Reconceptualizing Empirical Data: Developing Higher Order Thinking Skills in Undergraduate Qualitative Methods Learning

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Keywords: Competence, Reconceptualization of Empirical Data, Undergraduate Level, Higher Order Thinking.

Abstract: The competence of reconceptualizing empirical data tends to be neglected in the qualitative research learning system in Sociology Study Programs in Indonesia, especially at the undergraduate level. The author argues that there are several academic tools that have been pioneered by experts and can be developed into a toolbox for the competence of reconceptualizing empirical data. However, because the competency of reconceptualizing empirical data is a high-level reasoning skill, the target competency of reconceptualizing empirical data is framed so that it can formulate empirical novelty, not theoretical novelty. With the framework of formulating empirical novelty, the competence of reconceptualizing empirical data requires undergraduate researchers to be able to thematization and write down their field findings at a more abstract-conceptual level. For this, sociology students should be skilled at the coding, using the *tashawur* approach, and using more theoretical concepts to develop concepts at a more intermediate and grounded level—while being framed by public issues and current literature as much as the undergraduate student can.

1 INTRODUCTION

Qualitative research skills for sociology graduates are central. Research competencies for sociology graduates are the same as drawing skills for architecture students, or language skills for foreign language scholars. Therefore, this research skill is also the main competency of the profile of sociology graduates (Ferguson & Sweet, 2023; Pike et.al., 2017), as well as useful as a provision for them to be ready to enter the job careers (Mekolichick, 2022; Tambunan and Budiman, 2022).

Overall, the body of knowledge for learning qualitative research is composed of three patterns. The first is how to design qualitative research (Flick [editor], 2022); second, how to collect data (Flick [editor], 2014); and finally, how to skillfully analyze data (Flick [editor], 2018). These include generalization (Maxwell and Chmiel, 2014), coding (Thornberg and Charmaz, 2014), and theorization (Kelle, 2014). However, their discussions are aimed at professional academic researchers, not undergraduate students. Therefore, the various terminologies and ideas that surround them must be adapted to the needs, abilities and learning targets of undergraduates (Mekolichick, 2022; Tambunan and Budiman, 2022).

The author argues that the learning outcome of research at the undergraduate level of sociology is to formulate empirical novelty—not theoretical novelty. Theoretical novelty is for PhD level. The empirical novelty learning outcome is in accordance with the target of undergraduate education (especially undergraduate sociology) (Mekolichick, 2022; Tambunan and Budiman, 2022). In that regard, it is important to point out that the sociology undergraduate learning design is patterned after the vocationalization of sociology. That is, a combination of the category of policy sociology and the category of public sociology in the sense of Buraway (2005), as well as he is directed to have technical skills and soft skills as preparation for them to enter the enter the job careers. Even more technically, what is formulated as reconceptualization of empirical data—borrowing the typology of data theorization from Kelle (2014)—is to use more theoretical concepts to develop derivative concepts at a more intermediate level and grounded.

The ability to reconceptualize the empirical data becomes important when we consider strong complaints about the lack of learning of this competency in sociology study programs, especially at the undergraduate level. Swedberg (2012, 2016, 2017), for example, complains about that. The

Suryana, A.
Reconceptualizing Empirical Data:Developing Higher Order Thinking Skills in Undergraduate Qualitative Methods Learning.
DOI: 10.5220/0013410600004654
In *Proceedings of the 4th International Conference on Humanities Education, Law, and Social Science (ICHELS 2024)*, pages 594-606
ISBN: 978-989-758-752-8

capacity to theorize and conceptualize various great figures of sociology (such as Bourdieu) ms to be obtained naturally, not because of formal education in college.

The neglect of learning on the competence of reconceptualizing empirical data also occurs in Indonesian universities. If we look at the syllabus of lectures and textbooks of qualitative research in Indonesian at the undergraduate level, the ability to reconceptualize empirical data is not considered important. The discussion of lecture syllabi and textbooks of qualitative methods in Indonesian tends to focus on ontological aspects (what to look for in qualitative research) and how data collection techniques—and is always contrasted with quantitative research (Moleong, 2019; Mulyana, 2010).

To discuss the empirical data reconceptualization competency argument, this article is divided into five sections. The first part is to place the competence of reconceptualizing empirical data in the realm of data analysis and at the level of higher order thinking. The reconceptualization goal is to formulate empirical novelty at a more intermediate level. The second part is a description of the research method that emphasizes literature study. There are various types of literature tracked in this article. The third and fourth sections discuss the body of knowledge of reconceptualizing empirical data and learning outcomes of undergraduate qualitative research. The last section discusses various academic tools that can be used to develop competence in reconceptualizing empirical data.

