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In Search of Themes – Keys to Teaching Qualitative Analysis in Higher Education

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Abstract

Teaching research methods in psychology involves communicating a number of methods stemming from diverse philosophical traditions. The process of searching for themes is a central part of various qualitative methods of analysis and involves the transformation of coded raw data into a thematic structure. This process has often been briefly described which can create a problem for students who encounter qualitative analysis for the first time. The aim of the present paper is to explore how the process of transforming codes into a thematic structure can be described and communicated through higher education teaching. Literature on research methods and related teaching methods was explored and subsequently related to experiences of teaching and using qualitative methods in research. The essay-writing process was used to develop a language and pedagogical methods for teaching of thematic analysis. The reflective journey started off with concepts such as sorting and using visual tools found in the literature review, and continued with more active concepts such as abstracting and re-organising. I found the illumination of dominating epistemologies in psychological research to be a key element for understanding a more fundamental problem impeding students' learning processes. The reflective journey ended in a proposition of teaching exercises aimed at encouraging students' research creativity.

Keywords

Research Methods, Social Sciences, Psychology, Higher Education, Qualitative Analysis, Thematic Analysis, Didactics, Pedagogics

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In Search of Themes – Keys to Teaching Qualitative Analysis in Higher Education

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Teaching research methods in psychology involves communicating a number of methods stemming from diverse philosophical traditions. The process of searching for themes is a central part of various qualitative methods of analysis and involves the transformation of coded raw data into a thematic structure. This process has often been briefly described which can create a problem for students who encounter qualitative analysis for the first time. The aim of the present paper is to explore how the process of transforming codes into a thematic structure can be described and communicated through higher education teaching. Literature on research methods and related teaching methods was explored and subsequently related to experiences of teaching and using qualitative methods in research. The essay-writing process was used to develop a language and pedagogical methods for teaching of thematic analysis. The reflective journey started off with concepts such as sorting and using visual tools found in the literature review, and continued with more active concepts such as abstracting and re-organising. I found the illumination of dominating epistemologies in psychological research to be a key element for understanding a more fundamental problem impeding students' learning processes. The reflective journey ended in a proposition of teaching exercises aimed at encouraging students' research creativity.
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Introduction

In my role as student supervisor and teacher in qualitative research methods, I have noticed that students tend to struggle when reaching the phase of transforming data into a thematic structure. This becomes obvious for instance during exercises involving thematic analysis of short transcripts. Based on a research question, students search for common themes in transcripts by first identifying and labelling shorter units and then sorting them into higher order themes. This is when students start asking me questions. They might wonder how *they ought to think*, i.e., "What are we supposed to search for?" "How should I be thinking when I sort quotations?" "What relationships are we looking for in the text?" or sometimes even more desperately, "*How are we going to find something if we don't know what we are looking for?*" The need for close supervision of student projects also tends to increase during the phase when students search for themes, and students often request instant help to move on with their work.

The most commonly used qualitative methods in psychological research are thematic analysis, grounded theory, narrative analysis, discourse analysis and various forms of phenomenological analyses (Smith, 2015). These methods differ essentially in several aspects, but I would argue that there are also some common traits that could be depicted as a common craft of qualitative methods. The craft of qualitative research includes for instance skills in data collection, transcription, writing field notes and reduction of data through

coding. These steps usually precede a process of reorganising data into a new structure of categories or themes that constitute the final results. I choose to call this phase of the analysis *searching for themes*, although I am aware that the terminology may differ between methods.

The craft of data collection, transcription and coding has been thoroughly described in the literature by Kvale and Brinkman (2014), Mishler (2003), Boyatzis (1998), and many others. However, such thorough descriptions of the transformative process of searching for themes are to my knowledge scarce. I have limited the focus to exploring teaching methods and literature on qualitative analysis in psychology – and specifically the part of the process of *searching for themes* in qualitative data. In my experience, there is a gap in the literature describing appropriate teaching methods for communicating the skills required. The aim of the present paper was to explore how the process of transforming codes into a thematic structure can be described and communicated through higher education teaching. The process of searching for themes involves identifying patterns in data (verbal, visual, text etc.), with or without the guidance of theory, and shaping these patterns into themes. I would say that it is an essentially creative process during which the results are being formed.

