretical Sensitivity. Theoretical sensitivity is a process controlled by the emerging theory. Here the researcher observes the data from various perspectives, makes comparisons, follows leads, asks questions, and builds on ideas (Charmaz, 2006). McLeod (2001) noted that a researcher could not sufficiently practise theoretical sensitivity without reflecting on their own biases and assumptions, which is evident in the

Table 1. An Assessment of the Evaluation of This Research in Constructing a Theory.

Evaluation Criteria	Outcomes
Credibility	The construction and shaping of interviews at the time of the study was done in accordance with a particular 'lens' on the practice of planning and thus shaped participant feedback and potentially the richness of findings and subsequent systematic comparison and coding process and theory construction (Birks & Mills, 2015). Consequently, the use of constructivist grounded theory facilitated additional layers of systematic analyses and insights.
Originality	This study provides the discipline of Urban and Regional Planning with a new insight and understanding about a largely unexplored topic. The use of grounded theory methodology is under-utilised in the Urban and Regional Planning discipline in South Africa. The findings from this research have already led to changes in the practical training guidelines for training planners whereby a personal development plan (PDP) is required.
Resonance	This study will help young professionals, the planning profession, planning academia, and the professional body appreciate the challenges associated with professional registration and the value and extent of adaptability strategies when the workplace does not align with the essential components necessary for professional registration.
Usefulness	The analysis and understanding of the experience of urban planners' practical training and the associated challenges can be useful for the professional body in improving the professionalisation of future professional planners.

memos. Charmaz (2006) believes that theorising is not a mechanical or rigid process, and there is no set approach; but encourages the use of gerunds which avoids static and rigid data categories.

Theoretical Saturation. Theoretical saturation occurs when the researcher cannot sample or identify any new information from the data collected. It implies that we could not develop any more properties or categories (Glaser & Strauss, 1967). By the 14th interview, no new codes could be identified in the data given the 'lens' and focus on the practice of planning.

Theoretical sampling, sensitivity, and saturation include a simultaneous data collection and analysis process which are unique iterative processes to qualitative grounded theory research. It allows the researcher to reflect and make sense of the data and research process through memo-writing. Reflection is an integral part of the memoing phase. Here, connections and thoughts are formulated. This process gives the researcher the flexibility to include previously omitted data or that which will enhance the research. Often, this process alludes to additional literature and/or theoretical frameworks that have not been considered. Furthermore, it evaluates the data collected and reduces researcher bias. It maintains the subjectivity of the research participants and ensures that the theory constructed is entrenched in the research findings. The process of reflection is valuable for urban planning doctoral students as it allows them to include data or theory or conduct additional research to enhance the study. This is beneficial given that other qualitative methodologies do not allow for the 'construction' of new knowledge from various disciplines and theoretical frameworks, but rather corroborate findings to fit existing theoretical frameworks.

Constructivist Grounded Theory Fundamental 3: Coding Process

Coding is a vital link between collecting data and constructing a theory, since codes define what is happening in the data collected (Charmaz, 2006). This process allows one to explain the phenomena, determine what is happening, and investigate what this data means. Coding reflects our relationship with the data. Such interactions may be, but are not limited to, asking questions such as why, where, how, and when.

The dataset included 14 transcribed interviews, notes, and memos that served as a narrative and a reflection of each interview. The analysis was based on understanding the practical training experience of planners, focussing on what the respondents experienced, and not emphasising explicit or obvious issues. It was a critical analysis and evaluation of the experience, guided by the research objectives, although the data collection was not limited by the research objectives. As per the constructivist grounded theory, the data analysis strategies included coding, which comprised initial, selective, and theoretical coding.

Stage 1: Initial Coding. The initial coding process relates to the study's initial concern and how the research respondents have resolved this concern. Charmaz (2006) indicated the importance of the initial coding phase to include action words (verbs) or codes instead of creating themes or data categories. Initial coding is a method that divides data into categories and then examines the data for similar attributes. Essentially, initial coding divides data into smaller sets based on themes that describe the phenomena (Leedy & Ormrod, 2005). Initial coding enables a researcher to determine gaps in the data, which can be filled by collecting more data. Charmaz (2006, p. 49) characterised codes for initial coding: 'short, simple, active and analytic'.

Initial Coding – Line-by-Line Coding. We used line-by-line coding as the initial coding phase. It was done manually and electronically using a programme called Nvivo 12, which is a qualitative data analysis software package. Line-by-line coding is beneficial for novice researchers as this detailed approach prevents one from missing ideas and concepts (Charmaz, 2006). Initially, we coded as thoroughly as possible to ensure that everything was considered. As the constructivist grounded theory prescribes, we used action words. We did not limit ourselves to coding one line only once, but as many times as we felt was necessary to capture the essence of the data.