2 THEORETICAL FRAMEWORK

This article uses the learning outcomes approach. As a pedagogical strategy that places students at the center of learning, the learning outcome approach aims to build specific competencies (both at the level of technical skills and soft skills) that students have after taking a course (Zlatkin-Troitschanskaia et.al. (editors), 2018; Arnold et.al. (editors), 2020). In this context, the learning outcome of data reconceptualization competency is being able to construct and formulate empirical research findings.

The competency of reconceptualizing empirical data is a technical academic skill that undergraduate students should have, albeit in a basic level form. It is a sub-competency of the qualitative researcher competency. Of course, there is a limit to the achievement of empirical data reconceptualization competencies when taught at the undergraduate level. From the author's experience teaching in the Sociology Study Program for 27 years (1997-2024) (Suryana, 2012), the target competency of reconceptualizing empirical data is for undergraduate students to be able to formulate empirical novelty, not theoretical novelty. The target of theoretical novelty is not realistically taught at the undergraduate level because it is the main competency of the doctoral level.

Empirical novelty means that undergraduate researchers can thematization and write down their field findings at a more abstract-conceptual level. Of course, the conceptualization process is guided by the underlying central theory/concept—while being framed by public issues and current literature to the best of the student's ability (Orange, 2023; Dodgson, 2019). At the same time, in order to reconceptualize empirical data, undergraduate students must also be able to record and reconstruct data (write fieldnotes, write diaries, and write memos), and be able to analyze data (open coding of fieldnotes, visualization of initial field findings, thematization of field findings, design of chapters and subchapters, writing reports, and linking empirical data findings with related literature) (Figure 1).

On the other hand, as a pedagogical strategy, the learning outcomes approach is also related to the body of knowledge in the field of science being taught. If the body of knowledge contains a map of information, concepts, theories or rules in a field of science, learning outcomes are more specific. Learning outcomes aim to define the various elements of the field's body of knowledge that students must master (Miles & Wilson, 2004). Body of knowledge provides raw material for formulating learning outcomes. Meanwhile, learning outcomes are formulated from the concepts, rules, and competencies in the body of knowledge.

In other words, the body of knowledge is the foundation for the formulation of learning outcomes. The formulation of learning outcomes should be based on the structure and content of the body of knowledge of a field of study (Thorn & Sydenham, 2008). A good body of knowledge can serve as a guide, foundation and reference for which parts of the body of knowledge are important to be mastered by learners and formulated as learning outcomes.

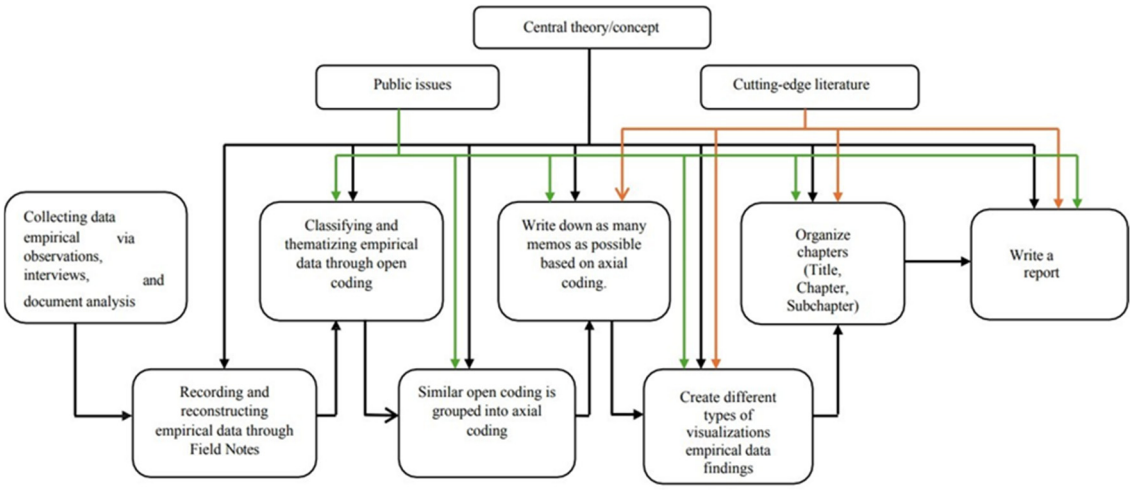


Figure 1: Body of Knowledge Reconceptualizing Empirical Data.

So, not everything in the body of knowledge is learned. Learning outcomes emphasize, limit, and direct only the relevant and urgent parts of the body of knowledge to be learned. Furthermore, learning outcomes that are well formulated will help learners connect the knowledge they gain with real situations in everyday life.

3 RESEARCH METHODS

As research categorized as teaching and learning in Sociology, this article takes three methodical steps to collect and compile empirical data reconceptualization competencies.

First, this research explores five types of literature to identify various academic techniques and tools that have previously been pioneered by experts, to formulate them as academic tools to build competence in reconceptualizing empirical data.