With the aim to better understand the challenges that students encounter, I sometimes return to my own experiences of learning and adopting the skills of qualitative methods. During my path through graduate and doctoral studies towards conducting my own analyses of data and finally publishing articles, I often felt uncertain and frustrated when it came to pinning down the *how's* of searching for themes. There were few researchers in my department with experience in qualitative research and I found the literature either too abstract or too concrete to be helpful when trying to learn these new skills. When turning to philosophical references, I had trouble transforming those lines of thought into hands-on practice. The struggles I experienced were of course also counterbalanced by enthusiasm, curiosity and the rewards of finalising the analysis.

During the past decade, I have taught qualitative methods within the social sciences, mostly psychology, at undergraduate, postgraduate and doctoral level. I have continued to search for texts describing how to search for themes and how to develop teaching methods for communicating these skills. I have found a wide range of current academic literature on research methods, while research on and methods for teaching qualitative analysis have been developed to a lesser extent (Nind & Lewthwaite, 2018; Wagner, Garner, & Kawulich, 2011). This is a problem, as the teaching of research methods, amongst some other subjects, is not just about communicating facts, but also about promoting students' ability to think and reason in new ways (Vanderstoep & Shaugnessy, 1997).

Materials and Method – Approaching the Challenge

The aim to explore how the process of searching for themes could be communicated through teaching in higher education can be approached in several ways. I have chosen to divert from the traditional framework of a scientific paper. Instead I have chosen the method and format of the essay as a mode of discovery (Klaus & Stuckey-French, 2012). The essay is a broad and flexible method, and has been described as "a type of literary transformation of the thought during the process of writing" (my translation, Hansson, 2011, p. 17). It is a method for both producing and communicating knowledge, mainly used within the arts.

I initiated my search by turning to the literature to look for examples of how the process of searching for themes was described in educational texts that were commonly used by students and researchers. A literature review of pedagogical texts was carried out based on searches in PsycINFO, Education Research Complete and Google Scholar using the keywords *higher education*, *qualitative*, *research methods* and *teaching*. Further references found in relevant text were also explored. The search resulted in ten journal articles

describing different aspects of teaching qualitative methods. The search was carried out with a pragmatic approach and was not aiming to adhere to the strict guidelines suggested for a systematic literature review (e.g., Perestelo-Pérez, 2013). I read the texts to identify descriptions of how to transform coded data into themes and how to communicate this process to students. These descriptions were summarised and elaborated on in relation to my personal experiences of learning and teaching qualitative analysis through writing of the text. The writing process was used as a dialogue between texts and my experiences of being a student, teacher and researcher with the purpose of closing the gap identified in terms of communicating how to search for themes.

Analysis

How do students learn research methods?

The literature on teaching research methods points out some general guidelines stressing that students, with all their various strengths and aspirations, require more than just the traditional setup of lectures and literature studies (Kilburn, Nind, & Wiles, 2014; Wagner, Garner, & Kawulich, 2011). To facilitate deeper learning (Biggs, 1999) about the "how-to" of research, students need to actively engage in the different practical tasks involved in the research process (Lewthwaite & Nind, 2016). Learning about research methods within a particular field involves *construction of knowledge.* This is because ideas about the nature of reality (ontology) and of what constitutes truth or knowledge (epistemology) will be communicated - in more or less explicit ways. Active ways of teaching may involve problem-based learning and experiential and reflective forms of learning through student projects, seminars, workshops or supervision (Healey, 2005; Lewthwaite & Nind, 2016). As students experience all the different tasks of a research project and reflect on the use of methods and on results, the practice of scientific methods may become visible to them and promote learning and integration of skills (Kilburn, Nind, & Wiles, 2014). It seems to me that the teaching of research methods in higher education is about more than merely providing students with tools to carry out projects and write a thesis; another aim is to communicate critical and balanced perspectives on knowledge within the domain of study.