Initial Coding – Incident-to-Incident Coding. We also used incident-to-incident coding after the second interview. In conjunction with this process, we used the constant comparative method to determine what questions we still needed to ask, what topics we had not considered for discussion, and what experiences were similar or different. Table 2 below is an example of the initial coding stage, as applied in the research.

Stage 2: Selective Coding. Selective coding determines the 'storyline' (Leedy & Ormrod, 2005) when the categories (from initial coding) and their interrelationships from focused coding are combined to start to develop a theory. Creswell (2009) indicated that a theory could be formed once an intersection or interrelation is defined.

Stage 3: Theoretical Coding. Theoretical coding is the final coding stage and is described as a 'sophisticated level of coding' (Charmaz, 2006, p. 63). These codes specify probable relationships between categories developed in the focused coding stage, which helps the researcher to 'tell an analytic story that has coherence', that is comprehensible (Charmaz, 2006, p. 63).

The coding process of CGT methodology is unique compared to other qualitative methods as it allows the researcher to extensively engage with the data to understand what is emerging from the phenomenon or experience. Using this thorough process of coding in urban planning enables the researcher to determine what data is missing, what needs to be included, what theory needs to be engaged with, and,

Table 2. An Example of Initial Coding Stage.

Quote From Respondent	Initial Coding (Line-By-Line) Example
"What is actually being taught at these planning schools because the reality is when you come out of a planning school, you are not equipped to deal with the political dynamics that are at play in the planning space because planning is extremely political. It's driven by a political agenda. Women particularly have quite a big challenge in having to navigate the political part." – Respondent 13	Questioning planning education Lacking soft skills to deal with workplace politics Political working environment in planning practice Being a woman in planning

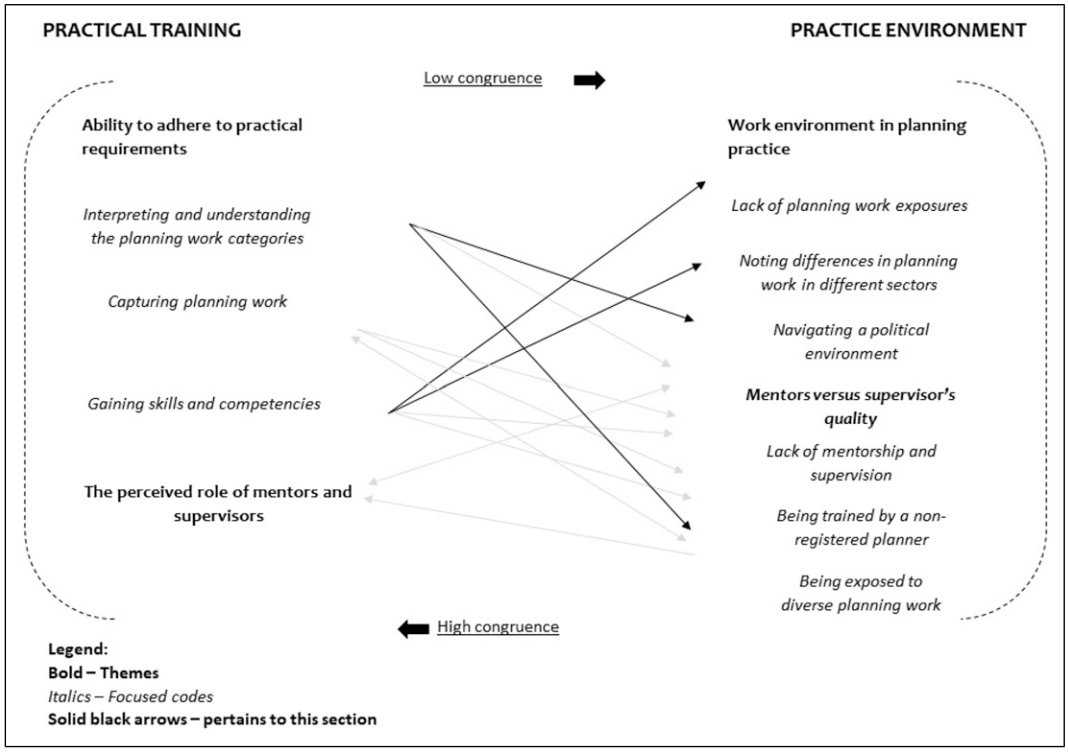

Figure 1. Visual representation of the themes and focused codes indicating the practical training requirements in relation to the opportunities in the practice environment. Source: Authors (2021).

ultimately, to construct a storyline. The coding process can be difficult, particularly for novice researchers; however, the CGT coding process gives the researcher flexibility in how to go about the coding. Figure 1 includes a diagram indicating stage 2 and 3 coding, where the themes and focused codes indicate the emerging 'storyline', as applied in the research.

