

Qualitative Psychology Nexus

Mechthild Kiegelmann (Ed.)

**Qualitative
Research
in
Psychology**

Ingeborg
Huber
Verlag

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Qualitative Research in Psychology

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Ingeborg
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Preface by the editor

Qualitative Research Nexus is a series in psychology that provides a forum for discussion, presentation, and enhancement of qualitative research. The aim of the series is to create a forum for otherwise "scattered" authors in the field of qualitative psychology.

This volume one of Qualitative Research Nexus, titled "Qualitative Research in Psychology" documents the papers and discussions from the first workshop of the Center for Qualitative Psychology, which took place from October, 20 - 22, 2000 in Blaubeuren, Germany. In this initial convention, participants introduced their work and their approaches to qualitative psychology. A special focus was on the psychological contributions to the wider area of qualitative research for social sciences.

The Center for Qualitative Psychology itself was founded in 1999 to further develop and enhance qualitative research methods in the psychological field. It is especially committed to supporting qualitative methods for socially committed research, with an emphasis on continuing the tradition of qualitative psychology starting since the 1950ies in methods such as the use of observation, introspection, and interviews. The center provides qualitatively working psychologists the opportunity for networking, for enhancing their expertise in annual meetings, and for engagement in international co-operation. The center helps to promote an active scholarly exchange with the international community of researchers in psychology, and is based at the University of Tübingen.

This book was made possible because of the engagement and support of the following people. I thank the Hans-Böckler Foundation for providing funding; Ingeborg Huber of the Ingeborg Huber Verlag for supporting this publication; Dorian Woods for her English editing; Sergio Gamboa for additional proofreading of three contributions; and Volker Löffler for the layout.

I thank especially the members of the department for educational psychology at the University of Tübingen without which none of this collaboration would have been possible. I am grateful to Leo Gürtler for his support in many laborious details, to Josef Held for his critical feedback, and most of all to Günter L. Huber for his continuous collaboration and engagement in the conceptualization and realization of this project. Finally, I thank the authors for their contributions to this volume.

Mechthild Kiegelmann
Tübingen, April 2001

About the Workshop Qualitative Research in Psychology

Mechthild Kiegelmann and Leo Gürtler

The "Workshop Qualitative Research in Psychology" took place in Blaubeuren, Germany from October 20-22, 2000. The meeting was organized by the Center for Qualitative Psychology of the University of Tübingen, Germany.

The purpose of the meeting was to begin a network of qualitative psychologists. Thirty-two participants got to know each other, presented and discussed their research, discussed potential further developments within the field of qualitative psychology, and inspired each other with plans for the future. There were psychologists from Germany, Spain, Latvia, Finland, and the United States, most of whom were working as researchers within university contexts.

The workshop took place at the retreat house of the University of Tübingen in a small village called Blaubeuren. A comfortable place with beautiful landscape, welcoming staff at the house and delicious food created a friendly atmosphere for the meeting from the start. The meeting started with an evening opening session in which all participants briefly introduced themselves and their interests in qualitative psychology. In order to communicate with each other, all of the participants spoke English. The introductions helped people to seek each other out afterwards in more informal conversations during the following two days.

Panel presentations

On Saturday morning, several panelists opened the workshop. The panelists pointed out their views on important issues in qualitative psychology. This step was helpful to illuminate the range of topics to be considered within the current developments of qualitative psychology. They shared views at some points and held different opinions at other times. Discussion and collaboration was encouraged. Rather than summarizing the range of ideas presented by the panelists, we print the following (edited) transcripts of their verbal statements:

Günter L. Huber:

Despite the long, glorious history of introspection in psychology, today we find more qualitative work in neighboring disciplines, above all in sociology. When psychologists hear the term "introspection" used today, a majority of them still activates pejorative connotations like "speculation" or "unscientific subjectivity."

If psychologists decide to apply qualitative approaches to their field of research interest, they soon become aware that they entered a dangerous methodological area, where only few guidelines are available. In the South there is the warm, but also swampy area of authenticity, while in the North cold and rocky, but stable areas of generalization are waiting. In between are the flowering meadows of various methodological schools, where colorful blossoms attract the wandering students attention. They promise at least by more or less clear lines to guide the students to the nectar of insight in their subjects world views. Orientation is difficult in this environment, and students are more endangered to become trapped by the one or the other of those colorful offerings than to loose the overview in a multitude of possibilities.

What we need in the field of qualitative psychology are principles of orientation among methods and their potentials. Isolated discussions within the boundaries of schools creates adepts and impedes methodological development. Although the quarrel between Glaser (1992) and Strauss about emerging and enforcing categories is a rare illustration of my statement, it should be taken as a warning. Miles and Huberman (1994) offer a convincing approach to elaborate principles of orientation; they analyze and order the processes applied in qualitative research. If we follow this line, we will find more resources already available within psychology than applied until now. I suggest to re-activate the approaches and findings of psychological research on concept formation to structure qualitative methodology. Classification of the world according to emerging structures of meaning is at the heart of concept formation, and "constant comparison," "search for contradictory cases," analysis of positive and negative instances can easily be found in both areas.

Mechthild Kiegelmann:

There are two issues I want to briefly raise at this point:

My sense is that psychologists who are conducting qualitative research, particularly in Germany, mostly work in isolation. Therefore, I see a need for networking and facilitation of collaboration. As one step towards this goal, I organized this meeting.

In terms of methodological questions, there is one area I would like to suggest as a topic for our discussion, i.e., careful reflection on research relationships. I am particularly interested in finding adequate forms of how to fill the researcher-role in emancipatory studies. Being influenced by the approach of critical feminist research, I am interested in studies with a purpose of social critique. Yet, the action of "helping" or impacting the lives of those who are being studied can contradict the action of research. Maybe those we study are not as keen of our "helping" as we are; maybe getting involved in problem solving will be very energy and time consuming and calls for other goals than a study can permit. As has been

pointed out by Patai (1990¹), how to negotiate the purpose of social change with the purpose of "research" is a tricky task.

Tamara Beauboeuf-Lafontant:

Psychology's contribution to qualitative research in the social sciences is its focus on the experiences and points of view of the individual. However, given that multiple beliefs about the self exist in our discipline, we must decide, as psychologists and qualitative researchers, what our guiding assumptions about the self are. For example, do we believe in a traditional self - one that is autonomous, rational, and not influenced by the social context? Or, do we take on a feminist, relational perspective which sees the self as existing in interpersonal networks which are central to the definition and experience of selfhood? Or, do we take a poststructural view of selfhood which maintains that the social context as well as interpersonal dynamics contribute to a multiplicity of selves in each individual?

Identifying how we view the 'unit of analysis' of the self in qualitative psychological research and developing ways of 'operationalizing' such a unit is key for at least two reasons. One, doing so allows us to demonstrate what is fundamentally 'psychological' about our research and how it is distinct from sociological, historical, and anthropological qualitative research. Second, clarifying our use and research of 'the self' enables us to more clearly instruct students to learn and develop methods of tracing 'the self' in psychologically-minded qualitative studies.

Antonio Medina:

The specific interest of the teacher education group at the UNED in qualitative methods is based on the goal to develop successful in-service training programs for teachers. Acceptance and efficiency of these programs depend to a remarkable degree on structuring them according to the teachers points of view of teaching/ learning problems and of feasible solutions. Therefore, the UNED group favors group discussions as methodological approach. In their studies, this method is applied as one approach among a variety of complementary methods to get more reliable access to the same content area by methodological triangulation.

Franz Breuer:

What are the central issues of current qualitative psychology? First it is to recognize the "qualitative" traditions of social sciences in a broader range of

¹ Patai, Daphne. (1990). U.S. academics and third world women: Is ethical research possible? In Sherna Gluck & Daphne Patai, *Women's Words. The Feminist practice of oral history* (pp. 121-153). New York: Routledge.

disciplines. There are a lot of such traditions and contexts which are worth getting to know for the purpose of developing a "qualitative psychology." Interdisciplinary communication is very important. (We are doing this with a new interdisciplinary online journal "Forum: Qualitative Social Research / FQS"; <http://qualitative-research.net>) This may help - second - to develop a "qualitative culture" in psychology (besides the "quantitative" one) - concerning scientific education, socialization, and research practice.

These two items are consensus in our meeting, I guess. But my third item is a warning: The ambitious process of institutionalization of qualitative psychology may lead to consequences that are not intended. The critical issue is that something might get lost when moving from innovation to establishment - as could be observed the processes of institutionalization in other social contexts (e.g., the development of organizations or companies). It may be characterized by a shift from point A to point B, when

- A is: adventure, risk, and B is: security, certainty. Or:
- A: non-conventionalism - B: conventionalism, canonification;
- A: innovation - B: routine, bureaucracy;
- A: pleasure of experimentation - B: freezing, dogmatization;
- A: contexts of freedom and own decisions - B: rules and regulations;
- A: informal structures - B: formalized structures.

Such a development has certainly an ambivalent character. And my question is: Do you want to be part of a movement that can be described in this way?

Adequacy of method to the object of research is an important criterion in qualitative methodology. In addition, I argue that the following activities are crucial for doing psychological research with the aid of qualitative methods:

- intellectual as personal adventure,
- discovery of new structure and contexts,
- thinking myself instead of letting (established) procedures think for/instead of me.

And I would like to encourage you, who work on your own "qualitative projects," not to let anything take away your own thinking and decision making. These elements build up the "personal character" of qualitative methods and potential hazards may be introduced by the movement of institutionalization in qualitative methodology.

Philipp Mayring:

I want to talk about the status of qualitative research and future perspective that can be seen. Looking at different disciplines, there can be seen much differences between them. Considering psychology, it can be said that qualitative methods are underdeveloped. If we change the context to sociology, there is a big history and tradition of biographical research, the

"Chicago school," feeling research and so on. Beginning at the last century the qualitative research approach was strong and influencing sociology. This impact can not be found in psychology. Education has a long tradition of philosophic and studying comment approaches, we call it in German "Geisteswissenschaften," that are working with hermeneutic techniques and are overwhelming accepted in other scientific research fields - more than in psychology.

At the beginning (e.g. W. James) of the psychological science we find qualitative as well as quantitative methods. But the second generation of psychologists was under the influence of behaviorism and exclusively quantitative, experimentally research techniques.

The content of the specific science changed during the midst of the twentieth century, but this change can not be found in the practice of the methods. There is still the paradigm of the methodological behaviorism, that mean purely quantitative and experimental methods.

This tradition is still strong and alive, so qualitative methods have to struggle to survive, to be published, to be sponsored and accepted. This leads to the conclusion, that qualitative psychology is very poor in comparison with quantitative psychology.

What are the future perspectives in face of this urgent and nasty situation? One way is to form subgroups and alternative traditions. To gain respect, it is necessary to describe our procedures as techniques, following clear rules, step by step models, data collection and analysis designs as clear as quantitative approaches do. Further, qualitative methods can be an instrument like quantitative are.

The second important point is to combine different steps of qualitative and quantitative analysis to an integrated concept of methodology. Combining theories and to make connections are the possibilities that we have.

Jarg Bergold:

Issues in qualitative psychology from the point of view of a community psychologist:

What is considered an "issue" always depends on the point of view of a certain person, her background etc. My background is community psychology and therefore I argue from this perspective. What are the central issues in qualitative psychology from the point of view of community psychology? The work and the research community psychologists do are very near to the everyday world - they enter into real-life situations and are interested in the processes that are going on in everyday situations. They rarely construct experimental studies. Instead they go into the "normal" world, e.g. into slums, urban districts, hospitals, halfway houses etc. and try to study their particular subjects like social network, empowerment, co-

operation etc. In doing so they come to know different people and different perspectives.

Out of this conceptualization of the research field a number of methodological issues arise:

- One main issue is that complexity. The complexity of the situation is tremendous and we need very elaborated research strategies to be able to catch this complexity. How should our methods of research be constructed, how should they be interrelated? There is actually a lack of reliable strategies to deal with these problems.
- The problem continues when we are thinking about theory building. How can we bring the important features in the different data together? How can we conceptualize the different perspectives of the people in real-life situations? What type of causality would be adequate.
- If we have resolved these problems in some way the problem of presentation arises. How can we communicate our results to other scientists, to students and to the public in a way that a reader can understand what we have done and how we have come to the particular results.
- Community psychologists claim that partiality (Allparteilichkeit) is an important feature of their approach. They explicitly take position for their research partners - particularly if they are in an economically and socially bad position. There seems to be agreement on this issue in the USA, in Europe as well as in South America. But what are the consequences of this involvement? Clearly, community psychologists want to produce results that help the people who are underprivileged. But what does this mean for research methodology? One demand would be that is necessary to clarify the researchers own position, to reflect about his research interests ("Erkenntnisinteresse") and the socio-economic conditions that lead to the exploitation of his research partners.
- Closely connected with this is the question of power and particularly the question of power in the construction of information in qualitative research. Even if we try to give our research partners a part in the production of the data - the power is still in the hand of the expert. Which methodological procedures can we develop in order to reduce this power difference?

Josef Held:

The main point for our pedagogical-psychological youth-research is how we can connect research with social practice. I think qualitative psychology needs not only special methods but also methodological strategies as a framework. We should learn from traditions like the ethnographic approach, the cultural studies approach, action research, field studies (for

example the Chicago school). For our research projects we defined a research strategy or style and *within this*, we combined several methods like participant observation methods, interview-methods, case study and even quantitative methods. The special combination of methods depends on the peculiarity of the field and the subjects.

Secondly, in our cross-cultural youth research we refer actually on the tradition of cultural studies and prefer a combination of case study, guided interviews and video observation method. In the center stand case studies. Additionally we make quantitative surveys.

Thirdly, such different methods must correspondent with different methods of data analysis and they lead to different results. Only in a second step of data analysis you can connect the different data. The grounded theory approach can be helpful for this second evaluation process.

Finally, our thesis: The problems of connecting different methods, special quantitative and qualitative ones, are not really solved. The simple way to sample and code the data qualitative and analyze them quantitative can not be the solution for a qualitative psychology. I think this should be discussed.

After these statements, the audience and the panelists went right into discussing critical questions like how much pre-structuring does a research design need, or what exactly do we, as psychologists, have to offer to the methodological discourse in social sciences. Workshop participants had the opportunity talk intensively in small work groups that followed.

Work Groups (overview)

Work Group 1: Examples of applications of qualitative methods (I)

- *Ertel*: Categorizing the content of everyday family communication: What do families talk about in everyday life?
- *Gläser-Zikuda*: Emotions and learning strategies at school – opportunities of qualitative content analysis
- *Gürtler*: The role of subjective theories on love
- *Lutz*: Deciding which kinds of data to collect in an evaluative study and selecting a setting for data collection and analysis
- *Irion*: Dynamics of a qualitative research design. An interactive approach to interactive reception.
- *Plaude and Held*: Cross-cultural youth research as international and interdisciplinary cooperation: project “International Learning.”

Work Group 2: Examples of applications of qualitative methods (II)

- *Gableitner*: Ways of combining qualitative and quantitative procedures exemplified in a study on the gender-specifics of coping with sexual violence.
- *Kiegelmann*: Qualitative research with a genuine psychological approach: the method of voice analysis.
- *Beauboeuf-Lafontant*: Toward a method of ideological becoming.
- *Kölbl*: Methods which are accommodated to their research object: On the adequate investigation of historical consciousness at youth age.
- *Marks*: Research project "History and Memory."
- *Oltersdorf*: A design-scientific study on materials and their psychological meaning².
- *Medina*: Data analysis of discussion groups about the in-practice training of the pedagogic and counseling personal.

Work Group 3: Specific issues in qualitative methodology (III)

- *Huber*: Classification as basic epistemological process.
- *Kleining and Burkart*: Group-based dialogic introspection and its use in qualitative media research
- *Nentwich*: The process of understanding in qualitative social research.
- *Reinhoffer*: Formating categories in qualitative data analysis. The teaching research project "teachers' attitude and practice concerning elementary science in primary school."
- *Soini*: The contribution of qualitative approach to learning research: A critical incident technique as a research method for studying student learning.

Future Plans

At the end of the meeting we started a final discussion about our future plans. Everyone expressed satisfaction with the workshop and expressed a wish to meet annually. The idea of the workshop organizers to establish a network of qualitative psychologists was taken up. Further plans were joint projects, supportive networks between generations, and collaboration through publications. Other ideas were to explore how much there is a need for qualitative methods in different fields of psychology; lobbying and volunteering as journal editors in order to actively participate in the scientific discourse of our discipline; and, of course, to further develop the

² For the contribution by Karen Oltersdorf, see her text on the center's internet pages at:
<http://www.uni-tuebingen.de/qualitative-psychologie/t-ws0/21-oltersdorf.htm>

methodology of qualitative research. Furthermore, it was emphasized that not only publications, but also teaching and curriculum development are beneficial for promoting qualitative methods. In psychology, the curriculum of graduate studies should be revised in order to incorporate both qualitative and quantitative methodological orientations. The importance for an incorporation of media and communication was stressed as well. The discussion about how to use publications as a means to promote qualitative psychology led to the problem of funding: Some participants wondered where and how to find financial resources in order to conduct high quality research; others discussed the issue of how to write grant proposals. Still promoting the idea of networking, suggestions were made about the possibility of implementing workshops of intercultural studies to learn from each other or discussions about cultural and methodological questions in specialized workshops. Consolidating European and international teams of researchers (including recommending each other as peer reviewers, providing collegial assistance, maintaining an Internet presence, joint publications, or the implementation of joint web-sites and portals) were other ideas that were expressed. In connection to proposals for joint projects, there were also some discussions as to how to avoid establishing closed "in-groups" and becoming stagnated and thinking in "schools" rather than emphasizing similarities between the researchers. At the end of the workshop, participants planned the next workshop for 2001, titled "The Role of the Researcher in Qualitative Psychology."

Group I: "Examples of Applications of Qualitative Methods, Part I"

Discussion summarized by Leo Gürtler

Participants of group I were Irmentraud Ertel, Michaela Gläser-Zikuda, Leo Gürtler, Josef Held, Thomas Irion, Inge Lutz, Ilze Plaude and Olga Pérez

In the first group, the topics of research covered different fields of qualitative research. There were on 1) the reception of hypermedia in elementary school, 2) comparative qualitative methods on cultural studies, 3) innovative gender-specific school projects, 4) a qualitative-quantitative study about strategies and emotions in learning situations, 5) subjective theories about love in the frame of the research program subjective theories, and 6) categorical content analysis in family everyday interaction and communication. The discussion that followed these presentations was framed by three questions, which the group had received during the morning plenum:

Instructions for workgroups

The purpose of the workgroups is networking and the creation of new projects. Each group prepares together one poster to be then presented to the other two groups at 4:pm. The posters will be published in the conference documentation.

To structure the discussion and presentation of results, we ask you to answer the following three questions:

1. What do we want to tell the other participants about our work (overview of areas of expertise)?
2. What would we like to learn from the other participant groups (methodologically)?
3. How can we teach what we know about qualitative methodology, based on our research experience (teaching of qualitative methodology)?

To answer this, a discussion took place, and as a result, the groups made a poster to present to other groups. In the following presentation of the poster, the different results will be integrated around three dominating topics: 1), the relationship between theory and empirical investigations, 2) the question of validity, and 3) the resulting consequences for education. The process of qualitative research is a process of continuous shifting from the field of theory to actual practice, and then back again. Both, theory and practice, have go together to form the complex union that represents the

qualitative research process. A separation of the two is done here only for analytical issues which could not be handled otherwise.

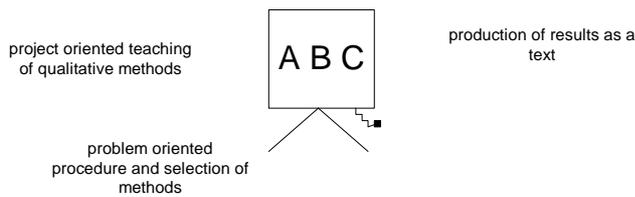
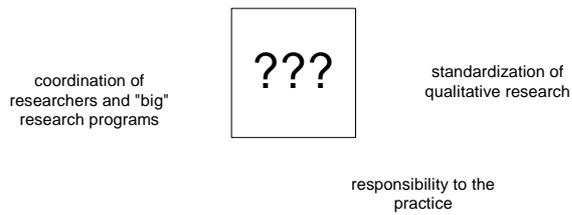
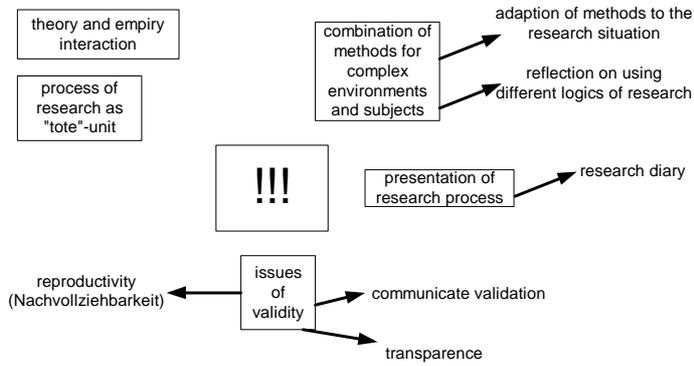
Theories must be validated and reflected upon within empirical findings. Only with a theory plus empirical findings it can be assumed that new ideas will follow and no rigidity or separation from reality and real-life situations will happen instead. Following that, the process of research is one of feedback and self-reflection. In this, many parallels to the "TOTE" unit from Miller et al. can be found. The process of research can be understood as an ongoing sequence of testing, operating and re-testing until - from time to time - some aspects are finished and specific targets are reached. This will lead to exit. However, this is not the end. In a broader sense, the process never really stops and the exit (E) is only temporary in order to reflect and to admit some space to orient themselves in a different way.

To ensure that theory and observation are complementary, it is necessary to introduce the concept of validity, but these terms still need to be formulated within qualitative psychology. What are the characteristics of validity in qualitative psychology ?

Issues of validity cover a broad range and are necessary to make a fair comparison between theory and empirical observation. The process of research must be transparent and accountable in order to reproduce a study or research project. Validity must be communicable, so that others - regardless of language or specific topics of interest - are capable of understanding and discussing not only the content, but the systematic way in which the research is structured. Tools that help to reach that goal are research diaries and at least some basic standards of qualitative research. The latter is crucial, because if everybody gives only respect to his or her own standards, quality and intercommunication will decrease altogether.

Having set these preliminary standards, two other points of interest emerge: presentation and education. In fact, they both belong together as well. Presentation as the art of intermediation gives not only a "gestalt" or an impression of a theory and/ or a specific study, it also can describe necessary details. These are crucial to understanding what is meant, what has been done and why it has been done, which are all characteristics of good teaching. Thus, presentation is a part of education. To teach qualitative psychology is not only a matter of instructions at a university in front of (hopefully interested) students, but it is also an issue of developing a network within qualitative psychology. Group I decided that we need this network to ensure that our standards of quality do not stagnate or even decrease, but to flourish. To make it simple, complex environments can not be researched by one person only. That is the point that makes the introduction of some shared standards unavoidable.

Each researcher can teach her or his own field of work to each other. But how? Out of experience, groups one decided that sharing our knowledge can be done best with project-oriented teaching of qualitative



methods. It seems very helpful - especially with students - to teach qualitative methods simultaneously with actual projects. In these projects the theories can be practiced and give the basis for further development of a theory and empirical observation integration. We think the best way to learn is step by step, but continuously and holistically.

Within teaching lessons, it seems appropriate to present at least a small connection from abstract methods to concrete problems. This is

called "problem oriented teaching." Within these lessons there can be also discussions about selectivity and differentiation of methods brought into action. It will help to develop the necessary knowledge that is needed for orientation in real life situations, considering the complex conglomerate of variables that resides in them.

Besides actual face-to-face teaching, the teaching of qualitative data analysis and interpretation needs a permanent medium (e.g. for repetition). Because of the nature of qualitative data, a (prosa) text is the best way to explain results, methods and data as well. Like structuring the lessons, structuring the communication and interchange is necessary as well. In favor of our future standards, we need to coordinate all the different individual researchers and unite small scientific units or programs with more 'big' studies for building up the anticipated network.

Categorizing the Content of Everyday Family Communication: What Do Families Talk About in Everyday Life?

Irmentraud Ertel

Qualitative methods are particularly amenable to getting a close-up look at family experience. For example, the use of unstructured interviews, observations, or diaries and letters allows participants to discuss their family experiences in their own language, in their own natural setting, and according to their own comfort in disclosing. By entering participants' life worlds, rather than imposing the formality of a survey or an experiment, qualitative researchers are in a good position to access the private meanings of families (Daly, 1994).

Introduction

Methodologies currently under discussion and relevant to qualitative psychological research include different approaches. Principles, procedures, and values that guide qualitative family research processes also contain many types of research.

This article provides an exemplar of the appropriateness of qualitative family research within the study of communication, that is based on overlapping principles from different methodologies such as naturalistic inquiry (Lincoln & Guba, 1985), social constructionism (Gergen, 1985) and grounded theory (Glaser & Strauss, 1967). If one has a clearly defined initial research question, each of these methodologies can add new dimensions concretely to the question under study and generally to qualitative family communication research.

The investigation of the private social life of families' day-to-day reality is the main research interest of my study. Families as social groups are defined by boundaries that demarcate insiders from outsiders and they are typically thought of as being one of the most closed and private of all social groups. As a qualitative family researcher I use an old traditional qualitative method to examine that privacy: observation. For the investigation of family interaction and communication I develop "a firsthand acquaintance with the sphere of life under study" (Blumer, 1969, p. 32) by basing my research on videotaped observation of everyday family communication. Verbal and visual data are conceptualized, collected, analyzed and interpreted qualitatively by making comparisons across families to see differences and similarities more clearly. Observation is the classic qualitative technique for coming to an elaborated understanding of everyday meanings and experiences. This method is a challenge for qualitative family

communication research, because it provides insight into the psychology of families' worlds.

In this article, I will show how the investigation of everyday family communication follows ethnographical traditions, that research occurs in the social context of the families themselves. First, the purpose of research and the process of data collection will be outlined. In the second part of the article, the analysis of the empirical data will be described. The methodical procedure used to analyze the thematic content of 36 family conversations will be outlined, and difficulties arising in the context of the investigation of everyday family communication will be identified. Finally, results of the thematic analysis will be presented, this provides a response to the opening question of what families actually talk about in everyday life.

Everyday Family Conversations: Primary Purpose and Data Collection

The primary purpose of psychological family research is the investigation of family relationships. Undeniably, family communication constitutes the medium by which such relationships are maintained. Socialization within the family is achieved mainly in parent-child communication. Everyday communication in the family environment plays a pivotal role in the shaping of concrete family relationships and, as such, is of particular interest within the framework of a qualitative approach to family and communication research. Although the significance of these processes of communication within the family is recognized and undisputed, few previous studies have investigated authentic everyday family communication. This means that not only is existing knowledge on the subject of investigation scarce, but there is no existing repertoire of methods for the analysis of everyday family communication, as is customary in other branches of research.

Data were collected within the framework of an ongoing study into "everyday family communication." Following ethnographical traditions, the data were gathered in the social context of the families themselves (Lightburn, 1992); in other words, I visited the families in their own homes. Usually data collection in the field of family communication research is focused on recording discourse which is elicited by special task (Kreppner, 1999). In my study, social situations typically taken as opportunities for family communication were of particular interest as contexts for data collection. The so-called everyday rituals present particularly suitable research situations (Rothenbuhler, 1998). Everyday family rituals include mealtimes such as lunch and dinner (Imber-Black, Roberts & Whiting, 1995). For the social unit of the family, shared meals constitute the everyday context in which family members enter into conversation with one another and discuss the events of the day in an informal manner.

Family communication during mealtime or dinner requires that the communication be organized in order to allow the creation, maintenance, and change of specialized interpersonal relationships within the families to occur. Because family communication involves the simultaneous integration of parent-child, adult partners, and siblings, everyday rituals such as mealtimes are ideal for the investigation of family as a social unit, that is, as a whole. This complexity of the family's everyday communication between so many members was accounted for as early as in the collection of the data. Methods like interviews or questionnaires are not capable of catching real phenomena in genuine and pure form. Focusing on family interaction and everyday conversation, these methods only deliver "second-hand" data of the phenomena under study.

The empirical material for the present investigation of everyday family communication consists of videotape recordings (Knoblauch, 2000) of mealtime conversations in a sample of "normal families." Each of the 18 families in the sample consists of four members: mother, father and two children who are siblings. These families represent a subset of those participating in the four-year longitudinal study "Transition From Childhood to Adolescence in the Family," designed by Kurt Kreppner (1989) of the Max Planck Institute for Human Development in Berlin, Germany.

The eighteen families I studied are a partial sample from the total sample of 68 families. The conversations occurring in the course of the data collection were instigated and steered solely by the participating families. In other words, I did not intervene in the communicative event with either questions or comments (Ertel, 2000). I consequently follow that methodological strategy, not because of the illusion observing the phenomena without any influence of researcher, but because it enhances my ability to listen to and look at family conversation closely. The topicality and relevance of the themes introduced by the participants' initiatives are thus comparable across the families.

Thematic Analysis of Content: The Methodical Procedure

Thematic analyses of content were performed for a total of 36 family conversations, i.e., conversations recorded at two points of measurement in the longitudinal study. The methodical approach was guided by two central considerations.

Even in the field of qualitative psychological family research, very little previous work has focused on data from naturally occurring family conversations. Instead, research has been dominated by mini-conversations on set topics devised specifically for research purposes. The first step in the present study was thus to discover what families actually talk about in everyday life. This necessitated the qualitative content analysis of the entire empirical data, performed in such a way to allow cross-comparison of

findings (Mayring, 1988). The primary aim of this thematic analysis was to capture the entire spectrum of topics raised in the 36 family conversations under investigation.

The second step of the analysis procedure entailed family-specific thematic analyses, i.e., analysis of the topics discussed by each individual family. On the basis of the thematic analysis of the entire sample described above, and using the category system generated in this initial step of the procedure, so-called thematic profiles were drawn up for each participating family. These profiles reflect the range of topics introduced by family members and discussed in the communicative exchange. This stage in the procedure also involved the composition of consistently worded research memos. The value of these thematic profiles is that they shed light on family-specific particularities in the thematic breadth of the constructions of reality (Gergen, 1985) produced from day to day. These thematic profiles are particularly suitable for the subsequently comparative analysis of qualitative-interpretative case studies of selected conversations. They are also suitable for specific cuts from these conversations, because they show a comparison of family communication, dealing with the same topic across different families.

The following points describe in condensed form the methodical steps involved in the thematic analysis of content outlined above:

- (1) Verbatim transcription from videotape of the entire set of mealtime conversations
- (2) Reconstruction of the speakers, i.e., systematic allocation of each turn to the appropriate family member: mother, father, older or younger child
- (3) Delimitation of natural units of conversation, i.e., establishing indicators such as introduction of new topics, changes of subject, and gaps in the conversation
- (4) Naming of these thematic units of conversation, i.e., open coding and construction of comparable thematic categories
- (5) Reduction of the thematic categories to a manageable number, i.e., subsuming categories, recoding, constructing metacodes
- (6) Repeated checking of coherency in the categories generated
- (7) Presentation of the entire spectrum of themes arising in the sample, i.e., preparation of tables and lists of anchor examples for the thematic categories constructed
- (8) Drawing up of family-specific thematic profiles, i.e., systematic description of the topics introduced in the conversations of specific families
- (9) Composition of consistently worded research memos on each thematic unit as a specification of the thematic profiles, i.e., noting down the typical treatment of themes within a given family by means of key words, comments, interpretations, or even excerpts from the transcript.

The methodical steps mentioned above are not always carried out in the order I presented here. Usually some steps of data analysis are managed parallel or in the manner of a cycle movement (Huber, 1992). As a result of a qualitative management of data, the accuracy in fitting the empirical data and theoretical categories can be developed excellently. Analytic work already began with videotaping the conversations, but increased tremendously with the categorizing analysis of the transcribed videotapes. As is typical in qualitative research, data analysis also occurred concurrently with data collection. Because of the enormous amount of data of 36 family conversations with length of about 20 minutes of videotaped observations, all of which were categorized completely, the process of data analysis often seemed to be a never ending-phase of research.

Results of the Theme Analyses

Owing to the broad range of thematic analyses, I will focus on two central points in the presentation of results in this article. First, I will show how an excerpt from a transcript is categorized following the methodical steps outlined above. This will involve a brief look at the empirical data. I define a result as the allocation of a thematic category, the composition of a memo, and the delimitation of the thematic category in question.

Second, and from a rather different perspective, I will present an overview of the thematic categories generated by the content analysis of the entire sample of 36 family conversations, thus showing the spectrum of themes discussed in everyday family communication.

Presentation of Results 1: Categorization of a Thematic Unit: Incident

Background to the following scene:

This scene arises from an observation made by the Fyneks' younger child. On the morning in question, she had seen her father, a teacher, leaving to teach with one of his classes. In the subsequent exchange, the mother joins in with the conversation, and the parents engage in a lengthy dialogue focusing on the morning of the day in question. Following a heavy overnight frost, the father had had to scrape ice off the family car, and would have been late for work if he had not finally decided to take a taxi.

The speakers are identified by the numerical codes in the left-hand margin of the transcript. Code 01 indicates that the mother is talking to the father; code 05 that the father is talking to the mother.

De-icing scene: "Cause I was watching you this morning."

01 Cause I was watching you this morning.

05 Yeah.

01 When you...

- 05 I was so angry!
01 I saw that, I saw the last bit when you chucked everything down.
05 The last bit of ice.
01 It was...
05 And then I threw the ice scraper down in front of me, it broke right through the middle.
01 That was at quarter to eight, yeah, ten to eight.
05 I was in a bit of a panic.
01 And?
05 And then Oberlaender didn't turn up until half past nine, because there was an accident in front of the exit and he couldn't get out of the street.
01 Hm.
05 So I decided to invest ten marks in a taxi.
01 You took a taxi?
05 Yeah, otherwise I'd never have got there.
01 Hm.
05 The underground would have been no use, and there happened to be a taxi waiting at the lights.
01 Straight away.
05 Oh.
01 In this sort of weather.
05 Hm.
01 They're usually all full. Well, I, when I saw you rushing off I thought that if you're going to make it at all, it'll be by underground.
05 Hm.
01 But then I thought, in this sort of weather, maybe not everyone will manage to get there.
05 Hm.
01 On time.