(1) Teaching and learning in sociology literature, especially those related to qualitative research learning strategies such as Medley-Rath (2023); as well as those related to building critical reasoning skills in sociology (Kane & Otto, 2017; Kane, 2023). (2) The qualitative methodology literature itself as indicated by Babbie 2021; Cresswell (2016), Newman 2014), Mills & Hubermans (2014), and Morse (2006). (3) The theorized competence literature of Swedberg (2012, 2016, 2017) and Kelle (2014). (4) Literature of Mantiq (Islamic Logic) textbooks, especially related to the tashawur (conception) approach (Sambas, 1996 [2017]: 46-68; Muminin, 2022; Al-Abhari, 2022; Nuruddin, 2020; Hurley & Watson, 2018; Hayon, 2000). (5) Teaching and learning social research methods literature (Nind [editor], 2023).

Second, this research attempts to build on the academic tools previously pioneered by Swedberg (2017, 2016, 2012). Following Swedberg (2017, 2016, 2012), this research argues that the competence of reconceptualizing empirical data is carried out in two stages: (a) the context of justification and (b) the context of discovery. The context of justification is to describe how theory is practiced in research. Whereas the context of discovery is where relevant academic tools are used to gain insights, and then the theory used in the context of justification stage is further developed (Burawoy, 2009).

The various academic tools extracted from the five types of literature are grouped into two stages or ideal types—following the stages of Swedberg (2017, 2016, 2012)—namely (a) the context of justification and (b) the context of discovery. The author argues that the various academic tools of qualitative research learning strategies obtained from the repertoire of teaching and learning in sociology and qualitative methodology literature are in the context of justification. These academic tools are the skills of collecting and processing, visualizing data along with how the conceptual framework used can function as a frame and guide for collecting, processing, and visualizing empirical data.

Meanwhile, the theorized academic tools of Swedberg (2012, 2016, 2017) and Kelle (2014), the higher-level thinking and critical sociological thinking competencies of Kane & Otto (2017) (Kane 2023), and various academic tools from *Mantiq* (such as *tashawur,* division, classification, and predicable) can be formulated as an academic toolbox for the discovery context.

In this regard, the author tries to operationalize (a)

the context of justification and (b) the context of discovery as formulated by Suryana (2020). Following Swedberg's (2017, 2016, 2012), the process of reconceptualizing empirical data begins with the identification of insights, because they are not covered by the main theory or auxiliary theory used (Buroway, 2009). The insights are then further developed, to provide a contribution of elements of conceptual for the development of the theoretical approach used (Suryana, 2020).

The third step is to reflect on the stages of learning Qualitative Research Practices (PPK) that have been held by the Sociology Study Program and the Sociology Education Study Program at the Universitas Negeri Jakarta for 18 years, from 2006 to 2024. It should be stated that the Sociology Study Program and the Sociology Education Study Program have organized Qualitative Research Practices in a guided manner since 2006, which is a continuation of the Qualitative Research Methods course. If the theoretical aspects are taught in the Qualitative Research Methods course, the practical aspects are carried out in Qualitative Research Practice. Of course, during the 18 years of learning Qualitative Research Practice, various learning instruments have been innovated and institutionalized, and some of the learning outcomes of Qualitative Research Practice have been recorded by Suryana (2012).

This research tries to complement Suryana's (2012) article, especially in terms of data reconceptualization competence. The focus of this research is on the learning stages that allow data reconceptualization competencies in Qualitative Research Practice to be honed and built. The focus of data collection is on the phases of writing fieldnotes, visualizing field findings, writing memos, thematizing findings, drafting chapters and subchapters, writing reports, and linking empirical data findings with related literature. The learning stages of Qualitative Research Practice that have been institutionalized for 18 years (2006-2024) can be used as a source of field data, as well as a reference for reflection to build the competence of reconceptualizing the empirical data that is the focus of this research.

3.1 Body of Knowledge Reconceptualizing Empirical Data

Where is the position of data reconceptualization competency in the body of knowledge of qualitative research. Following Flick's categorization (2014, 2018, and 2022), the competency of reconceptualizing empirical data is in the realm of data analysis. There are two directions of data reconceptualization, namely from the angle of warrant, and the angle of the relationship between the theory/concept and the empirical data itself (Babbie, 2021: 29-59). Figure 1 shows three guidelines for competence in reconceptualizing data from the warrant angle. The suffix [re] in conceptualization indicates these three things. They are the central theory or concept used, the public issue framing it, and the state of the art of the recent literature examine.

Meanwhile, in terms of the relationship between theory/concept and empirical data, the reconceptualization of empirical data is developed from Kelle's (2014) three typologies of data theorization. The first typology is (1) using more theoretical concepts to develop concepts at a more intermediate level. (2) Putting qualitative data as material to revise more theoretical concepts. Finally (3) is to transfer the intermediate concepts to a new research domain. For the understanding of reconceptualizing empirical data at the undergraduate level of sociology, it refers to the first typology. That is, using more theoretical concepts to develop concepts at a more intermediate level and grounded (Babbie, 2021).