As a social sciences lecturer, I face the challenges of communicating various research methods that are based on different – sometimes opposing – ontological and epistemological traditions. Over my years as a research methods instructor, I have sensed a shift in the field of psychological research and education, within and outside my department. The shift involves a move from a less reflective positivistic paradigm towards a more pluralistic way of thinking about methods and an increased awareness of underlying assumptions. Today, research with hermeneutic or social constructionist approaches can be presented along with studies based on statistical analyses – sometimes within the same project. This process has involved conflicts, as shifts of paradigms tend to do. More or less explicit disputes about how "real" research should be done have occurred along the way and a resistance to emphasising qualitative methods in the curriculums of methods courses has been evident. Statistical methods continue to dominate psychological research, but at the department where I work, qualitative and statistical methods are now being given equal emphasis in education. I am certain that these tensions and changes in the research field have affected students' understanding of and attitudes to various research methods.

My own highs and lows of learning qualitative analysis seem to mirror Cooper, Fisher, and Cotton's (2012) findings of students' mixed and intense emotional experiences during this learning process. In their study, students' difficulties were associated with learning to think in new ways and learning to code and search for themes, which created

frustration and anxiety in the studied students. Perhaps we (Cooper's students and I) experienced a similar dilemma when trying to *nail down* this process?

Searching for themes as described in the literature

The primary text I selected was a journal article by Braun and Clarke (2006) titled *Using Thematic Analysis*. This text describes how to carry out a thematic analysis and is one of the most widely used texts in students' work and in research with over 34 000 citations according to Google Scholar (https://scholar.google.se/, 16 November 2017). My intention is not to criticise the texts I refer to, but rather to explore such important research methods literature to find and hopefully fill some of the gaps that cause queries among my students and fellow teachers.

According to Braun and Clarke (2006), thematic analysis should commence with repeated readings of the data. The subsequent step involves coding of the data, which implies a process of identifying and labelling (coding) quotations in the text that relate to the research aim. The third step consists of the process of identifying themes. The authors describe this phase quite concisely despite the high level of complexity of the process:

> This phase, which re-focuses the analysis at the broader level of themes, rather than codes, involves sorting the different codes into potential themes, and collating all the relevant coded data extracts within the identified themes. Essentially, you are starting to analyse your codes and consider how different codes may combine to form an overarching theme. It may be helpful at this phase to use visual representations to help you sort the different codes into themes. You might use tables, or mind-maps, or write the name of each code (and a brief description) on a separate piece of paper and play around with organizing them into theme-piles. (//) This is when you start thinking about the relationship between codes, between themes, and between different levels of themes (e.g., main overarching themes and sub-themes within them). Some initial codes may go on to form main themes, whereas others may form sub-themes, and others still may be discarded. (Braun & Clarke, 2006, pp. 89-90)

So, the instructions to the reader (student/researcher) are to *sort* codes and quotations into *potential themes*, and, for instance with the help of *visual representations*, to *organise* the data into *theme-piles*. Then *relationships* and different *levels* of themes and sub-themes should be identified. Based on this, it seems to me that some data should be separated from others and that some data should be related to other parts of data. What characterises these relationships is less clear. My students' question "*How are we going to find something if we don't know what we are looking for?*" keeps echoing in my mind.

There are of course other texts that describe thematic analysis in more detail (e.g., Creswell, 2012; Watts, 2014; Willig, 2013), but a close reading of these texts and attempts to describe the process of searching for themes leaves me with a sense of it being uncatchable. It is as if this process cannot be fully captured in words.

I turn to the literature on how to teach qualitative methods with my query. Perhaps the learning of thematic analysis has to occur by positioning oneself in relation to data rather than learning a concrete method? In an analysis of research methods education, Booker (2009) emphasised the importance of making students *think qualitatively*. What this type of thinking implies is not entirely clear to me, but it begins with communicating the value of making in-depth studies. Booker emphasised inductive analysis as an important component of this thinking. Inductive analysis involves open-minded (theory-free) exploration of data through

which results and new theory evolve. This process differs distinctly from the positivist hypothetic-deductive approach to research, in which analyses are based on a theory or hypothesis.

Qualitative analysis does not have to be inductive, and I believe that even though we might call it inductive, most psychological research is carried out and affected by a basic psychological perspective on human processes and behaviour. I do however agree with the benefits of starting out with inductive analysis as a didactic strategy, as it allows students to become familiar with the openness, sensitivity and close engagement with data involved in rigorous qualitative analysis. These experiences may highlight the importance of sensitivity to data, which are equally important in deductive qualitative analysis to avoid the pitfall of pushing data into pre-existing categories in which it may not fit. Perhaps learning to think qualitatively is about becoming devoted to data and learning to be unbiased by previous knowledge and theory? Does this bring me any closer to an answer?