The de-icing scene was categorized as an "incident".

Explanation of the information in the box

In the box below, the de-icing excerpt from the Fyneks' conversation is identified first by a code indicating the transcript: Text: more001. This is followed by the thematic category to which the conversation was allocated: Code: Incident. To the right of this, the line numbers 150-185 indicate the beginning and end of the excerpt, showing where exactly the scene is to be found in the transcript. Finally, the thematic category of the excerpt, i.e., incident, is specified for the family in question by means of a research memo.

Text: more001
Code: Incident/ 150 - 185

Memo: Mother observed husband trying to de-ice car:
Father eventually took taxi

Definition and Delimitation of the Thematic Category "Incident"

This category covers all passages in which family members report on something that has happened to them. This could be a past event, in which case the "incident" would take the form of a story ("Do you remember when ...?"). Alternatively, it could be that something out of the ordinary has occurred or that something new is on the agenda. In the latter case, a piece of news may be allocated to the category "incident." Finally, experiences which cannot be described as everyday events are also classified as "incidents."

"Incident", "experience" and "news" were originally three separate categories in the coding system. In later stages of the analysis, and when comparing the meaning and content of the categories, however, it seemed appropriate to subsume the three categories under the metacode of "incident".

The rationale used to delimit the category "incident" from the category "events of the day" (see the full list of categories below) is as follows: events, experiences and news brought up in the course of the conversations differ from "events of the day" in that they do not refer to things that happened on the day in question which can be described as everyday occurrences.

Presentation of Results 2: The Spectrum of Conversational Themes -- An Overview

The spectrum of conversational themes provides an overview of the content of the mealtime conversations. The first step in the present investigation of everyday family communication was to adopt a theory-building research strategy to discover what families actually talk about in their everyday conversations (Gilgun, 1992). The category system shown below was thus evolved over the course of the analytical examination of family conversations in the style of grounded theory (Strauss & Corbin, 1994). This theoretical framework is well suited to the research question, where differing everyday family communication and interactions could be addressed conceptually. The following provides an overview of the topics raised in the analyzed conversations.

Category System

- conduct
- events of the day
- food
- fooling about
- incident
- information
- life in general
- mood and physical state
- observation
- organization
- school
- supplement
- travel
- video situation
- washing up, clearing away
- work

It is clear that the themes discussed by the participating families can be reduced to a manageable number. A glance at the list above shows that some of these themes are self-explanatory. The "video situation" theme, for example, is self-explanatory in as much as the passages in question focus on the research situation. The same holds for the categories "food", "school", "travel" and "washing up": the category labels give a good general impression of the content of these conversations. The same cannot be said of categories such as "supplement", "incident" and "information", however. These categories can be clearly differentiated from the others in terms of their self-explanatory power and level of abstraction.

Conclusion

In short, the category system presented above reflects the range of themes arising in everyday family communication, and thus provides an answer to the question posed at the beginning of the article: What do families talk about in everyday life?

The categories generated to describe the content of the family conversations enable further analyses to be performed. The thematic profiles of individual families mentioned in Section 3 proved to be especially informative, as they can be taken as the empirical basis for the comparative line-by-line analysis of qualitative-interpretative case studies of selected conversations (see Ertel, 2000). The question of how families discuss and deal with principally the same everyday subjects can only be answered by an intensive concentration on single cases.

Single scenes as well as entire family conversations can be interpreted in further steps to describe the "how" that means the family's communication style more exactly. An attempt is made to designate or qualify the "being with one another" of the family in communicative exchange, with terms such as: supporting one another, questioning one another, disciplining, teasing one another, paying attention to one another, embarrassing the other. The "de-icing scene" presented above is an example of the family communication style interpreted qualitatively with terms as 'supporting one another.' Finally, types of family communication styles are generated empirically.

Questions about the family communication style are particularly interesting in terms of the functionality of family systems. In particular for the adolescents in the family, family communication is the "initial investment" that they receive in childhood and onwards for the formation of further relationships. Other important functions of family communication discussed in family research by Noller (1995) are: "(a) enabling the renegotiation of roles and rules, (b) providing an appropriate climate for identity exploration, (c) enhancing rather than diminishing self-esteem, (d) providing appropriate modeling and teaching of problem solving and enabling adolescents to make the important decisions that affect their lives" (pp. 77, 78). These important functions of communication in family underline the necessity of a qualitative psychological study of everyday family communication, because further knowledge serves in a broader sense to understand the developmental processes of family members in the context of the life-span developmental aspects of families (Noack & Kracke, 1998).

Although the exemplar of qualitative family research presented in this article gives an example of the appropriateness of using principles from different methodologies, other methodological contexts for qualitative studies of families are possible as well. For example, if the focus of research is on family interactions between family members and systems outside of the family, such as school, kindergarten or clinic, the system theory could be a suitable methodological context for a better understanding of the interaction of the different systems under study. Depending on the initial research question and the purpose of research, different methodologies should be used for examining and clarifying actual questions in the field of psychological family research. Each of the qualitative methodologies including their different methods and techniques increase the diversity of qualitative family research and provide a powerful tool for understanding the processes and dynamics behind and insight family everyday life.

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Emotions and Learning Strategies at School – Opportunities of Qualitative Content Analysis

Michaela Gläser-Zikuda

Relevance of the article for qualitative psychology

To analyze learning processes most of the empirical studies in research on learning and instruction use quantitative measures, most of all in questionnaire form (Helmke & Weinert, 1997). But there are more and more disadvantages with using standardized instruments. The most important is that these results are often not relevant for pedagogical practice and cannot be transformed in concrete recommendations. An orientation towards qualitative methods can be noticed, known as a "qualitative turn" (Kopala & Suzuki, 1999; Lamnek, 1988; Mayring, 1993). Numerous concepts of qualitative research have been established, for example single case studies, field research and action research (Denzin & Lincoln, 1998; Flick et al., 2000; Frieberthäuser & Prengel, 1997). Although many qualitative approaches have been successfully developed in the last years, most of the qualitative studies have the problem that the procedure of analyzing and interpreting data is not duplicative. Therefore qualitative research has often had the reputation of being subjective. However, qualitative theory demands high standards for the methods in this research area, and applies numerous quality standards (Denzin & Lincoln, 1998; Flick et al., 2000; Kirk & Miller, 1986). This article reports on a qualitative study which emphasizes that Qualitative Content Analysis (Mayring, 2000) is a method which meets the above mentioned demands of quality and it can be successfully used in research on learning and instruction. With inductive and deductive steps of analysis and different analytical techniques, a broad variety of results can be obtained, which enable a direct comparison of qualitative and quantitative data. The methodological interest in this study is to combine and integrate several qualitative and also quantitative instruments.

Purpose and research questions of the study/theoretical background

Learning is a central concept in education and educational psychology. Since the "cognitive turn" learning is conceptualized as an active, cognitive, individual and self-regulated processing of information. Brown, Collins and Duguid (1989) created the model of "situated cognition" making clear that learning is always dependent on situative and contextual factors. Many approaches in this research area underpin the importance of learning strategies as sequences of action to reach learning goals (Mandl & Friedrich, 1992; Klauer, 1988). The characteristics of the well-known con-

cept of "expert learning" or "competent learning" (Baumert, 1993; Lehtinen, 1992) are a systematic and adaptive use of cognitive, metacognitive, motivational, and behavior related strategies. In contrast to this model of self-regulated and competent learning, numerous studies show that learning strategies do not have the impact on achievement as expected by many researchers (Baumert & Köller, 1996; Pintrich & Garcia, 1993; Schiefele & Schreyer, 1994). Moreover, programs for training in learning strategies in experimental and school situations had some successful effects on learning performance of students of different ages, but the extent and the stability of using these learning strategies did not meet expectations (Krapp, 1993, 1999). Perhaps other learning aspects like motivation or emotions were taken insufficiently into consideration for these training programs.

Besides other variables which influence learning, such as intelligence, self-concept or learning strategies, the emotional aspects as a variable were neglected for a long time, only recently has this changed. It was studies on anxiety that were most important (Hembree, 1988; Laux et al., 1981; Spielberger, 1980) in research on the impact of emotions on learning and achievement. The following have been analyzed with respect to their impact on learning processes (Pekrun, 1992a; Pekrun, 1992b; Pekrun & Frese, 1992): joy, anger, shame or guilt in relation to failures; excitement or boredom about subject matters; pride or surprise about success; grief or hopelessness in relation to achievement results.

Five research traditions in the studies on learning and emotion are important (cf. Bleicher et al., 2001):

- Anxiety research (Hembree, 1988) shows the negative impact on learning, especially on achievement in test situations. On the other hand, a basic value of anxiety in the sense of activation or arousal seems to enhance achievement. The distinction between a (positive) emotional component and a (negative) worry component of anxiety tries to account for this dualism. Anxiety research further worked out the important distinction between emotions as states (feelings in a specific situation) and emotions as traits (biographically developed personality characteristics). Following this model, a negative impact on learning and achievement is based on high trait anxiety values.
- Motivation theory points out that hope of success has a positive impact, whereas fear of failure has a negative impact on achievement (McClelland, 1985). On that basis, Weiner (1985) describes feelings of pride on success and astonishment and anger about failures as positive learning emotions.
- The Flow-Concept (Csikszentmihalyi, 1975; Csikszentmihalyi & LeFevre, 1989) postulates that an optimal balance between situational demands and personal abilities can cause feelings of joy, of being merged with your activities, of intrinsic motivation, of forgetting time, and can lead to the highest levels of achievement.

- Mood research (Isen, Daubman & Nowicki, 1987) shows in experiments that positive mood in learning and achievement situations leads to a more flexible, fluid and creative thinking.
- The concept of emotional intelligence (Salovey & Mayer, 1990; Goleman, 1995; Salovey & Sluyter, 1997) emphasizes that social and emotional abilities are important in many areas of human life, also in connection with learning.

All these approaches support the thesis that positive feelings are an important factor in learning and in (similar) achievement situations. There are, however, some empirical shortcomings in this approach, such as the lack of discrimination between different positive and negative emotions and their different impact on learning and achievement in different subjects. "Trait"-emotions have to be distinguished from "state"-emotions. Furthermore, data in the mentioned empirical studies usually were obtained with standardized questionnaires or other quantitative measures. The validity of those instruments is questionable, especially in studies with young students. I argue that qualitative instruments, like interviews and diaries, are more helpful in obtaining concrete information about the learning process, learning strategies and emotions.

Based on these theoretical considerations, I formulated the following research questions:

- (1) How do students feel in concrete learning situations?
- (2) Which learning strategies do students use in different learning situations and subjects?
- (3) Are there differences with regard to certain subgroups?
- (4) What is the relation between emotions, learning strategies and achievement?

This study shows that the advantages of qualitative research are situated on multiple levels. Standardized instruments usually use a certain number of items and categories but qualitative instruments are more open and allow the researcher to obtain new categories that describe data more precisely. Furthermore, qualitative approaches focus on individuals. Single case studies are an appropriate method to get information about people and the individual factors of different kinds of processes. The focus of interest in qualitative research is always the whole picture. Therefore, many qualitative studies seek to use multiple instruments and methods in the sense of "triangulation." Finally, a comparison of qualitative and quantitative gives evidence about the validity of instruments. These considerations are transposed into 4 goal which are pursued in this qualitative study:

- (1) Description of concrete learning strategies and emotions.

- (2) Process-analysis: Single-case studies make it possible to understand individual factors of learning and emotions.
- (3) Triangulation: Results can be obtained with several methods and instruments on different levels.
- (4) Validation: With the help of single case studies qualitative and quantitative data can be compared.

Description of the study

Twenty-four 8th grade students, stratified with regard to gender, achievement (grades), school type (Hauptschule, Realschule, Gymnasium) and subject (science and language) participated in this study. Half-structured interviews were conducted with these students and their 24 teachers. Each student reported daily in a diary log (see Fig. 1: Diary Log; p. 36) on his or her learning activities and learning emotions. Furthermore, students completed several questionnaires with respect to cognitive and emotional variables (LASSI, Weinstein, 1987; TAL, Hodapp, 1991; Berner Wohlbefinden, Grob et al., 1991).

Due to the empirical shortcomings as mentioned before in this study, state-emotions (obtained in the diaries) are separated from trait-emotions (obtained in the interviews), learning strategies and emotions are analyzed in two different subjects. Two different procedures are used in this study to analyze the text material, an inductive category development for the diary material and a deductive category application for the transcribed interviews. Qualitative and quantitative steps and techniques are used for the analysis of qualitative data. Qualitative Content Analysis (Mayring, 2000) is a suitable method to analyze this text material. The analysis is based on an analytical approach with a system of categories through a controlled procedure. For the inductive category development, the procedure is described by the following model (Fig. 2; p. 37).

The deductive category application in Qualitative Content Analysis follows also a step-by-step model (see Fig. 3; p. 38). In connection to the steps in the deductive model, the emotional variables (joy, school-satisfaction, well-being, interest, anxiety and boredom) and the cognitive variable (learning strategies) were defined on the basis of the theories described above. The variables were scaled into three levels (much – some – no) as three values. For analyzing data by the presented procedure, coding agendas were developed with explicit definitions, anchor examples and rules for the distinction of categories (see coding agenda, Fig. 4; p. 39 f.). With respect to qualitative quality standards the inter-coder-reliability was calculated in both analytical procedures (Krippendorff, 1980). For both procedures (deductive model: $K = .89$; inductive model: $K = .97$) satisfying coefficients were obtained.

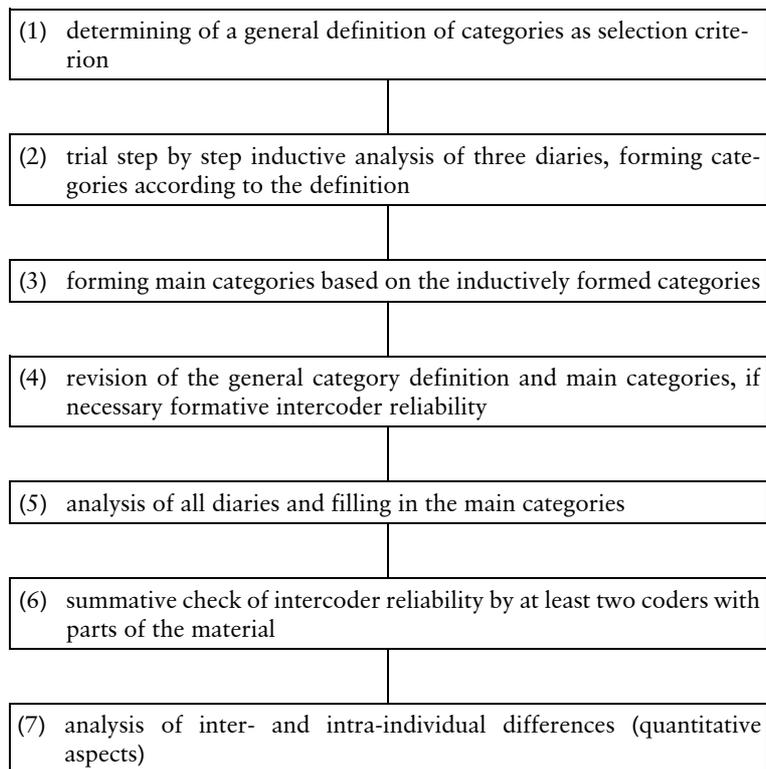


Figure 2: General Model of the Inductive Qualitative Content Analysis

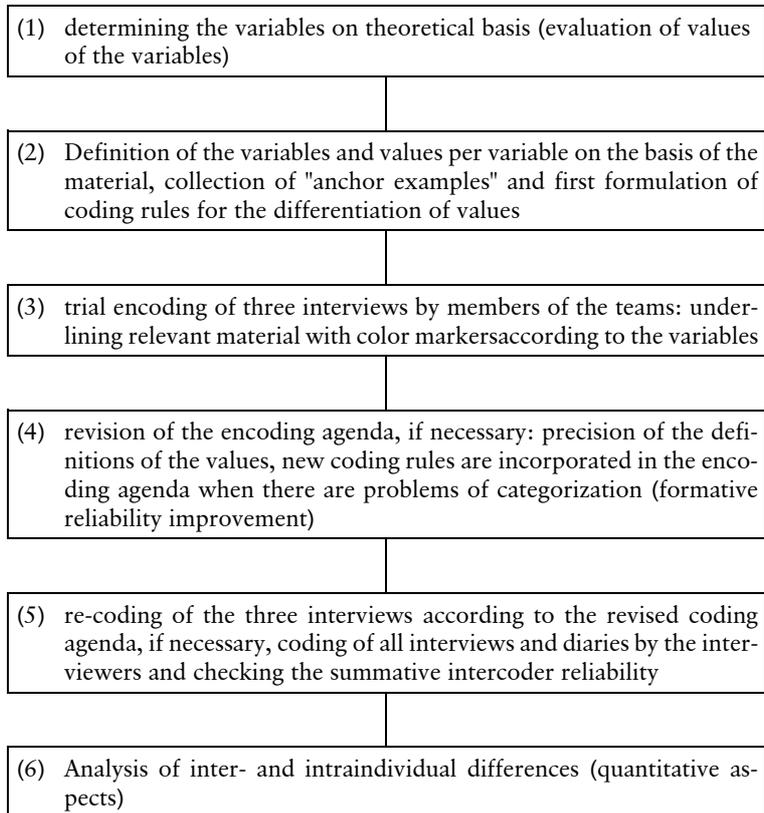


Figure 3: Model of deductive category application in *Qualitative Content Analysis*

CODING AGENDA			
Variable	Definition	Anchor Examples	Coding Rules
strong interest	strong relationship between learner and learning subject including: - highly positive evaluation (evaluative component) - high curiosity (cognitive component)	"I want to know more about electricity" "It's important for the profession" "I'm surprised about the magnetism in the table" "You need physical knowledge in every day life"	Overall impression from interview data plus more than 80 % of diary entries supporting high interest
some interest	Some aspects of the subject raises interest, positive and negative evaluation or only moderate positive evaluation of the subject	"I like the experiments, they are interesting" "We can work during the experiment with the tools" "New themes are interesting"	Impression from interview data and in addition less than 80 % of diary entries concerning some interest
no interest	No relationship to the subject, negative evaluation of the subject as a whole, no interest in the subject recognizable	"Physics is not interesting at all because we talk always about the same experiment again and again"	Overall negative impression, maximum 20 % of diary entries about some interest in the subject
a lot of pleasure	Strong positive feelings in respect to the subject, openness and vitality during the learning situation	"Oh yes, I can't imagine a life without school" "I was very happy to understand everything" "I was happy about having many ideas during the lesson"	Overall impression from interview data supporting high levels of pleasure. Concrete pleasurable learning situations (science or language) are reported (80 % rule for the diary entries)
some pleasure	Sometimes positive and sometimes negative aspects or only a moderate positive overall impression during the learning situation	"Generally I like going to school" "I liked the experiments"	Impression from interview data and in addition less than 80% of diary entries pointing to some pleasure
no pleasure	No positive feelings	"Nothing was fun"	Concrete statements declaring that learning is not joyful (interview data and diary entries)

			Max. 20 % of diary entries about some joy
High level of anxiety	Strong anxious feelings referring the subject - feelings of worry - appraisal of threat - excitement/stress in learning situations	"The teacher told us that the test will turn out bad" "I was not able to answer most of the questions" "I have to learn a lot to get a good mark"	Overall impression from interview data and in addition more than 80% of diary entries supporting high level of anxiety. Concrete statements for feeling anxiety are reported.
Some anxiety	Some aspects of anxiety or only moderate anxious feelings	"I didn't know that" "I made a lot of mistakes"	Impression from interview data and in addition less than 80% of diary entries pointing to some anxiety
no anxiety	Absolute no anxiety	"Nothing, I understood everything" "Should I be anxious about anything?"	Concrete statements declaring having no anxiety concerning the learning (interview data and diary entries, 20% rule)
High level of boredom	Strong feelings of apathy, mental vacuum, tiredness or Senselessness in learning situations	"It was very boring because it was a repetition" "The teacher was just talking the whole time" "We don't need that for the future"	Overall impression from interview data, concrete statements for feeling high level of boredom
Some boredom	Some aspects of boredom or only moderate feelings pointing to boredom	"Filling out the worksheet was boring" "The text was boring"	Overall impression from interview data
No boredom	Absolutely no boredom	"It's not boring when you understand everything"	Overall impression from interview data, concrete statements for feeling no boredom

Figure 4: Coding Agenda

Results and discussion

The first part of the results, I will discuss the significance of the deductive and inductive procedure of Qualitative Content Analysis for this study. In the second part of the discussion, I will refer to a process-analysis example. A third section is devoted to discussing how Content Analysis was able to typify learners.

The deductive content analysis process makes it possible for data from each student to be used both for a single case analysis and for statistical calculations. The study shows that the majority of the students use elaborative strategies, but high achievers use significantly higher amounts of strategies (elaboration and metacognitive strategies) than lower achievers. Regarding learning emotions, high achievers have more pleasure, significantly more interest and less anxiety than low achievers (see Fig. 5). There is no difference in feelings of boredom. Correlations (Spearman Rho) show that learning strategies correlate significantly with interest, school-satisfaction and general well-being (Gläser-Zikuda, 2000). These results underline the relevance of emotions in the concept of learning, achievement and learning strategies.

Inductive content analysis provides categories of concrete learning strategies that students use in learning situations at school and at home. The learning strategies are subject specific. In science students often use strategies like memorizing, repeating etc., whereas in language elaborative

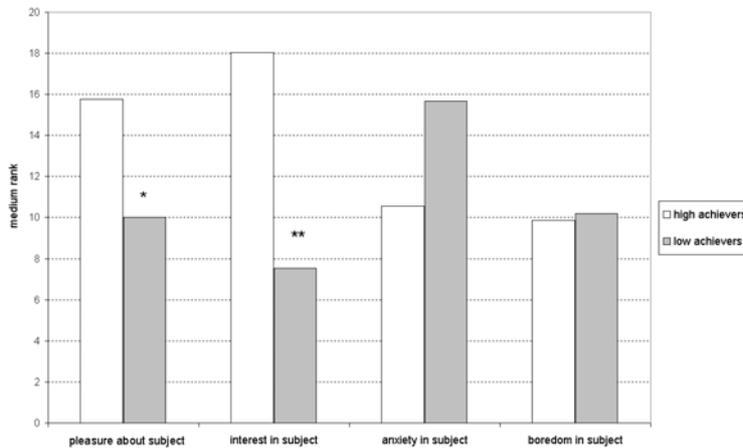


Figure 5: Learning of high and low achievers

strategies are more frequently reported. Generally, learning strategies are reported more often at home than at school. It seems, that learning at

home is more self-regulated and therefore, students are more likely to use multiple strategies and also are more likely to reflect on the strategies they use. Table 1 shows the 3 most frequent inductive categories for learning strategies at home.

Table 1: *Inductive categories for learning strategies at home*

Main Category	Repeating	N namings	N students
Category 1	to copy something	16	5
2	to memorize something	5	3
3	to look at the exercise book	2	2
	Total number of namings	104	20

Main Category	Elaboration	N namings	N students
Category 1	to read in a book	54	8
2	to read other sorts of text	14	7
3	to think about something	9	4
	Total number of namings	179	22

Main Category	Metacognition	N namings	N students
Category 1	to recognize what was learned	13	4
2	to pay attention to something	12	2
3	to look sth. up in a reference book	7	3
	Total number of namings	46	7

These inductively obtained learning strategies are, compared with items usually used in standardized questionnaires, very clear, concrete and not complex. This is possibly a reason why with respect to validation, qualitative and quantitative data on learning strategies do not correlate, whereas emotional variables significantly do (Gläser-Zikuda, 2000).

With respect to learning emotions, the inductive categories were combined into main categories: no (pleasure, interest, anxiety), (pleasure, interest) about learning process / worry about learning failure, (pleasure, interest) about learning content / anxiety of test failure. The analysis of the diaries reveals that pleasure and interest about the individual learning process in the sense of competent and successful learning is the main source of positive feelings (see Tab. 2). Students like learning when instruction is varied, when they can easily follow the teacher's explanations and when they get positive feedback from the teacher.

The content of the subject is less relevant for feeling pleasure but often mentioned for having interest. Accordingly, anxiety is experienced in situations where students do not understand some aspects of the material or the instructions from the teacher. They are concerned about whether they will have enough time to be sufficiently prepared for the next test. This demonstrates that emotions play an important role in the learning and achievement context.

To illustrate for the relation of emotions and achievement, some examples for the subgroup high and low achievers will be presented in the following. Of all students in language it was the low achievers who mentioned that they often had no pleasure in learning a language. High achievers noted more often than low achievers their pleasure in the learning process and its content. Language seems to be a subject where low achievers had less pleasure than high achievers. Maybe one reason is that low achievers had already made negative experiences with language classes in their previous years at school.

Table 2: *Inductive categories for pleasure*

Main Category	No Pleasure	N namings	N students
Category 1	Nothing is fun	84	10
	Total number of namings	84	10

Main Category	Pleasure in the Learning Process	N namings	N students
Category 1	Happy to master the subject	27	13
2	Happy about the varied lesson	21	13
3	Happy about a positive feedback	11	7
	Total number of namings	155	22

Main Category	Pleasure in the Learning Content	N namings	N students
Category 1	Pleasure in literature	24	7
2	Pleasure in poems	4	2
3	Pleasure in physics (magnetism)	8	2
	Total number of namings	58	11

In contrast, science is a subject students like. Good and bad students enjoy science, primarily in the learning process. Only high achievers feel pleasure about the contents when learning at home. Hobbies, such as playing with model trains or repairing their bicycle are mentioned very often. Science is a new subject for all 8th grade students in this study. This may be an explanation why this subject was described so positively in this study.

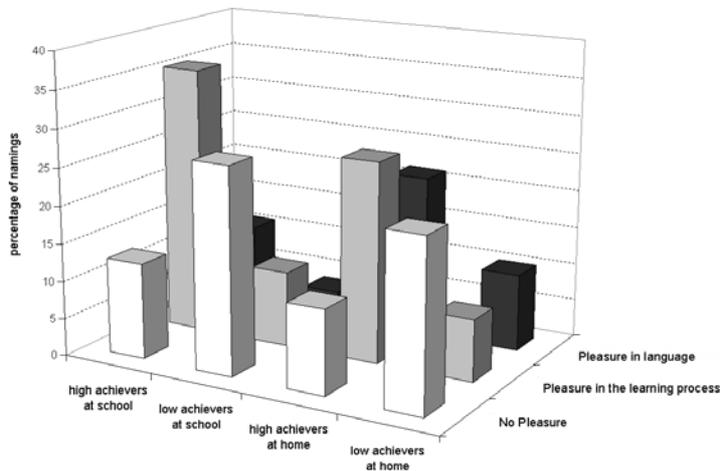


Figure 6: Pleasure in language (high and low achievers)

When looking specifically at the interest that students expressed in certain learning situations, the content of what they were learning became a larger factor. However, the learning process was very important for the students' interest, as well, especially in science (see Fig. 7). The inductive categories for being interested in their learning refer to situations where the students are mastering tasks, observing their own mistakes or thinking about new aspects of a subject.

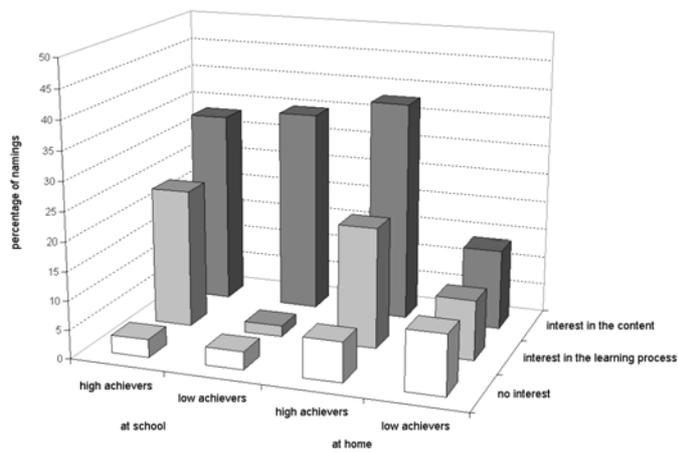


Figure 7: Interest in science (high and low achievers)

Besides the two positive emotions of pleasure and interest, anxiety was also inductively analyzed. As known from many studies, anxiety has a negative impact on learning. The differentiation, however, between trait- and state-anxiety is important. In this study, the deductive content analysis of the interviews indicates that low achievers have more trait-anxiety. But the inductive analysis of the diaries unexpectedly shows, that high achievers often report having more anxiety than the low achievers when being worried about learning failure and test failure, especially in science (Hancock et al., 2000). High achievers obviously reflect more on their learning and competence than low achievers. State-anxiety possibly promotes the learning processes of high achievers. This result helps to understand the different aspects of anxiety as state- and trait-factors.

All reported results in this study are based on 24 single case studies. Qualitative Content Analysis not only allows a comparison of certain subgroups, but also presents process-analysis of single students. This is helpful to obtain information about individuals' learning circumstances and processes. Data obtained from interviews and diaries, as used in this study, may also be graphically represented as the progress of learning strategies and learning emotions as a function of time (see Fig. 8). With this methodological procedure a diagnosis of learning processes can be reached to understand individual problems in connection with achievement at school. Conclusions can be drawn and transferred into further pedagogical development of instruction and curriculum.

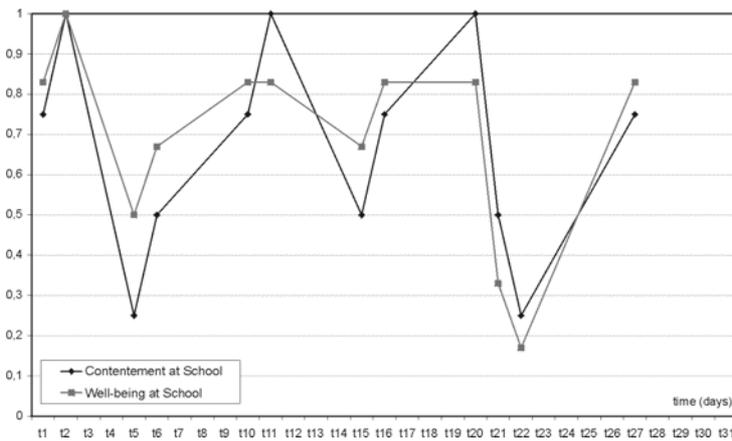


Figure 8: process analysis

Another possible method of analysis, also based on Qualitative Content Analysis, is the Typifying Structurization (Mayring, 2000). In this analysis, text material is examined with regard to certain theoretical, extreme, or empirically frequent typifying dimensions. In this study the interviews and diaries of all 24 students were analyzed with respect to frequent learning-emotion-types. Based on an inductively gained network of conditions which could influence the learning emotions of students (e.g. teachers, instruction, interest or indifference for subjects, difficulty of tasks, school organization or personal importance of learning) the students were assigned to 7 types of learning-emotions. Table 3 shows the distribution of all students into these types with regard to achievement (good vs. bad grades).

Low achievers almost exclusively belong to the categories of negative learning-emotions-types, whereas all high achievers in this study feel positive about learning and school.

Table 3: *Positive and negative learning-emotions-types and achievement*

Positive Learning-Emotion-Types	N		Negative Learning-Emotion-Types	N	
	high achievers	low achievers		high achievers	low achievers
The school-satisfied and feel-good type	3	0	The anxious-over-taxed type	0	4
The qualification-oriented type	3	0	The indifferent type	0	2
The pleasure-in-learning type	2	0	The anxious-insecure type	0	2
The grade-oriented pleasure / listlessness type	5	3			

Methodological consequences for qualitative psychology

This study proves the multifaceted benefits that such a qualitative method can bring to a research study. Qualitative Content Analysis is a method which is fruitful in many respects. First, it offers a broad variety of analytical techniques like the inductive and deductive procedure of categorization, process-analysis and the typifying structurization. Secondly, Qualitative Content Analysis allows the researcher to work on large amounts of text material which results in considerable effort. Furthermore, a higher number of participants can be included in a study and, therefore, also including certain subgroups. Thirdly, in this study the most important qualitative standards of quality are fulfilled: the rule-guided procedures and the succession of analysis steps are documented and dublicateable, the inter-coder-reliability is verified, and the study is based on a multiperspective design in order to carry out triangulation in instruments and methods.

To draw consequences for qualitative psychology, three aspects should be considered. 1) In order to establish qualitative research methods, the corresponding studies should meet, as closely as possible, the qualitative standards of quality. 2) Therefore, more studies with different qualitative methods are needed, and they should be applied in varying research fields. 3) Finally, the development of new methods, for example, the application

of Qualitative Content Analysis to visual data as obtained from video observations and analysis, has to be encouraged in order to strengthen the relevance and the position of qualitative psychology on the research scene.

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Introduction

This paper is based on a study that examined the phenomenon that research subjects described as "love" (Gürtler & Ullrich, 1999). These experiences were verbalized and discussed with the research as "everyday" or sometimes "extraordinary." These descriptions and especially - as a slight surprise - the spiritual aspects of love play a very important role in the life and the actions of the studies subjects. It was no surprise in the results of this study that spiritual aspects of love have an important role in human life, but it was surprising how large this influence was: regardless of personal or social handicaps, regardless of failures and incapacibilities.

Theoretical background

This research was conducted within the framework of the "research program of subjective or tacit, intuitive theories, RPST" (*Forschungsprogramm Subjektive Theorien*). This theoretical approach was introduced by N. Groeben and B. Scheele (1977) who took a critical stance towards theoretical and methodological behaviorism. With this modern paradigm in the field of qualitative research methodology, Groeben explicates the theoretical as well as the practical basis of scientific research within subjective theories program. He explains this research as divided into two phases: In the first phase the subjective theory is described and reconstructed. The criterion of validity is a communicative part of the reconstructed theory. In the subsequent phase two, it is necessary to validate subjective theories against reality and empirical findings. This is done within classical empirical research through falsification criteria from K. Popper.