Figure 1 shows the body of knowledge for reconceptualizing empirical data as a set of technical skills for qualitative research academics. It starts with the skill of collecting and recording empirical data to writing a report. The first step in reconceptualizing is to be able to write fieldnotes and memos.

Fieldnote (FN) is (a) a medium for recording field data, as well as (b) a material for processing data at an advanced stage. As a field data recording medium, the FN contains emic data (in the form of ideas, issues, sentences, etc. from informants), what was observed, and what was heard. Meanwhile, as material for processing data at an advanced stage, FN also contains the researcher's comments or (ethical) analysis; and (ii) the grouping, classification and categorization of data through open coding.

The memo writing is done after writing the FN. Writing memos is done after several open codes have been grouped into axial codes. Memo is a detailed description of axial coding. After the axial-coding is found, to detail or illustrate the axial-coding, a memo is written.

So, a memo is a conceptualization of data. It does not simply report data. A memo (1) must be able to tie together disparate pieces of data and formulate them into a unified group. It can also contain (2) fragments of data that are assembled as examples, illustrations, or evidence of more abstract concepts. Memos are titled (with the key concept discussed). Similar memos are

filed under the same theme or umbrella concept; and separated from the data archive. Thus, memos should contain the results of axial coding and have moved in a more conceptual direction.

Composing FNs and memos requires technical writing skills. For FNs, it requires descriptive and narrative writing skills. As for composing memos, it requires higher technical skills—in Marahimin's (2000) terminology—referred to as expository writing techniques.

Writing a description is describing an object, place, atmosphere, or situation with words in a lively and captivating manner. Through his writing, the reader .ms to be able to. what the author's, "taste" what the author eats, "feel" what he feels, and "conclude" what the author concludes (Marahimin, 2000). The content of descriptive writing is the result of what is observed, what is heard, and what is felt through all five senses that the author has in a certain place and time.

Narrative is writing down the events or characters that are being told. Narrative writing has a plot (a story that has a flow) and has a focus, claim, angle, argument, controlling idea, or thesis. Marahimin (2000) mentions other characteristics of narrative writing. Among them are (1) plot: events, characters, and conflicts; (2) setting (time setting, place setting, economic setting, cultural setting, political setting, government setting, social setting) or local setting. (3) Point of view, writing angle, or narrator's position (I-ness; or he-ness). (4) Dialogue, and (4) narrative pattern (flashback style; beginning-middle-end).

Meanwhile, expository writing techniques are very helpful for writing memos. Expository writing is writing that contains proof of a thesis, claim, or controlling idea. In memos, the thesis that the writer wants to put forward is embodied in the title. The whole description is about proving that the title is true.

3.2 Qualitative Research Learning Outcomes for Undergraduate Program

This article argues that the target competency of reconceptualizing empirical data is for undergraduate students to formulate empirical novelty, not theoretical novelty. The target of theoretical novelty is not realistic to be taught at the undergraduate level because it is the main competency of the doctoral level. In that context, the competency of reconceptualizing empirical data of qualitative research is based on two things. First, (1) students' ability to categorize and systematize their empirical data to a more abstract-conceptual level, and (2) their ability to draft chapters and subchapters (Table 1, and Figure 1).

In order for the first competency to be achieved, there are three supporting skills that must be mastered by prospective sociology graduates. The three are (a) being able to record and reconstruct data (writing fieldnotes, writing diaries, and writing memos); (b) being able to perform three stages of coding (open coding on fieldnotes, axial coding, and selective coding); and (c) being able to visualize research findings (tables, matrices, flowcharts, concept mapping) (Newman, 2014; Hubermans and Marshal, 2014; Thornberg and Charmaz, 2014).

Meanwhile, the competency of organizing the chapter design is divided into three sub competencies (Table 1). In order to be able to write relevant headings or terminology, students are trained to be able to tie the description with a title that has the characteristics of: (a) describes what is in the content of the description, (b) is interesting (eye catching), (c) readers feel the need to read, (d) contains a maximum of 12 words, and (e) is written in the form of phrases, not sentences. The title should not only be conceptual but should be written in the form of a concept that already has a variety of values or "variables".

On the other hand, the skill of composing the title should reflect specific keywords or terminology that are guided and based on the central theories/concepts used. Students must also be able to dialectic their conceptual guidance with the empirical data findings (Wagner, 2009). The results of the dialectic are then categorized, thematized, and visualized by framing them on their theoretical foundation (Morse, 2006; Kane & Otto, 2017). In fact, the dialectic is already in the category of synthesis, because it tries to interrelate the theoretical foundations he has with the tendencies and reasoning of the empirical data he encounters (Dodgson, 2019). This process is a more advanced stage of higher order thinking.