To further explore how the analytic process can be described, I move on to look more closely at deductive analysis. A group of researchers made an attempt to capture this process by documenting their own teamwork (Paulus, Woodside, & Ziegler, 2010). The initial phase involved positioning themselves in relation to an external authority (e.g., theory or research method), which was a way to establish a common framework for interpretation that would guide the team. This framework was further developed through discussion of theory and tentative interpretation of data. An iterative process followed during which the team oscillated between theory and data, which resulted in preliminary results. At this point, the researchers became aware of the necessity to reconnect the preliminary results with the participants' voices to ensure that the analysis did not drift away from the data (Paulus, Woodside, & Ziegler, 2010). Key components of deductive analysis appear to be that the data and the theory need to be carefully explored and compared to establish a common ground for interpretation. Although the deductive approach offers a framework for what the student or researcher should be looking for, it seems to me that Paulus et al.'s description as well as other writings about the use of theory in analysis (e.g., Mazzei & Jackson, 2012) point to the same unbiased, sensitive and open-minded approach to data as inductive analysis.

This line of reasoning seems to bring me somewhat closer to identifying how *learning to think qualitatively* could be described. However, I also know from experience that sensitivity and devotion to data can become an obstacle and make some students get lost in the details and prevent them from rising above and identifying the abstract patterns of themes. When focusing on doing research in a group as Paulus et al. (2010) did, the benefits in terms of developing new skills through co-operation become visible. Equally, the interpretative processes—and related problems—when students search for themes can be illuminated and explored in situations where students work in pairs or groups, or during supervision.

Organising or getting lost?

I return once again to Braun and Clarke (2006) in an attempt to develop the meaning of their text and to find vocabulary that may support students' learning processes. *Sorting* can be seen as an extension of coding as both activities involve an attempt to label and reduce the large amount of raw data to make it more manageable. Both coding and sorting take place in close interaction with the data. This closeness may sometimes counteract the inexperienced researcher's attempts to abstract the data into higher order themes—a process which requires the researcher to let go of the solid rootedness in the data to some extent. I suggest that the words *abstraction* and *reorganisation* may better describe the steps that follow coding. During this phase, the student/researcher works with material created during analysis such as

codes, field notes and summaries of data. To reorganise this material, the student/researcher needs to step back and gaze over larger parts of the data (as opposed to the focus on details during coding) to make associations and find connections between the parts. Perhaps *reorganisation* seems equally indistinct to the reader as *sorting* seems to my students, but to me, reorganisation communicates a more active approach to doing something with data.

Mulvihill, Swaminatha, and Bailey (2015) described the problems of trying to nail down this process:

> … novice researchers who often start off believing that if they can only "catch the tail" of this thing called qualitative research they will be able to "do it right." Yet, as the metaphor implies, catching a fierce beast by the tail, thinking you can control its actions, can be a fatal mistake leading students and faculty who believe they can control the data analysis process by holding on tightly to one part of the beast, to succumb to a misguided positivist notion about knowledge creation. (Mulvihill, Swaminatha, & Bailey, 2015, p. 1491)

Instead, Mulvihill et al. (2015) argue that pedagogical spaces should be shaped to stimulate interaction between students to facilitate development of their "research imagination" (p. 1492). This may happen through exercises during which students ask questions to themselves or others, or work with imaginary dialogues with researchers representing different theoretical standpoints. To improve researchers' creativity, Mulvihill et al. suggest an exercise where students perform thematic analyses of pictures and discuss their results in groups. By raising the question to the level of epistemology, and by pointing out the effects of a positivist paradigm, Mulvihill et al. enable me to think of new approaches to my own search for teaching methods, as well as to deal with the students' questions. Somewhere behind the search for clear instruction for what to search for in data lures the assumption of psychological research being equal to positivist research. Contrary to this, Mulvihill et al. claimed that, "[g]ood analysis is not mechanistic but everything about class design in traditional formats works to suggest that it is"; instead we need to "practice getting lost" (2015, p. 1494).