The origins of this approach are embedded in the personal construct theory (Kelly, 1955), and described and nicknamed by Kelly as "man the scientist." The approach assumes that ordinary people act and behave like scientists; if they are observed from a structural point of view which focuses on thinking, reasoning, and the thus resulting action taking. As a consequence of such actions it is postulated that the "everyday scientist" or the normal person act in the same systematic way as professional physicians, psychologists or scientists. An average person might not have the same content knowledge about a specific theme or profession, but this theoretical approach contends that both groups see the world in the same way, interpret their surroundings through the same six sense as well as try to take similar steps to gain knowledge and wisdom about the world in basically the same way. The RPST postulates a self-applicability of the postula-

ted explicit human picture, because there is not really a gap between scientists and non-scientists, in terms the process of human conscious action. Furthermore, there is the possibility to gain new knowledge for the scientific community if these individual cognitions, which are implicit, are transformed into explicit, structured objective theories. In order for this to happen, research on cognition needs to be gathered in a way that makes it easier for the results of these studies to be integrated into theories of the scientific community. This necessity also takes care of standards and the quality of scientific research. There are instruments like the "structural analysis instrument for reconstructing subjective theories," SLT (*Heidelberger-Struktur-Lege Technik* by Groeben & Scheele, 1984) that was constructed to satisfy these demands. Its task is to reconstruct the subjective theory and give a basis for a necessary communicative validation. This is done by dialogue-consensus as the decisive criteria. A dialogue-consensus is the final outcome of a process of discussion about the researchees' subjective theory. This means that both researcher and researchee agree on and declare the correctness of the reconstructed subjective theory. Other instruments that also take part in communicative validation are the consensual "means-end-argumentation," ZMA (*Ziel-Mittel Argumentation*) or the "flow-chart presentation," (*Flußdiagramm-Darstellung*, see Scheele & Groeben, 1988) which are alternatives to the SLT.

In 1986b Groeben introduced the monism-dualism debate from a theoretical perspective. This debate thematizes an old philosophical discussion about different worldviews and corresponding research methods. On the one hand, there are empirists that work with "hard" empiristic scientific methods of causal explanation, and on the other hand are the "soft" methods of understanding with no causal explanations. Groeben states that neither position is really at the right place every time. There are cases where the implementation even of objective hermeneutic techniques (see Oevermann, 1979) and a lot more of exclusive quantitative generalization approaches are bound to lead to nowhere when handling subjective, implicit data. Only during an interview, when empathy and face-to-face dialogue are facilitating "understanding," subjectivity emerges and cognitions become possible to be reconstructed. Reflection and dialogue follow as a starting point of qualitative data analysis.

In qualitative data analysis, the targets of the research have to reflect on topics themselves. The researcher interacts with them to discuss their findings or he/she guides them with the help of structural interviews and methods like the SLT, in order to ease the reconstruction of the theory through the difficult process of self-reflection. The point is, that those researched are not really "objects" which is the usual assumption in traditional empirical research tradition in psychology. In opposition to this research, I argue that subjects are like researchers and they are experts about their own affairs. Groeben and Scheele (2001) remark, "in this context, 'research subject' refers to the researcher, whereas the participant

of the study is called 'research object' (in contrast with the common usage of the term 'subject' in scientific publications)." This aims at an untraditional orientation that is based on a necessarily symmetrical relationship with no asymmetry in power or expertise between researcher and researchee.

Obviously, in reality, the status is such that researchers are the experts, e.g. of the methods, the topic knowledge and so on. According to this approach, the expertise of methods, etc. has to be changed. To reveal subjective theories in the field of data collecting, subjects must have the same practical competence of handling research methods as the researchers. So, in practice, this would mean at first, we train our subjects in the handling of the method we want to install. We explain the theory and the practice and let them (partly) do it on their own. In the even that the subjects misunderstand the methodological rules of the instrument, we intervene, stop the process and help clarify the situation. In effect, when the subjects understand the methods correctly, the content part of the work is made through their own effort. After this step, we discuss their structure, question it and present our own interpretation on their topic. In the conclusion of the study, we aim at reaching a dialogue-consensus and a final structure that is validated through communicative validation.

There are a lot of points in the scientific research process, where those subjective opinions about personal action and their consequences must be validated with reality, and this methods is no exception. One reason for this is, that there are doubts about the explicated tacit theories. In this case there is then a need for comparing (quantitative) data analysis, generalizations and objective observations. These methods offer the other side of scientific research that is important, too. But, not to make a choice for either position, it seems best to specify the conditions and contextual situations to determine for what question it is recommended to use which method of research or analysis.

In the here presented approach, at first, subjective theories must be reconstructed and actualized. That means, we directly ask our subjects about their cognitions, feelings, biographies and so on. They know best about themselves. If we want their subjective theories to be part of the objective ones, this also has to be proven. The leading question is: Do research participants really act in the way they say they act, or to they behave otherwise? Groeben differentiates three categories to solve this problem:

- action (Handlung)
- doing (Tun)
- mere observable behavior in terms of behaviorism (Verhalten).

These categories compare intention and observation and help the researcher to determine to what degree he or she can to believe the subjective theory or rely on the objective data to explain observable behavior.

What are these categories? First, we talk about "action" when people are able to give objective reasons for their behavior. For these reasons, intention and motivation are identical; external causes are internal reasons. In this case, 1) the subjects know what they do, 2) they do it, and 3) the results of their actions manifest themselves as the people intended them to do. Second, if it is necessary to reduce subjects' potential ability to have control over their actions, we talk about "doing" (*Tun, which is not a premeditated "doing"*). There, motivation and intention are separated. But still subjects can discuss their intentions and are more or less aware of them. They do not lack the faculty of awareness about their action leading cognitions even if they are proven to be wrong. Let us look for an example (by the author after an example by Groeben):

X wears an amulet around her neck to protect her from illness and dark forces. The intention (wearing something to protect) is clear and can be understood. That is the subjective part of the story. The intention is rational. But the amulet does not work, because e.g., X suffers under frequent illnesses. Ergo, X has no control over it. So the objective theory concludes, that X wears an amulet around her neck and wants to be protected. But the amulet in reality does not work (properly).

Thirdly, if the category of doing is also incorrect and the behavior seems to be determined by external forces and stimuli like in classical learning theory, we use the term "behavior." Subjects are not able to give explanations about their intentions or their behavior and as a consequence, the subjective theory cannot be reconstructed properly. In this case, external observable motivation and expressed intentions differ extremely or intentions cannot be expressed at all.

In actual research, these three cases differentiate from topic to topic, from person to person, and from time to time. Neither is better or worse than the other two, but it has consequences for the setting of a study. The choice of what methods we use depends on these categories. As Groeben goes on, there can be cases when the expressed action-leading parts of subjective theories, intentions, and accompanying cognitions must be negated in order to have an impact on the subject's behavior. This is the case if there are enough empirical findings on a topic where this conclusion can be drawn (mostly in theoretical reasoning and empirical conclusions). Additional subjective theories would not bring more enlightenment, so this step can be skipped. Prior knowledge about the topic of research must be detailed and proven. Subjective theories do not offer additional knowledge under the described conditions.

Otherwise, exploring and investigating new fields of science can only be done with the help of subjects and for that, it is necessary that researchers listen to them. It is not possible, that in new and uncertain research

situations and contexts, phase one of reconstructing subjective theories can be omitted. The following table gives a short summary of the relationship of intentions of actions, adequacy of intentions to reality and objective motivation of observable behavior (from Scheele & Groeben, 1988).

Table 1

Adequacy of reality	existent	nonexistent
Existent	action	
Nonexistent	doing	behavior

According to this postulated epistemological subject model (Groeben & Scheele, 1977), the program consequently postulates that human beings potentially take conscious action every time they want to, although they often will not do so, and thus fall back onto more or less blind reaction and unconsciousness. Sometimes in difficult situations, they never really reach a level of action, so their whole theory has some inherent utopic parts. For the researcher, however, the potential ability for "action" instead of mere reduction to "behavior" or "doing" must remain the starting point of research. According to Groeben (1986b, translated by the author) subjective theories themselves can be described as

- cognitive constructive, that means the person constructs her or his own reality based on his or her own worldly experiences
- rational
- intentional
- with the full capacity of self-reflection
- with an implicit structure of reasoning which is equivalent to scientific theories
- conscious
- explicable to be transformed from implicit theory to
- explicit scientific theory which can be discussed and examined carefully
- fulfilling the needs of a scientific theory: explanation, prognosis and procedure

Researchers have to look after the potential cognitive and emotional resources of their researched subjects. Potential subjective theories should not be rejected without a justifiable reason.

Example of a study on subjective theories

To illustrate an example of this form of research, subjective theories on love were explored. First, it was necessary to begin with the objective theories that can be found in literature and that made a basis for subsequent interviews and subjective theory reconstructing structure sessions.

Objective Theories on love

Theories are taken from philosophy (e.g. Platon, 1994), social-/psychology (e.g. E. Fromm, 1989; A. Maslow, 1996; F. Alberoni, 1991, 1998), psychotherapy (e.g. S. Widmer, 1989) and ethical-spiritual traditions like Christian mysticism (Johannes vom Kreuz, 1996), the words of the historical Buddha Siddhata Gotama (William Hart, 1987) or the Integral Yoga of Sri Aurobindo Ghose (1957, 1976). It is necessary to limit the wide horizon of possible aspects of love to an amount that can be handled and fully covered by the interview.

How do objective theories conceptualize love?

There are two main areas in the literature on "love:" one area deals with a realistic view of love, which takes place in the realm of every day life, and the other deals with a idealistic and utopical view of love. First, ethical-spiritual traditions will be reviewed, and subsequently other traditions from psychology and sociology that contain both of these "areas" of literature on love.

Some spiritual traditions like a living Buddhist one, describe love as an inherent art of living (William Hart, s.a.). Loving is the expression of our deepest nature where there is no more I, mine, you and yours. To love becomes the natural and only way of interacting with the world and with each other. To reach this state, human beings must learn to control their mind, develop their punctual concentration of mind and body through awareness and equanimity towards all bodily sensations, i.e. the worldly affairs. Love is not directed only to one person or a group of persons, it is directed to the whole cosmos itself.

Ideal love is free from craving and aversion, and according to the here described version of Buddhism, this ideal love is contained in infinite compassion and goodwill for all beings. This state can be compared with the sweet fruits of the Buddhist "nibbana" (s.a.) or the Hindu liberation "moksha" (Sri Aurobindo Ghose, 1976) . The ancient Greeks, like Platon (see Wolf, 1994), construct love as a mediator or agent between the numinous, the unspeakable, the world of Plato's "ideas" and the ordinary human world. According to these authors, it is not possible to find words that can fully describe this experience. Instead, love exists independent of fixed cognitive structures and emotional borders. As a consequence, this view of love lacks a theoretical definition of love and of what it is or has to be. There are only negative explanations what love is not. In addition, the

Buddhist tradition is a very practical way that gives explicit instructions with little theorizing about love.

The worldly psychological and social-psychological theories deal with love as an ordinary experience in human life. Luhmann (1988) defines love as an ahistorical phenomenon embedded inside system theory and autopoiesis. He emphasizes that there is no reason for love to happen in life. Love is conceptualized as a non-historical code and it can happen within a small range of human beings when they come in contact and in touch with each other.

Others, like Beck and Beck-Gernsheim (1990) focus on (sexual) relationships and the search for personal meaning and individuality in modern life (styles). F. Alberoni (1991, 1998) gives respect to differences in the personal experience of time and to the field of erotic, sexuality and interpersonal attraction and related behavior in females and males. Portele (1989) represents a perspective mostly influenced by Buddhism, constructivism and system theory. A. Maslow (1996) did research on self-actualizers and their unique individual ways of loving.

My concluding conceptualization of love is the "union with the love." To sum up a definition on love from the here selected different theoretical approaches is a conceptualization with an emphasis on the worldly orientation of love, and that humans are part of an complex environment with different pushes and pulls.

Methodology

A set of leading questions and topics emerged from the literature review on love. These topics gave the basis for half-standardized interviews. The role of the interview as phase one of the RPST was to reveal the subjective concepts on love and to introduce a process of self-reflection and self-analysis to make subjective theories coherent, internal consistent and logical. The structural demands and standards of the RPST method were applied. Interviews were audiotaped to extract and compare the relevant statements at a later point in time. The next step was the actual reconstructing process of the tacit theory. The reconstruction was made with the SLT as a tool to represent subjective theories in a graphical way. This is done with cards (see below) and specific rules. During this second session, the interview partners reconstructed a structure on their own. That means the researchee worked alone. The researcher helped only when there was a problem with the handling of the method or cards, or clarified methodological issues and questions. After that, the researcher and the researchee discussed and questioned the theory together in its present graphical form and tried to integrate the concepts into a final graphical structure which represented the individual's personal subjective theories on love.

The topics and the results of the half-standardized interview manual

During the interviews, different types of questions were used and different topics and quotes introduced in order to get to points of discussion to help to reveal subjective intentions. There are three types of questions:

- type A: open questions
 type B: closed, directed questions - we gave a statement and expected an answer related to it
 type C: we questioned the concepts of our interview partners. As a result the conversation partners were slightly forced to think about their theories again and were more able to give a statement based on realistic thinking and reasoning instead of solely spontaneous impulsive answers.

Structural topics we decided to explore and examples of questions we used:

Definition of love <u>type A</u>	(what is love for you ?)
Love and its different forms type B	(is this ... love ?) (e.g. friendship, love between sexual partners, love between parents and children, love to animals, ...)
Love objects <u>type B</u>	(is this ... an object of love ?)
Loving and be loved <u>type B</u>	(do you agree, that the feeling of love is possible, regardless of the person who is with you or even without being together with another person at all ?)
Expectations and needs <u>type B</u>	(what is the critical point of that example - quote -, so that you can say: yes, this is love)
Responsibility and duty <u>type C</u>	(does this mean, that everything is legitimated in the name of love - like murder ?)
Basic aspects of love <u>type A</u>	(what are the basic aspects of love?) (e.g. acceptance, honesty, ...)

Space and time / being one with your partner

(Fromm (translated by the author): "the feeling of love, the joy, the experiencing of the truth does not happen in time, but in the here and now. The here and now is eternity ...")

Development and change

(what exactly changes for you ?)

type A

Factors in the beginning and at the end of love

(is it possible to learn how to love ?)

type B

The process of reconstructing subjective theoretical concepts to structured subjective theories

As mentioned before, we used the qualitative research method called "structural analysis instrument for reconstructing subjective theories," SLT (*Heidelberger-Struktur-lege Technik* by Groeben & Scheele, 1984). It connects individual concepts on the basis of mathematical functions. Let us give a few examples what possible relationships exist. They are divided into two areas: the area of definitions and the area of empirical dependencies. Now some examples of relational cards:

Definitions:

- 1) A is a necessary precondition of B
- 2) A that means/ that is B

Empirical dependencies:

- 3) C leads to D but only, if B is present
- 4) the more A the more B
- 5) the more A the less B
- and the more B the less A (this goes in both directions)

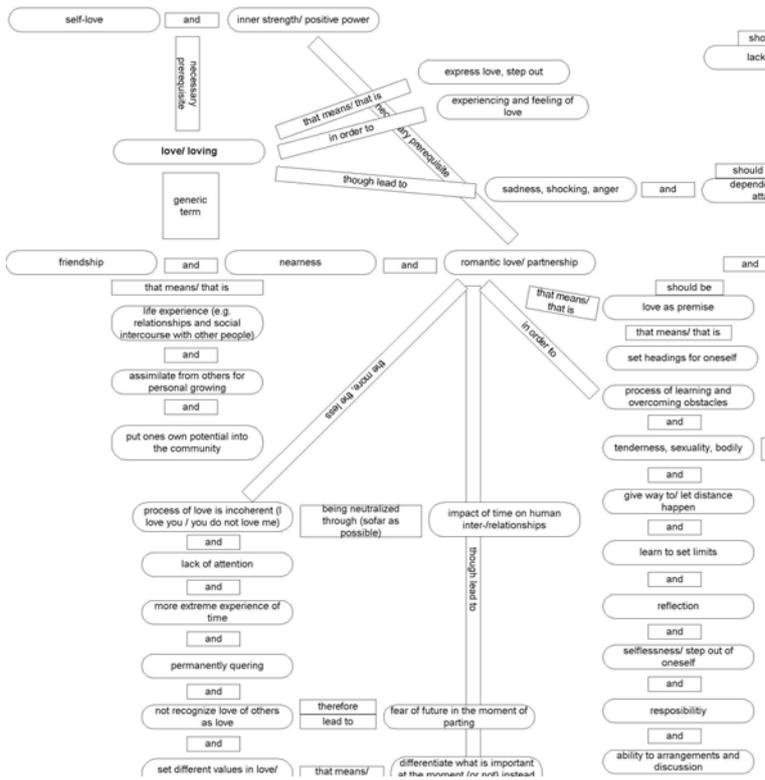


Figure 1: Example of a subjective theory (no. 18)

The process of reconstructing a subjective structure always starts with the root concept "love" or the verb "loving" that we used identically. Other concepts are connected with each other and/or the root concept with the help of different functions. These functions are described in everyday language and not as mathematical operators as was in the beginning of the SLT/RPST. At the end of the process the researcher and the interview partner discuss the whole structure and question it. They talk about internal consistence, coherence, personal meaning and logical relations. The aim is a consensus between the two parties about the structure achieved through interactive dialogue. This is the equivalent to the validation and falsification process practiced in the empirical tradition of Popper (1998). The next step is to categorize these graphical structures and to install a structural category system for further analyses to make it possible to compare between subjective and objective theories.

Subjects:

Our subjects were 20 women and men that we personally knew before or recruited from their friends to be sure that trust, motivation and honesty were secured during the interview process.

Cut of a reconstructed subjective theory

Analysis of data

It is necessary to analyze both the content cards and the relationship built up between the researcher and the researchee. This is done in two steps: First one analyzes the use of the relational cards of the SLT and secondly, one analyzes the actual contents of the subjective concepts. Each analysis is made with qualitative research methods, mostly by the use of content analysis.

The use of relational categories is advantageous because it gives an exact relational location for each individual subjective concept within each individual category. This emphasizes an unequivocal way of relating subjective statements with each other based on the structural position. The impact a concept is accounted for within the whole structure instead of a mere content analysis without relational issues. Comparisons between different contents based on the use of the same relational category are quite easy. This is the same for comparisons between the same content category but within different relational categories. Beyond that, it is possible to merge different content concepts that are located in the same relational categories to abstract meta-categories without losing the inherent relational context.

The last step is to generate a modal-structure. This represents on a basic level the general inter-individual tendencies of a few important aspects of our dialogue partners. It is necessary to set a criterion to determine which concepts become part of the final meta-structure and which do not. Every meta-category that consists of concepts of a special amount of different personal structures (mostly at least 20 %, i.e. 4 out of N=20) reaches this level and will be part of the final meta-structure. A concept card is accompanied by a relational card. The appropriate relational card results out of a relational category the meta concept belongs to. This is also the reason why a structural analysis of relations was done before a content analysis.

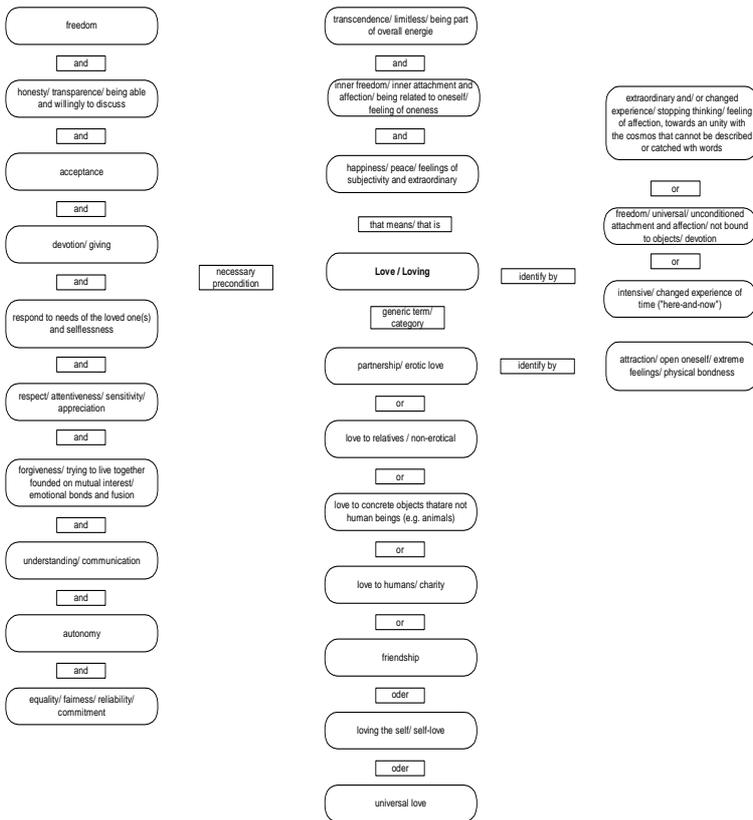


Figure 2: Resulting modal structure for definition of love

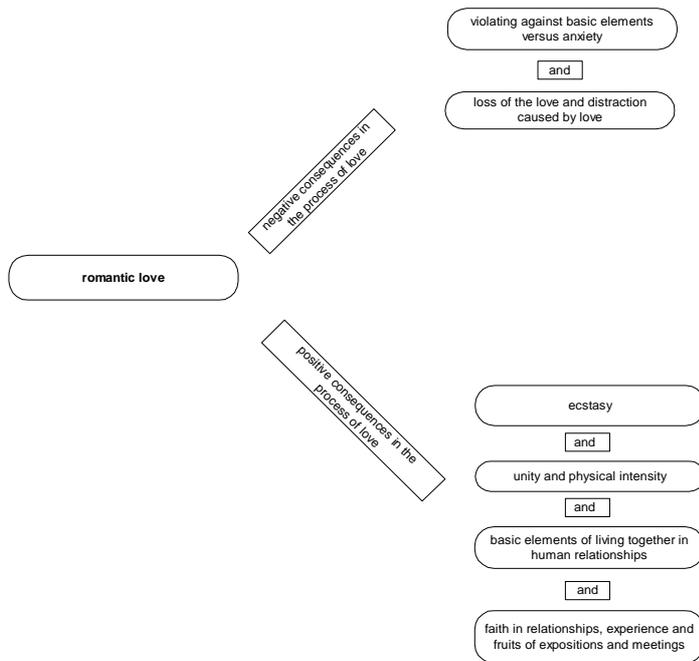


Figure 3: Resulting modal structure for empirical dependencies of love

Discussion

There is a prevalence of heterogeneity within concepts of love in the various subjects' concepts of love. Almost all ideas that we found in objective literature were found in the graphical structures as well. Some ideas which we did not find may be due to a small number of dialogue partners (N=20). The small size did not allow us to do deeper and more structured comparisons and the test of more complicated hypotheses.

Another point are the different outcomes one could get by an analysis of data of individuals and groups. As stated before, some concepts like "brotherly love" the Christian tradition (love in the sense Jesus preached) do not exist on a group level. At the individual level however, these concepts of love may point to big impacts on life style, feelings and cognitions as a leading theme of ones life. Only qualitative research could reveal this. Every interpretation based only on quantitative methods could not give such importance to individual unique concepts and their intertwined relationships. On the other hand, qualitative methods may emphasize too

much the individual point of view and be lacking in inter-individual comparisons. The best thing seems to use both methods - quantitative as well as qualitative with a combination one uses that kind of method that is adequate to the topic of research and to the momentary phase of research process. An example is shown by Groeben (1986b) with the division in phase one and phase two, communicative and explanatory validation. At first, subjects have to explain in their own words the unique view of life that is analyzed in a qualitative way and with the help of qualitative methods and data analysis. Only after it is possible to test subjective theories against objective reality with methods and theoretical background, has it been possible for the modern empirical sciences to develop over the last few centuries. Exceptions are, as stated before, thematic concepts where empirical research has evidence that subjective theories cannot add useful information to enhance objective theories. That means it is sometimes possible that subjective opinions do not add new information to ongoing research. But neglecting subjective theories makes only sense for the implementation of subjective theories into objective theories, and it is not intended to skip an individual interesting case.

The systematic equivalence between the worldview of ordinary people and scientists gives the opportunity - what some people may also fear - for change. This could happen during the dialogue because of the equality of opinions during the interaction, where the subjects and researchers change themselves and each other through reasoning. In some cases this change can result in different values that can be drawn back to the profession (e.g. as a scientist, psychologist) that in turn may question their research.

The here-represented method seems to be appropriate to change the way of interviewing research objects. Furthermore, ethical standards are reviewed and incorporated as important factors in the process that form an interaction of methodological working and ethical behavior.

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Deciding which Kinds of Data to Collect in an Evaluative Study and Selecting a Setting for Data Collection and Analysis

Inge M. Lutz

Introduction

The basis for this evaluative study were innovative gender specific school-projects, conducted at different kinds of schools in Baden-Württemberg, Germany. To find out how to evaluate these projects, methodological questions are focused on in this article. The first question is how to generate relevant data for the evaluation. The next one is how to handle them in order to create a successful project and to recommend improvements for teachers in subsequent projects.

Background

The digitizing of everyday life threatens to divide humankind. On the winner side are those able to take the new media in their stride. On the other side of the divide are the losers. Mastering information technology becomes an overall question of education and income (cf. Schründer-Lenzen, 1995, p.10). Thus the school as an institution has no choice but to include the new media in its curriculum.

Whereas boys frequently play around in their spare time with the computer, most girls first encounter this medium at school. To create an approximately equal level of training for all young people, the subject 'IT basic training' has been introduced at intermediate schools. Furthermore, "the new technologies also [create] skilled jobs that should be equally open to boys and girls" (Niederdrenk-Felgner, 1993, p. 18).¹ However, instead of the new IT subject allowing girls to be positively exposed to the new media, the effect of ITG (information technology basic training) has been more to intimidate them, as was reported by Funken et al. (1996, p. 11; cf. also Pinl, 2000). This tendency is also manifest among female students of IT at the University of Stuttgart: New enrollments have declined from a peak of 15% a decade ago to 9.15% today (cf. Landesinstitut für Erziehung und Unterricht, 1997/98). Yet again, it seems as if "the sciences which promise high income ... tend to be avoided by women" (A. Schründer-Lenzen, 1995, p. 14).

¹ Quotes from German text are translated by the author.

That girls/women do not universally reject engaging with the new media is shown by the success of computer courses which are especially run for female participants, and where attendances have been normally very good (cf. Funken et al. 1996, p. 12). This observation shines a light on gender-specific differences in respect of accessibility and use preferences, as documented in the literature.

Table 1

Girls	Boys	Source
Less sense of having control; less frequent access to own PC; less leisure use; prefer social contacts	More sense of having control; more frequent access to own PC; more leisure use; prefer programming	Kielholz, 1998, p. 108 p. 56 p. 61 p. 75
Utility focus, oriented to social consequences of technology	Leisure activities: games, programming, technical aspects central	Niederdrenk-Felgner, 1993, p. 14
Lessening of distance to computer	Technology-centered	Pallin, 1990, p. 144
'Soft' programming (to be part of a system, etc.) holistic	'Hard' programming (exercising control, etc.) isolated	Turkle, 1984, p. 133

Despite this study's differentiation in terms of 'gender', it is important not to lose sight of such other aspects as social class, age, education, attitudes and values, job orientation, learning organization, school atmosphere, teacher quality, etc. (cf. Funken et al., 1996, p.2f.; Schründer-Lenzen, 1995, p.13).

Most of these studies are conducted and analyzed statistically (cf. Kielholz, 1998, Whitley, 1996, Turkle, 1984). In order to get statistically significant results, one needs a large sample of subjects. In addition, one must have concrete ideas to know what she or he is searching for (cf. Whitley, 1996). Building hypotheses, one tries to verify or falsify them. In such a way, one gets so called 'hard data', which are generally considered to be objective.

In this study which evaluates innovative gender-specific school-projects, there is only a small sample of subjects available. This is not a disadvantage. Villar and Marcello (1992) describe quantitative and qualitative methods as different approaches to phenomena (cf. Huber, 1992, p.179). Having a small sample at one's disposal requires an appropriate methodological approach to the field of investigation. Here a setting has to be collected, where the subject of interest can be researched under different

aspects and where connections between the results can be investigated with a combination of methods phenomenologically.

Evaluation and qualitative methodology

With view to the task of the science of teaching, Tulodziecki (1982) describes empirical evaluation as an appropriate process to assess a theory induced concept of educational action. Especially in the developmental research, on which this study is based, Wellenreuther (1982) evaluates a research strategy in order to optimize innovative processes (cf. P.120ff.) Empirical evaluation not only assesses the aimed teaching concept. It is also able to recommend relevant criteria for teaching practices (Herzig, 2000).

Due to both of these aspects, this evaluative study especially uses a qualitative methodology, but is in some cases complemented by quantitative analysis.

Huber (1992) has described the place of qualitative research as follows: "The point of applying qualitative methods in social research is to reveal the world of the researched as they themselves see it. ... Which box is actually checked off in an questionnaire would therefore often seem less interesting than the thoughts – should these data be collected – that went through the respondents' heads prior to making their choice. Qualitative methods should help to reveal this subjective dimension" (p. 115).

There are the following methodological implications for qualitative studies: If the world is to be scrupulously studied from the perspective of those studied (cf. Huber, 1992) and if this is to turn up insights into the object of study, it is not such a bad idea to use a variety of research methods. Suitable methods are best arrived by deploying 'grounded theory' during the investigative process in line with the research questions. In this way, a qualitative methodology permits exhaustive study of all perspectives within a complex bundle of interactions.

This present study also uses a qualitative methodology to do justice to the complexities of the issues under investigation, as well as to explore the diverse nexi involved. Applying a variety of methods and comparing a number of individual cases is the key to a deepened understanding and more far-reaching explanations (cf. Miles & Huberman, 1994, p. 173). A concrete and detailed comparison of several analyses of individual cases is be found in Lutz (2000).

The combined use of methods to study a single phenomenon is referred to by Lamnek (1989) as 'triangulation' (cf. p. 248). "Triangulation pegged to methodological-technical aspects is a strong argument for multiple operationalization." This permits a number of methods to be employed, with any empirical findings being due less to the method used than to underlying reality, which Denzin (1978) has called the 'between- or (across-)method.' Lamnek (1993) has also described triangulation as "a

vehicle of cross-validation for use when two or more different methods lead to comparable and congruent data" (p. 249).

Villar and Marcello (1992) see the methodological triangulation as a possibility, to test the convergence of the results by comparing different sources. The combination of different methods is possible at any phase in the procedure of investigation (cf. p. 182).

Deciding to employ methods and techniques not previously planned remains, for Strauss (1994), an option throughout the whole investigation process. He sees this approach – called 'theoretical sampling' – as a method "in which the researcher decides, on analytical grounds, which data to capture next and where they may be found" (p. 70). Thus this method permits a flexible response to the matter under study, while data generation can be tailored to need. The researchers' ability to employ this analytic method appropriately and with flexibility is called 'theoretical sensitivity' by Strauss and Corbin (1990).

Whereas quantitative methods attempt to confirm explicit or 'objective' theories, i.e. they follow the deductive path from hypothesis to verification or falsification, qualitative methods can follow two paths: the interpretive one of deduction – from theory to practice – or the path of the inductive counter-movement from practice to theory. Hence, 'grounded theory' pursues the goal of generating theories from the phenomena of everyday life (cf. Huber, 1992).

This evaluative study makes use of a qualitative methodology and includes quantitative elements. It combines some different methods and thus investigates the matter of subject from various perspectives. On the one hand the study follows the relevant scientific literature, on the other hand it chooses the 'grounded theory' (cf. Glaser, 1978, Strauss, 1994), which explores findings between the results. The integration of quantitative aspects into a qualitative study pragmatically follows the way to explore different phenomena of one study with help of different methods (cf. Villar and Marcello, 1992, p.179).

Invitation to join 'innovative gender-specific school projects'

Only few girls take the ITG proficiency course in the senior classes of elite high schools that provide access to universities [*gymnasium*]. There has also been a drop in female students enrolling for IT courses at university level. These facts not only mean that girls are excluded from jobs with a good future; they also represent a waste of valuable and motivated workers. As a result, Baden-Württemberg's Ministry of Education, Youth, and Sport has joined with the state's educational think tank, the Landesinstitut für Erziehung und Unterricht, to start an initiative aimed at sponsoring innovative media-related projects in schools that are targeted at girls. One of the project segments – 'gender-specific projects' – pursues the goal, firstly, of

raising consciousness levels in respect to gender-specific accessibility to the new media; and secondly, of practical recommendations for gender sensitive IT teaching. In two consecutive rounds, schools that agreed to implement these gender-specific projects were sponsored. The goals of all projects were:

- Attention to gender-specific differences concerning access to the new media
- Reduction of differential deficits in girls and boys
- Promotion of interest in the substantive, as opposed to the play-related or technocentric, aspects of the PC.

In realizing these projects, interested teachers were asked to orient themselves towards the following recommendations:

- Methods and thematic focus should be geared equally to boys and girls
- Stereotypical attitudes and behavior in boys and girls should be addressed
- Girls and boys should work jointly at the computer on cooperative projects addressing a particular topic, and exchange information relating to contents and methods
- Projects should focus on self-observation when boys and girls work together. The self-awareness of girls should be strengthened when engaging with the new technologies (cf. Baden-Württemberg's educational server; URL:

<http://www.leu.bw.schule.de/allg/mmino99/geschlec.htm>).

The goals of the projects set the criteria for the evaluation. Here, the question is how to operationalize the project goals and how to evaluate them. As each of the projects has a certain uniqueness, a universally valid criterion cannot exist for project-designs. Each of the criteria must fit the type of school, the pupils, the certain situations, and so on. A single project may correspond to a special profile of a school, or, in the reverse case, a project can lead to a special profile of school. In any case, a qualitative procedure will help to include all characteristics of the different projects and to describe them phenomenologically.

Evaluation of projects

The first step for evaluating the projects is to define the research questions:

What is a 'successful' project?

Which projects were conducted successfully?

Which criteria characterize successful projects?

To answer the research questions we must focus on the goals again. They have been deliberately set high. As each act of learning must be seen as a

life-long process, inevitably the sponsored projects can do little more than initiate long-term individual learning processes. The efficiency of the projects conducted must be seen within these confines.

A methodological plan for answering the first research question is described in table 2.

What is a 'successful' project?