Constructivist Grounded Theory Fundamental 4: Constant Comparative Method

The constant comparative is a method of analysis in CGT. It is a back-and-forth process applied during the data collection and analysis phases that enables the researcher to make several comparative analyses between the data, including similar data, between interviews, and between the codes and interviews (Charmaz, 2006, 2008; Creswell, 2007; Leedy & Ormrod, 2005). Merriam and Tisdell (2016) determined that the constant comparative method of data analysis is appropriate when comparing the same data segments to distinguish similarities and contrasts. From the beginning of the data collection and analysis, we made use of the constant comparative method of analysing the data and continuously found ourselves going back and forth and making various comparisons.

This iterative process of constant comparison is unique to grounded theory. It allows the researcher to derive realisations, emerging theories, and significant perspectives and thus

strengthens the rigour of the data collection and analysis phase, which is essential for a doctoral thesis.

Constructivist Grounded Theory Fundamental 5: Memo Writing

Another crucial aspect of data analysis is memoing for generating or constructing a grounded theory. Creswell (2009) states that memoing should occur alongside data collection and analysis. Herewith, the researcher writes down ideas about the theories evolving from the data. Memoing is described as 'the core stage in the process of generating theory, the bedrock of theory generation'. Notably, in the CGT approach, Charmaz (2006) emphasises the importance of memos in constructing a theory and formulating thoughts concerning the data. Memos can also serve as reflections, a summative account of an interview, or an indication of what data to collect next or what theories or literature require further research. Memoing happens throughout the data gathering and analysis process. Reflection is an integral part of the memoing phase. Here, connections and thoughts are formulated.

Memos were written throughout data gathering and analysis. This process was natural and flexible and can be identified by powerful trigger words that came to mind while busy with an interview or even after an interview. Some interviews highlighted research topics or theories which we needed to include. Other interviews prompted leads that we needed to pursue. It was often better to reflect after an interview, predominantly to capture the essence of pertinent issues. One example of such an issue was that some interview respondents were engaging and wanted to tell us about their experiences without us probing them throughout the interview process. This we noted as significant in a written memo. It reflected the need to express an account, experience or incident that was significant for the interviewee throughout their practical training process.

Constructivist Grounded Theory Fundamental 6: Researcher Self-Reflection and Reflexivity

Self-reflection and acknowledging researcher bias are essential in grounded theory methodology. This positions the researcher in the context of the study as a researcher, yet also as a person with opinions. Charmaz (2006) notes the importance of researcher objectivity, but stresses that researchers, particularly at an advanced level (such as doctoral research), are knowledgeable about their disciplines and therefore have vantage points to draw from.

> Professional researchers and many graduate students already have a sound footing in their disciplines before they begin a research project and often have an intimate familiarity with the research topic and the literature about it. All provide vantage points that can intensify looking at certain aspects of the empirical world but may ignore others. We begin our studies from these vantage points but need to remain as open as possible to whatever we see and sense in the early stages of the research (Charmaz, 2006, p. 16).

A reflection of our own practical training journey contributed to the interest, rationale, and significance of undertaking this study. This is not unique to the constructivist grounded theory methodology, but emphasises that all interest in research stems from some vantage point. For the researchers, this was influenced by three factors. Firstly, working in the private sector made me realise that planning work is diverse, political, and interdisciplinary. Planners often worked and consulted with other built environment specialists such as surveyors, civil engineers, and architects. Planners are at the forefront of spatial development and have a huge role to fulfil in spearheading development in the country. Secondly, undergoing the practical training process myself caused me to realise that regulatory bodies such as SAPI and SACPLAN were not deeply involved in my practical training process. The third factor was my interest in academia. All these influences led me to conceptualise the initial idea for my doctoral thesis.

It is through the process of data validity, research verification and reflexivity, that these preconceived ideas, beliefs and biases are prevented from infiltrating the findings of the study. The following data collection strategies were implemented to preserve the validity and reliability of our research. This is vital so that examiners and readers are assured of the integrity of the findings of the study. This is important for every research project, but particularly for the generation of new knowledge.

Data Collection Strategies:

- Transparency with research respondents: This was done by keeping the research respondents informed by an invitation letter and consent form.
- Invitation letter: The invitation letter included a statement of who we are, what my research was about, preliminary notions concerning the benefit of our research, and a sample of the interview questions.
- Consent form: The consent form included prescriptions needed by us and how we would preserve the respondents' anonymity and privacy. This consent form had prescriptions such as recording the interview and using their quotations (protected by an alias) in this study and subsequent research outputs.
- Memoing: This is evident in the findings chapter as reflections on what data to collect where, and how we made sense of the data. Memoing is an iterative process, starting from data collection and used as a critical method in data analysis to assist with constructing theories.
- Appendices: These retain the validity and reliability of the data. These include a letter of invitation, consent letter, initial interview schedule, and amended interview schedule