So let me elaborate on what psychological knowledge can contribute to understanding this creative process. Kahneman (2011)—one of the more popular theorists in the field of cognitive psychology—has described creative thinking as the ability to make links or associations between different parts. This view of creativity has also gained empirical support (Benedek, Könen, & Neubauer, 2012). The same mechanism, which is about linking parts in new inventive ways rather than creating something completely new, appears to apply to both scientific and artistic creative processes (Kahneman, 2011). In my teaching, I have used an exercise inspired by Kahneman that is meant as a metaphor for how to make associations and creating links in qualitative data at a basic level. I ask students to reflect on three words, e.g., *DEEP*, *SALT*, and *FOAM* (an item from the Remote Associates Test of Creativity by Mednick, 1968), and quickly identify a word that can be added to the beginning or end of each of these words. We also practice making free associations between words. This exercise is carried out in the classroom, and an important part of it is the subsequent reflection on the various ways in which individual students approach the task. Although the exercise is a simplified version of what happens during data analysis, I believe, it is adjacent to research imagination. The exercise is also meant to open up a more playful search for associations as it becomes obvious that students apply different strategies to reach the answer, i.e., the word *SEA*. Some systematically try different words while for others a common scent or memory occurs while reading the words. This exercise is a useful tool for introducing the mood of associating involved in analysis and reduces some of the confusion around this step of the

process. I do however think that further exercises are needed to illustrate the subsequent steps of reorganising codes and shaping themes.

Results – An Experiential Way of Learning How to Search for Themes

One option that occurred to me during this reflective journey was that I as a teacher need to trust that students already possess the basic skills for doing thematic analysis. They usually already know how to make associations, sort things into piles and how to move from a concrete to an abstract level of meaning. Perhaps the limitations of what fits into scientific analysis and what works for different research aims are what need to be communicated in teaching.

Instead of offering a neatly written description for students on how to search for themes (or catching the tail), which I appear unable to do, I am proposing some exercises that may promote the learning processes that appear to be important in research methods teaching in higher education. The exercises were designed, tested in classes and modified during the writing of this essay. They are meant to work in two directions—to encourage students' freedom and playfulness during analysis and at the same time make the boundaries of scientific methods and knowledge visible.

The initial step involves promoting students' awareness of the implications of a research aim or question. The following step involves moving into a state free of self-censorship to enable playful engagement with data, and finally to reflect on the analytic process. As I argued above, I see the search for themes as a creative process that seems difficult to pin down and describe in words. The students' question: "*How are we going to find something if we don't know what we are looking for?"* seems to be related to the traditional one-way communication of research methods where knowledge is transferred from teacher to student, together with what Mulvihill et al. (2015) described as strong influences of a positivist research tradition in psychology. An illusion of there being *one* right way to go about a particular research aim and that there should be a recipe for analysis could easily occur in this context. At the same time, students in professional training are often familiar with the skills of applying pragmatic strategies to problem-solving and reflecting on the quality of various results. It seems to me that we simply need to support students to start using and practice these skills in research work as well.

An important part of the courses in qualitative research methods that I teach involves giving students practical experiences through mini-projects that include the different parts of a research project: formulation of aim, collection and analysis of data, and writing up methods and results. The following exercises are meant to integrate theoretical and practical components during the mini-project and have been used in advanced level methods teaching in psychology.

Exercise 1: Exploring and defining the parameters of a mini-project

Following an introductory part of the course and prior to the workshop, students formulate their own research question and/or aim. The aim of the exercise is to define and limit the possibilities of what a research project may finally result in. Students work in pairs in an activity inspired by peer assessment techniques (Snowball & Mostert, 2013) guided by a battery of pre-formulated questions. The task is for students to support and work as resources for one another by asking and collaborating on questions (rather than evaluating each other's work). Examples of questions are: What do you aim to explore (phenomenon, process, relationship, narrative etc.)? Who are you planning to explore (sample, population, homogeneity-heterogeneity)? What type of knowledge can be gained from the study

(epistemology)? Further questions may relate to data collection methods and the project plan. When the students run into questions they cannot resolve together, they save these for the collective teacher-led round-up at the end of the workshop.