Table 2

selection criteria for proposals	methods
Attention to gender-specific differences concerning access to the new media	Analysis of project description Analysis of interviews with teachers and pupils Analysis of memos
Reduction of differential deficits in girls and boys	Analysis of interview with teachers and pupils Analysis of memos
Promotion of interest in the substantive aspects of the PC, as opposed to the play-related or technocentric, aspects of the PC	Analysis of project description Analysis of interviews with teachers and pupils Analysis of memos

These selection criteria for proposals rely on the findings of the gender-specific access to computer, findings which have been found in the scientific literature (cf. Kielholz, 1998, Niederdrenk-Felgner, 1993, Pallin, 1990, Turkle, 1984). Thus, this analysis corresponds with the existing theory.

Which projects were conducted successfully?

Making use of the above described procedure of analysis, each of the projects can be evaluated precisely. As described above, the uniqueness of each project must be taken into account. The analysis corresponds with the existing theory, as well.

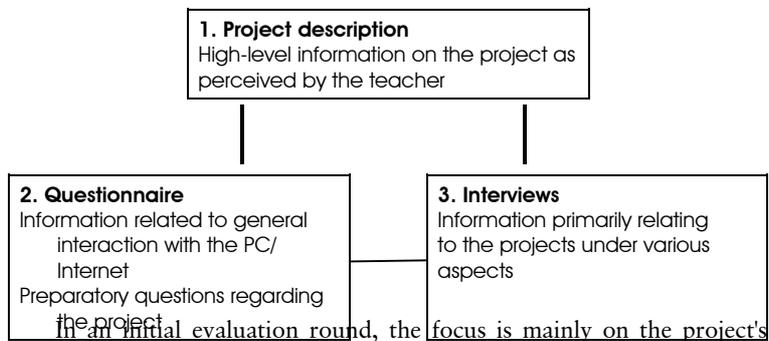
Which criteria characterize successful projects?

Here an appropriate way is the open coding (Glaser, 1978, Strauss, 1994) and to look for special codes found in successful projects. The sources for coding are interviews and memos. The following are illustrated: Finding out the 'subjective' or 'implicit theories' (cf. Huber, 1992) of teachers and pupils, what they see as 'good projects', and the characteristics of 'successful projects.'

Criteria for teaching staff will be drawn up, based on these projects. These criteria will serve as hands-on recommendations for teaching staff.

Research design

With respect to data collection, this study can draw on the following methods:



In an initial evaluation round, the focus is mainly on the project's content; in addition, variables are described (cf. 1. Project description). In the second round, all participating pupils complete the questionnaires, as do the teaching staff involved in the selected projects. In the third round (follow-up interviews), interest now focuses solely on those pupils and teachers whose written responses are most indicative in light of the study goals.

The study as a whole is based on approximately fifty project descriptions, out of which an set of ten projects was selected, using the criteria mentioned below:

<p>PROJECT DESCRIPTION: Relevant variables Information for selecting the projects to be evaluated Contents reflecting the requirements set out in the invitation Different types of schools Coeducational vs. same-sex teaching situations Sex of teachers heading the project Size of the work group</p>
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Key categories in the questionnaire, in accordance with A.Kielholz (1998), Gittler & Kriz (1992), Whitley (1996) and Shashaani (1994), are:

QUESTIONNAIRE: Relevant categories

Information on general readiness to engage with the PC/Internet plus initial project evaluations

- Attitude and self-assessment
- Accessibility and actual use
- Motives and preferences
- Social environment
- Gender-role stereotypes
- Criticism and sense of having control
- Project evaluation

Although the survey uses questionnaires, random sampling for generalizing to a certain population is not intended. Representative results are ruled out by the small number of cases. The evaluation mainly proceeds qualitatively, including quantitative elements. The quantitative elements focus on points, such as

- is there a computer available for the family/ for the interviewed pupils/no computer available;
- the gender stereotype of the interviewed persons;
- own estimation of the project to be successful (for the interviewed persons);
- own estimation of more technical competence of girls or of boys.

The qualitative analysis picks out, in a first step, particularly interesting cases in light of the study goals; and expands, in a second step, the range of data material on the interviewees.

Interesting projects – and also individual cases – can therefore be brought to light by analyzing the questionnaire responses. Data capture can be deepened and expanded by follow-up interviews. A special code helps reestablish the reference to the selected questionnaires (Huber, 1999, p. 232). Interview categories are primarily directed at the conducted project.

INTERVIEWS: Relevant categories

Project-related information

- Own motivation for project
- Special features of project
- Potential for codetermination in selecting project

Potential for cooperation
 Justifying project design
 Subjective evaluation of results
 Sensitizing to the gender problem
 Modified attitudes and conduct (progress in learning)

The qualitative analysis of interviews, including the memos, is performed using the software package AQUAD 5 (Huber, 1997). Despite the underlying questions, the point of using a qualitative method, according to Miles and Huberman (1994), Glaser (1978), and Strauss (1994), is to capture phenomena that do not emanate from the question complex. For analyzing qualitative data, Miles and Huberman (1994) insist on constant comparison. Such constant comparison represents an inductive-deductive cycle of work steps: the reduction-reconstruction-comparison sequence is inductive, the control-phase sequence deductive (cf. Huber, 1992, p. 118). Deductive and inductive analytic steps alternate with each other and typify the qualitative analytic process.

Another characteristic of a qualitative approach is the parallel-running data capture and data analysis (cf. Shelly and Sibert, in Huber, 1992, p. 81). Thus, it is possible to begin with the interviews and evaluate the first projects according to the above mentioned criteria, as soon as the first survey responses are to hand.

Results

The results rely on two points. First, exemplary cases that are successful are descriptively represented as individual cases. In addition, an aggregate of such individual cases enables a typology to be tabled and thus the results are generalized. And finally, from the description of individual cases and, even more, from the generalized results, operational criteria can be elicited that may then be passed on, for what they are worth, to teaching staff in Baden-Württemberg (and elsewhere).

Discussion

The first point of discussion is reflecting on the reliability of the questionnaire. As all pupils of one class answer them together, mutual influence can occur. In addition, the questionnaire is worked on anonymously. So the pupils' answers may be optional and not representing their real estimation.

Using a mix of methods, however is a good way to compare the data in order to either support or to challenge the conclusions. Thus, this mix assures the convergence of the results (cf. Villar and Marcello, 1992, p. 182).

Though some researchers see qualitative and quantitative methods as opposed to each other, this study prefers a qualitative methodology including quantitative elements. On the one hand, quantitative analysis support qualitative data numerically. On the other hand, qualitative collected data challenge the quantitative collected data. Overall, the data are collected and analyzed with a mix of methods that controls each other and promotes the observation of quality criteria.

In a last point, the question arises as to what extent the projects manage to elicit deficits in boys and in girls. Here, the results should be seen not only in economic categories but also, and indeed mainly, in terms of equal opportunity as captured in the notion of 'gender mainstreaming' (cf. United Nations Third World Conference, Nairobi, 1985).

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Dynamics of a qualitative research design An interactive approach to interactive reception

Thomas Irion

Introduction

This contribution demonstrates how far an analysis accompanying the interview process can influence the research methods and questions. To illustrate the method, this paper uses as an example of a study that concentrated on the influence made by participants (students of the third grade) during the interviews, taking into account the experiences by the researcher. This study showed the conditions and forms under which the students gained experience at home. Methodologically, this paper discusses how the scope of the research was necessarily adjusted to the sampling process by developing a software specifically adapted to the research situation and questions. Finally a transcription method is presented which was developed during the study. This served as the basis for how the reception process was made accessible in the analysis. The integration of three simultaneous sources of synchronized data (video without sound, verbal data gained while the use of the methods thinking aloud during reception and stimulated recall) turned out during the study to be necessary to get insights in the reception process of the study participants.

This paper discusses the tension between "openness" and "pre-structuring" of qualitative research. This study was based on "pre-structuring" flexibility used according to the design decisions made in the process of the study. This method made it possible to meet with the prerequisites of the study on one hand, such as prior information of the participating students and their parents, obtaining permissions and the schedule of the dissertation. On the other hand the flexible interpretation of the "pre-structuring" allowed interactive processes between the design components and the fieldwork, which were necessary in order to take into consideration the complexity and dynamics of the subject 'learning with hypermedia.' The continuous analyzing processes during the realization of the study caused dynamics of the research design, which will be elaborated upon.

Basis and focus of the study

Introduction

The media products which have been made accessible by the distribution of cd-rom/dvd and the publication on the world wide web form the basis for the growing importance of new communication platforms and multimedial forms of representation. In addition, new possibilities of gaining information become more and more important. The new way of information access comes in the forms of media representation, which are called hypertext or hypermedia. According to the definition of Kuhlen (1991) hypertexts are non-linear media between book and knowledge database. The principle organization of hypertext can be described as links between units of information, which can be called nodes. The cost effective digital reproduction of images, films and sounds enables a frequent transfer of complementary information in addition to texts. Hypertexts in which texts are supplemented or substituted by images, 3D-representations, videos and sounds can be called hypermedia.

The following thesis is not based on hopes for a better acquisition of traditional contents by hypermedia but deals with the possibilities of hypermedia information systems as accessed information. Even today the internet- and cd-rom-databases offer computer-based access to information systems, which could hardly be imagined a few years ago. New technologies in the field of radio networks, such as bluetooth and UMTS, and the reduction of storage devices and improved user interfaces, for example voice recognition and high resolution liquid crystal displays, will probably make information resources largely independent of time and physical location within the next few years. Hypermedia-reception will become an more and more important way of knowledge acquisition.

Does hypermedia improve learning?

Since Bush designed hypertexts in 1945 and Nelson (1967) introduced the description "hypertext," educationalists have never stopped to hope that the learning process could be improved, assisted by the new non-linear structure of information representation. Especially researchers of the constructivist paradigm hoped that the use of hypertexts would lead to constructive, situated and cooperative learning; establishing mental structures characterized by cognitive flexibility. Metastudies by Schulmeister (1997) or Hasebrook (1995) however, question such hopes and point out that the hypothesis "hypertexts improve learning" can not be proven correct in its general claim. The use of new forms of access seems to have caused new difficulties, the most common ones are being cognitive overload and disorientation (Tergan 1995).

Focus of hypermedia research up to now: Development of design guidelines

A preferred approach to promote learning processes using hypermedia is to optimize the structure for navigation by the development of design guidelines. "Research and development of hypertext/hypermedia have so far mainly dealt with the design of the hypertext database and the navigation-/search components."¹ (Tergan, 1995, pp. 132).

Yet design guidelines for example by Nielsen (1995 & 2000), Hentrich (1998) or Fleming (1998), help only partly to solve the problem of navigation in hypermedia. Negroponte (1997) also criticizes methodologies for research concerning suitability of different user interfaces. According to him it is simply incorrect to state that for each situation there is a general best situation, because people are different, and situations change and the motives for a certain action can be influenced by the possibilities available. There is no perfect user interface. Schulmeister (1997) supports this view, and describes comparative studies dealing with computer and learning as "the land of zero-hypothesis." He describes various changing parameters (like new forms of interaction and screen design, improved hardware and graphic tools and increasing experiences of the users), and states that they prevent results of comparative studies from staying valid over longer periods of time. Fading out these changing parameters cannot be the solution to the problem because they are important variables for the learning process. In response to this dilemma, this study tries to reduce the impact of the changing parameters by laying its empirical focus on the user competencies and their promotion.

Focus of the study: Description of competencies necessary for the use of hypermedia

Although the advantages of hypermedia in comparison to traditional forms of information cannot be proved to be generally true, hypermedia systems are becoming more and more popular. Their popularity relies most likely on the free access to information as for example in the world wide web. System technologies permit the distribution of hypermedia information almost free of charge, which is readily utilized by people who have access and the necessary know-how. In view of the growing importance of the access to information, many people fear a knowledge gap between those with and those without an access to computer based information networks. The German Ministry of Education reacts by making computers available

¹ "Forschung und Entwicklung zu Hypertext/Hypermedia haben sich bisher vor allem mit der Gestaltung der Hypertextdatenbasis und der Navigations-/Suchkomponente befaßt."

in computer rooms or in the classrooms. This and similar political programs are only the basis for bridging the digital gap: How can the necessary competencies to use the new media be supported? Neglecting to support these competencies will most likely lead to maintaining the gap of access deprived within the society, despite the comprehensive provision of computers.

The emphasis of this study lies on the description of those competencies which are necessary for the use of hypermedia systems for learning and gathering information by students of primary schools, namely on hypermedia competencies.

Understanding of the research design as "pre-structuring"

The low level of research concerning the importance and contextual conditions during the use of hypermedia by children was one reason to develop a qualitative design. The other was the diversity and complexity of hypermedia systems and their dynamic development in the navigation structure and design. The theory-led development of hypothesis and their empirical verification seemed not to be appropriate ways to describe the complexity of the phenomenon. Prior studies of other authors could only be used with care, because of the dynamic development of hypermedia systems and their navigation structures.

It was important to consider the difficulties described above by Schulmeister and Negrofonte to formulate general statements to hypermedia reception by reducing the complexity of the reception contexts. I tried to design the methods so open, that the complexity of the phenomenon in question could be considered (Flick 1995). Therefore, it was not my aim to omit the context of hypermedia reception, but to concentrate on it to open the mind for new and unexpected things. The research design was drafted based on this focus.

A "pre-structuring" of the methodical procedure was not omitted. In the first design of the study, the usual decisions in qualitative designs were made, but these decisions were made more tentative than final. This understanding of the design as "pre-structuring" was valuable in two ways. By "pre-structuring" the planned study could be organized; which was necessary, especially in view of the outer circumstances such as receiving the permission by parents and school administration. The planned openness of "pre-structuring," allowed me to include surprising insights that occurred during the fieldwork. The openness of the research design allowed me to focus on new and unexpected aspects of the phenomenon, instead of overriding it.

In order to take new developments into account, the design had been modified several times during the study. Hereby the design components, research intentions, conceptual context, research questions, methods, issues

of validity were all interactively connected with the field conditions as described by Maxwell (1996) which is shown below.

The interactivity of the research process

Revision of the interview questions in the research process

Phase 1		Phase 2			
problem-centered interview 1	reception 1: „Just grandma and me“ (explorative)	problem-centered interview 2 based on the reception	problem-centered interview 2	reception 2: website space (investigative)	stimulated recall
	thinking aloud during reception 1			thinking aloud during reception 2	

Figure 1: Process of the research after various modifications

In the first design, the study was divided into 2 phases, in which different hypermedia software was used. When choosing the first software, 40 hypermedia software titles for children were viewed. The software was divided in explorative and investigative products. For the first interview explorative software was chosen in order to avoid the situation where the children thought they were in an exam. The aim was to discover hyperlinks rather than gain knowledge. The choice of the second software was not fixed at the beginning of the study, but after receiving the first results, was then orientated on the method of theoretical sampling by Glaser and Strauss (1967).

A deeper phase of analyzing was inserted after the sixth case in phase one. One aim was the structuring of the codes developed for the interviews in order to shift from open to axial coding (Strauss/Corbin 1996) as the basis for further planning of the second phase.

This phase led to a revision of the interview questions in order to concentrate on the elaborated categories in this phase. The communication strategies for the preparation of interviews were made up by Witzel (2000, paragraphs 14-18) and were added by further questions arising during the analysis process.

For this procedure it was especially helpful to do the interview in two phases, as it was possible to get further data of the already interviewed children in the second phase of the interview. So it was possible to integrate new issues after beginning with fieldwork. When preparing the second interview, contact summary sheets developed by Miles and Huber-

man (1994) and the search function of Aquad 5 (a software for qualitative data analysis, Huber 1999) were used.

Testing of transcription processes for the analysis of navigation decisions

For the planning of the second phase, it was necessary to focus on software two. The analysis so far concentrated on the answers of the children in the interviews. To analyze the reception process, it was soon obvious, that it was necessary to make the navigation path accessible for the analysis, because the context of navigation decisions was central for the analysis of hypermedia competencies. The reception process was still not analyzed, because there was no transcription process designed so far. After six cases, a deeper reflection phase was intermitted to develop an appropriate transcription system. An analysis of log-files could not be used, because the software was not html-based. Therefore an exact transcription process of the navigation path was developed as first attempt. The transcription also registered clicks without hyperlink target. On this basis I hoped to receive an insight in how the children navigated in explorative hypermedia software. The detailed transcription process, which was based on text, hindered the analysis rather than promoted it. The analysis of the self-made log-files was less conclusive as navigational decisions were taken out of their contexts. This problem would have been amplified by using log-files as in the application of Berker (1999).

In any event, the explorative software proved to be little suited to make any statements about competencies concerning the hypermedia reception. My observing the children's free exploration in an easy-to-use hypermedia system brought only few insights concerning the necessary hypermedia competencies. No doubt, some interesting aspects could be found, such as the general ability to exploring a hypermedia base, differences in how quickly the children accepted the free exploration, or how they navigated in the options menu. These tasks however, were too loosely formulated to give a comprehensive description of the competencies. It became obvious that the choice of the second software, which suggests investigative reading actions, was decisive in describing the quality of hypermedia competencies. In addition, a more suitable transcription system than automatically generated or manually transcribed log-files had to be designed.

Process of a hypermedia development orientated on target groups and research questions

An additional search for further hypermedia systems available on the market or on the web was not satisfying. Most of the hypermedia titles aimed at edutainment and were not suitable for answering the research questions because of their explorative orientation. Many of these titles were also too time-intensive for use in this study. Some of the cd-roms showed gender-specific characteristics in the subject, like CD-ROMs about horses or cars.

On this basis it seemed to be justified to develop a quite time-intensive process for the development of a hypermedia system, which was adapted to the target group and research questions. The process of the development can be summarized in 11 steps:

- Getting into contact with a teacher in a primary school, which showed interest in designing a website with primary students
- Establishing a project group of third and fourth graders.
- Choosing a suitable subject by primary students.
- Formulating texts by the students using books, websites and cd-roms.
- Developing design guidelines by students with the aid of already existing websites.
- Creating a design by the project leader and the teacher.
- Pilot study: Finding typical difficulties when using a www-based search engine for children.
- Integrating the typical problems found in step 7 in the website designed for the study.
- Beta-testing with 5 students, who were not engaged in the study.
- Revising the web site.
- Starting with the study.

In order to guarantee that the software suited the age of the children, a primary school teacher as well as students in the age of the target group were integrated in the design process. Step 3 ensured that the chosen subject "space" was interesting for girls and boys of this age. As pupils wrote the texts, it could be assumed that the language was adequate for the target group. Yet, some of the texts were at a higher level. That could be partly corrected during the beta testing (step 9) and during revision of the website (step 10). In order to simulate a real situation using the Internet, I did not really aim to use texts understandable to every child. Step 7 showed that texts found in the web by search engines were rather difficult and very long. Theoretical sampling was adjusted and no longer limited to the selection of participants and the choice of an existing hypermedia product, but was extended to the development of a suited hypermedia system.

Development of an interview and transcription instrument

The first step of developing suitable software that exposed competencies for a hypermedia investigation consisted of only part of the study design problem. The above mentioned transcription process of hypermedia navigation based on log-files proved to be unsuitable for analyzing the reception process. During the first reflection phase it became obvious, that it was necessary to use a video recording for analyzing the navigation in the second hypermedia system. It is true that the transcription was added spontaneously on demand by remarks during the reception process in order to locate reasons for navigation decisions, but contexts as to how to be able to understand the navigation decisions during the analysis were missing. To be able to describe why, for example, a mistake occurred when entering a text, it was necessary to see the exact process of making the mistake and the content of the page as the basis for the action. Therefore, a method was developed, to tape the reception process of the children on video in high resolution.

Setting for recording the reception process

To understand the cognitions of the students, the method of "thinking aloud" was used, where children were asked about their actions on the computer. No doubt that during the research a simultaneous thinking aloud would have been possible, but a pilot study showed that children at this age (8-10) are only partly able to formulate their thoughts during complex decision processes. Besides, the students' ability to act was hindered by asking them to think aloud. On the other hand children were only partly able to remember their own thinking processes, when asked to think aloud afterwards. Problems of formulating action guiding cognitions can be explained by little developed meta-cognitive abilities at this age (Huber & Mandl, 1994). As introspection was indispensable, the method of thinking aloud was used during and after the action, depending on the situation. Therefore the children were spontaneously asked to formulate their cognitions during the reception process when assumed by the researcher to be able to do so. In situations where interruptions were assumed to be hindering factors, they were asked on the next day to formulate their cognitions. In order to avoid that the children became too tired to formulate their cognitions, stimulated recall was postponed for the next day. This procedure had the advantage that the video material could be analyzed in advance in order to ask relevant questions for the analysis. The method of unguided and guided introspection was used in both forms of thinking aloud (Weidle & Wagner, 1994).

The data analysis was therefore aimed at three simultaneous sources: The video recordings and the verbal data gathered during and after the

action. For qualitative research it is usual to transcribe all verbal data and to save all data sources visually. Therefore an analytical instrument had to be developed that made it possible to view three different visual data sources simultaneously. Because of compatibility, the instrument for analyzing was developed in html, javascript and quicktime. The process of coding was made on the base of the time code in Aquad 5, for use of the specific features of Aquad for generating and testing hypothesis. The final results of the study will be presented in 2001.

Conclusions:

The effort focuses on coming closer to the research field under consideration, using methods as openly as possible and avoiding "pre-structuring" insofar as possible, a process which successively leads to the creation of hypotheses and theory. (Mruck & Mey, 2000, paragraph 7)

Highly inductive, loosely designed studies make good sense when experienced researchers have plenty of time and are exploring exotic cultures, understudied phenomena, or very complex social phenomena. But if you're new to qualitative studies and are looking at a better understood phenomenon within a familiar culture or subculture, a loose, inductive design may be a waste of time. Months of fieldwork and voluminous case studies may yield only a few banalities. (Miles & Huberman, 1994, p. 17)

The open-endedness of qualitative research designs is a strength and a risk. It opens the possibility to take into consideration the complexity and dynamics of social phenomenon but at the same time bears the risk of getting lost in complexity. As "pre- structuring" is needed to do the research on the one hand, research designs should, however, take into account the interactivity of the various design components, which, for example, Maxwell (1996) structured in five components (purposes, conceptual context, research questions, methods and validity). Qualitative research designs, which try to draft a linear way of doing research, forfeit possibilities to take into consideration process issues of the field and the research process itself.

In this study, an open-ended research design was especially necessary to do justice to the complexity of the phenomenon. The process of making two steps in the research design opened possibilities to focus on new aspects of the phenomena, without losing comparability. The development of a hypermedia system suited to the research questions and the field after analyzing the first interviews allowed me to focus on aspects that occurred during the fieldwork. The development of a transcription instrument enabled to access context-rich data-material.

There are various reasons why research designs are a matter of urgent necessity for academic work. Here, communicating with people who are involved in the study directly or indirectly needs to be focused on. For example, this happens when coordinating the research groups, when getting in touch with participants or when obtaining authorization. Besides, in qualitative studies research designs presuppose indispensable phases of reflection and planning, the importance of which cannot be emphasized too often. Researchers should be aware of the risks of premature rigid and inflexible decisions concerning designs, especially when working on qualitative studies of highly complex and hardly researched fields. Especially in a scientific environment, characterized by researchers of other methodological preferences, openness with regard to decisions concerning design can be hard to be carried through. Yet, the demand for appropriateness of methods and theories to the phenomena, which is the subject of the research, is hardly compatible with ways of action planned in advance down to the last detail.

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**Cross-cultural youth research as an international and interdisciplinary cooperation project:
"International Learning"**

Ilze Plaude and Josef Held

The matter of qualitative comparative youth research

At the moment developments are various and profound in Europe (inland market of the European Community, German unity, fundamental changes in Eastern Europe, crises in the Balkans, migration movements, conflicts between North and South). The increasing national interconnection seems to bring into question national bigoted points of view from Europe. At the same time you can observe ideological re-nationalizations, new kinds of nationalism, racism and eurocentricity. (project, "International Learning" framework 1991, p.1)

With those words we summarised the starting perspective of our project "International Learning". With reference to the international developments which were mentioned, we assumed that young people were affected by those developments as well. The starting points of our comparing youth research were about real problematic situations instead of inherent scientific theories. This had important methodical consequences. The aim of our empirical research was not to confirm existing theories but to find better theories for significant problems. The well-known quantitative paradigm lead from theory to empiricism, the qualitative paradigm however, leads from empiricism to theory. Moreover we needed an interdisciplinary starting point, because you cannot explain problematical situations only with a psychological point of view. No problem is only a psychological one. The social context is part of every problem. Research which relates to concrete problems suggests an interdisciplinary approach as well as qualitative methods. Interdisciplinary approaches, the qualitative types that tackle the problem are connected with each other. Pedagogues (in the sense of scientists), psychologists and sociologists from Germany, Greece, Croatia, Latvia and the Netherlands were involved in our project.

We did not want to limit ourselves by describing and analysing nationalistic and racist orientations, which can be observed in the countries mentioned above. Intercultural learning, an examination of international developments and the problems that turn out of it should be investigated and practically supported by the project. Because of that we drafted an international comparative youth research, which should be useful for educational purposes. The connection with educational practice seems to

be proven in particular by qualitative research and the research that refers to the single case.

From 1996 to 1999 we worked on the project "International Learning", which including a new main focus. Because of increasing hostility against foreigners we named the subtitle "orientation of young people in a context of integration and exclusion". That project, which was supported by the European Union, was carried out in parts of cities which were chosen with the main focus in mind on specific problems of integration and segregation in the particular country. Qualitative methods (interviews, group discussions, participating observations) were all used and quantitative surveys were also included as a complementary. These methods were not an accumulation of a single method, but a part of our research designs.

The methodological concept of the project

The methodological conception of the project "International Learning" describes an innovation of youth research, which can be described more precisely with the help of our previous cooperation. Instead of sending centralised questionnaires to the different countries, (what is obvious in quantitative comparing research and exemplarily done in youth surveys of the eurobarometer again and again) cooperation was started with an exchange of scientists.¹ Qualitative youth studies, an exchange of young people and a discussion about a questionnaire conception were made during this exchange program. Similar processes took place in different countries we cooperated with. A collaborator who partly grew up in the Netherlands moved to the Netherlands for the time it took the project to be made. Another collaborator who is from Greece and a collaborator who is from the former Yugoslavia, were responsible for the corresponding countries. A collaborator from Latvia moved to Tübingen at the time she was gaining her doctorate. Linguistic problems were reduced by the precautions taken as a closer cooperation of the research was promoted. While the initiative for the project was developed by the German group, the planning of the project on the spot was carried out by the cooperating partners in their corresponding countries.

The empirical study program was started consciously with the development of a common questionnaire. The basis therefore was developed through the experience that the development of a questionnaire is a good medium for the common discussion of the problems we wanted to investigate. Conversations about the planned common survey supplied many discoveries about specific particularities of the different countries. More-

¹ Exchange between the university of Riga in Latvia and the university of Tübingen in Germany

over, the concrete task "questionnaire constructing" described a common reference point and served for the clarification of interest for the common research. Furthermore it led to an examination about the things that are important and relevant to each particular country. The development of a questionnaire forced a better structure to their own questions and to state them more precisely. We found out that the survey with a common instrument (with separate parts for the different countries) enables a good start for the opening of a common research process and cooperation. The quantitative survey was only an occasion derived from the main qualitative research.

The empirical research process was an important learning process for the cooperating researchers. The results of the surveys were exchanged among the scientists in common conferences that took place in different countries annually. With regard to that we became aware of the dangers which are involved in common quantitative research that deals with international comparisons. Common quantitative questionnaire research come to the fore of international comparing with youth research, which has been developing for some time (compare Ferchoff & Olk, 1988; Metzler a.o. 1991). They mainly followed a logic of quantified thinking, which means that there were measured differences in the frequency among the different countries with regards to a single dimension above all. For the most part they tested as if young people out of different countries react in a distinct way to standardised questions which are often developed by German researchers. The result is always "more or less", which means a quantitative dispute. Those differences are partly interpreted as a postponement in time. In reference to that aspect young people in eastern Europe seem to be retarded in connection with that examinations (see e.g. Zinnecker & Molnar, 1988). The quantitative dispute easily gained credibility that the eastern youth is backward in the sense of modernisation related to the "peripheral" countries. The mere comprehension of the development in the "centres" is logically a practical consequence of those examinations. So in this quantitative research German circumstances could unofficially become the guideline for the development.

To take account of qualitative differences would be very important for international youth research, but they hardly are taken into consideration. So nationalistic tendencies have a completely different background in quality for a new national state like Latvia than in Germany. If qualitative differences between the countries are excluded it seems as if things are the same everywhere, only to different degrees. Special features of development in a national context are often overlooked because of this. Moreover, quantitative results might standardise differences and summarise them as average. The danger of that point of view is that a difference between two countries (e.g. on a scale of national orientation) might be interpreted as if young people of one country are nationalistic and those of another country do not behave like that. A very important aspect of our common research

was qualitative interviewing and group conversations. The results of the survey were suitable in the beginning. That survey became thematically deepened by doing the interviews (see Leiprecht 1995). Because the interviews were filmed it was possible to show the comments from the young people to other researchers. The comments were translated for the researchers who were involved in the project. Furthermore, the scientists and the youth were able to discuss the remarks that were talked about during the videos. It was our purpose to give young people the status of co-researchers.

In another step of our research we had been making portraits of young people referring to specific countries and subjects. A collaborator produced a film with the help of a professional film group called "Jobfilm Amsterdam." The film deals with selected portraits of young people out of a special country where they are shown typical situations of life concentrated on social orientations. That film was produced with young people out of Latvia and the Netherlands. So the films are an intermediate product of research. The films are shown to other young people in other countries in the form of video copies. From there we drew up conversations and discussions about the video with these young people and produced a video of it. That step which was an attempt to promote "International Learning" was an additional step of our research for the purpose of practice in educational work.² Working with videos in cooperation with young people supplied the chance to take part in observations on the one part and on the other hand there were described results of the project which can be passed on to young people. To prepare the films for young people the results of the research were made concisely in the portrait films so that it is now possible to use them for educational work.

The main question made up in our project was how political orientation changes through "International Learning". Due in large part to this we performed a youth exchange that was accompanied by participant observation in addition to the project (also compare Held, 1993).³ We had been in contact with the German and Latvian young persons, not only during the youth exchanges but also a good time before and after. In order to observe their development. Each and every young person was regarded as a developing case.

The following contribution is about the problems in outlining the qualitative style of research which was characteristic of the project. The comparison in values of young people in Germany and Latvia is therefore an example.

² To the abilities the films have when working with young people against nationalism and racism see Leiprecht 1994.

³ In the following project from 1996 to 1998, that was supported by the European union, an international youth meeting was performed as well.

Intercultural comparisons of young people's values

The following report deals with the theoretical and methodological background of a qualitative social scientific style of research which was developed for the international comparison of values of young people. First of all, a quantitative survey of Latvian and German young people was performed in 1992 which dealt with their values. It turns out that the countries specific features were eliminated by the drafting of the survey, because it was not possible to translate all questions appropriately. The quantitative comparison was used to get a survey of the tendencies in values of young people. The main focus was made on the qualitative study.

The qualitative study, which was made after the quantitative study, dealt with partly structured interviews of the main idea. These interviews were made with Latvian and German pupils who were taking the final high school examination. The surveys were made in Riga and Tübingen in 1995. The young Latvian and German women were asked about their perspectives for their future values and a valuation of their own situation of their lives. With the help of the qualitative methods of interview and analysis it was intended to analyse typical points of view, constellations of problems and to reconstruct typical patterns of action and interpretation. The aim of the study was to derive general statements from some examples by bringing out the exemplary features of special constellations of action. The data of the survey are subjective definitions which were formulated by young women and which were compared with the survey data of the qualitative study by reconstructing and comprehending the subjective reasons of the young people with reference to their particular social situation.

First research of this kind had already been made by the Latvian film producer Juris Podnieks in 1985. At this time Latvia still belonged to the Soviet Union. The interviews of Juris Podnieks served as an orientation for the interviews which were made in 1995. The setting was always the same in both investigations. The young women who would soon leave the high school sat in their classrooms and told about their plans and wishes for the future and their preferences for different spheres in life. With the interviews, which were made three times in all, we want to draw a chronological comparison of 1985 and 1995. Furthermore, we wanted to realize an intercultural German-Latvian cross-examination. This multiple of comparisons enabled a subtle differentiated analysis from a context of action of young women. The surveys of 1995 which were made in Riga were taken by a Latvian researcher. This survey was filmed by a German student. The surveys which were made in Tübingen in 1995 were performed by German students under the control of the Latvian researcher.

Before we presented the results of the research with the help of individual examples (for more details, see: Plaude, 1999) we wanted to draw attention to some aspects of qualitative intercultural comparing research which were included in our research with young people:

We needed interdisciplinary access for individual analysis, because the specifics of the individual cases could not be abstracted from the social context and the context of life from a human perspective. The individual could be taken as a unity of action.

The aim of the analysis is an interpretative and reconstructive comprehension, understanding and explanation of the different kinds of actions on the part of the test subjects. With these subjective explanations, drafts and meanings etc. were allowed to benefit from the making of a theory. Furthermore, we would like to draw attention to the analysis and reflection of the researchers' preknowledge concerning the test subject material. On the one side we tried to let ourselves be guided by the empirical phenomena. On the other side we suspended the pre-drafts in distinct periods (compare Breuer 1996, p. 15).

We defined the data term widely in our intercultural comparing research: we included object related information out of a large number of survey centered and contextual situations. In addition, we included interaction between our sources. The special quality of the research is that the situational and structural context of the lives of the young people was included to a great extent. For instance, we tried to compare single situations and the contexts crosswise (see Miles & Huberman, 1984, pp. 151 - 209). In addition, we tried to link qualitative and quantitative analysis with the help and distinction of basic categories (see Louis, 1982; Jick, 1983).

The category for the ecological orientation of Latvian and German young people is an example of the aspect which was mentioned in the last point. The results of the qualitative research shows that the ecological orientation of the young people of both countries is almost the same.⁴ The category "ecological orientation" includes items in the social-political meaning as well as the subjective importance of ecological orientation in the living world of young people. The distinction and deepening of this category in the qualitative research enables a widening in the levels of analysis. With this we were able to bring out qualitative differences. It is worth to mention that the ecological orientation of German young people is closer to the concrete context of life. This could be called "acting in little things". Examples of this aspect that we'll mention are the shopping patterns and the use of detergents in the household. The ecological orientation of Latvian young people includes a much more social and political dimension of environmental protection. At the end of the 1980th the ecology was a "device of transportation" for other important political subjects about which it was impossible to discuss freely. For example, the wish of Latvia

⁴ The average of the ecological orientation on a scale from zero (no preferences) to one (highest preference) amounts 0,63 concerning to Latvian young people and comes to 0,71 relating to west-german young people. The argument to the ecological orientation is relatively high comparing to other values (see Plaude, 1999, p. 168).

to come off of the Soviet Union yolk and to reach independence. The establishment of the first legal Green interest groups describes the »primeval bang« of the democratisation of Latvia. The struggle against pollution was the struggle for the independence of Latvia. The social - political dimensions were of utmost subjective importance for the young Latvian people. The ecological orientation had no importance in the daily behavior of young Latvian woman (see Plaude, 1999, p. 245). The analysis of the qualitative research enables the registration of intercultural differences of ecological orientation in value.