The above synthesis process is also rooted in the sociological research tradition itself. The research methods literature in sociology often emphasizes that the categorization, thematization and visualization of research findings should be consistent with the paradigmatic position of sociology that the researcher takes (Marvasti 2004; Wagnera, Garner and Kawulichc, 2011). Indeed, as a multi-paradigmatic science (Ritzer 1975; Purdue 1986), the discipline of sociology demands that qualitative research conducted by a researcher must be in line with the key ideas of the overarching sociological paradigm (Babbie 2021). Reconceptualization of empirical data must also be guided and in line with the overarching sociological paradigm.

Table 1: Learning Outcomes of Competency in Reconceptualizing Empirical Data for Undergraduate Programs.

Sub-Competencies	Sub-Competency Elements
(1) Undergraduate students can classify, categorize, and thematize empirical data to a more abstract conceptual level.	(1) Can record and reconstruct data (writing fieldnotes, diary writing, and memo writing) (2) Can perform three stages of coding (open coding on fieldnotes, axial coding, and selective coding) (3) Can visualize research findings (tables, matrices, flowcharts, concept mapping)
(2) Be able to draft the organization of chapters and subchapters	(1) Write down relevant headings or terminology (2) The keywords and terminology are guided and based on the central theories/concepts used. (3) The chapters and subchapters are framed and guided by: (a) the public issues surrounding it. (b) the latest literature to the best of the undergraduate student's ability. (c) the reasoning of the approach/theory/concept used.

The key words and derivative terminology above reflect how theory is used and operationalized (deductively) for a particular topic, research subject and research location. Using Kelle's (2014) typology of theorizing, this higher stage of reasoning is using more theoretical concepts to develop concepts at a more intermediate and grounded level. At this stage, inductive reasoning is more dominant. The more abstract theoretical concepts are only placed as framing. The deductively derived key terms serve as a frame: so that the process of coding, inductive reasoning, or conceptualization can be carried out. From that angle, the prospective sociology scholar should be able to transfer and operationalize the concepts he uses to the topic and location of his research. And at the same time, the formulation of derivative terms is also to place qualitative data as material for revising and modifying these more theoretical concepts (Kelle, 2014).

The headings and subheadings are then organized into a chapter and subchapter layout. It is like the table of contents in a book. The chapters should reflect the reasoning framed by the theory used. It should also reflect the author's response to current public issues and literature to the best of the undergraduate student's ability.

In this regard, various writing development techniques found in textbooks can be referred to. Choesin (2016) and Bailey (2003, 2018), for example, have shown how a piece of writing is developed. Some are chronological, flashback, effect-to-cause, per-aspect, and others. The pattern of writing development as proposed by Choesin (2016) and Bailey (2003, 2018) can be referred to and developed for writing report chapters. Students can combine two or even three flows for the writing division.

However, the reconceptualization competencies in Table 1 must be based on more general competencies that qualitative research learners must master. First, qualitative learners must learn to formulate research problems in qualitative research (Table 2). Crasswell (2014) recommends that qualitative research problems be formulated as a single phenomenon.

Furthermore, the formulation of research problems is narrowed down into research questions (Table 2). The style of the formulation can take the form of (1) the existence of problems, issues, difficulties, dilemmas, gaps, or obstacles between what should be (*das sollen*) and what happens (*das sein*). The gap in question can occur in everyday life, literature, or theory, or in practice. The issue shows the need to be researched. (2) The formulation style is based on curiosity.

Tabel 2: Supporting Competencies for Reconceptualizing Empirical Data in the Undergraduate Program.

(1) Formulate the research problem precisely	(1) Can formulate research problems from the right angle. (2) Framed and guided by: (a) Underlying central theory/concept (b) Public issues (c) Up-to-date literature to the best of the undergraduate student's ability. (3) Can formulate typical qualitative research questions guided by underlying central theories/concepts.
(2) Operationalize and use central concepts, theories, or sociological approach appropriately	
(3) Writing a research report	It can relate empirical data findings to related literature.

3.3 Academic Tools Competency Reconceptualization of Empirical Data

3.3.1 The Three Stages of Coding and Visualization of Findings

In a number of qualitative research textbooks (for example Babbie (2021) and Newman (2014)), coding is the main technique of qualitative data analysis. The results of the coding are then visualized in the form of tables, figures, diagrams, and so on. This coding technique is adopted from the grounded research approach in qualitative research.

Coding is assigning marks (codes) to field data. In some qualitative methods textbooks such as Babbie (2021) and Newman (2014), coding is the assignment of terms (keywords, single words, or phrases) to mark empirical phenomena. Here, first, the coding technique contains a categorization or grouping strategy: which phenomena are the same or similar, and which phenomena are different. Similar phenomena are then grouped together and given a code (a specific term).