Data analysis strategies:

- Member checks or respondent validation: Merriam and Tisdell (2016) noted a member check or respondent validation strategy that involves sending a preliminary analysis to respondents to rule out misinterpretations and researcher bias. Consequently, once the interviews were transcribed, we emailed the transcript back to the research respondents to check and screen for factual correctness. All the interviewed research respondents responded with their comments.
- Theory validation: Creswell (2009, p. 90) indicated that the researcher may use 'discriminant sampling' once saturation has been reached and a theory has been developed. This allows the researcher to gather additional information from individuals who had not formed part of the original sample, to determine if the theory holds true for different respondents. This developed as a form of validity checking for the theory. The responses from the 'What I Wish I Knew' conference[1] served as the source of the discriminant sampling.
- Memoing: We included several memos that were written throughout the data analysis process, which were evident in the drafting of the findings chapter.

Limitations of Using Constructivist Grounded Theory

No one methodological approach is perfect; hence, this section describes the methodological limitations specific to grounded theory. Upon venturing into grounded theory, it is assumed that researchers put aside any preconceived notions about the phenomena and existing theoretical ideas to ensure that the theory is indeed developed from the data collected (Creswell, 2009). Narrative inquiries in the practice of planning are of value, as outlined by Flyvberg (2004, p. 299), particularly when they are fuelled by the desire to contribute to the development of rich descriptions and understandings generated by those involved. It is, however, inevitable that the biases, vested interests and relationships that the researcher has regarding the exploration and data generated will substantially shape the value it contributes to the development of the final grounded theory. As such, explicit use of a more reflective and critical approach (Alvesson & Skoldberg, 2000) will enable the researcher to reflect on his/her own process, approach and biases. In this particular study, a more reflective approach towards professionalisation of practices such as planning, exploration of the growing critique on rigid professional development requirements (especially in contexts such as the Global South), as well as a more diverse sample, could potentially have added value in challenging existing biases and allowing the emergence of additional theoretical concepts.

The lack of objectivity of coding is another limitation because coding is subjective, based on a decontextualised fragmentation of the respondents' experiences, outside the work-life context and thus with limited consideration for the dimension of time (Nicholson, 2007; Van Huyssteen, 2018). Hence, this method of coding is in itself a limitation, even more so when recognising that participant meaning-making and reflection is already shaped by interaction with the researcher and the shaping of interview questions. It thus calls for awareness of the researcher's role as central to creating relationships and power conditions (Denzin & Lincoln, 2005, p. 21, Denzin et al., 2006). There is a strong reliance on a researcher's intuition when developing concepts. Therefore, this can be difficult for novice researchers. The interpretive nature of data analysis is often questioned in qualitative data, which adds to the limitation of how the data is analysed and the findings they produce. This requires technical, intellectual 'muscle' and a consistent '… awareness of the various interpretative dimensions at different levels, and the ability to handle these reflexively'. When researchers recognise that empirical data are already the result of interpretation, we can also direct our attention 'inward' and recognise the role of coding, language and authorship (Maynard-Moody & Musheno, 2006, p. 320) as a central part of interpretation and construction of meaning.

Conclusion

The use of grounded theory methodology should be encouraged for qualitative researchers in Urban Planning, given the various strategies associated with the method that ensure a rigorous, strategic assessment or analysis of the data. The simultaneous process of data collection and analysis speaks to the flexibility of the method, which allows doctoral researchers to amend and revise the data collected throughout the research process. The strategies of discriminant sampling, constant comparison, the Charmaz evaluation criteria, respondent validation and memoing all strengthen the outcome of the constructed theory. Given this, this method is considered one of the more 'scientific' qualitative research designs, despite the challenges in implementing constructivist grounded theory methodology, as this paper illuminates. These strategies are all unique to grounded theory and will assist doctoral researchers in the generation of new knowledge, particularly when contributing to fields that are under-researched, limited, or non-existent.

This paper set out to describe the use of CGT methodology generally and its application in an urban planning context. We demonstrated that the method is suitable for doctoral and other advanced qualitative research in urban planning, especially where there is limited literature and knowledge. Although there are several caveats, the process ensures a rigorous analysis of the data that leads to the generation of new theories and knowledge. Due to the limited use of the methodology in urban planning, there is a broad area of potential application and opportunities for further research.

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Note

1. The 'What I Wish I Knew' conference was held on 28 November 2019 in Johannesburg, South Africa. It was hosted by the South African Planning Education Research (SAPER) project. The SAPER was a collaborative project between the University of the Free State in South Africa and the University of Birmingham, United Kingdom. The project investigated the appropriateness, usefulness, and impact of the current planning curriculum in South African Higher Education. My involvement herein was as researcher, data collector and analyser.

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