The combined use of qualitative and quantitative methods enabled an adequate registration of the complexity of the examined phenomena and the development of theories due to the data. Theories were developed in examination with the empirical data and equally important these data were checked by empirical results. We were also looking for theoretical connections. This refers to both the qualitative as well as to the quantitative data.

Similarly, the qualitative research dealt with an examination of problematic situations of single persons, then we registered subjective and contextual prerequisites of one case to its social mediation. Furthermore, we worked out theories for that connection. The generalisation of the qualitative results took place in relation to appear as a single special case of a general connection. Through the widening of the basis of data, (which means the comparison of the problematical situations of other people), the idea of the combination was completed. The process of widening can be continued to be able to include different points of view. So it is possible to generalize from a single case to a typical case. With this, it is also possible to work out theoretical generalized constellations which receive infinite possibilities through the use of action. The restriction of action and the contrast between the action of the test subjects was a "structural generalization" (see Held, Horn & Marvakis, 1996, p. 22). This points out nothing about the quantitative importance of the typical patterns we worked out, because it could not be generalized for the whole of mankind.

The resulting formation within the different types of qualitative research enabled the registration of the differences within a culture. For instance, in the case of some young Latvian women it could be mentioned that they seemed to draw connections between a high agreement to an ecological orientation of value and their own social cooperative activities, an example being, cleaning up the environment. Other young Latvian women seemed to draw a connection between a preference for ecological values and a scepticism about the possibilities to improve the ecological activities of man by their own doing. The surveys which were made in Tübingen point out that some young women preferred family and job values over social and political activities (see Plaude, 1999, p. 251 ff.). The typical combinations were worked out through the widening of data (that means the inclusion of context and relation to theory). The structural generalization, presented with the help of typical cases in the qualitative research has

another quality known as the frequency of generalization of quantitative research.

What we now know is that with the combination of qualitative and quantitative methods, it is possible to reach a deepening and a multiple dimension of results in intercultural comparisons.

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Group II: "Examples of Applications of Qualitative Methods, Part II"

Discussion summarized by Mechthild Kiegelmann

Participants of group II were Tamara Beauboeuf-Lafontant, Jarg Bergold, Tiberio Feliz Murias, Silke-Birgitta Gahleitner, Mechthild Kiegelmann, Carlos Kölbl, Stephan Marks, Antonio Medina Rivilla, Karen Oltersdorf, and Ramón Pérez Pérez.

Members of this group discussed psychological aspects for qualitative methodology: One central issue which emerged was how to categorize the already existing qualitative methodological perspectives. The group came suggested to distinguish the varying methodological perspectives with the following three criteria:

- (1) Research questions
Each qualitative approach is geared toward specific research questions.
- (2) Analytic tools
There are varieties in theoretical perspectives about research techniques, i.e. the tools are specific in how to go about the actual data collection, analysis, and representation.
- (3) Researcher identity
Methodological perspectives also can be distinguished by looking at the person of the researcher. Researchers need social skills and the ability to revise their world view. As Jarg Bergold put it: "thick description" requires "thick personalities."

The idea of these three criteria for organizing the complex field of methodological approaches was then developed further: The result of the three components could be combined to describe the methodological perspective and to determine a "researcher style". This concept provides the opportunity for moving beyond thinking in "schools." The identification of the choice for a methodological approach would be specific to the investigator, her or his research interests, and the specific research questions.

In order to make use of the criterion "researcher identity" within the methodology of psychology, the formulation of labels for certain types of researcher identities would be needed. Each type would describe a certain combination of a) how questions are asked, b) how inquiries are structured, c) and how the psychologists bring themselves into the research.

CATCHING THE PHENOMENON
as continuous process with consequences to quality

- 1. - METHODOLOGICAL INTEGRATED perspective
- 2. - Didactic capacity to teach in the university

habilities -->

- **qualitative requires different qualities** → (than quantitative research)
 + requires quality time

methods (qualitative) often compel us to question psychology's assumption / construction of self (interview and interviewer)

could we find "researcher styles" ?
 (the best own way to do research)

- thick descriptions require **thick personalities** → "person in context"
 → open to development

- teach thinking / theory + technic

- groups of researchers are needed

- specific psychology

The formation of groups of researchers who work on the same project was suggested in order to improve and check validity. Being involved in such an interpretative community could prove helpful for scientists to avoid idiosyncratic interpretations that are not based on evidence in the data. Organized by shared research questions, scientists representing a variety of "researcher styles" could collaborate and add to each others strength. If such groups were formed on the basis of a "researcher identity" system, then the combination of qualitative and quantitative approaches would cease to be a problem, because ideological questions would become irrelevant. Furthermore, knowing one's own "qualitative researcher identity" would ease networking among scientists, because psychologists with compatible identities would be able to seek each other out more easily.

The concept of "researcher styles" has direct implications for teaching qualitative methodology in psychology. It can help avoid the presentation of "tools" out of context. Thereby, students would be challenged to develop their own version of "researcher style" based on exercises and information. Students would be encouraged to learn theory, to think analytically, to reflect upon themselves, and to formulate researchable questions.

Ways of combining qualitative and quantitative procedures exemplified in a study on the gender-specifics of coping with sexual violence

Silke-Birgitta Gahleitner

Introduction

How does one go about selecting the right method for one's research project? Is it in fact possible to do justice to the requirements of the subject and the goals of one's research? What difficulties arise during the planning and execution of the data collection phase? Questions like these were repeatedly discussed at the conference on "Qualitative Psychology" in Blaubeuren in October 2000.

On the basis of my ongoing study on the ways in which girls and boys cope with sexual violence I would like to describe the process I went through as I searched for suitable methods and what challenges and difficulties I encountered. I should like to do this with reference to the proceedings of the conference in Blaubeuren and discuss my research within this framework, sharing some ideas that may be of help in planning and preparing studies and collecting data. I hope thus to encourage readers to try out their own ideas and be creative with both qualitative and quantitative research.

Purpose of the study

In recent years sexual violence against boys and girls has gained increasing attention in different ways. However, the issue of exactly what kind of support should be offered to survivors of sexual abuse has remained controversial. In my work as a social worker and psychotherapist I have been confronted with the question as to whether there is a difference between the ways boys and girls deal with experiences of sexual abuse over the course of their development. If we had a greater knowledge of how boys and girls come to terms with the experience of sexual violence this might give us a deeper insight into the problems involved and provide new ideas for the development of differential approaches in the counseling and psychotherapy of survivors of sexual abuse.

While previous research in the field of sexual violence has provided a large body of data, there is as yet little concrete evidence on sex-specific modes of coming to terms with sexual violence. There is general agreement on the fact that traumatic events have an impact on sex-specific self-concepts and are integrated and processed within the context of these systems. However, some authors attribute the differences that occur to variations in

the abuse events, while others describe them as gender-specific patterns of socialization, and yet others as independent of these influences (cf. Farber, Johnson, Joseph, Oshins & Showers, 1984; Coulborn Faller, 1989; Taub, 1989; Gordon, M. 1990; Kendall-Tackett & Simon, 1992; Fischer, 1992; Briere, Evans, Runtz & Wall, 1988; Gold, Lucenko, Elhai, Swingle & Sellers, 1999; Feiring, Taska & Lewis, 1999; Friedrich, Urquiza & Beilke, 1986; Nickenig & Küssel, 1992; Bange, 1992; Outsem, 1993; Herman & Hirschman, zit.n. Outsem, 1993; Enders, 1990; Fegert, 1990; Dykman et al., 1997).

On the basis of a previous study that I conducted for my master's thesis, which included interviews with experts and a review of the literature, I came to the conclusion that the initial effects are the same for both sexes. However, the experts interviewed were of the opinion that there are differences in the long-term sequelae and the way in which men and women integrate these experiences in their later lives (cf. Gahleitner, 1995). Building on these results my present study starts from the following assumption and working hypothesis:

Starting assumption:

Most girls and boys who have experienced sexual abuse experience long-term effects on their psychological development. They lead to a wide variety of symptoms and coping strategies in the course of their development.

Working hypothesis:

Sexual violence impairs the development of gender identity in boys and girls. They experience sexual abuse in different, gender-specific ways. Therefore, throughout the process of socialization, boys and girls develop different symptoms and coping strategies.

In this context, coping strategies are defined as all psychological coping strategies of an individual in the domains of thinking, feeling and action which are aimed at integrating the experiences and re-experiencing of sexual abuse in the most functional manner possible (Outsem, 1993; Möller, Laux & Deister, 1996). However, there are a number of problems associated with research on gender-specific differences in coping strategies. Sexual abuse is only one of many experiences that can have a negative impact on boys and girls in the course of their development. Thus, gender-specific effects of sexual abuse cannot be clearly distinguished from "normal" gender-specific socialization, including the events and factors that have a deleterious effect. This multicausality and equifinality can lead to substantial methodological difficulties and it is important to keep this in mind.

"How do I capture the phenomenon?"¹ - Some methodological considerations

At the Rochester Symposium on Developmental Psychopathology in 1997, speaking on the subject of "Developmental perspectives on trauma: theory, research and intervention", O'Beirne Kelly and Repucci observed that there was still a marked dearth of useful research on practice in the fields of prevention and intervention. They pointed out that to date little attention has been paid to some important aspects, for example, the questions as to what factors facilitate and promote successful coping of sexual abuse and how this knowledge can be translated into practice (O'Beirne-Kelly & Repucci, 1997; cf. also Gordon & Alexander, 1993).

Practice-oriented and yet precise?

Statements of this kind, which abound in research on sexual abuse, strengthened my motivation to make my study as practice-oriented as possible. However, while research with a practice orientation inevitably yields a high level of complexity, which is to be desired, on the other hand, polemics in the debate on sexual abuse have led to the realization that there is a need for results that go beyond the level of individual observations and demonstrate quantitative relationships.

During the "Qualitative Research in Psychology" workshop at the Center for Qualitative Psychology, one of the themes on which the discussion focused was the tension between the complexity associated with the qualitative approach and lived experience on the one hand, and the need for quantifiable structure on the other. "Quantity alone is meaningless, quality alone has no political consequences" (Huber, 2000). In my experience this discussion is difficult to handle without falling prey to polarizations. I believe that to do justice to this tension one should triangulate different methods. These methods, are, however, often difficult to combine with each other. It is also important to review one's decisions repeatedly as the research progresses.

¹ Capturing the phenomenon" (Denzin, cited acc. to Bergold, 2000) - How can we get to grips with complexity and represent it without losing too many important details? This is a decisive question which was frequently discussed at the conference in Blaubeuren. Original citation in: Denzin, Norman K. (1989). *Interpretative interactionism*. Newbury Park: Sage.

Triangulation of qualitative and quantitative procedures

The realization that "qualitative and quantitative methods should be seen more as complementary than as rival camps" (Mayring at this conference, 2000b; cf. also Jick, cited acc. to Flick, 1999) has come at an opportune moment for my research project. Qualitative and quantitative thinking complement each other in so far as they can be used in combination in an attempt to do justice to complexity (Mayring, 2000a). This understanding and the gradual reduction of the gap between the two "fronts in the qualitative-quantitative war of religion" have not yet, however, produced any criteria for triangulating methods in a manner that is both suitable for the subject under investigation and at the same time susceptible to yielding good results. I shall come back to this problem later on.

Participants as research subjects

Closely allied to my aim of representing the complexity of the field of research is my second goal of becoming involved in an interaction with my study subjects, rather than "objectifying" them in an abstract manner. In the research field of sexual violence, in which many informants have had the experience of being degraded to the level of objects, it is, in my opinion, an ethical imperative to avoid repeating this. This is the only way to ensure that their specific ways of experiencing and perceiving their own coping processes are seen from their own specific points of view (Witzel, 1982). To achieve this, however, the interviewees must be actively involved in the research process and I myself as researcher must assume an open, self-reflexive attitude. Tamara Beauboeuf and Mechthild Kiegelmann found a nice metaphor for this describing it as "constantly zooming back and forth with a camera to catch a person's individual life, but also the person in context. And sometimes the camera even turns around to watch us, the researchers." (Beauboeuf & Kiegelmann at the Blaubeuren conference, 2000; cf. also Volmerg, 1988, p. 210 f., Becker-Schmidt & Bilden, 1991).

Is "the professional also political"²?

In my view, psychological research should also take sides with its participants. This all-too-often forgotten requirement, which was first called for by feminist research, was also discussed at the conference (Bergold, 2000). Researchers in interpersonal violence, especially, should take up a position on this point. I believe that one's own life context as a woman or man automatically comes into the picture as one concerns oneself with the subject of sexual violence. Thus, one can gain important initial understand-

² (Kavemann, 1994)

ing by reflecting upon where one stands with regard to the subject oneself, while at the same time attaining the necessary distance from the phenomenon under research, rather than becoming too involved (cf. also Devereux, 1992; Thürmer-Rohr, cited acc. to Koch & Ritter; Egartner & Holzbauer, 1994; Stanko, 1997).

Feminist research seen from a broad perspective

Recent developments in feminist research are also moving towards a broadening of perspective, for example, from single-track research on persons directly affected by a given phenomenon to a social constructivist perspective. Social constructivism no longer describes the social situation of women solely from the viewpoint of the victim, but, pointing to the relational character of gender, has shifted the emphasis from research on women to research on gender (Behnke & Meuser, 1999). This differentiation and professionalization and a trend towards a more pragmatic approach have been accompanied by an increase in the number of different methods employed, which militates against placing too narrow constraints on the discussion of the relative merits of quantitative and qualitative methods (Müller, 1994) and supports the case for a choice of suitable methods justified by feminist principles (Sturm, 1994). I would like to see my project as situated within this transition from research on women to research on gender and from research with a one-sided orientation to methodological plurality.

Procedure

My aim is to clarify essential aspects of the coping strategies of women and men, including their gender-specific characteristics and immediate implications for practice. I have selected as practice-oriented and yet clearly delineated a strategy as possible, which at the same time provides opportunities for integrating a quantitative approach. To achieve this I need a highly complex design to triangulate qualitative and quantitative procedures. With this in mind, I looked for suitable techniques of data collection, preparation and analysis for my subject and my specific research question. After a few revisions I arrived at the following study design.

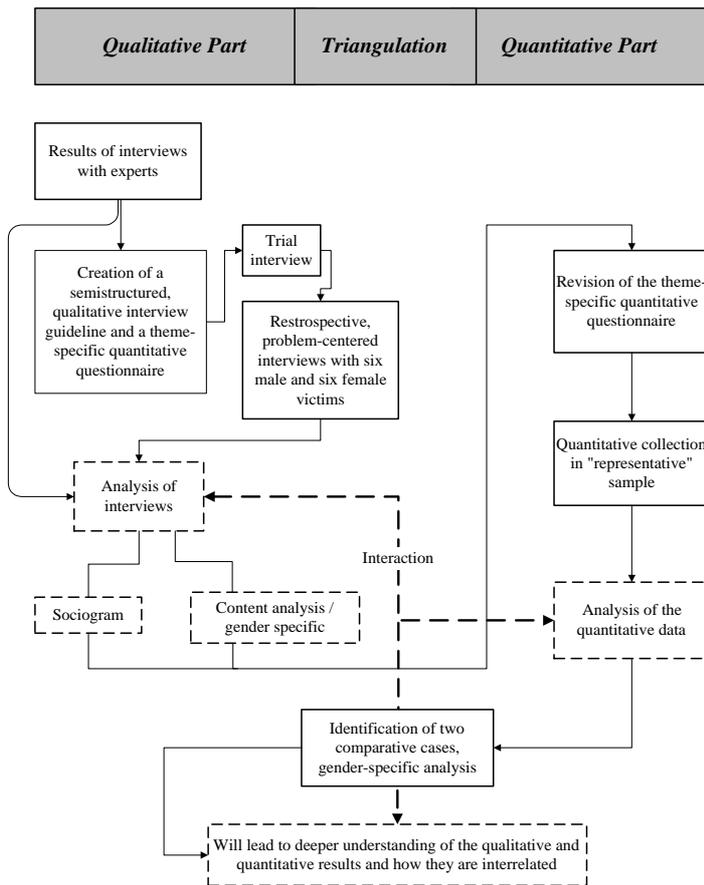


Figure 1

The study is divided into three steps as follows.

First, taking into account the current state of knowledge, I am carrying out a differentiated investigation using retrospective, problem-centered interviews and sociograms. In a second, quasi-experimental step I shall use a psychometric questionnaire developed on the basis of the results of the qualitative part to collect quantitative data on (gender-) specific aspects of coping with sexual abuse. Taking the data collected in the first two steps as starting point, I plan to re-examine the question qualitatively in more detail in selected individual comparison studies.

In the first step I intend to use qualitative methods to explore

- what meanings men and women attach to their sexual abuse retrospectively;
- what impact they think sexual abuse has had on their lives;
- how they have coped with the experience in their lives in the past and how they deal with it today.

In the second step I intend to use quantitative methods to investigate whether there are gender-specific differences between men's and women's descriptions of their experiences of sexual violence in childhood and between the symptoms and coping strategies they subsequently develop.

Details of the methods employed

In problem-centered interviews conducted with an open introductory question as described by Witzel (1982, 2000) I hope to gain an understanding of the realities of the lives of the abused girls and boys in such a way that the interplay between social influence and their individual constructs of their experiences is revealed. Following the transcription of the interviews I will carry out a content analysis, developing descriptive and comparable category systems as described by Mayring (1999, 2000a) with the aid of the computer program ATLAS. The gender-specific aspects will be differentiated out of the categories developed using a procedure described by Hagemann-White (1994). In view of the fact that relationships are reportedly a central factor among the influences that promote healing after abuse in childhood, the sociograms will be employed to illustrate the interviewees' social resources.

On the basis of these results, in the second step of the study data on gender-specific aspects of selected sequelae and coping strategies will be collected by quantitative methods. A questionnaire which I have compiled using items from several validated measures on symptoms and coping has already been filled out by the men and women I have interviewed thus far. I intend to use the German version of the revised Impact of Event Scale (Maercker & Schützwohl, 1997) to evaluate the extent of the traumatization (PTSD symptoms) and the coping scale by Brodzinsky (1992), translated and adapted by Müller (1972) to assess the participants' coping behavior. The items on body schema and locus of control were taken from the German version of the Sense of Mastery Scale constructed by Badura et al. (1987) and Clement and Löwe's (1996) FKB-20 questionnaire on the body image. Self-attributions are very important in connection with coping strategies and will therefore be tested with the self-rating scale compiled by Timm (1992). The socio-demographic items and questions on family background and details of the abuse I compiled myself along the lines of those used in the most comprehensive study on sexual abuse conducted in Germany to date (Bange, 1992).

The results of this second part of the study will be evaluated by two-way analysis of variance with repeated measures (matched samples) using the computer program "Statistical Package for the Social Sciences" (SPSS). They are intended to provide a concrete basis for a comparison with persons who were not victims of childhood sexual abuse and isolate relevant gender-specific aspects of coping with sexual abuse.

These relevant aspects will again be related back to the qualitative results. If possible, they will be used to examine the question of gender-specificity in greater depth in selected comparison studies. I have deferred selecting a procedure for the in-depth comparison studies so as to be able to adjust my methods of data collection and analysis to the results already obtained in the first two steps of the study.

According to the concept of triangulation the aim is to use this multi-stage procedure to achieve the greatest possible breadth and depth of analysis (Freter, Hollstein & Werle, 1991). The ultimate goal of this multi-method procedure is to sketch a "kaleidoscopic view" (Köckeis-Stangl, 1980; Flick, 1991) of the complex phenomenon under investigation.

Current status of the investigation

I am presently analyzing the initial qualitative step of the study. My next goal is to establish what coping strategies women and men choose to help them come to terms with sexual abuse, where the gender-specific differences lie and to what extent professional interventions can take these into account and provide useful support. On the basis of these results I shall then proceed to clarify whether the conditions for the quantitative part of the study are fulfilled.

Unfortunately, I am not yet in a position to present any results. I am also repeatedly beset by doubts about the practicability of my design, which were also discussed at Blaubeuren. Aside from the limited resources of a doctoral student the question also arises as to whether the results of a triangulated design that includes quantitative methods are, in fact, as "clear" and unequivocal as may appear at first glance. I would like to close with a brief discussion of this problem and some other difficulties that arose in the course of the planning and implementation phases of my project.

Methodological traps

Unfulfillable promises of triangulation

The concept of triangulation comes from the field of navigation where the task involved is to "determine the exact position of an object by means of multiple reference points" (Lamnek, cited acc. to Freter, Hollstein & Werle, 1991, p. 2). From this comparison alone it is evident that the claim

that the concept is applicable to the field of research is not entirely true. The question arises as to whether the attempt to achieve an accurate representation of reality does not in fact merely lead to a simplification of reality. Experiencing and coming to terms with sexual abuse are areas in which reality is particularly susceptible to becoming highly unclear and contradictory. Moreover, the inconsistency of the current findings on the gender-specific sequelae of sexual violence, most of which were made in quantitative studies, suggests that it may be difficult to obtain more precise results by combining quantitative procedures with qualitative methods.

Combining different methodological approaches also calls into question the comparability of the findings (Erzberger & Prein, 1997). What results is thus also not a "uniform" or even complete picture, but rather, as I said above, a "kaleidoscopic view" (Köckeis-Stangl, 1980) which characteristically has gaps and discrepancies. I had hoped that by ensuring that the individual steps of the study fit together well and using a combination of quantitative techniques and a semi-structured approach as described by Witzel, Mayring and Hagemann-White I would obtain results that were to a certain extent compatible with each other. However, it is already evident that the results of the interviews differ widely from those of the questionnaires.

For example, it was not possible to capture the complexity of the coping strategies in as much detail as in the interviews with any of the psychometric measures. All of the participants I have interviewed thus far have been well able to describe their ways and means of coming to terms with their experiences, but have not felt that they were accurately expressed or well-covered by the questionnaire. Some of the results of the Impact of Event Scale and Brodzinsky's coping questionnaire (see above) deviate widely from the reactions and coping strategies described in the interviews.

The problem of retrospective reports

Sex-specific coping patterns are a time-dependent phenomenon. As such, according to the life-span approach in developmental psychology, they would normally require a longitudinal design (Cicchetti, 1999). However, first, such a design would be too labor-intensive and second, to interview children about their sexual abuse would be ethically inadmissible and also susceptible to error, since many victims of sexual abuse say/said that as children and adolescents they denied that they had been abused and report that they had difficulty in accurately remembering the facts. I therefore hope to take the time component into account by interviewing the participants retrospectively about certain stages of their lives. However, this procedure is associated with a substantial loss of information and has been criticized by many researchers on violence (Rosner, 1999; Rosenbaum, 1988; Finkelhor, 1986; Kuyken, 1995).

Unfulfillable sampling requirements

In keeping with the subject and aims of my project, most of the study participants have come from highly frequented therapy and counseling institutions in the Berlin region. Thus, the range of the study is limited to abuse survivors who have found their way to a counseling center. In accordance with the concept of theoretical sampling (Glaser & Strauss, 1998) I am also trying to find contrasting cases within the framework of maximum variation sampling, i.e. survivors who have not yet done any therapy, people from other ethnic groups than white Germans, different age groups and victims who themselves later became perpetrators. However, although I have conducted a strategic search in institutions for persons with substance addictions, the homeless, immigrants and prisons and by advertising in the rainbow press it is proving extremely difficult to find participants for contrasting groups.

Prospects

I shall not be able to find the answers or solutions to some of my questions and problems and develop corresponding methodological and content-related justifications until I have reached the appropriate point in the process, that is, the end of the first step of the study. Some questions will remain unanswerable and some of the aims will likewise remain unattainable. This notwithstanding, I must repeatedly present my multiperspective and process-oriented procedure in a research group and relate it back to the stage reached in the respective theories.

Despite all attempts made to match our methods to the subject, the question remains as to whether we are really successful in doing justice to the subject of our research.

However, we should continue to make all efforts to achieve this aim, since, as Dan Bar-On has said "in such a delicate kind of research we are responsible, because we hold the meaning of people's lives in our hands ..." (Bar-On, 1996, p. 20). I hope this description of the preparatory and data collection phases of my project will encourage others to take up the challenge, too, in spite of all the unknown pitfalls and risks they may encounter on the way.

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Qualitative Research With a Genuine Psychological Approach: The Method of Voice Analysis

Mechthild Kiegelmann

Introduction

While qualitative approaches in research are gaining attention within the general social science community, qualitative studies seem to be getting less recognition in psychology. Often, qualitative methods are first developed within a different discipline and subsequently adapted for psychology. In this paper, I introduce the method of voice analysis that is a rare development of qualitative methods within the field of psychology. This distinction is relevant to the discussion of scientific methods, because methods need to be chosen in accordance to the specific research question of a project. Thus, applying a genuine psychological approach to a psychological research question avoids the problems of translating a procedure and its theoretical background from one discipline to another.

This paper is primarily an explanation of the voice-method which is one such method developed within the psychological field. A voice-centered reading is an interpretative approach that analyzes various layers of psychological responses to controversies. The approach was developed by Gilligan and her colleagues (Gilligan, 1993/1982; Brown et al., 1988) and it draws on Kohlberg's psychology of moral development. Since the 1980's, Brown and Gilligan (1992) and their colleagues have expanded this voice-centered approach into an entire psychological field that they call "relational psychology." In recent years this method was expanded to cover many different types of psychological studies, including an emphasis on social analysis and on attention to multiple emic concepts expressed by interviewees (Kiegelmann, 2000; Beauboeuf-Lafontant & Kiegelmann, 2000; see also Beauboeuf-Lafontant in this volume).

This method is helpful for research which focuses on how people handle complex and "controversial" issues. Originally, the research conducted with this method centered on investigations of moral development (Gilligan, 1982; Gilligan, Ward, & Taylor, 1988). Subsequently, the spectrum was expanded to include how adolescent girls react to the social ideal of femininity (Brown, 1989; 1991a & b; Brown & Gilligan, 1992; Gilligan, 1988; 1990a & b; Rogers, Brown, & Tappan, 1994). In addition, newer studies have covered even a wider field of ethical social issues, such as Lyn Brown's (1998) study on the psychological development of white working class and middle class girls; my inquiry about women's coping with childhood brother-sister incest (Kiegelmann, 1997), Tamara Beauboeuf's analysis of "political mothering" as a concept used by Black woman teachers (1997), Lisa Machoian's work with suicidal girls (1998),

and Judy Chu's (2000) investigation of the social relations formed and sustained in pre-school boys.

The concept of voice

A central construct of the voice-centered method is "voice," which Lyn Brown explains as based on the ideas of Bakhtin:

The words of others enter and become part of the inner dialogue that constitutes the psyche as a result of a difficult and complicated developmental process that Bakhtin calls 'ideological becoming.' (Brown, 1998, p. 104).

Cheyne and Tarulli (1999), too, use this idea of a dialogic self as suggested by Bakhtin and relate this idea to the psychology of Vygotsky: They explain that children transform dialog experiences with people from their social context into inner speech. Earlier, Day and Tappan (1996) suggested a concept of "dialogic selves" that incorporates various voices: "In the course of our lives we encounter a multitude of voices in the context of various relationships and interactions - voices engaged in the ongoing dialogue that constitutes the social worlds" (Day & Tappan, 1996, p. 71). Writing about moral development, Day and Tappan built on the work of Kohlberg, Gilligan as well as Vygotsky and Bakhtin.

Understanding humans as using a multitude of voices is a concept that has also been discussed by Hermans, Kempen, and Van Loon (1992) in terms of a "dialogic self" in which different voices can be identified. They argue (p. 23):

In this article we would like to contribute to the ongoing discussion by arguing, from a constructionist perspective, that the self can be conceived of as basically *dialogical*, and in this respect can transcend the cultural limits of individualism and rationalism. This view is based on the notion that people have told each other stories and listened to stories in all cultures at all times. In doing so, people arrive at an understanding and ordering of the world and the self. We will show that the self, conceived of as a dialogical narrator, is (a) spatially organized and *embodied* and (b) *social*, with the other not outside but in the self-structure, resulting in a multiplicity of dialogically interacting selves (Italics in the original).

According to these authors, the concept of "voice" has cognitive aspects that are present in various trains of thought or lines of argumentation. However, in the voice-method, "voice" means more than just reasoning. It

incorporates embodied experiences and feelings, as well as social "messages" from the (sub)culture of the speaker.

The voice-method identifies multiple voices within the data of psychological interview transcripts. By identifying these voices (and their interactions), the method provides the opportunity for a differentiated understanding of human experiences and assists the analysis not only of self-concepts but also their embeddedness within social relations and culture -- which are, in part, shared by the researcher, and will be discussed further in this paper.

In the following paper, I will illustrate this approach using an example from a recent study I conducted with high school students in Germany on how people deal with social and historical conflicts. I outline a brief voice-analysis in an interview with a young woman who deals with the silence and remembering of the Nazi history of her hometown. The paper is structured in the way that the voice-method can be understood in the process of examining the interview transcript.

Illustration of the method

In order to present the voice-method, I will illustrate the steps of analysis for one interview. My study was about how young people living in Germany in the 90ties deal with denial and remembrance of the Nazi history in their every day life. My interview questions centered on how these young people related personally to the Nazi history in their hometown, and I asked specifically how they viewed the Nazi history during their every day experiences at school. With the help of a teacher I was able to establish contact with a group of students who had visited a memorial site of a concentration camp nearby. First, I conducted participant observation with a group of students in their trip to the memorial site; afterwards I conducted semi-structured interviews with some of them. All interviews were transcribed in detail. The here-discussed interview was conducted with an 18-year-old advanced high school student in Germany, whom I call Adele. She was among a group of eleven students I interviewed. The interviewees were volunteers from two classes. Out of those interviewed I selected at random the example of Adele.

Since this approach is based on a sequence of consecutive steps of analysis, I describe the steps of analysis used in the voice method and later illustrate each step with notes about the interview example. The voice analysis is structured in a sequence of readings through interview transcripts that build on each other. Basing my analysis on Brown and Gilligan (1992) and yet expanding it by emphasizing social analysis, I formulate these steps as follows (Kiegelmann, 2000; see also Beauboeuf-Lafontant & Kiegelmann, 2000).

Reading for plot and reader's response
 Reading for self
 Reading for social context
 Reading for multiple voices

The following is a description of these steps while using Adele's interview as an example:

Reading for plot and reader's response

The first reading has two aspects. A) First, the researcher's attention is drawn to the general "plot" of the interview via content analysis. B) In a second step, special attention is given to the researcher's reflexivity and the relationship with the person who was interviewed.

The first step is to outline the content of the interview. The main topics in Adele's interview were as follows: 1) her fear of becoming unemployed after graduation, 2) recalling the visit to the memorial site, 3) rejecting personal responsibility for Nazi crimes because of not having the power to change history, and 4) an awareness of the danger of being manipulated. Manipulation was a central theme throughout the interview and she conceptualizes the situation during the regime of National Socialism in Germany as a problem of manipulation.

The next step in this reading is to look at the research relationship. As I read through the transcripts, I became aware of the hierarchical structure of our encounter. Being older and having been introduced by her teacher, she seemed to view me as an authority figure similar to a teacher. Even though I introduced myself as being interested in learning from the students and understanding their point of view, the power imbalance due to profession and age remained present: One indication of the hierarchical nature of our encounter can be found towards the end of the interview. When I asked Adele if she were interested in talking to former force labor camp inmates she first changed the subject (which I read as indication that she was hesitant) and only after I repeated my question did she answer with a tentative "yes" that did not sound convincing. This made me think that I was instigating an answer from her, and had I been in another "role," she probably would have answered this question differently.

Page 19³:

K: ...there is this memorial ceremony and some former camp inmates are attending (...). Could you imagine yourself attending this event and talking with them?

A: I think, this should be much more publicized, because I have never heard about it bef- before. (...)

³ All cites from Adele are translated from German into English by M. Kiegelmann.

Page 20:

K: Quick question: would you go next year, if you knew about it before hand?

A: Yes, I think so. Well, it coul-- , I could imagine that. Well, I am not saying one hundred percent: 'I will go.' But I, I could imagine like, like imagine it somehow. Well, I did find the talk [about Nazi history] interesting, what they said.

In sum, after a first reading for the "plot" of the interview, manipulation and powerlessness seem to be central themes in Adele's way of dealing with Nazi history, in connection with its current meaning for her. Furthermore, recognizing that our relationship takes place in a hierarchical frame, I am conscious that a high level of respect toward me might override her own feelings and opinions, and thus might constrain her statements.

Reading for self

In a second analytical reading process according to the voice method, the interview transcript is read again; this time with a focus on the construction of self and identity. Here, pronouns are examined which the interviewee uses to address herself or himself. What is interesting for the researcher is the level of certainty and closeness of statements in the interviewee's own experiences. Also, details are collected on how the speaker relates to other individuals and groups, including the interviewee's relationships within her or his peer group.

Adele often talked of herself by using the term "we," which she frames in a passive voice, e.g. when talking about her peer group.

Page 8:

Only, that we now, our generation is being held responsible, I don't think this is a good thing. Because, we couldn't do any--, anything about what happened back then.

Page 13:

Well, I only think that one-- that we couldn't do anything about it. This, we, we, too think it was bad, what happened there and, but, but we can not change it. Here, we do not have the power, to change it.

Besides "we," Adele uses first person voice ("I") when expressing strongly and without hesitation her opinion. For example, I asked her about the relevance of the NS history for her today and she responded "Only, that we now – our generation – is being held responsible for it, -- that, I do not like" (Adele, Page 8).

In sum, I interpret these statements to mean that she is able to express her opinion clearly and presents herself as integrated in a group (and here,

the group is composed of young Germans who are unrightfully accused of something they did not do). This second meaning has consequences for the subsequent third and fourth reading and especially, the mix of a passive "we" combined with an active confident "I" might be of further interest for the conclusion.