Second, as a keyword technique, coding is done in stages, towards the more abstract. Thus, coding moves from empirical phenomena to more abstract-conceptual ones. In this regard, the three stages of coding as proposed by Babbie (2021) and Newman (2014) can be used. They are open coding, axial coding, and selective coding (Figure 2).

Open coding is the first step in analyzing empirical data. Each empirical phenomenon that is deemed important is given a name or term. Here, the question arises as to how to establish that one phenomenon is important, and another is not. In this regard, the central theory or concept used plays a significant role. Through the procedure of operationalizing the theory or central concept, the researcher will have sensitivity and could judge whether an empirical phenomenon is important or not. Therefore, in the open coding stage, the skill of operationalizing theories or concepts is important to master.

In the language of Toulmin (1959, 1983, 2003) and Booth (2008), the capacity of the theory that has been operationalized and functions as a determinant of data or phenomena is called a warrant. Warrant works as a rule that guides, frames, and sorts out which data is considered important. The operationalized theory acts as a warrant.

The skill of using and operationalizing the theories and concepts so that they work as warrants, will also guide in choosing specific terminology in giving names to data and phenomena that are considered important. Terminology must be an implication of the theory both in terms of reasoning and the terms themselves.

Furthermore, in this step of coding at a higher and more abstract level, the guidance of theory as a warrant is even more important. In addition to the theory-based reasoning of terminology, the choice of diction must also correspond to the key words or concepts that underpin the theory.

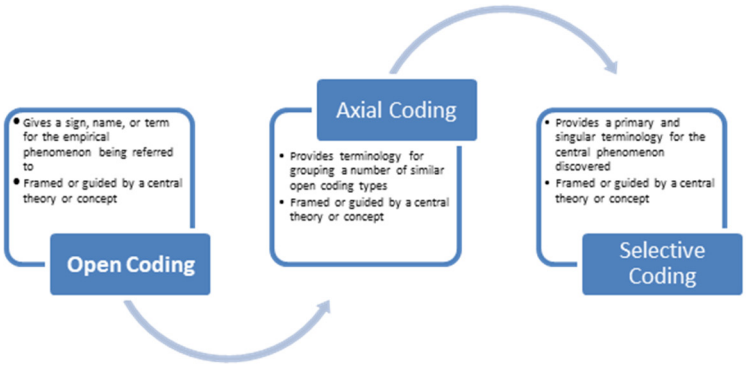


Figure 2: Three levels of coding.

At an advanced stage, a few open coding that have similarities are regrouped into one coding. This stage is called axial coding, categorization based on the same axis (theme). Finally, selective coding, a single phenomenon that encompasses all aspects, themes, or mechanisms found (. also Cresswell, 2014).

It is also important to master connectivity strategies between categories (at least at the axial coding level)—as suggested by Maxwell and Chmiel (2014a). The connectivity strategy is to explore the mechanisms that connect axial coding, such as looking for intertwining or causal mechanisms (. Maxwell and Chmiel 2014a). In fact, to make connectivity easy to construct and communicate, undergraduate students need to master the technique of visualizing findings in the form of tables, diagrams, matrices and so on (Mills and Hubermans, 2014).

3.3.2 The *Tashawur* Approach in Developing Terminology or Coding

Tashawur is one of the academic skills in Mantiq. In general, Mantiq is a science that has developed in the Muslim world since the Middle Ages and was developed from Greek Logic, but it has its own characteristics. One of the features of Mantiq that is relevant to this focus is the *tashawur* material. *Tashawur* is an academic skill to organize the term (*lafadz*) and the intention, understanding, meaning of the term precisely. The precision of the meaning he refers to by giving the term precisely is the object of study in *tashawur* (. Sambas, 1996 [2017]:46-68; Muminin, 2022; Al-Abhari, 2022; Nuruddin, 2020).

In this material on *tashawur,* learners become more sensitive to words or word combinations with the meanings they refer to. In that case, the *tashawur* approach emphasizes (1) the mastery of term both single term and composed along with the meaning or understanding it refers to. Likewise, (2) the level of abstraction of the term is highly emphasized in this *tashawur* approach. Whether the term is at a high level of abstraction, so that it must capture its meaning through thought (such as the term democracy). or the level of abstraction is low (such as the word house). The term house can be understood through the senses.

Examples of singular and composed terms are house (singular term), hospital (two-word- phrase term), or Cipto Mangunkusuomo hospital (three words referring to one particular hospital). Even if the term or word is only one, the intended meaning is a single sense or thing. Also, even though the compound Cipto Mangunkusomo Hospital consists of three words, the phrase refers to a hospital on Jalan Salemba in Central Jakarta.

Another typology of terms or terminology that is important to master in the *tashawur* approach is whether the term is universal or particular. The word human is a universal term, referring to a general figure. But President Prabowo Subianto is a specific term. It refers to a person who is currently (2024-2029) the president of the Republic of Indonesia.