At this early point, I find it useful to ask students to reflect on what they expect to find during the project in terms of results. If students keep their notes, they can be very useful when writing about preconceptions and possible biases in the final report. It is likely that the students will not find answers to all questions, but this may activate a search for answers that extend beyond the workshop. Following this exercise, some students may need to revise their research question/aim, and hopefully an outline of *what we are looking for* is then beginning to take shape. I believe this exercise works as preparation for analysing data. When using it in class I have noticed that students tend to become less focused on the method as a technical tool for analysis and more aware of the importance of knowing what they are really searching for in terms of depth of analysis, epistemology and the future shape of themes. Some students find it hard to answer the questions, which works as an indicator of that more preparation is needed before starting to collect and analyse data.

Exercise 2: Sorting, reorganising and abstracting data

This exercise was inspired by Saldaña (2015) and Mulvihill et al. (2015) and aims to promote students' ability to make associations and identify relationships between different parts of data that seem to be important components in the search for higher order themes. By oscillating between a focus on details and a surveying of the whole dataset, relationships within the material are explored. In this exercise students are encouraged to search freely for similarities and differences of expression, the use of metaphors, narratives, structures etc.

Students work in small groups, each provided with a pair of scissors and transcripts containing about 30 short quotations on a well-defined subject such as "why do people like a particular colour?" Students cut the quotations into meaning units which they label with codes. The meaning unites are reorganise into a thematic structure related to a particular research question (defined by the teacher or students). When the group has organised the quotations into themes, their task is to name the themes and ensure that they are grounded in data. The results from each group are subsequently presented to the whole class, allowing students to exchange experiences of different approaches to thematic analysis. This provides an excellent opportunity to make students aware of the limitations of scientific analysis, to differentiate between analysis and simpler forms of sorting, and to define the different levels of interpretation. The level of difficulty of this exercise can be varied depending on the length, complexity and heterogeneity of quotations.

Exercise 2 aims to introduce the practice of inductive thematic analysis, but could also be designed for deductive forms of analysis by introducing a theoretical framework at the beginning of the exercise (preferably a theory with which the students are already familiar). Groups begin by exploring the theory in an attempt to unfold and expand it and relate it to the research question. The quotations are cut into meaning units and tentatively reorganised into a thematic structure influenced by the theory. The exercise is concluded with a shared reflection on the process, on the themes and on the extent to which the voices of the participants, students and the theory dominate the results.

Students often spontaneously offer feedback on this type of exercise, explaining how it has given them a model for how to think when working with real data. It appears to work as a bridge between the somewhat abstract instructions provided by lectures and textbooks, and the disordered and complex task of analysing real interview data.

Conclusions

The aim of the present paper was to explore how the process of transforming codes into thematic structures can be described and communicated through higher education teaching. This aim has only partly been reached during the journey of writing this essay. I have still not been able to articulate a straightforward description of the process of searching for themes that can be communicated to students through a text or lecture. Personally, I find words such as abstraction and re-organisation somewhat helpful when attempting to communicate the active work of creating themes. However, these words will probably leave students who are looking for a recipe or formula equally confused as when instructed to sort data into themes. This implies that students need to become aware of the pitfalls of looking for quick fixes or recipes at an early stage of learning, and that this constitutes an important part of teaching the craft of qualitative analysis.

Even though I failed to complete my initial mission, the real discovery was made when inversing the problem. The key element was seeing the teaching and learning of qualitative methods in a wider context of psychological science – a research field that is highly influenced by a positivist approach. Despite having worked with hermeneutic and phenomenological analysis for many years, my way to approach the students' question "*How are we going to find something if we don't know what we are looking for?*" had been influenced by a positivist way of thinking. This awareness has enabled me to respond to, and sometimes even forestall, the students' questions by exploring this dilemma with each new group of students.

The exercises described above are by no means complete, and there are probably numerous other ways to communicate thematic analysis. They are simply meant to inspire teachers in higher education who encounter similar problems. The exercises are examples of how to demonstrate the variation of ways one may go about the search for themes. The exercises are simplified versions of thematic analysis but may be used as working models for how to analyse more complex data. In addition to encouraging students' creativity, it is equally important to communicate the critical evaluation of qualitative analysis and results (Yardley, 2000). However, as self-censoring may interfere with creativity, I suggest that that this should be introduced at a later point in the process. Let us begin to "practice getting lost."

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