Reading for social context

In this step the psychologist focuses exclusively on an analysis of the social context relevant to the study participants' experiences and worldviews. Information from the interview transcript, as well as information from outside sources (e.g. through analysis of historical documents) can be used for this reading.

Building on the observation from the second reading, I noticed that Adele uses "we" to refer to Germans from her age group. This conceptualization of which group she identifies as her own, I interpret as distancing herself from her classmates of Turkish decent. This distancing takes place within the context of tensions between Turkish and German youth in her class: conflicts that her fellow students mentioned in their interviews with me.

Several times in the interview, Adele mentions members of her family. Her grandmother worked in a factory during the WW II, her father remembered buildings that were built by the Nazis, her mother had a job in a local business. From these explanations about her family background, I gather that she is not from a migrant family, but from a family that was present in Germany during 1933 through 1945.

At this point, I decided to draw on additional information that is not provided within the interview data. In this case, my document analysis is limited to printed literature. Koonz (1987) points out that during WW II, a high amount of non-prosecuted German women who previously did not have a job outside the home, replaced those men in factories who had become soldiers. Thus, my background information about the social context now serves as a background to Adele's perspective. She sees Nazi history from the perspective of the offspring of someone who was not forced to migrate, or was not imprisoned in a concentration camp or killed. Such a perspective, I argue, allows her to look at a Nazi history with a perspective in which perpetrators, bystanders and victims are merged. This is not the case for descendents of victims of Nazism who have a more differentiated perspective in which not everyone is conceptualized as a victim of the regime, which has been documented for example by Bar-On (1997).

Thus, at this point I am drawing on literature and information available outside of the interview data themselves. Comparing what was said in the interview with documents about the perspectives of others, I notice that Adele takes a specific stance, because she merges different perspectives into

the same "victim" role. This specific stance I use as evidence for my interpretation that Adele speaks from an identity of a German whose family of origin was not victimized during the Nazi regime.

For example, in the following quote, Adele answers to my question about her impressions of the concentration camp memorial she had visited a day before the interview.

Page 7/8:

Well, actually this, this whole history. Er, it is the history of former times. So, so, this, that the Jews were prosecuted and that they could not recognize themselves anymore. Well, I, I cannot imagine personally, to be controlled in such a way. Well, (sigh), that the daily routine, like only these clothes and (sigh), yes, then only their, their -- when one⁴ doesn't want to, how do I know, go to a concentration camp, one has to hide and that whole thing. That did it to me. Or, also, when my grandmother told stories: In the past, they had such a large, these antique radios. And they were taken away from them, were simply thrown onto a cart and were taken out of the whole houses and thrown onto a cart. Er, such, such a value, and that simply gone, simply gone.

In this statement, she starts with empathy for Jewish Nazi victims and refers to the clothes of concentration camp inmates that she was shown the day before. Then, she shifts from speaking about "their" clothes to taking the perspective of "one," describing someone in general who wants to avoid imprisonment in a concentration camp. Then, she switches to a story of her grandmother who had lost valuable appliances because of having some radios taken by Nazi officials. Thus, she starts with thinking herself into the perspective of Jews and camp prisoners and moves from there into the general perspective of those Germans like her grandmother who suffered the loss of radios.⁵ In combination with my additional literature review, I interpret this merge of perspectives (talking about victims and bystanders) to be an indication for her social location which is disconnected from the experiences of the descendants of Nazi victims.

Another aspect of Adele's location in the social context (i.e. her own experience of suffering from unemployment prior to attending her current school) appears to shape her approach to German Nazi history in this interview:

⁴ There is a difference in German and English use of pronouns. In German, "one" is used frequently to talk about own experiences, alongside of "you," "we," or "I." Translating Adele's use of "one" would have been better translated by inserting "you." However, I translated more literally as "one," in order to preserve the nuances in her use of language.

⁵ Interestingly, she focuses on the value of the appliances rather than the press censure of this event.

Page 9:

In the past, er, they, what they experienced was thought by them to be right. They, they did not foresee like er, that it turned out in such a way. I myself experienced it: I was unemployed for two years and was sitting at home, did not have anything. And when one would have offered something to me, I would have taken it right away. And when there is like so much unemployment and one has such a chance, then, then one does it. Without somehow thinking too much about it and without somehow understanding it all.

At this point, Adele focuses on the job opportunities that the Nazi government provided for those who accepted the Nazi regime. I argue that her own experience of unemployment directs Adele in her choice of perspective. The excerpts from the data show that Adele is willing and able to empathize with Germans who lived during the Nazi period because of their unemployment problems. Prompted by the exhibition in the memorial site of the concentration camp, she also imagines the situation of the camp inmates, though not in a differentiated way.

In sum, her social context, is relevant to Adele's approach towards Nazi history. Narratives by members of her own family are part of her understanding of the past. Her experiences of job market also shape her perspective; i.e. positions are rare and the opportunities of entering the job market for young people are generally limited.

While she does not differentiate between various social groups of Germany at that time, she does include explicitly those who experienced the concentration camp. When reflecting on this, she uses her own experiences as a starting point.

Reading for multiple voices

The next step of the analysis is devoted to a search for multiple layers of meaning and expression in the data. The researcher interprets how the interviewee relates to the issues of the research question. The analysis focuses on the multiple layers in the psychological experience and the varied subjectivities demonstrated by the interviewee (see Beauboeuf-Lafontant & Kiegelmann, 2000, p. 14f). Each identified layer is called a "voice," which is a code for a line of argumentation, an emotional approach, a point of view, or another nuance of psychological meaning in regard to the research question. Since several voices are being identified in this step, this type of reading can be repeated several times, until no more separate voices can be identified.

The research question that guided my interview with Adele was to understand her way of dealing with the local Nazi history. When I applied the reading for multiple voices in the interview transcript, I found seven voices that mark her complex approach to the history. In order to illustrate

this 4th step in the method, I first show an exemplary excerpt of the procedure how these voices were found. Then I introduce a list of all the voices that I was able to hear within the complete interview.

On page 8 of the transcript, I asked Adele about her relationship to the past, to which she said:

That is not that far away. Because, that is like still our – our history. Only, I do not like that our generation is still held responsible for it now; I don't think that is right. Because, that – we cannot be held responsible, for what happened in the past, and we also are not able to change what already happened. We do not have the power to turn history around, not at all.

And on page 14 of the transcript, Adele answered my question about a suggestion for an appropriate way of dealing with the Nazi history:

One should of course remember what happened. Well, that is like really important, but one should not drag it out. One should not make this obligatory. (4 seconds pause). So, to remember it, that is fine -- but not in such a way that every day one gets bombarded with it in the news or something like that. This--this not.

When reading this passage, three different layers stick out: First, she suggests that remembrance of the Nazi past is needed: "That is not that far away. Because, that is like still our – our history" and "One should of course remember what happened. Well, that is like really important" and also "So, to remember it, that is fine." This layer I call the "voice of requesting remembrance."

In contrast to this call for memory, she argues that people should not be forced to be confronted with this history: "Only, I do not like that our generation is still held responsible for it now" and "but one should not drag it out. One should not make this obligatory" and "but not in such a way that every day one gets bombarded with it in the news or something like that. This--this not." I call this aspect the "voice of rejecting connection and responsibility."

Furthermore, Adele provides another dimension to her argument, when she explains that she along with members of her "we-group" (her generation of Germans) is powerless in regard of the past. "Because, that – we cannot be held responsible, for what happened in the past, and we also are not able to change what already happened. We do not have the power to turn history around, not at all" and "Well, all right, we, we cannot do anything about it." This aspect I call the "voice of emphasizing powerlessness."

This example shows that in the process of detecting different voices within transcripts, the foremost attention is placed on the structure of

argumentation. Starting with the words of the speaker, a first layer of argumentation is identified and then labeled according to its meaning for the speaker. Then, further voices are differentiated and placed in relation to each other. The voices identified in this procedure appear at different places in the data. Once there are no new dimensions or layers found the reading for multiple voices, the reading in relation to the research question is completed.

After this exemplary illustration of the process of identifying voices, I now present the set of different voices that I was able to identify within Adele's complete interview.

I found a contradiction in what she stated about the information that she received about the Holocaust. On the one hand I identified a "voice of not knowing." She repeatedly announced that she had no access to information about what happened during the Holocaust in her hometown area. In these cases I was left wondering whether she does not know about the history because she lacked information or because she denied what she knew. At the same time, Adele was able to share bits of her knowledge about the NS-history and explained that she usually approaches this information by imagining the situations from the past. This layer in her data I call the "voice of confronting the images." Both voices are present, for example, on page 3 of the transcript, where she introduced what she knows about the concentration camp in her home town, by beginning that she does not know anything about it:

Transcript page 3:

Well, because I didn't know anything about it. And the camps and such, which my dad always talked about. Because he grew up here in this town and he always said: Over there were some barracks, and over there were some barracks. But, anything further he couldn't tell me.

Her statement "Well, because I didn't know anything about it" I coded as "voice of not knowing." In contrast, her citation of her father, "Over there were some barracks, and over there were some barracks," I heard as belonging to a "voice of confronting the images."

Furthermore, there were two voices that I interpreted as complementary: A "voice of rejecting connection and responsibility" (transcript page 8: "Only, I do not like that our generation is still held responsible for it now; I don't think that is right") and "voice of emphasizing powerlessness" (page 8: "We do not have the power to turn history around)."

In addition, I hear her using a "voice of requesting remembrance," which sounded less strong or convinced than the two voices mentioned above, since she often de-emphasized this voice by adding an argument against calling for remembrance, introduced by a "but," e.g. transcript page

14 "So, to remember it, that is fine -- but." This is what I have called an "educationally correct voice" (Kiegelmann, 2000), i.e. more an expression of expressing what she assumes to be expected from her, rather than a thought through and deeply felt conviction.

Finally, I could indicate two more another voices: A "voice of current freedom:" "Well, at this point one is still able to think for oneself" and a "voice of praising denial:" "the more one reflects, the more one gets desperate." Both of these voices I could identify in the following passage of Adele's words:

Page 15 & 16:

Well, one is always being manipulated. But, so far one still senses, like, one's own thoughts. Many of them are still relevant. Well, at this point one is still able to think for oneself. And one does always still think oneself, even, when one says: "You, you have to do this and do not even think about it. Just do it." One still does think about it. And in the past, er, then it was totally prohibited, so to speak, to think. Or, they did not have the power to do anything against it. They might have thought something, but that would have harmed them, this thinking; or it would have made it more difficult for them. Because, so, I personally would – it is terrible to imagine, so to have been in a concentration camp. But, I think when, when these people like lived there, and they just participated without thinking about this, that is was less hard for them as if they would have thought about the situation, because in that case it would have been the end. Then, one gives up much easier. Because, obviously many did survive, because they endured or, because they like somehow – well, I do not know how to say it. Well, because of the enduring, the simply doing it. And the more one reflects, the more one gets desperate.

These two voices both are about the topic of freedom of thought. Yet, Adele separates at first between the times of "back then" and "today" by pointing out that only today there is a freedom to think, i.e. what I code as the "voice of current freedom." However, Adele does not stop at asserting the current freedom. Rather, she ends up arguing for the benefit of limiting the own freedom of thought ("the more one reflects the more one gets desperate"), which I call the "voice of praising denial." She comes to expressing this opinion after reflecting on the situation during the Holocaust in Germany. Here, again I observe that Adele merges the perspectives of victims, bystanders and perpetrators. Reading her use of the subject "one" as including herself, I interpret arguing against critical thinking and for denial "And the more one reflects, the more one gets desperate."

In summary, the reading for multiple voices resulted in distinguishing seven different voices that indicate my analysis of Adele's ways of dealing with the local history:

Original voice list:

Not knowing

Confronting images

Rejecting connection and responsibility

Emphasizing powerlessness

Requesting remembrance

Current freedom

Praising denial

In summary, the findings from the four readings were: First, I noted, that the topics of powerlessness and manipulation appeared as topics in her interview and there was a hierarchical interview relationship. Secondly, when focussing on her way of speaking of herself, I noticed that she expressed her own opinion clearly, using first and third person voice frequently and without apparent self doubt (i.e. "I" and "we"). She seems to be integrated within the group of her (German) peers. Thirdly, in addition to her identification as a member of a group of young Germans, she identifies with those whose social context is shaped by the hardship of limited job chances for young people like her. When looking back at the Nazi history, she uses a perspective that incorporates both the narration of her grandmother who worked in a factory during the war and the information she received about concentration camp inmates. Fourth, I was able to distinguish seven different voices within Adele's interview: Not knowing; Confronting images; Rejecting connection and responsibility; Emphasizing powerlessness; Requesting remembrance; Current freedom; and Praising denial.

Once the readings according to the steps of the voice centered method are completed, conclusions about the findings need to be formulated. The findings provide the basis for a further analysis within the context of the whole data set, i.e. in the example Adele's entire interview. The final interpretation of all findings depends on what material was actually detected in the process of analysis. There is no fixed formula for this last step. Rather than suggesting a definite set of steps for reaching the conclusions, I will mention some possibilities for drawing conclusions.

Procedures for basing conclusions on the four readings

In their early studies about moral development, Gilligan and her colleagues concentrated on two voices in their analysis: A moral voice of "justice," i.e. an orientation to rules, as well as a moral voice of "care," i.e. an orientation

to the quality of relationships. They investigated moral orientations and compared them with a conceptualization of "self," either as separate or as connected to others (e.g. Gilligan, Langdale, & Lyons, 1982). Within a set of data, observations were made about differences in subgroups of a sample according to care or justice orientation, e.g. gender differences (e.g. Gilligan, Langdaye, & Lyons, 1982; Gilligan, Johnston, & Miller, 1988; and the articles in Gilligan, Ward, & Taylor, 1988).

In their description of the voice methods, Gilligan and her colleagues suggested how to interpret the care and justice voices that could be identified in interview transcripts: Questions for the final analysis of the data were a) the presence of these two voices, b) a predominance of one of them, or c) the interviewee's alignment either for care, justice, or none of both (Brown et al, 1988, p. 159).

In more recent studies, the focus has shifted away from moral orientation. Brown and Gilligan (1992) investigated girls' development and their response to ideals of femininity. In this study, they found three main voices from the girls they interviewed. Developmental patterns of how they faced the social pressure of idealized femininity could be identified as voices of resistance, pretension, and capitulation. Brown and Gilligan formulated psychological "types" to describe the girls' psychological development based on these three voices.

Other researchers have extended the voice analysis to cover meta-categories in their final interpretations. Taylor, Gilligan, and Sullivan (1995) studied girls' psychological development with a special focus on racism and combined a voice-analysis with a thematic content analysis (Miles & Huberman, 1984). They built categories of the girls' experiences, e.g. about self, race and ethnicity, and decision-making. Then they related the categories to the findings from the voice readings. In my research on women's experiences with childhood brother-sister incest (1997), I first listed the voices I found for each interviewee in individual voice lists and then categorized these individual lists across all participants' lists in order to identify similarities.

The focus in all of these final conclusive steps is that the researchers interpret together the findings about research participants' presentation of "self," their orientation towards social relationships, and the indicated voices. Answering the research questions is a guide for drawing together all the material. Accordingly, the analysis of Adele's interview was concluded in the following way: When reviewing the findings from the four readings of Adele, I was able to find repeating themes within them. Because of these repeating themes, I draw conclusions by comparing all readings: identifying repetitions and building meta-codes. In a larger set of data, the first categories could be fleshed out by the findings from more interviews with different people.

In relation to my research question about how young people deal with the Nazi history, I am searching for emerging categories about how she

relates to history: When reading for plot, I notice that there is a central topic of powerlessness. I interpret that there is a category "lacking power" and this can serve as a guide for understanding some of the multiple voices I was able to identify. Also, "lacking power" combines three voices from the fourth reading: Adele emphasized lack of power in what I coded as three different voices: "Rejecting connection and responsibility," "emphasizing powerlessness," and "praising denial." All three of them appear with strong "we" statements that Adele used to elaborate on her own experiences and meaning about the Nazi history. In this I see a range of "lacking power:" On the one hand, I interpret that fear and self protection is in her argument that denial of hardship can be a successful coping strategy. Further, I notice defensiveness when she rejects a responsibility for past crimes for Germans her age. On the other hand, her statements about lack of power sound resigned when she talks about her own experience of hardship within the job market. I notice a paradox in which she seems to gain strength out of her lack of power in relation to her "self" and her relationships, because her lack of power protects her from unjust accusations and strengthens her sense of belonging to her peer group. Even though I am concerned about the exclusive character of her "we" groups, I see her emphasizing a lack of power not as a cheap excuse or an aggressive denial of atrocities that took place in her home town during 1933 to 1945. Rather, I hear her as somewhat fatalistic and not claiming her power out of naïveté. For instance, I believe that her expectation that people are powerless shapes her conceptualization of everyone as having been victimized during Nazi rule in Germany.

A second category I call "ambivalent approaches to history," which I base on congruent findings from the reading for self and two of the multiple voices I coded: Adele's voice of "not knowing" and also of "confronting images" are closely connected to her self voice using "I." The content of these voices might contradict each other, i.e. she does imagine the past, but also declares that she does not know about the past. Yet, both voices indicate that she spoke authentically within the interview relationship. Finally, a third category that I ascribe with the working title "conventional speaking," combines the voices "current freedom," and "requesting remembrance" which all share her use of addressing herself with a less certain quality, i.e. using connection to weak "one-," "I-," or "we-" statements. Here, she might practice socially expected speaking that is not necessarily rooted within her own experiences and convictions.

Conclusion

In this exemplary illustration of voice reading, I was able to show how this qualitative research approach can analyze psychological phenomena, such as the response to a socially controversial topic of dealing with the local

history of the Holocaust. My interpretation of the interview material granted through the voice method corresponds to other research findings within this field that were reached using different methods.

My finding of a "voice of rejecting connection and responsibility" is similar to the observation of Brendler (1997) who sees rejection of responsibility as a starting point for many youth in Germany when dealing with Nazi history. Also, my finding of Adele's "voice of confronting images" I understand as an indication for her ability for empathy. Empathy, according to Wittmeier (1997), is an important competency for learning in memorial sites. Also, he stresses the ability of reflecting on one's own identity as crucial for such learning processes. This is an area where I see a potential for further learning in Adele, because a more intensive reflection of her identity could enhance her understanding of her own power or lack of it.

The category "conventional speaking" points to the problem that learning about history needs to be different from being able to produce "correct" answers. Bodo von Borries (1995), commenting on the results of his large scale quantitative questionnaire study with high school students about history learning, formulated this problem as follows:

Those attitudes were formed prior to the history lessons (...). Obviously are they *necessary, indispensable values*, but they are not developed by the youths. Because these values are appropriated by the young people as socially given, not as the result of critical considerations. They are more characterized as an a priori political consensus, than as post-experienced historical experience, reflection, and insight -- if the results [of this study] are not misleading (Von Borries, 1995, p. 400, translated by M.K.).

The voice-method is an approach that allows researchers to identify multiple layers of psychological phenomena, for example the way of students' relating to local history. In analyzing Adele's interview, I spelled out psychological layers I was able to identify. The systematic procedure of the voice-method enables researchers to detect more than one layer or "voice" in what people say and thus provides the opportunity for a complex understanding of psychological phenomena. It is especially useful for investigating socially controversial topics that need to be sensitive to various nuances within human experiences. Thus, a genuine psychological approach like the voice-method is invaluable within psychology.

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Toward a method of ideological becoming

Tamara Beauboeuf

Introduction

Recent work in feminist and poststructuralist theory has challenged the concept of a rational, unitary self, whose existence can be examined de-contextualized from social and political reality (Mama, 1995; Weedon, 1997/1987; Wetherell & Potter, 1992). The new view of the self situates it among and within discourses or shared ways of experiencing, explaining, and structuring the world. Discourse involves collective "activities of justification, rationalization, categorization, attributing, making sense, naming, blaming and identifying" and is linked to social outcomes as well as to the psychological experiences of individuals (Wetherell & Potter, 1992, p. 2; see also Weedon, 1997/1987, p. 34). Because discourses are social in nature and intimately shape our psychological experiences, we develop multiple and often contradictory senses of self or subjectivities within those discourses.

Developmental and feminist psychologist Lyn Mikel Brown (1998) quotes Russian sociolinguist Mikhail Bakhtin in revealing the inherently social nature of language and word use by individuals:

Language is not a neutral medium that passes freely and easily into the private property of the speaker's intentions; it is populated -- overpopulated -- with the intentions of others. Expropriating it, forcing it to submit to one's own intentions and accents, is a difficult and complicated process. (Brown, 1998, p. 106)

Continuing Bakhtin's analysis of how selfhood represents the norms, expectations, and actual words of others with whom we've been in relationship, Brown develops his concept of "ideological becoming." She writes,

The words of others enter and become part of the inner dialogue that constitutes the psyche as a result of the difficult and complicated *developmental process* that Bakhtin calls "ideological becoming"... Others' words come, quite simply, from the different speaking voices that a child hears in the context of her various social relationships and social interactions -- voices engaged in the ongoing dialogue that constitutes the culture in which she lives. (Brown, 1998, p. 106)

From her research with White, adolescent girls from both working- and middle-class backgrounds, Brown emphasizes the developmental nature of ideological becoming. She has found that with the cognitive sophistication of formal operational thought, such girls begin to comment on, and in certain situations, resist "the contradictory voices of conventional femininity that [they have] heard over the years and that now, at early adolescence, confront [them] in ever pressing and narrow terms" (1998, p. 113).

Given the social origins of language and the centrality of language to one's sense of self, the work of poststructuralist scholars maintains that coming to a personal sense of ourselves is not primarily the intrapsychic and maturational process typically represented in the developmental literature. Rather, it is a fundamentally social experience of being immersed in and slowly appropriating, amending, and resisting the words and attendant worldviews of others. The social origins to our psychological experiences make it impossible for our subjectivity to be fixed: our ongoing interactions with others, particularly those who exist in social locations different from our own, ensures that our ideological becoming is a continuous process occurring throughout the lifespan. Research within two bodies of social scientific literature -- relational psychology and critical educational theory -- empirically describes ideological becoming as a lifelong activity.

Empirical evidence for lifespan ideological becoming

From interview studies and ethnographies with girls and women, relational psychologists have demonstrated how interpersonal relationships are key to girls' and women's senses of self (Brown & Gilligan, 1992; Brown, 1998; Gilligan, 1993/1982). They trace women's ideological becoming, or coming into a sense of who they are and what they believe, to the very voices and silences they experience in their interpersonal relationships. Thus, how a girl or woman is listened to or ignored by parents, siblings, peers, and teachers in her ongoing interactions has implications for how she feels about herself and assesses the world in which she lives (Brown, 1998, p. 106). While the cornerstone studies of relational psychologists focused on the experiences of girls and women, recent investigations suggest that a relational perspective is also well-suited to the study of boys and men (Chu, 2000; Way, 1997). Thus, relational psychology generally holds that as individuals consciously and unconsciously distinguish between alternatives in their subjectivities, they are also choosing between the various people who have impressed upon them particular worldviews and social understandings.

Extending the analyses of relational psychologists into a more general discussion of oppression, critical theorists in education emphasize the

social histories and hierarchies of power that profoundly influence how groups of people interact with each other (Bartolome, 1994; Freire, 1993/1970). Critical theorists maintain that the experience of living in oppressive political systems and social groups of varying power generates psychological counterparts of contradiction and multiplicity. Because of the inequitable power arrangements in our society, the discourses that gain voice in an individual can both support and contest inequitable power relations. As a result, ideological becoming entails a literal process of "coming to terms" not only with our place in interpersonal relationships, but with our "place in society" and the power we have (or lack) over others in various classed, raced, and gendered social positions. The simultaneously interpersonal and political nature of our identities and ideological views is particularly evident among those persons (women, people of color, the poor) with subdominant social locations (Giroux, 1997). As members of such groups move from positions of relative powerlessness to locations of power, they become "border crossers" (Giroux, 1997). And in order to see themselves (and be seen) in new and empowering ways, they often distance themselves in physical and political, as well as relational, ways from the people and belief systems of their home cultures and pasts (Fordham, 1992; Hemmings, 1998). In other words, the experiences of border crossers reveal how our identities and ideologies are engendered by specific people and socio-historical patterns of power.

Given we spend our lives in relationship with others and we live in an oppressive world, the concept of ideological becoming is helpful for understanding lifespan development. My particular interest in the concept comes from my desire to examine and understand how educators develop and maintain commitments to social justice (Beauboeuf, 1997; Beauboeuf-Lafontant, 1999). At a time when scholars are recognizing the pressing need to have educators who can see social justice rightfully as both an educational and a political goal (Delpit, 1995), I hope to more gain a more complete understanding of how relational and social contexts influence the development of counterhegemonic pedagogical commitments. In the next section, I discuss preliminary strides that I have taken toward a method of listening for, documenting, and analyzing ideological becoming.

Operationalizing 'ideological becoming'

While I am interested in ideological becoming on a conceptual level, the challenge as a researcher comes in how to "operationalize" the process in a systematic and teachable way. That is, how do we get inside of a transcript in order to see and hear ideological becoming? I have not found any one method that allows me to follow the logic of an interviewee's relationships, identities, discourses, and social locations simultaneously. Thus, I have developed a method that combines the Listener's Guide created by

relational psychologists (Brown & Gilligan, 1991) with phenomenological assumptions (Moustakas, 1994; Polkinghorne, 1994).

The Listener's Guide maintains that interviews are texts, with layers of meaning that can only be accessed through a sequence of focused readings. Phenomenological methods assert that there are basic structures of meaning in the psychological worlds of individuals who share a common experience. In combining both methods, I seek to examine how language use can reveal critical aspects of and patterns within one's ideological becoming. Identifying patterns can help answer questions such as: How do particular relationships obstruct and/or facilitate the shift from hegemonic to counterhegemonic pedagogies among educators? Or, how do relationships and discursive norms shape one's continued embrace of social justice as a commitment? In my efforts to answer these questions concerning ideological becoming, I look for insight in individual words and phrases because they "taste of the context and contexts in which [they have] lived [their] socially charged life" (Bakhtin, 1981, p. 293).

Tracing ideological becoming: Five readings

Reading one: Identifying conflict

A useful approach in the beginning stages of data analysis is to select those sections in which the interviewee discusses a conflict or change. While the overall analysis of the transcripts will naturally include other sections as well, it is often helpful to focus initially on those points at which the interviewee seems emotionally moved. Such points enable us to access not simply the content of potential discourses but their form as well -- that is, how they convey their content and meaning (Lieblich, Tuval-Mashiach, & Zilber, 1998). Evidence of conflict can be found in the interviewee's naming of a period of change in her life, as well as in the form of her language (e.g., repeated phrases, changes in tone, nervous laughter, hesitation). Examining these points where the utterances are not observably flat or monotone often enables us to access the central, yet underlying, themes or issues that pervade the transcript as a whole (Lieblich, Tuval-Mashiach, & Zilber, 1998).

Reading two: Researcher response

In this step, we as researcher note our own reactions to the conflict as individuals with particular discursive histories and experiences of ideological becoming. We can ask the following questions to make clear and bracket (Creswell, 1994) our own motivations and sensitivities in conducting the research: How are we affected by the conflict? What in the content and form of the conflict interests us, intrigues us, or makes us

uncomfortable? Why? What knowledge about the social context of the interviewee's life comes to mind as we read and subjectively respond to the conflict?

Reading three: Mapping the discursive world

This reading focuses on identifying the different people, interests, points of view, and events that are named or suggested in the excerpt. In doing so, we as researchers try to create a map or diagram of the interviewee's world, as revealed in her naming of interactions with specific people and her use of specific discourses to explain the conflict. This reading is the heart of the analysis of ideological becoming. The guiding assumption behind this level of analysis is that the content and construction of an interviewee's responses are intentional, but perhaps not conscious, acts (Creswell, 1994). Thus, the associations that the interviewee makes by bringing different ideologies and people into her explanations and descriptions serve a purpose and represent the network of relationships and ideas out of which the interviewee constructs herself and her worldviews.

Reading four: Self and identity construction

Having created a map of the key relationships, experiences, and discourses relevant to the interviewee's subjective experience of the conflict, we now focus on what the individual says about herself. Where does she demonstrate her agreement with a worldview (e.g., through the use of 'we', 'our')? Where does she stand alone? That is, what is her own commentary on these relationships, experiences, and ideas that we have identified in the previous reading? Does she expand on them, thereby demonstrating a taking in or "ventriloquation" (Brown, 1998) of their viewpoints? Does she question and/or contest their ideas, suggesting a level of disagreement or resistance? The goal of this reading is to identify how the interviewee positions herself within the ideas and relationships which we have identified in Reading Three as playing key roles in her discursive experiences and subjective senses of self.

Reading five: Summarizing

After the data expansion of readings three and four, we now try to reduce the data into "clusters of meaning" (Creswell, 1994). That is, we attempt to draw tentative conclusions about the people and ideas which are key to the interviewee's ideological becoming. We accomplish this interpretive step by organizing the contents of the maps into categories that seem similar, in order to identify where the major, fundamental differences lie. For example, we could find a distinction between the discourses that are tied to an interviewee's parents and those words and points of view she attributes

to a partner. Such a finding would suggest that a basic psychologically significant organizing principle for the interviewee's ideological becoming is the difference she sees between who she is and what she believes in the these two relational contexts. Thus, each relationship can be seen to facilitate particular ideologies and obstruct others. In reducing the data in this step, we also seek to determine where the interviewee fits in the conflict – to see whose points of view she embraces and why. Doing so allows us to ask and answer the question of what basic tensions characterize the interviewee's ideological becoming. We can also ask what is missing in the process – which ideas or relationships we might have expected to find and what their absence might imply.

Examining conflicts allow us to gain insight into the general dynamics of identities, relationships, and discourses that constitute ideological becoming. By repeating the process of analysis described above for other conflicts in the transcripts, I believe that we can come to a useful sense of the many relationships and discourses which are meaningful to the interviewee. With such an grounded (Strauss & Corbin, 1990) interpretation of the interview material, we can then examine the "flatter" statements in the transcripts (those that do not describe overt or implied conflict) to see how they help us gain more understanding into the dimensions of the interviewee's ideological becoming.

Conclusion

We exist at a challenging period in psychology as notions of a unitary, rational, individualistic self are being replaced by notions of self-in-society and society-in-self. Rather than assume that psychological experience occurs within unique individuals and that individuals singlehandedly order their identities, psychology must reconsider how "individuals are both the *site* and *subjects* of discursive struggle for their identity," a struggle fueled by the historical and political realities of our social contexts (Weedon, 1997/1987, pp. 93).

As psychological theory develops to redefine the self in the social sciences, we researchers must generate methods that allow our empirical work to speak to and refine such theory. The proposed method of tracing ideological becoming is a step toward such a rapprochement, as its layered nature of sequential readings seeks to acknowledge the discourses and power realities of our senses of self. If we are to understand the "how" of social change, it is necessary that we develop methods that allow us to trace ideological becoming and better understand the complexities human behavior and thought.

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Methods which are accommodated to their research object: On the adequate investigation of historical consciousness at youth age¹

Carlos Kölbl

The following quote from a well-known article by Graumann and Métraux (1977) shall precede my own reflections: "The predominant part of psychological research seems not to have been constituted by unbiased dealing with the problems of a specific field of research but rather by transferring a methodical canon from another science. The development of experimental psychology was not initiated by a problem-oriented approach – on the contrary, the application of methods that weren't originally psychological ones gave access to the psychological field of research in the first place; it was these methods that served to legitimate and delimit it as a systematic science. In this respect, however, one would exaggerate only slightly to say that we are dealing with a case where 'that which has been methodically arranged is mistaken with the thing itself' (Adorno, 1971, 211)."² (ibid., p. 30-1, translation C.K.)

To do justice to the phenomena under research is one of the major programmatic goals of an interpretive psychology. This statement still remains true when the constructive character of the object under scientific inquiry is acknowledged and it is thus no longer regarded as a 'phenomenally given' which simply shows itself to the 'eye of the researcher.' In order to reach such a goal, a methodic approach is needed that is not limited to the mere application of preconstructed or traditional tools. On the contrary, tools have to be designed which take into account the specific features of the object under investigation. I will try to demonstrate such an approach using a study of historical consciousness during the age of youth which differs distinctly from similar empirical endeavors in the didactics of history (e.g. Borries, 1995). In the present paper I limit myself to an exposition of the tools designed to collect the data and completely leave out a discussion of the peculiarities of the interpretation of the empirical material since this would require a further essay.

¹ I wish to thank Christian Grüny and Roswitha Kölbl for valuable help concerning the English translation of this paper.

² From a distance of a good twenty years Métraux has recently referred again to his and Graumann's study stressing that their aim was to articulate the basic cognitive prerequisites of the construction of an adequate psychological terminology and in no way specific methodical steps (Métraux, 2000, p. 648).

Before elaborating my argument, it seems appropriate to make just a few remarks concerning what particular interest the topic of 'historical consciousness' could be to psychology (for more detail see the basic article by Straub, 1998). With the historian Karl-Ernst Jeismann (1997, p. 42), we might say that historical consciousness is characterized by the ability of meaningfully tying together the interpretation of the past, the understanding of the present and the perspective of the future. Why can this be interesting from a psychological point of view? Several reasons could be given. The formation or consolidation of identity can be regarded as one of the functions of historical consciousness - or, to put it in more general terms, of the constitution of historical meaning. Who I am or who we are to a considerable degree depends on how I or we see members of other historical formations that are at a temporal distance to us. If e.g. our relationship to 'the Germans' who lived at the time of national socialism is characterized by our abhorrence of the actions of the historical personae and nevertheless by our (fragmented) identification with them on the basis of nationality, this has obvious consequences for our social and personal identity formation as well as for our respective pragmatic orientation. Now one can investigate the psychological functions of historical consciousness but also the genesis and structure of the competence which 'forms its basis.' As far as logical and mathematical or moral-pragmatic reason is concerned, such a strategy of analyzing the structural, genetic and functional dimensions of competences has a rich tradition in psychological inquiry. With respect to these two forms of reason a great deal of relevant studies has been conducted by Piaget and his followers and by Kohlberg and others in the course of genetic structuralism. None of this has been done in the realm of historical consciousness (in addition to the article by Straub mentioned above see Rösen, 1994/95). Theoretical as well as empirical efforts are only beginning here. The same holds true for the development of adequate methods. Consequently, testing two methods of data collection, that have been designed following 'classical' qualitative methods, is a major part of my project. One of them consisted in holding group discussions on history and the other in conducting interviews as a means to investigate explanatory historical competences.