It is also important for the competent person to provide definitions for the terms formulate, so that others can understand what they mean. One type of definition that is relevant to the competence of reconceptualizing empirical data is the essential (or predicable) definition. An essential definition is an answer to the question of what is (e.g. what is a human being). Students should be able to answer that question using five predicable terms (or *kulliyatu al-khomsah*—Arabic).

Competence *in taqsim* (*dividing*) is also important. *Taqsim* is the ability to trace the elements of a terma (a word or combination of words). For example, about a house. *Taqsim* answers what are the elements of a house, or how the term house is categorized.

So, this *taqsim* competency is important, because

it enables the scholar to categorize words. He can specify the elements of a word, or the further categories of a term. They can show that a few words are connected because they have an upper, more abstract word that can overshadow other words below it.

So, there are three competencies from the *tashawur* approach that can be integrated with the three levels of coding, namely (1) typology of terms (*lafadz*), (2) essential definitions-predicable (*kulliyatul khomsah*), and (3) *taqsim* (division). The three components of *tashawur* can enhance the mastery of key terms, the meanings they refer to, and the tinkering with words, terms, or concepts. The *tashawur* approach allows undergraduate researchers to thematize and formulate their field findings into a more abstract conceptual level, through a three-level coding approach aided by the *tashawur* approach.

3.3.3 Deduction, Induction, and Abduction Reasoning

Deductive, inductive and abductive reasoning are the three patterns of reasoning underlying qualitative research. They are used in specific proportions and are different from the proportions and composition of their use in quantitative research. Even within qualitative research itself, the proportion of each of the three reasoning patterns used varies during the research design stage (Thornberg, 2022), during data collection (Kennedy and Thornberg, 2018), and during data analysis (Reichertz, 2014).

Deduction reasoning is the first step in reconceptualizing empirical data. Deductive reasoning serves as a guide (warrant, sensitizing) (Booth et.al., 2008) and how abstract reasoning or concepts are operationalized to the empirical level (in the form of indicators or parameters; Babbie, 2021). At the research design stage, this deductive reasoning guides the research angle, formulates the research, and guides the research questions (even the key concepts in the theory we use are explicit in the formulation of research questions). The central theory or concept that has been operationalized to the empirical level (indicator or parameter) also becomes a reference in collecting data to analyzing data and writing reports. The use of deductive reasoning in qualitative research is relatively minimal. It is not as strong as quantitative research.

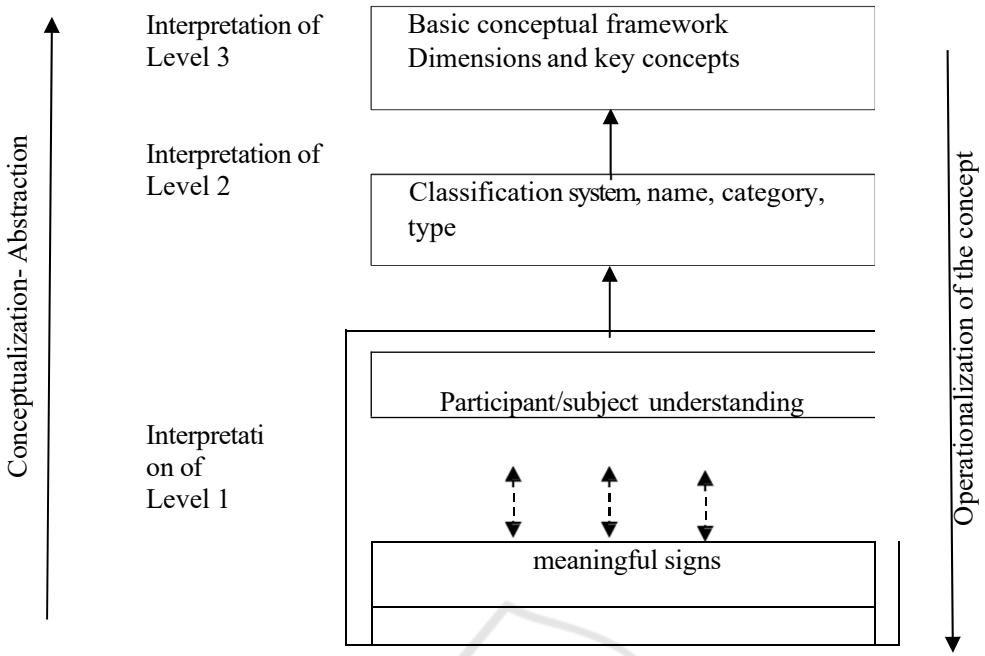
Furthermore, this deductive reasoning becomes the main ingredient of abductive reasoning. In simple terms, abductive reasoning can be understood from three angles. (1) The deductive dimension means operationalizing the theory into a few working hypotheses.[1] The best working hypothesis is selected and used. The less appropriate working hypothesis is put away first, maybe it will be used later. So, abduction reasoning is the use of the most appropriate working hypothesis, serving as a research guide, and the working hypothesis is shifted and changed according to the data findings. Here, abduction reasoning relies on the operationalization of theory from deduction reasoning.