Group discussions on history

In her broad discussion of methods suitable for the investigation of historical consciousness which includes experimental strategies, questionnaires, interviews, participant observation and group discussions, Billmann-Mahecha (1998) comes to the conclusion that the group discussion method could be a particularly good tool for this field of research. Now, it is one thing to regard a particular method as generally suitable and another to accommodate this method for one's own research

purposes. In the latter case, the precise ways in which the method can be used for a particular object need to be explored. Billmann-Mahecha, too, thinks this a sensible approach and, after analyzing a group discussion with children, concludes that this method is fruitful. But: "Further pilot studies are needed that clarify, among other things, which stimuli are adequate for such group discussions" (ibid., p. 296; translation C.K.). Of course, countless stimuli can be thought of (see e.g. Lamnek, 1998, pp. 136-138; for further insights in respect to the question of how to start a group discussion, see also Loos and Schäffer, 2001, pp. 49-51 and pp. 86-98). This becomes obvious when one takes into account the numerous possible variations of the media in which a stimulus is presented: texts, films, tapes, things, pictures or photographs could be used. The number of possible variations rises again when aspects of the material's content are taken into account as well. (At least) three categories of organization can be thought of: Time, culture and theme. Thus, a stimulus representing something that happened 'long ago' or something that has happened quite recently, a stimulus drawing on one's own culture or on a foreign one, finally a stimulus originating in the history of economy, ideas, law, everyday life, or any other specific form of history can be presented. Acknowledging this complexity, it becomes evident that it is impossible to explore all possible variations. One could now be tempted to regard the choice of a stimulus to start a group discussion a matter of a more or less arbitrary decision. This impression, however, is not completely true. The arbitrariness can be limited by concentrating on the subjective relevance systems of the research subjects: specific stimuli will be chosen to bring out these relevance systems. To cut a long story short: after the first 'pre-test' of group discussions with pupils I could observe that texts did not work, no matter how close to everyday life they were. What happened was that their use created the atmosphere of a typical school lesson. The use of other media such as tape recordings or post cards did not really change this. 'Dense' discussions emerged only when the pupils were asked to bring objects they associated with history to the group discussions. I will demonstrate the beginning of such a discussion with an example.

- Heide: Okay I start ((laughs)). Well, during the war there was/everything was so expensive and cloth was hard to get, too. And my grandpa got hold of such an old swastika flag in the black market. And then, em, my grandma made out of it, em, it's such a red, er, rectangle/
Achim: circle/
Moderator: mh/
Heide: red rectangle with a white circle and a swastika in it. There she cut it, the circle with the swastika out. From the red cloth she sewed table-cloths and things like that. And also an apron, I still have that.

Moderator: mh

Heide: And from the, em, circle in the middle she sewed a, em, cushion and put feathers in it from her own, em, chicken or so. And then she also put a cover on it and she still has that. And I think that's really quite terrific, because, em, it still shows, what it/what it was like back then and so on; and I also think this still is/em, can be associated with history well. I like it.

Just two remarks on this beginning that I find highly interesting: The request to talk about an object associated with history seems to get through to the participants' personal interests particularly well. This can be seen in Heide's comments. She speaks about an object which is full of meaning to her. Just take into account that she is able to describe in great detail the objects of daily life which the swastika flag had been 'transformed' into. Judging from their comments on the objects and the respective remarks during the discussion again and again, the other participants are drawn into the discussion, too. Nevertheless the pupils regularly leave the objects aside and focus on other topics that are of equal interest to them. Thus the presented request fulfills its function, namely to be an 'ice-breaker' and to initiate lively discussions.

Generalizing these experiences, it can be stated that it was possible to gain access to the kind of historical consciousness particular to youth age because a mere reproduction of the familiar script of a school lesson with slight variations was avoided. It is precisely this point that marks the difference to the above-mentioned studies within the didactics of history. Their main tool is the traditional closed questionnaire that does not allow the participants to articulate their subjective relevance systems, leading to exactly the situation I wanted to avoid. With these remarks I do not want to suggest that school lessons are necessarily boring or indifferent in respect to the pupils' personal interests. Nevertheless I think that more often than not high ego involvement is absent from a school lesson and for certain purposes probably even should be so. For the context of group discussions on history, however, the personal involvement is indispensable at least when the interest lies in the subjective relevance systems of the research subjects.

Interviews for the investigation of explanatory historical competences

Besides the group discussions I also used interviews as instruments of data collection. Whereas the analytical focus of the group discussions was rather wide, the more specific question of how historical change is explained was the center of interest in the interviews. Since the narrative interview has found widespread recognition in social science, it is not uncommon in

psychology to take narrations as a research topic (e.g. Wiedemann, 1986). In most cases one particular kind of story is investigated, namely the biographical one. As a side note, I would like to mention that at the origins of the narrative interview, as it was developed by Fritz Schütze, stories about political decisions were analyzed, not biographical ones in a narrow sense (see e.g. Schütze, 1977). When narrative-historical competences are the matter of research, it is also stories that one turns to, this time, however, not exclusively biographical but also historical ones.

In order to evoke such stories, it is helpful to use Arthur Danto's scheme of a narrative explanation (1980) in the design of the interview. The subject of such an explanation is change. If one wants to explain changes, a plausible story is necessary. In order to explain e.g. why Klaus Holzkamp, who at the beginning of the sixties still was a 'traditional' experimental psychologist, and then became a critical psychologist, a story would have to be told which refers, among others, to the students' movement of 1968, but also to certain critical impulses in Holzkamp's scientific work, which could already be found before that time. Of course, in such a story, argumentative reasoning and insight would figure as well, but not exclusively. Narrative explanations, like other forms of explanation, include reasoning, but besides this integrative power, they unfold explanative potentials '*sui generis*' (Straub, 1999). A narrative explanation can be represented schematically as follows (see Danto *ibid.*, p. 371-2):

x is F in t1
 H occurs with x in t2
 x is G in t3³

I used this scheme in trying to evoke plausible historical narrations, and basically asked three questions: First pupils were asked which historical theme, historical person, historical epoch, or historical event was of special interest to them. If they had not given one in the first place, I asked them for a precise description of the theme, event, etc. they had in mind. Then they were asked to describe the changes the particular phenomenon had undergone since, how it had persisted. Eventually the participants were requested to explain the perceived changes or perceived identity of the respective historical phenomenon. As with the group discussions a short example shall be quoted:⁴

³ The variables are to be read as follows: x: a person or a thing; F and G: two different states; t1 to t3: points of time 1 to 3; H: an occurrence.

⁴ Besides this task, the pupils were also shown a post card (representing striking workers) and asked to explain what was happening there, what happened before the scene on the picture and what would probably happen next. In addition, the pupils were asked to draw a line representing historical time and put on it what they considered' to be the 'most important historical events.

Waltraud: Yes, and the first world war, yes, how can one be so, well, let's say idiotic, this is what nearly can be said, only because of/well the imperial couple, they were highly respected and so, the student, I think he was a student, the student should have been/I mean because of execution a war should not be started, only because the imperial couple was shot. Well, for me that is mad in a way.

This quotation is characteristic for the interviews I conducted and shows that they produced exactly what I was aiming for, namely historical explanation. As with the group discussions, the articulation of these explanations is not just a variation of the school lesson script since very few stipulations were made and the questions I posed made it clear that I was primarily interested in those topics that were of special interest to the pupils themselves.

A brief remark concerning the quoted example: Evidently the story Waltraud tells to explain the origin of the first world war focuses on protagonists acting in quite a narrow, clearly defined situation. The last sentence '[w]ell for me that is mad in a way' may show - besides other things - that also Waltraud has her doubts about the adequacy of this kind of explanation.

Of course, the interviews also evoke historical explanations that are 'constructed' rather differently, e.g. putting greater weight on superpersonal structures. To demonstrate possible interpretations and explanations and, furthermore, to show what comparative analyses of historical explanation and interpretative strategies of empirical data concerning historical consciousness could look like would go beyond the scope of this article. Its aim was merely to demonstrate an approach to collecting data, which, once again, claims to give the participants as much opportunity as possible to articulate their subjective relevance systems.

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Research Project 'History and Memory' (Geschichte und Erinnerung)

Stephan Marks

Relevance

What is to be done if interviews about a 'non-banal' topic produce 'banal' transcript-texts combined with powerful 'disturbances,' messages between the lines, transferences and counter-transferences? What if the topic is connected with guilt or shame or put under a taboo (not in a colloquial, but in an ethnological sense, Freud 1974)? How can we gain insights into unconscious (latent) contents or processes?

Founded in 1998, the research project 'History and Memory' aims to gain insights into the origins of national socialism and its psychological and social dynamics. Originally it was intended to be an Oral History project: We wanted to find out about the motifs of the Nazi perpetrators and bystanders simply by asking some of the old men and women who had been involved back then. Quite soon, our expectations were disappointed. From the very beginning it turned out that most of the manifest testimonies were quite banal, which contradicts conspicuously with the topic of conversation (national socialism and Holocaust, nothing less) and with the power of the dynamics of relationship and conversation with all kinds of disturbances, misunderstandings, subtle messages 'between the lines,' transferences and counter-transferences (latent contents).

Purpose and research question(s)

Social psychologist Harald Welzer (1997) had pointed out that national socialism is the most explored field of modern history and also the least understood. This may be caused by a specific deficit in the research so far: little attention has been given to the motifs of those millions of German men and women, who had accepted and agreed to Hitler and national socialism, who had been fond and willing to execute their orders (i.e., the Nazi perpetrators and bystanders). Daniel Goldhagen (1996) had this to say as follows: 'A striking aspect of the literature on the Holocaust is that, with some exceptions, these central questions about the mentality of the actors are not addressed directly, systematically, and thoroughly.'

Goldhagen concludes that it is important to learn as much as possible about these people, about their motives, beliefs and views. Similarly, Theodor W. Adorno, in his famous radio lecture 'Erziehung nach Auschwitz' 1966 (education after Auschwitz) had demanded to explore the mechanisms that make people capable of such actions.

Quite often the need to 'remember' is emphasized; the need to 'learn from history' in order to prevent its repetition. In most cases this is related to the victims and survivors. This is absolutely necessary but it cannot substitute the remembrance of bystanders and perpetrators and the whole issue on how to deal with them. Because, as Adorno put it, 'the roots of the holocaust are to be found in the perpetrators and not in the victims.'

The deficit mentioned, has negative implications when it comes to transferring the findings of social scientific research into school teaching. A teaching of the subject of national socialism and Holocaust, that does not deal with the motifs of the bystanders and perpetrators, may cause a 'vacuum' in the students minds, as the following report of a student illustrates: 'For hours and hours our history teacher told us about the Jews, the communists, the gypsies, the Russians – all those victims, nothing but victims. I never really believed him. Who knows whether it was all that bad.' One of my classmates asked him once: 'What was so great about that time? Why have so many people been roaring 'Hurrah' and 'Heil?' Why have they all been so excited? There must be a reason for this?' At that point, the teacher looked quite foolish and started to call him a neo-Nazi without any respect for the victims. But we wouldn't let it go. Finally somebody had raised the all important question, what was it that really happened (Sichrowsky 1987).

Description of the study

In regards to that deficit, the research project takes up the call to remember in a specific way: We conducted 40 interviews with men and women, who had agreed to and supported national socialism (Nazi-bystanders and perpetrators), for example as members of the NSDAP, SA, SS or other organizations. Most of all, we were interested to learn about the reasons as to why they joined the Nazi movement. What motivated them? What did they like there? What did they experience during those years and how did they deal with it during their lives?

These interviews are documented, transcribed and evaluated with social scientific, psychoanalytic-hermeneutic and text-analytic methods. In doing so, we pursue the following questions:

What motives and reasons are expressed in the interviews? What was it that made the Nazi movement so attractive to the interviewees?

In what way is the experience of the Nazi years still present, cognitively and emotionally, in the interviewees today, which is now more than fifty years later? What does this 'first generation' still remember, how do they narrate this?

What happens when members of the 'first' and the 'second generation' (in this case, the members of the research project) try to communicate about national socialism? What kinds of 'disturbances,' transferences and

counter-transferences occur? What is the structure of reciprocal misunderstanding? What are the dynamics of relationship and conversation?

The research project is directed by Dr. Stephan Marks, social scientist. The further eight members of the research team come from the following fields of study: psychoanalysis, psychology, social work, social education and history. The members and the research team undergo professional supervision. 'Geschichte und Erinnerung' (history and memory). It is financed by the Ertomis Stiftung (Ertomis endowment) and connected with the pedagogical university in Freiburg, Germany.

We intend to apply the research findings - through affiliated sub-projects - in the relevant fields of practice, with particular attention given to these areas:

- School teaching on the subject of national socialism, the holocaust and its prevention.
- Teachers' continuing education.
- Geriatrics/ gerontology/ geronto-psychotherapy and psychiatry.

For these applications, we welcome exchange and cooperation with interested teachers and other experts. So far, 'Geschichte und Erinnerung' (history and memory) closely cooperates with the following research projects:

'How to teach the subjects of anti-Semitism and national socialism. Ideas for ethics and religious education courses.' Written by Director: Prof. Dr. Wilhelm Schwendemann, from the advanced technical college for Evangelicals in Freiburg, Germany.

'Communicating with senior citizens about national socialism.' Written by Director: Prof. Dr. Christoph Steinebach and Jürgen Sehrig, from the advanced technical college for Catholics in Freiburg, Germany.

In 'Erinnern, Wiederholen und Durcharbeiten' (reminding, repetition, and working through), by Freud (1975) described a client who could not remember any of the forgotten and suppressed aspects of his past, rather he re-enacted his past. He was not able to re-enact with his memory, but through his actions, he repeated it without being aware of the fact that he was repeating it. Similar repetitions seem to occur during the interviews, hence we are being guided by those memories that have not been made conscious and dealt with by the interviewees, then re-enacted in the relation between the interview partners, which they manifest as transferences and counter-transferences. Therefore, in evaluating the interviews we need to analyze and be aware of the manifold messages 'between the lines,' the latent interview messages. This is the reason why we are evaluating the interviews the following way:

In addition to the notes written down before and after an interview (project journal), an 'interview' discourse (including the interviewer and two further members of the research team) is conducted and documented with the use of a tape recorder. We found this discourse to be necessary not only for the psychological 'hygiene' of the interviewers, but also in order to document their impressions, observations, emotions and most of all to be able to identify and analyze counter-transferences (Devereux, 1967). For the purpose of our project this discourse turned out to be more productive than mere reflections and the taking of notes (similarly, psychotherapy allows for different learning processes to be made rather than just written reflections in a journal).

In addition, each interview is evaluated by at least two different small groups with the support of two tape recorders which allows them to be reviewed. Whenever one of the group members notices 'something,' the tape recorder is stopped while all the observations are spoken out and recorded by another tape recorder. In this case, 'something' means: emotions, fantasies, images, peculiar statements, breaks, interruptions, corrections, subtle undertones or timbre of the voice and other observations. These other observations are about the interviewees ('first generation'), the interviewers ('second generation'), the dynamics between the two and of course, observations about the evaluators ('second generation'). The use of sound is deliberate, since the 'inner,' psychological dynamics of the interviewees can be more clearly identified through their voice rather than with the transcript of their interview. The close connection between voice and emotion is expressed in the German language with the related terms 'Stimme' (voice) and 'Stimmung' (emotion). Gerald Fleischer (1990) acoustics physician, regards the sound of voice as a carrier of emotions: 'the soul is connected with the ear.'

Selected interviews (i.e. difficult = productive ones) are evaluated with a team discussion, moderated by a supervisor.

Through these different stages of evaluation, we aim at gathering as many observations as possible about each interview. Carefully, the hypotheses are formulated out of all these observations. These hypotheses need to be substantiated, qualified or defeated through the text and its 'mechanics.' Therefore, the text is studied thoroughly, word by word and sentence by sentence, supported by the computer text analysis system WinMAX. We look for phenomena such as the following and their function to the dynamics of relationship and conversation: the relation between questions and answers, pauses, interruptions, corrections, slips of the tongue, non-addressed topics (taboos?), intonations, changes of loudness, nonverbal signals, breaking off of narration, changes from narration to reporting or arguing, the contexts of specific messages etc. Finally, the interpretations of the 40 cases will be brought together.

Methodological consequences

In order to gain insights into subconscious contents or processes (such as motifs, in our case) we found it necessary to identify and analyze the messages between the lines, 'disturbances' etc. and most of all, counter-transferences. For this purpose, supervision and intervision-discourses have been effective. In addition, we found it helpful to start the evaluation of an interview with the sound (voice) before analyzing the transcript.

For more information please contact our homepage
www.geschichte-erinnerung.de

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Research Organization and Word Analysis from Discussion Groups about In-Practice Training

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Relevance

A reflective inquiry into the application of an adequate methodology for the practical and theoretical professional training of graduates is necessary if we wish to rigorously base the educational tasks and to train them to acquire a practical knowledge with professional repercussions. Therefore, practical training is an important part in the whole training of any graduate, especially in educational studies. Traditional points of view have to be revised in our modern context: new technologies, new needs, new goals, and new means are offering us new possibilities. The modern university has to improve its in-practice training, up-dating its considerations and values which we attribute to it. Modern educational professionals should know their practical field in new ways.

We began to research about this topic in 1999. The researching team was integrated by teachers at UNED (National University of Distance Education of Spain): they were members of the central teaching team of teachers and tutors at the local centers, especially at seven centers: Pontevedra, Talavera (Toledo), Gijón (Oviedo), Tarrasa (Barcelona), Madrid, Sevilla, and Ponferrada (León). UNED has a central team of teachers which organizes, implements, and evaluates the curriculum and a local team of tutors who meet with students once a week to help them in their training.

Evidently, distance education has a specific means and methodology. Furthermore, UNED did not offer degrees for its in-practice training. The most practical activities were only punctual applications of lessons or tests, for example. Therefore, learning was essentially conceptual and theoretical. UNED is preparing new degrees to begin in 2001 which include special periods of in-practice training, especially for educational degrees. Therefore, this is the first time we encountered any problems with the in-practice training at distance education.

The research is based on numerous previous studies. It is trying to adapt them to the new curricula for the new degrees at UNED. We are also conscious about the need to offer adequate perspectives for the new interactive and transforming challenge. As a practical point of view, it has to generate knowledge and to be adequate for a higher means of learning (Medina & Domínguez, 1999; Huber, 2000).

Practical knowledge has been valued as a transforming and generating modality of systematic contributions, singular-consciousness of each person, each institution, and each degree. It should contribute inquiring

ways to conceive of the professional situation as students of education and numerous professionals. But upon reflecting on their practical learning, it is especially important to be ahead of the most pertinent counseling techniques for teachers, students, and educational situations.

The whole research is integrating quantitative approach to make a great questionnaire. Qualitative one deals with a discourse analysis of the discussion groups. But most importantly, it wants to be a profound study about in-practice training, especially for educational qualifications. Helping to understand and to resolve the problems and difficulties for its development and improvement. The team thought that research was the most rigorous and adequate activity for knowing the pertinence and quality of the self by using shared learning actions. We have tried to systematize the most coherent and justified ways of integrating professional training from the knowledge, to understand, and to act before practical problems with adequateness. There is a set of decisions about the teaching quality of the in-practice training program. The future graduates and teachers from the central headquarters and from each local center found and evidenced the needed process of shared reflections, inquiring into future training with a quality teaching approach using the knowledge and actions learned from practice.

This report explains the research process of our complex data analysis on the discussion groups' discourse, generated with a list of personal questions about in-practice training for pedagogues¹ and counselors². This analysis was realized with AQUAD software (5.7 version) and the results will be published soon. In the second part – coding, inquiring, and analysis of data gathered from discussion groups about in-practice training – we shall explain the coding, the inquiring, and the analysis process of this research. The final results will be available soon.

Research organization

The work team opted to adjust and to focus research on understanding, to value and to plan for the in-practice training curriculum from the most adequate practical knowledge. We needed to understand the multiple perspectives, contexts, curricula and training that gives evidence and pertinence to the in-practice training of the new distance educational degrees.

1 The pedagogue is the specialist who studies the education. It is a five-years degree.

2 We call "counseling personal" the workers who realize the assessment functions at educational centers. In Spanish, we call them "psycho-pedagogue" or "assessors" (the person who assesses). In Spanish, we say "psicopedagogo" and "orientador." There is a little difference: the first one is the degree name; the second one is the function at the school.

In this work, the research team wants to delimit in-practice training to answer to the integral training of the graduates from our deep and experienced knowledge of in-practice training. We expected to develop a new specific role which is waiting for them in the university framework, as well as continuous improvements in the university's institutional context. Furthermore, we expected to develop collaborating training institutions and the program for practical professional experience. That is the reason we organized discussion groups between tutors and teachers, central head-quarter teachers, and persons in charge of students. In order to base the tasks and activities of the in-practice training to become an emergent knowledge ecosystem which achieves a complete professional profile.

This inquiring process is as complex as the integral global training of the graduate. However, in this analysis, we want to delimit the meaning and the potential of the knowledge. Thus creating actions to a degree in which students and teachers are implicated in the design, the development, and the continuous improvement of the curriculum.

In this complex task, we are also interested in the pertinence of the method and the following complementary analysis techniques of qualitative data (Keeves, 1988). We would reveal the needed integration of the reflecting and inquiring, the qualitative research and the institutional analysis, by means of the micro-groups discussion, recording and analyzing their content. In this case, the basic purpose of this researching is the pertinence of the method, based on the qualitative value and the quality of the obtained data, in a qualitative researching approach having to do with feelings, commitments and second researching perspectives.

Every research has its own organization (Keeves, 1988; Marshall & Rossman, 1989; Altheide, 1996). From our project, we want to explicit some important ideas as the research aims and the methodological election. Researching for in-practice training is a very complex task: educational problems are generally very multifaceted and their practical side are still more. That is the cause of the difficulty to preview all of the variants and variables. Therefore, in this context, open instruments are more useful and offer more benefits to construct a holistic knowledge and an exhaustive point of view about our research topic.

For this purpose, it was necessary to have an experienced, specific team to assure the best comprehension of the aims and the best ways to meet them. We thought it was necessary to obtain a great team of researchers. A central team would organize time and warrant the unity of the process. All of the members of the central team were experienced as teacher trainers and had other educational certificates. The helping team people would help to achieve the goals and to carry out all the concrete details of the research. These people were very important in the management of the discussion groups for the purpose of recording, transcribing, and to analyze the discussions productions.

Research aims

According to the research purpose, the general aims that guide us are:

- To explicit the most adequate keys and ways for a practicality of the Education Degree Courses which are: Pedagogue, Psycho-pedagogue, and Social Trainer³.
- To develop a new model for in-practice training.
- To propose new ways of designing, to develop, to value, and to innovate the in-practice training.
- To consolidate a methodological reflection space of the team.

Methods

The research team agreed about the relevance of an open methodology to allow us to get the widest set of data about the subject to research. Therefore, we decided the discussion group was the most adequate means to collect the most diverse, useful, exhaustive, and rich data. The content analysis was the most appropriate technique to understand, to organize, and to inquire these qualitative data. As a result, we were selecting the best methodology according to the aims, and thinking of developing it in every context. A too closed point of view as an only quantitative approach would fall into the non previewed information that the members of the groups could offer and contrast. The interaction and conversation could also generate new ideas and suggestions that people could not think of alone. These details may or may not be relevant, but if we did not have them, it would be impossible to decide about them.

To organize the discourse analysis, we had to think of successive phases in our work. Several authors proposed their point of view about this topic (Tesch, 1990; Kelle, 1995; Roberts, 1997; Mayring, 2000). As of now, we are only mentioning them. Later, we will explain them.

The transcription: The conversation, produced in every group, would be recorded and transcribed. For recording, we chose the tape-recorder and we did not establish any special rule to unify the transcription but only required the readability and comprehension for the coders.

The word analysis: We thought of word analysis because words are the containers of concepts and they introduce us to a first approximation, checking not only for the forms (the container) but also for the meaning (the contained).

³ As we have said, these are Spanish names. The *social trainer (educador social)* is a three-years degree to organize and train in informal contexts and institutions. The pedagogue degree is a five-years degree and the psycho-pedagogue one is a two-years training you only can do if you have another three-years degree, for instance a *primary school teacher* degree or a *social trainer* degree.

The coding: We chose the AQUAD software to make it easier not only for the coding but also the analysis. Accordingly, the software tools facilitate both analyses: the code-based one and the word-based one.

The inquiring and the analysis: This process would begin with the analysis methodology and would facilitate the emergence of new ideas and knowledge. The software is also very helpful to assure or to open new possibilities, perspectives, and horizons.

Why are we using discussion groups?

Through the analysis processes of the emerged data, to understand the reality and to advance the research knowledge, the discussion group emerged as one of the most fecund methodologies for understanding, conversing, and submitting to a meticulous deliberation the contrasts and dialogues developed by the different kinds of understanding from the in-practice knowledge (Altheide, 1996).

First, we gave them the guiding questionnaire – selecting the most pertinent dimensions and questions – extracted from the extensive systematic questionnaire we had applied before to a large sample of teachers, students, and persons in charge. This assured us that the selected questions and their structure were rigorous and reasonably representative of the feeling and the concerns of the implicated people. This process of learning to reflect and contrasting the in-practice knowledge, contributed to the essence of this work.

Communication is preferably a group activity. Usually there is more interaction, productivity, and fluency between several partners than alone. It is true, there is less time for everyone to talk about his or her own ideas, knowledge, and experiences. If this goal is needed, perhaps the interview technique would be more suitable. In contrast, groups get more interaction, exchange of ideas, reasoning, deliberation, discussion, and negotiation. With a good fluency, the productivity of ideas increase. In this case, we were more interested in aspects of diversity, trying to extract the most relevant information from their personal experience and self-knowledge, as was the case before, in a whole, perfect, technical, structured knowledge. Therefore, teamwork is not only helpful, but constructive. Furthermore, there is a very relevant variable to achieve, which is: the coordinator role. Indeed, he/she can stimulate or obstruct the fluency, he/she has to break the personal dependence, or he/she should moderate discrepancies if too strong. In fact, previous thoughts can change; that is not the problem when people – arguing, discussing, interacting – change by themselves. Consequently, the observation of their evolving opinion during the discussion development can be interesting. Therefore, the discussion group is a research about communication, as a cultural system of knowledge and as data (Tesch, 1990).

Conversely, when well designed, well developed and well-analyzed, the discussion group permits us more advantages such as the case below.

A triangular perspective to understand the reality:

In this case, meeting diverse perspectives means: students, teachers, and persons in charge of the practical would give us the different points of view about in-practice training. The experiences, the feelings, the roles, the trainings and the aims are different for people who are practicing. For instance, those who are responsible at the institution such as, curricular designers, educational assessors, or evaluators.

The analysis of the meta-discourse generated from these perspectives:

This would give us the occasion to understand the links among the members' contributions and to contrast the different feelings and experiences. The meta-discourse analysis is useful to better understand the discourse content as well as its form. The problem is that non- verbal aspects of the language are lost in the recording tape.

Performing the content axes, generating a new knowledge:

The analysis had to lead us to construct a new knowledge, basing it on the main axes of the discourse content of the discussion groups. Subjects are linked to the technical knowledge, but we expected that we could create new knowledge.

Analysis of the textual and sub-textual space of the opinions of each member to continue with other techniques:

We would try to reveal not only the textual sense, but also the sub-textual meaning, that is to say, their affective, cognitive, relational, procedimental universe.

Complexity and adequateness of inter-subjectivity

The ambiguity and singularity of each situation of the in-practice knowledge lead the research team to construct the guiding questionnaire of 16 questions. The pertinence of the discussion teams is based on the feeling and projection by the operative, experienced, partly idyllic character of the students, in contrast with the rigorous and pragmatic character of the persons in charge, and the more practical, speculative contributions of the teachers and tutors. This wideness in the points of view and the effort for complementing and overcoming the search characterize the research team and differentiate the value of space for the dialogue, the discussion, and the critical contributions of the participants. We achieve this sense of overcoming and searching by means of deepening the analysis of several groups. We realized two systems of interpreting, studying, and valuing:

- The content analysis of the transcriptions of the seven discussion groups.
- The meta-analysis of the development of the discussion groups.

We completed and improved these analyses with the shared, contrasted reflections of the team, during long sessions of internal discussing.

The contribution of this analytic multi-methodology allows us to increase the credibility and the reflecting autonomy of the research team. At the same time, the continuous persistent study of the data leads us necessarily to learn more about its possibilities and its limits.

Other methods and complementary techniques

Other methodologies and complementary techniques would be interesting and useful to complete, enrich, improve, and contrast the knowledge we constructed with discussion groups. We will only mention them.

Narrative autobiography:

The narrative discourse about the remembrances and experiences is a good approach to experiential knowledge.

In-depth interviews:

With this technique, we could deepen and enlarge ideas, suggestions, and explanations we had collected with discussion groups.

Practical reports analysis:

Sometimes, persons in charge, tutors, or students have to do a report or memoir to present it after the practical period. As such, this document could be a solid, strong based source, about the development for in-practice training.

Organization of discussion groups

For the discussion groups' organization, we needed to sum up these details.

The question list:

That is the list of sixteen questions to suggest the discussion for the groups. We considered a questionnaire with 16 open questions about practical training. These questions were inspired by the systematic questionnaire we had previously applied to a large sample. The sample profile was very similar to the one from the discussion group (see the composition of groups below).

The groups:

We have to decide their number, their size, and their location. We would organize seven groups in seven Spanish cities: *Madrid, Pontevedra, Sevilla, Barcelona, León, Toledo, and Oviedo*. The groups' location was selected because of the tutorial centers from the Spanish National Distance University – in Spanish, UNED. For the best development of the discussion, we decided the groups' size would be around eight or nine members.

The members:

We thought about three kinds of members. Persons in charge of practicalities, teachers (tutors and headquarters), and students. The persons in charge of practical are people that are or were responsible for practical programs at educational institutions, schools, associations, or enterprises. The tutor teachers are university professors working as tutors at the local centers of the UNED; most of them are also working at another local university. The headquarter teachers are teaching at the central UNED. They are responsible for the curriculum design and of the evaluation. The students were studying at the UNED for an educational degree.

Before reviewing the discussion groups' development, it could be interesting to note the description of the organizational details. Seven groups are not a very big number but they still need coordination and agreement.

This part is very important to assure the success of the discussion groups. As you can observe in figure 1, the main important elements are:

- The preparation of the previous elements, as the question list or the person in charge, would assure the suitable development.
- The orientation to know the reason of this technique would allow an explanation to the members of the best development for the discussion, For example, the relevance of their experience, opinions or suggestions.
- The goals that guide the whole process would permit everyone to understand correctly the sense and the purpose of the discussion groups.

The appropriate means to develop the discussion groups such as the recording aspects or the timing would facilitate an acceptable progress with the effort of every group.

Preparation of the previous elements

First of all, at every place, every group would have its own coordinator. This person in charge had to supervise the group activity, its organization, and coordination. We had also to recreate the question list. We used the

first questionnaire of the research as the basis of this new one. The question list document – see table 1 – was sent to each member.

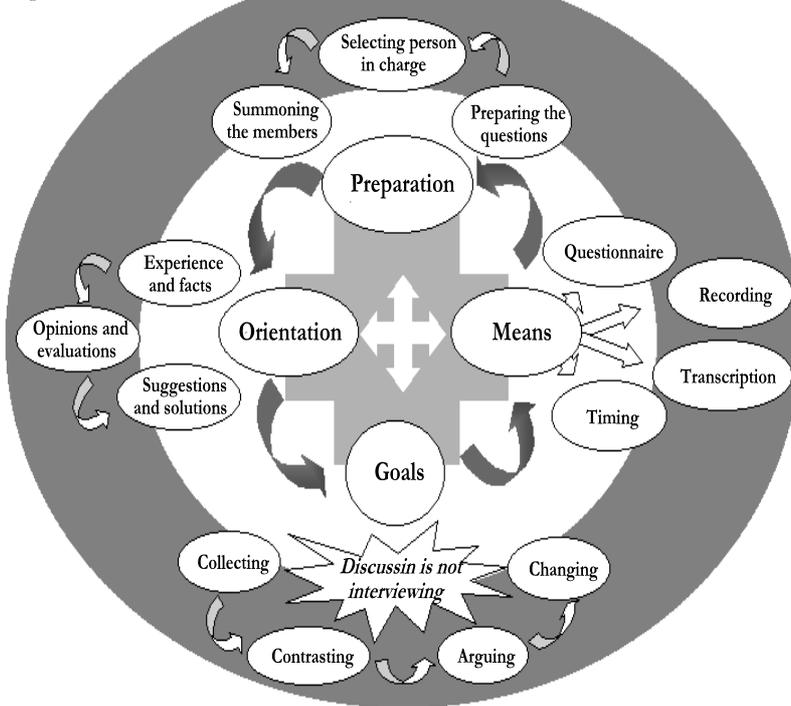


Figure 1

Everyone had his/her questionnaire to think previously about the topic to be discussed. The members were invited to participate. The selection of members was a relevant part of the groups' constitution. Guided by a general criteria, every person in charge of each group had to select a members' list and summon them.

Table 1: A list of questions for the discussion groups

01. Which institutions would be suitable for a Practical?
02. Who is to be the person in charge of the Practical? Will they be from Central Headquarters or from the Associated (regional) Centers?
03. Which are the best aims for the Practical?
04. Which are the most fundamental contents of the Practical?
05. Which is the most relevant methodology for the Practicals' development?
06. What kind of activities could the students develop fundamentally?

07. *What are the main means and resources that are required to develop adequately the Practical?*
08. *What period - school days or not - and at what moment of the degree course is the most appropriate for the Practical?*
09. *Which contributions do the students expect with the accomplishment of the Practical?*
10. *Who must be the teacher of the Practical?*
11. *Which qualification and which career conditions must the teacher of the Practical have?*
12. *Which dedication must the student have for the Practical?*
13. *Who must be the person in charge of the evaluation of the Practical?*
14. *Which criteria has to be high priority in the evaluation of the Practical?*
15. *Which contents must be essential in the evaluation of the Practical?*
16. *Which innovative experiences might guide the training for the Practical?*

Orientation to know the reason of use for this technique

The members would also need some orientations for a better participation. We did not give closed guidelines but only very general instructions about the aims of the discussion in accordance to the whole research, the role of the questions in the discussion, and the possibilities in the answers. We could discuss, reply, and interact, agree or not, but always with open, respectful attitudes. All the coordinators were experienced in this technique and we did not insist about small details. The most important point to emphasize was the expansiveness and exhaustiveness to get the widest space of experiences and facts, opinions and evaluations, suggestions and solutions.