In the abduction reasoning, there is an element of looking for "potential suspects". The hypothesis becomes the focus and guide to find evidence or data so that the "suspect" becomes the "defendant". Furthermore, the data is collected, so that it becomes evidence and the defendant. However, once the complete data has been fulfilled, the third principle, namely retroduction, applies.

(2) Retroduction is the back-and-forth principle. It connects the hypothesis as the initial idea (which ks potential suspects) with empirical data. The hypothesis work serves as a guide to find data that will serve as proof. However, it is possible that the data collected is different and even contradicts the working hypothesis. In that case, the working hypotheses are shifted or even changed. It is possible that several hypotheses that were previously stored are then chosen again to become working hypotheses because they are in accordance with field data. Then a working hypothesis is taken from the working hypothesis bank and becomes a replacement for the original working hypothesis. If it does not exist, appropriate concepts or theories are sought.

If a central theory or concept that is relevant and overshadows the field data findings is obtained, and has been operationalized into a working hypothesis, then the working hypothesis is used as a claim or thesis. In addition to the change in position from working hypothesis to claim (thesis), the claim also serves to overshadow the field findings. Field findings are the proof of the thesis. The fidelity to

[1]The author uses the term working hypothesis (which is widely used in qualitative research) instead of the term test hypothesis. The main difference between the two types of hypotheses is the use of theory. In a test hypothesis, the domain is deductive reasoning, and the aim is to prove the theory. Whether the field data is in accordance with the theory or even contradicts the theoretical reasoning. The result is theory verification, theory rejection, or theory modification. In contrast, working hypotheses function as warrant or sensitizing. The working hypothesis becomes a guide in collecting and analyzing data. Once the data obtained is different from the working hypothesis, let alone contradictory, then the working hypothesis is changed, and adjusted to the field findings.



Adapted from Wuisman 2024:6.

Figure 3: Inductive and Deductive Reasoning Patterns.

data findings and the back and forth principle of the relationship between theory (working hypothesis) and field data is referred to as the principle of retroduction (Downdie, 2019).

Inductive reasoning, on the other hand, is the opposite of the deductive pattern (Figure 3). Inductive reasoning is a pattern of reasoning that draws abstractions from empirical phenomena into conceptual-abstract things. There are three forms of this induction strategy. The first is the generalization strategy (Kennedy & Thornberg, 2018) or also referred to as the categorization strategy (Maxwell and Chmiel, 2014a), or what in this article is referred to as coding. Thornberg and Charmaz, 2014). Second, is the strategy of connecting between these categories as discussed in the coding section (Maxwell and Chmiel, 2014a),

The third strategy is to explore emic interpretations and then frame them ethically (Willig, 2014). Various results of emic categorization (especially in the open coding stage) are framed and grouped from the point of view of the theory used (Wuisman, 2024). Here, theory serves as a guide for categorization or thematization of coding. This stage of analysis was carried out at the axial coding level. The results of this three-level coding process produce categorizations, themes, or mechanisms that are more abstract, conceptual, and in accordance with the central concept or theory used.

The author uses the term working hypothesis (which is widely used in qualitative research) instead of the term test hypothesis. The main difference between the two types of hypotheses is the use of theory. In a test hypothesis, the domain is deductive reasoning, and the aim is to prove the theory. Whether the field data is in accordance with the theory or even contradicts the theoretical reasoning. The result is theory verification, theory rejection, or theory modification. In contrast, working hypotheses function as warrant or sensitizing. The working hypothesis becomes a guide in collecting and analyzing data. Once the data obtained is different from the working hypothesis, let alone contradictory, then the working hypothesis is changed, and adjusted to the field findings.

4 CONCLUSION

From a pedagogical point of view, the ability to reconceptualize empirical data is categorized as higher order thinking. Students not only record and record empirical data. In fact, he must be able to dialectic the conceptual guidelines he has with his empirical data findings. The results of the dialectic are then categorized, thematized, and visualized by framing them on their theoretical foundation. In fact,

dialectic is already in the category of synthesis, because it tries to interrelate the theoretical foundations he has with the tendencies and reasoning of the empirical data he encounters.

The above synthesis process is also rooted in the sociological research tradition itself. The research methods literature in sociology often emphasizes that the categorization, thematization and visualization of research findings should be consistent with the paradigmatic position of sociology. Indeed, as a multi-paradigmatic science, the discipline of sociology demands that the qualitative research conducted by a researcher must be in line with the key ideas of the overarching sociological paradigm. Reconceptualization of empirical data must also be guided and in line with the overarching sociological paradigm.

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