Goals that will guide the whole process

The general goals of the research had to be concrete, selected, and developed for the discussion groups' technique.

Starting with the experience and opinions of the members, we have to explicit the most adequate keys and ways of the practical for the education degree courses. In discussion groups, the main referents are the different experiences and the personal contact or participation of each member. We could contrast, complete, or diverge our previous knowledge and believe in the practical to develop a new model for in-practice training.

Members could propose new ways to design, to develop, to evaluate, and to innovate the in-practice training.

In addition, mainly in a qualitative approach, the researching team could consolidate a methodological reflection about the discussion groups, the content analysis, and the computer means.

For these purposes, the discussion group had to differ from the interview, discussing is not considered interviewing. Therefore, it is important to collect all the possible contributions by contrasting them and

arguing, accepting the change of opinion if wanted. If the coordinator asks and the members answer one by one without discussing, it could be named a group interview but not a discussion group. This technique implies an interaction, a dialectic relation, and a true exchange among the participants in the discussion.

Appropriate means to develop discussion groups

To achieve the goals, we have to prepare the appropriate means. For example, there are some important details about the space and the time.

- The space because of its incidence on discussing and recording and the time because terms had to be limited. However, the organization of discussion groups also needs foreseeing.
- The timetable; agreement to meet so many different peoples' schedule.
- The reserve and adjustment for the discussion groups' space, if necessary.
- The recorder, batteries or socket, and enough tapes for the entire discussion.
- The suitable conditions for an understandable recording to permit their transcription.

Word analysis

Sense of word analysis

The discourse gives us, not only words, phrases, and sentences, but mainly meanings. Now and then, we transmit them through the words. So, through analyzing them we can understand and discover some meta-lines of the discourse. When hand-made, the word analysis is very laborious. AQUAD has included this kind of analysis starting from the version 5.7 (Huber, 1997). Some analyses could be realized with a simple word processor. For instance, with a WordPerfect Processor everybody can count pages, paragraphs, sentences, lines, words, and characters. You can also find out the average word length, the average words per sentence, and the maximum words per sentence. You could find, count, locate, or replace words. You could cut and paste segments to make a list, independent texts, or information files. You can also compare two similar documents, create a hypertext, sort words, lines or paragraphs, generate an index or a table of contents, change the text format or color, fonts, sizes or insert cross-references and different kinds of counters. To facilitate these tasks, you could also automate them using macro commands. These are examples on how computer tools can help us to analyze and to inquire the discourse. Depending on the goal or the approach of the content analysis, some of

these procedures could be interesting. However, the researching software such as AQUAD offers other possibilities as well.

First, let us think of some concepts. The researchers are analyzing the discussion groups' productions. In this case, discussions are oral results and consequently, they are linguistic products. All the discussion groups' conversations were about the in-practice training of the pedagogue and the counseling personal, so the set of discussions can be considered as a whole. That is the *discourse*. The whole discourse is at the most general level of consideration. This discourse is composed of several texts. Each groups' discussion can be considered as a text. Every text is constructed by the interventions of several persons about the subjects of the questions. Nevertheless, neither the questions nor the interventions are independent components. The proposed questions are of relevant dimensions from the theme we are researching. The interventions are a chain of related events. Every intervention is a set of ideas. Ideas can be composed by smaller ideas. All of these components are possible codes structured on several levels.

Now we are focusing the possibilities of the word analysis, developing it as a threefold organization: the discourse level, the group level, and the segment level (see figure 2).

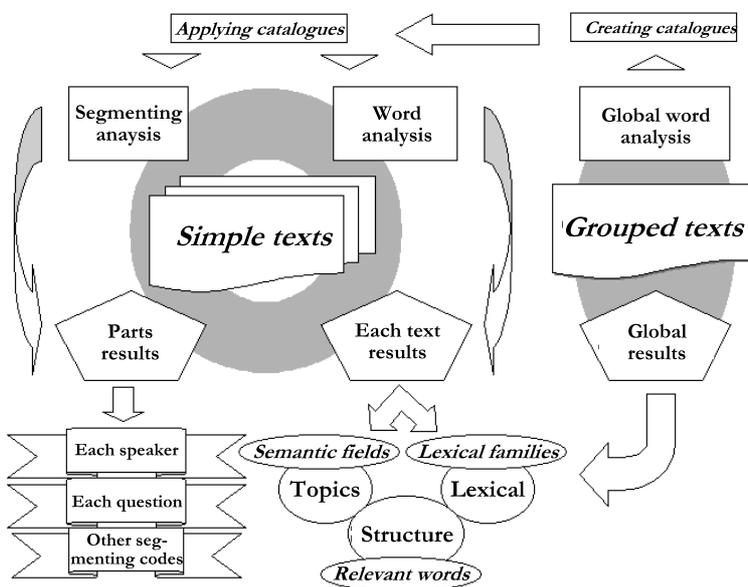


Figure 2

Therefore, the word analysis is a complex work, based on the hypothesis that words are in connection with meanings. The meaning is in connection with the form and with the content of the text, since both form and content are also connected. Therefore, we find, count, and retrieve words in several levels: the whole discourse, the groups, and the text segments, cutting the texts by criteria if we decide that they are meaningful.

Discourse level analysis

Initially, we have to get the whole discourse; that is the first phase. We are not referring to the discourse analysis as described by Tesch (1990); the discourse is the most general level. For this, we join all the transcriptions of the groups. From this level, we will obtain two kinds of interesting results for the research. On the one hand, we can obtain general results about occurrences, frequencies, or styles; on the other hand, we will get some helpful means for others in succeeding analysis as "word catalogues." The AQUAD function *count words* creates lists with all the words of the text. In this case, when joining all the transcriptions into a whole one, the list will have all the words of the discourse. In fact, we get two lists: one list in alphabetical order with their frequencies and another in frequency order. Therefore, it is easy to observe the occurrence and frequency of a specific word "first list" and to detect the most or least frequent ones "second list." These observations are very useful to contrast them with the partial ones at a later time. In revising the sorted list, it can be observed for instance that words related with family – parents, father, mother, son, daughter, etc. – are very infrequent. Therefore, we can decide to generate a word catalogue with them to observe whom, when, and why they are used. Rereading the frequency list, we can detect some unexpected words as violence, theory, or ethics. We did not ask about these topics, but in our talks about in-practice training, some members have referred to them. Knowing that, we can ask why, when, and who are they are referred to. For instance, in-practice training is called in Spanish "prácticas" or "practicum." As you can see, the second word is a Latinism. It is the most modern word, and recently educational specialists in particular have utilized it at the university. Then we can decide to observe if they use one or another term such as whom or when. AQUAD makes it possible to locate them in many ways, marking them with a small square next to them in the text, searching them one-by-one in the text, or retrieving the codes that coincide with specific words and their situation.

Group level analysis

On the other hand, every group transcription is being analyzed as a text. Each transcription represents the ideas and experiences of a group of

persons interacting when discussing. Consequently, the word analysis of these parts of the discourse is justified by their independent content and their internal unity. Probably, we will find differences amongst themselves since their members are different and each one contributes to the group discourse with his/her experience, style, feeling, etc. However, each group assures a functional unity since the harmony of the whole subject comes from the connection between the questions discussed by every group and the internal unity of the process is not broken by the interdependence of the interventions about the same question. Above all, this analysis reflects the expression and results of the interaction between the participants. Maybe the words used by a person induce another one to use them again, maybe the discussed subjects induce to deepen them before changing them. All these hypotheses could be expressed and contrasted. All the word analyses are usually realized text by text, that is to say, group by group. Therefore, this level reveals us the characteristics of each group and each discussion. In our case, we could be interested in observing the prevailing use of some specific words depending on the number of members, the composition of the group, or the duration of the discussion. These group characteristics would be considered as profile variables that will allow us to better know their functioning and to improve the methodology. Perhaps the groups' profile could help us to explain specific uses, ideas, or functions. As words reflect these dimensions, their analysis contributes to the process of understanding.

Segment level analysis

Finally, some parts of every text could be analyzed *per se*. For this purpose, we have to decide the criteria to form the parts. AQUAD will allow us to analyze them as independent texts thanks to the *speakers' codes* (Huber, 1997)⁴. Therefore, you can decide to count, to locate, or to combine words and codes separately for different segments. Initially, this option was designed to consider independently the parts produced by each speaker, but we could use it with other criteria. We might choose to contrast the contents depending on the questions, the main categories, or others significant ones. In our case, we could try it with codes according to referred persons, to mentioned places, to theoretical ideas, to general conceptions, to explicit conditionings, or to considered difficulties. Therefore, we have to code these segments as parts. AQUAD will allow the

⁴ The speaker's codes allow us to segment the text considering every speaker's production as an independent text. Therefore, it is possible, counting, retrieving or analyses for every speaker's production, not only for the whole group production. Here, we are applying this possibility with another criterion as the questions or the main categories, allowing us to consider them as independent texts.

word analysis as texts. The coding criteria to segment the whole group discussion will generate new profile variables that we will consider as new exploring strategies.

Word catalogue

The researcher can realize much of the described tasks by typing the words to count or to search, but he/she can facilitate it by creating word catalogues (Huber, 1997). To create them, you can type the words you want to search. This is a good strategy if you want to verify the occurrence of a specific word, expression, or phrase. In this way, if this word is not in the texts, you cannot find it. Nevertheless, sometimes there are spelling mistakes, some words can have different forms such as plural, diminutive, derivations, persons, tenses, etc., or you are using symbols next to the words to differentiate meanings or forms. When searching, the computer does not identify words that differ in simple character. That is the reason we are interested in getting the words we are searching from the whole transcription, joining all of them into the word catalogues. The whole list in alphabetical order facilitates to locate all the forms because it is a complete list. This whole list has to come from a specific project where we are generating the word catalogues but AQUAD allows us to apply them in other projects. Here, the *project* conception is only used as a set of texts we are analyzing together. It's possible to combine both methods; first, we include words from the whole list where we join all of them together. Afterwards, we edit this word catalogue and we include other words in which we are interested to verify if they are or are not the words we are searching for.

In this way, you could also retrieve the spelling mistakes or other alterations of the usual writing. Sometimes you do not understand well the recording or you are in a hurry and this facilitates the errors. Perhaps, the transcriber used abbreviations. Therefore, observing the whole list of words can help the researcher to find all the forms and presentations of words or meanings in which he/she is interested.

In roman languages, words have usually many inflections and this option is very useful. For instance, most nouns can have different forms such as in plural, diminutive, or other derivations. The inflection formation is not ever just an adding process; sometimes you must also change letters. *Escuelas* is the plural form of *escuela* (adding process) but *estos* is the plural of *este*. In the first case, searching the singular form, you will retrieve the plural one; in the second case, you will not. You will find the same problem with the different persons and tenses of verbs for instance. So, in searching *lexical families* – words which have the same root or lexeme , we will improve our exhaustiveness.

When searching words referred to in a topic, a theme, or a subject, we will join all the words of a *semantic field*, that is to say, words that

express similar, synonymous, or connected meanings. The thesaurus, lexicons, or dictionaries could be helpful for this. Verify the word processor of the researching team to see if they have one. In this way, we will search the words of a specific meaningful universe, thus a topic field.

Finally, we can select specific words that are relevant for a hypothesis or for researching questions. We could ask the questions in which the groups refer to the places where the students would do the in-practice training. Evidently, when we directly asked them for the places, they answered. However, we could think of unusual answers for explaining or justifying other questions.

AQUAD also offers the possibilities to exclude segments – example, *dollar symbols do not count* – or specific words from the word analysis as well if you want to do it. Sometimes, the words of some segments of the text are not interesting to count or to retrieve because this segment is an introduction, details the groups, or are some comments from the transcriber. So, these segments can be excluded. Specific words can be excluded when using a "joker form" to retrieve words (e.g. "*ed," that means all the words ending by -ed; you might also want to exclude "bed" because it is not a verb).

Other problems of word analysis

When developing the word analysis, we had some problems with some text marks. For instance, in Spanish we use question marks when beginning the interrogative sentences. Because of computer definition, these marks stay next to the following words when analyzing. Therefore, the computer counted *Qué* and *qué* as the same entry but *¿Qué* as another one. This problem could succeed with other signs or symbols such as *, +, /, etc. First, search for them and if there are any, check them. To resolve this situation, the researcher has to insert a space to separate symbols from words.

On the other hand, on occasion the researcher might be interested in complete phrases, that is to say, he wants to keep a group of words together because it is a set phrase, the words group meaning is different, or he wants them grouped for another reason. In our case, we were not interested in any educational places to develop the in-practice training because the traditional way is the opposite way. Nevertheless, by counting *centers* or *educational places*, we did not obtain the needed data. Then, in a word processor, we searched in the texts *centro educativo* which means, *educational institution* and we replaced them by *centro*educativo*. In this way, AQUAD counts or retrieves it as a specific entry.

The ambiguity can also be a problem for the word analysis. We were interested in finding out how the members refer to the places. In Spanish, the *center* – *centro* in Spanish – is a common word to speak about the place or institution where the students are going to develop the in-practice

training. Therefore, we call them *centros de prácticas*. Nevertheless, this word can also have several other meanings. In Spanish, a *centro* can be an educational center, a reception center, or a community center. All of these meanings could be acceptable for this research. However, *centro* as it is in English can also mean *center of attention* – something we are focusing on or a *town center*, a zone of the town. When counting *centro*, AQUAD will retrieve all the meanings. How could we avoid it? Simply, we only have to revise the texts searching the words and to insert a specific mark when it has a specific meaning. Suppose he adds an asterisk when *centro* means a possible place for training. Therefore, the computer will count or retrieve *centro* and **centro* as two different entries.

Text alterations

In AQUAD, the researcher can alter the texts after beginning the coding process or others tasks. The software does not do it but he can come back to his word processor and edit them. If the coding process is started, the only important condition is keeping the text line in its location. This causes AQUAD to save the codes as an independent file related to the numbers of the lines but not to the text. That is another reason to do preferably shorter lines, anticipating possible insertions. After editing the text in the word processor, he has to import the text files again to update the view of the text on the screen.

Meaning of this approach

We have described the research about the data analysis of discussion groups about the in-practice training of the pedagogue and the counseling personal and the first approximation to the inquiring process with the word analysis. This organization could be helpful for similar researches in education or other fields.

We have also described the research methodology: the reasons to use discussion groups, the other complementary techniques, the aims, and the organization of the groups. All the elements have to be coherent as a whole. The reasons to use this technique imply specific aims and ways to obtain the information. The organization of groups needs important details which we revised in this part.

We have also revised the main decisions about the groups, the questionnaires, and their members. The question list and the composition of the groups are especially significant since the researcher premises them: the questions and the members induce, orient, define, and explain most of the contributions we are obtaining.

Once oriented to the discussion development, we explained the decisions about the content analysis, especially the transcription and the

word analysis. The transcription is an important process but it can be improved during the coding if necessary. The word analysis allows detecting clues that will be deepened during the coming analysis process.

Finally, we have reflected about the sense of word analysis, the analysis levels, and the word analysis with AQUAD, suggesting some solutions for some problems we found when developing the process. All of these details will be interesting for any research using this software, especially for content analysis. In a second part, we are to describe the coding and analysis based upon on it.

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Coding, Inquiring, and Analysis of Data from Discussion Groups about In-Practice Training

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Relevance

The first part of this paper explains the way to prepare the discussion groups and word analysis. All this is an important, meaningful part of the research that allows us to obtain good data and to deepen the content. To achieve this purpose, the research team retrieves the most significant ideas and analyzes them to understand the complexity of the thinking, according to their characteristics. First, we have realized that from the word analysis, interesting ideas and meanings have emerged, and have helped us in the following analysis.

The coding process is now the most important task. The coding is an inquiring and analytic activity that allows the researchers to know the texts in depth and to venture into the possibilities of structures, connections, and meanings that they could find. In this research based on the content analysis methodology, the word analysis is only a progressive approach for the content analysis. It is true that we obtain conclusions about the used word, what types, where, and with which occurrence; but it is not a linguistic analysis (Tesch, 1990). Therefore, the coding is a relevant step in this researching progression.

All these activities generate new knowledge that connects to the current science, the encircling reality, the applied methodology, and everyone's knowledge. The self-knowledge of every researcher is also a very important part of this construction. Everyone has to know their own best way to research, discovering their own researching style. We are reviewing all these aspects now.

Coding

Coding is a very important phase in this process. Coding facilitates understanding, organization, and creativity of the new knowledge. However, the process can generate itself new ways of analyzing or can improve by itself. Therefore, this part is very important to understand the methodology and its possibilities.

As many other activities, coding has already quit the traditional development at hand. Nowadays, the researchers code with the help of computers. The computer is a useful tool that can help very much (Carley, 1993; Evans, 1996; Alexa, 1997; Huber, 1997; Fielding & Lee, 1998). Some years ago, the coding work was paperbound, now computers are a

common instrument. The paperwork is not bad if only the screen supplies it. Furthermore, some software also allows a combined use of both means. The two-step coding of AQUAD is an example of that option.

Therefore, the brainwork is probably very analogous, but the computer-based analysis is much more effortless, and the researchers can test more possibilities (all they could imagine with their means) without thinking of the energy and the time they will need. The limits to the means usually cause avoiding initiatives and perhaps obtaining interesting conclusions. Therefore, the computer is not all that it's meant to be, but it is a significant part. We are not "computeraholics," but if it allows us to do a better and easier job, why should we not use it? Due to it, the researchers are able to improve the design, the development, the result, and the control of the research.

One of the challenges of the coding process is the required election to solve it. One must choose which segments are assigned a code. As a rule, the research aims will determine the best code-worthy fragments. Nevertheless, sometimes the process provides itself with new possibilities, unexpected aspects or accidental facts that improve the research. We have to be open-minded and sensitive to notice that unforeseen potential. The computational operational ability will make it not only easier but also frequently possible.

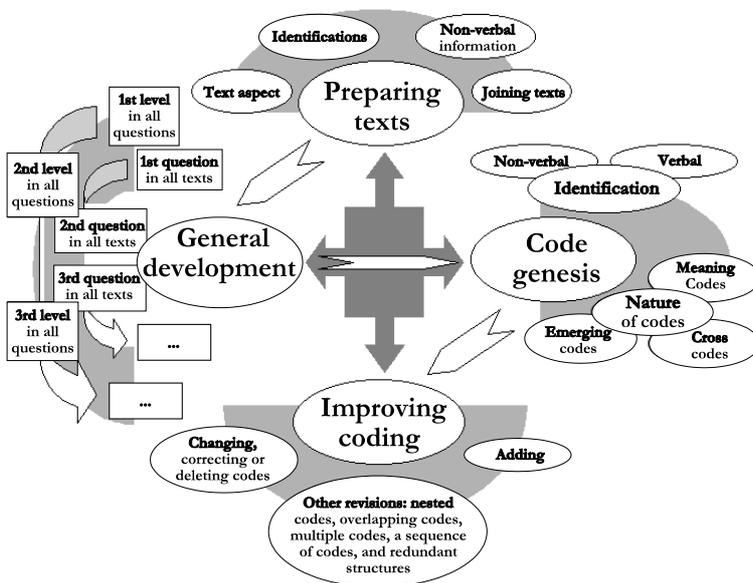


Figure 1

While discussing is essentially a groupwork, coding is usually a task done alone, but not always. At any rate, this process needs a unified proceeding to go along with it. When the coders are not harmonized or the coder working alone is changing permanently his/her coding way, it can affect the whole coding development and consequently the results. The coding system, the code's catalogue feature, the analysis levels, or the identification coherence are very important dimensions to assure a consistent, rigorous-minded, solidly based development. In addition, on the way to guarantee the process unity, coding has to be fourfold (see figure 1). We will describe the most relevant steps of coding such as preparing texts, general developing, codes genesis, and improving coding.

Preparing texts

Text aspect

The text meaning is very important. Therefore, you have to check your transcription for correct spelling and verify it to well understand. When reading, try to think about the possible different meanings of the fragments, phrases, or words. If a misunderstanding occurs and you do not have the tape, ask the coordinator or the typist, or just ask for the tape recorder and listen to it. When there is a misinterpretation, good coding is not possible. Thus, a well understood content is essential. Think about the connection between the content and the appearance. Perhaps, when typing the transcription, your colleague, partner, or collaborator wants to communicate any relevant aspect through the typescript characteristics, or perhaps, he/she was only to beautify it. For example, in Spanish, you can use the italic style for foreign words. However, you could be communicating non-verbal aspects or difficulties in understanding the tape sound. So, it's important to clarify these facts. If this information is helpful and relevant for coding, you might have to consider another way to preserve these details; if not, then you can go on. The reason is AQUAD 5.7 admits only the simple text format. Therefore, the research has to convert the text files into ASCII format (American Standard Code for Information Interchange). Usually, any word processor can do it easily with the command "Save as." When you convert a text file into ASCII format, you take off all the text attributes: the font, the style, the color, and the size. Therefore, you have to be careful to keep all the information that those attributes wanted to transmit. Be careful with brackets or parenthesis, they could be used for any other reason – comments, remarks, explanations, descriptions, etc.. Avoid confusions or interferences.

The other important aspect in AQUAD is the length of the line. This should not surpass 60 characters and it is advisable that it be no more than 50. In your word processor's list of commands, you will find the way to

shorten the lines, usually by increasing the margins about 6 or 7 centimeters each for the lateral margins. The research team usually prefers the shortest lines because AQUAD just makes it possible to code line by line. Then, when coding a meaningful fragment, you do not need to select it as letters or words, but as lines. You can choose from this or that line. In fact, the code-worthy segment is a set of lines. Sometimes, the coding units can be shorter than the lines. Therefore, shorter lines facilitate shorter units. The text graphic features or the grammatical punctuations are also important for this matter. Consequently, when finding a comma, a hyphen, a semicolon, a point, or a question mark, breaking lines could be advisable because these marks often begin or end an idea, that is to say a possible meaningful unit. We can recommend the same strategy with connecting words as some conjunctions, some adverbs, some pronouns, or some adjectives. If so, every unit will belong to different lines and consequently to different codes. Otherwise, just select several lines to code. With any word processor, breaking lines – return key – after these marks or words it is very easy to do with the "replace" command.

Identifications

A discussion group's transcription collects the interventions of many persons. Therefore, you should keep the correct information to identify at least three relevant elements.

The group:

Some details about the group could be interesting. The number of members, the composition of the group, or the duration of the sessions can be useful information to understand or to explain better some facts of the discussion. The researchers could consider the group characteristics as profile variables and AQUAD allows specific analyses with them. That is an interesting level to consider since the group generates the discussion depending on its composition and development. It is similar to a recipe: the ingredients make the dish possible, but the same ingredients – depending on the steps taken to develop it, do not always produce the same dish (that is also true!). In our research, this information was asked to the participants when introducing them to other data as the length of the discussion was observed *in posteriori*.

The speakers:

We have to know when every participant speaks in order to attribute the interventions to each one. If the researchers can get some details from each one about their age, sex, experience, occupation, career, responsibility, and others, they could then proceed to search for interactions between them and the categories. AQUAD allows employing *speakers' codes which* can use to analyze the discourse of a specific member as an independent text.

These data were obtained by the presentation of every member at the beginning of the discussion for every group. In our research, we were not interested about the members as individual bodies but as subjects with specific characteristics. By these means, we can analyze the connection between their opinions and these variables, if in any case we wanted to.

The questions:

You have not to repeat the question text every time but only to insert a reference, a number, a letter or a symbol to know the moment when the coordinator is suggesting to the group a new question to discuss and when they are ending with this topic. As for the speakers, AQUAD would submit to analyze the discourse of each specific question discussion as a separate text. When the transcriber is listening to the recording, he/she can observe the answers which do not coincide with the questions. Sometimes, the participants begin with a topic and derive another. This is the reason to the relevance of knowing where every question is beginning and ending.

Non-verbal information

The non-verbal information is important because it is communicating ideas, experiences, and opinions. Therefore, we should code them as the verbal ones. Some of this data can be collected from the recording when transcribing. The circum-verbal information as silence, sighs, and other noises can communicate doubts, agreements, or disagreements. Others such as the gestures, the signs, the glances, or the facial aspects can be detected only while discussing. If nobody has noticed and saved them during the meeting, that is lost information. In our study, the coordinator had to explicit these questions during the discussion asking the speakers for their agreement or disagreement.

In fact, for the content analysis, a specific problem of coding is the expression of agreement or disagreement with a previous intervention. When speakers are saying, "So, do I" or "No, I don't," they are not only expressing an affirmation or a negation. Mainly, they are agreeing or disagreeing with a preceding expression. Logically, the researcher has to code it as the previous idea. If not, we must attribute it only to the first member, not to the following ones. If the sequence order is not relevant to the research, there is another solution of coding the idea with two or more speakers' codes the first time the idea is expressed.

Joining texts

As we have observed, AQUAD allows interesting analyses, which usually can be realized with classic proceedings. AQUAD facilitates the work a lot. Some others could be developed taking advantage of its possibilities although they were not provided for. For example, this software analyzes

every text independently when retrieving codes or when analyzing words. However, joining texts into a whole could be interesting if the researcher wants to do a word catalogue. Joining all parts in a whole text offers us an exhaustive word list from where we can select the words we want. We can also do entire word analyses, if we wanted, and obtain complete statistics of the entire discourse. Then, the researchers could compare each group discourse or text with the whole.

General developing

The researchers can consider this general process as a twofold sequential development. First, we should consider a phase in which we are coding the basic categories as the speakers, the questions, the participant details when known, and the data identification of every group. The profile information is more objective and every code is appearing only once in every text or fragment of text, as a speaker's intervention. We suppose that it is nonsense to code twice the age or the occupation of a person for instance. This coding will be very useful when inquiring. Following this, we will have to begin with the content categories. Obviously, some researchers could believe that the content analysis strategy implies that they are more interested in the meaning than in the form. Even so, we have already seen that the last one is also a communicating resource and a potential coding area. The difference between the content and the discourse analysis – as defined by some authors (Tesch, 1990), is not so obvious.

The research team could conceive the coding as a deepening process in which we are improving our understanding and the knowledge of its structure. That is the reason we are forever revising it. This knowledge-consciousness is revealing that we should advance by successive steps. Probably it is a longer process but also a more solid and more secure one. Therefore, we can select several dynamics. We could say there is an analytical dynamic which is going from general to specific elements and a synthesizing one – going from specific to general components. In the first case, you code before on a general level, with wide categories and an extensive perspective; progressively, you deepen more and more in successive analysis levels. In the second case, you start from the most specific level such as atomic elements – and you connect and combine them creating new and wider categories.

Several authors suggest a progressive method to code (Strauss & Corbin, 1990; Tesch, 1990). We think this process is more useful and helpful if coding level-by-level and question-by-question. In our research, the discussion is structured with questions and it is possible to deepen it into several levels. We suggest it is better coding the first level (according to the dynamics, a general or a specific level) in the first question of all the groups' transcriptions. Then we go on to the second level in the first

question of all groups and so on. When we consider that we have deepened enough, we begin with the first level of the second question, then on to the second level of the second question, etc. That is a rising/deepening spiral process. Sometimes in analytical dynamics, you will find earlier a general category you know that is coming afterwards because there is a specific question about it. Code the main category, leave it there and come back later, when deepening in this topic or question.

In this manner, we recommend focusing the present knowledge area and not digressing. This method avails you of facilitating the progressive deepening, the successive cross-references, the contrasting coding, the specific codes catalogue building, and the increasing knowledge development. So there is an advancing proactive tendency: each level-question coding is basing, clarifying, and facilitating the next coding of this question in another group. This progressive knowledge construction improves the coherence between the different coding levels and the consistence of the whole structure. Nevertheless, this proceeding is a permanent revising in which every stage can cause a retroactive influence and the consequent revision of the previous work if necessary (See the Grounded Theory approach, e.g. Strauss & Corbin, 1990).

We also think that the most appropriate dynamics depend on the researcher's style. Everybody is different; everyone has his/her own specific cognitive style, his/her own best way of learning, and his/her own characteristic of researching strategy. Therefore, every researcher or every research team has to do a special self-conscious effort to find his/her own personal experience-based style. That is an interesting question which we discussed in Blaubeuren (Germany, 2000) at the Workshop of Qualitative Psychology.

Genesis codes

The code systems can be very diverse (Van Maanen, 1983; Franzosi, 1990; Huber, 1992 & 1997; Roberts, 1997). The researcher can consider a previous pattern (a theory, a structure, a scheme) or he/she can be open-minded to new results. Nevertheless, no researcher is really starting from nothing. Everyone thinks through his/her own experience, training, qualification, readings, etc. Consequently, all of these events configure the researchers' own analysis of structure and he/she uses it when coding. That seems to be a disadvantage, but it is not. Really, it is a tool and a challenge. It is a tool because it is helpful and it facilitates the comprehension and the location of these ideas in the ideological, experiential universe; it is a challenge because we have to be mindful to avoid the excessive self-centered point of view.

Therefore, we should be self-critical and self-adjusting when required. Such things are a good expression of self-esteem. In our study, we combined both strategies: we did explicit an initial starting point – in this

case, a questionnaire with its revising and improvement, getting a structured organization. That is the reason the main questions have become the general categories. However, not all of the questions have become main categories, nor have all first level categories come from the questions. The questions were about the curriculum of the in-practice training of educational graduates (see the first part); there were three questions about the evaluation because it is a relevant problem for its development but we decided to create only one main category about the evaluation. On the other hand, we considered the creation of new main categories. For instance, the participants often mentioned the difficulties or the conditions for the convenient development of the in-practice training, commenting arguments, experiences, and solutions. The research team considered that these were relevant categories to better understand and to organize the in-practice training. Therefore, they created both categories which were not foreseen.

The genesis codes can also be very diverse (Van Maanen, 1983; Franzosi, 1990; Huber, 1992 & 1997; Roberts, 1997). At this point we are explaining our experience. Firstly, we could clarify that the coding is not the only process to label ideas, opinions, events, concepts, or pieces of information. Remember Strauss and Corbin (1990) defined the conceptual codes as "labels placed on discrete happenings, events, and other instances of phenomena" (Strauss & Corbin, 1990, p. 61). In our research, the coding is mainly an interpretative, dynamic, in-depth, increasing interactive procedure to inquire, understand, and construct the knowledge in all of its dimensions, natures, and presentations. Thus, when coding, the researchers have to think of the research aims. The aims proposed when beginning the research, focuses on the knowledge which we are developing. In our case, we were trying to understand the in-practice training to improve and to develop it further. Consequently, the categories have to help us to obtain the maximum from the data to understand the problems and to find a solution for them. We were not interested in a very good description, only if it could facilitate the development of the in-practice training. That is the reason for saving categories about problems, conditions, solutions, etc. that could be helpful for our purpose. For a strategy which strictly describes the researched object, it might mean nothing. To us, however, it was meaningful.

Therefore, this consideration is very important to understand the way of coding. The results of two researches can be very different as two researchers can produce very different results about the same studied topic. Here is the relevance we mentioned that aims become explicit, not only the researching subject. The aims guide us through the process development. When coding, the researcher has to do several elections. For instance, he/she has to decide which ones are valuable segments or which one is the most appropriate code. The researcher can resolve these situations only by being aware of the aims and guided by them. We can understand these

decisions only by knowing the aims. By analyzing our experience, we can advise some strategies.

Thinking of a previous structure:

As words, codes are twofold: the meaning part and the formal one. The meaning of a code is related to the coding organization (levels, aims, etc.). Sometimes, this organization was predetermined from a theoretical model or other research results. However, the code form is also related to it. Anyway, thinking of a scheme or structure is interesting for generating codes. This previous structure organizes the coding, guides us while coding, and poses the possibilities. Due to it, we can easily think about the main categories, the coding levels, the conceptual map, and coding strategy.

The main categories are the general parts or ideas of the constructing knowledge. Contrary to recommendations of Miles and Huberman (1994), we did not define codes previously. The main categories are good suggestions for the main code names. We can choose diverse ways of deciding the main structure. We can decide on them according to a researched model or a theoretical construction. It could be analytically logical, exhaustive, complementary, and coherent. The main categories could also be the result of a synthetic process starting from the most specific codes. In our case, the main categories are induced by the questionnaire that reflects the problems of the organization of the in-practice training. But in fact, new categories appeared during the coding process as we have said previously. The role of the first level is similar to a conceptual map. It organizes our universal knowledge but they are also different (Carley, 1993). We think well about what we are searching for and we have a kind of map to know what we have, what we can have, and what we don't have.

We suggest different coding levels when the structure can be organized on several planes. Every level allows us understanding and a structuring of the content of the previous or later category levels. If we have a general model, other levels will define and develop the main categories. When we choose synthetic dynamics, we create the upper levels by joining the specific categories. In our study, we combined a deductive and an inductive strategy. The more specific level is very descriptive and is grouped around the main category. For instance, the goals or the means for the in-practice training. Later, we think about possible sets of specific categories as axes that structure the main categories. To find these connections, we can apply logical processes – cause-effect, container-content, means-aims, etc. – or general models from pieces of research, the scientific corpus, or functional schemes. Therefore, we can obtain three levels of coding.

Finally, we have to consider the coding strategy. We have already mentioned the dynamics. This is an important decision that depends on

several factors such as the research aims, the researching style, or the researching topic. Nevertheless, the coding means as the computer, determine not only the possibilities but also the procedure to code. The coding strategy has to consider the generating of codes such as naming, saving, editing, and retrieving the segments selection, the linking between segments and codes, etc.

Combining verbal and non-verbal identifications of codes:

When coding, one problem is the repetition or overlapping. To reduce these effects, AQUAD creates a code file where you can choose one of the codes produced up to that point. It offers it in alphabetical order. The problem comes when the codes' file gets too large. The alphabetical order is a formal criteria that facilitates the searching of the existent codes. However, similar meanings can stay very far in the list. Even you can create several codes with the same meaning because you think of different forms to express the same idea. For instance, *goal*, *purpose*, or *aim* have connected meanings but they stay far in the alphabetical order.

Consequently, generating codes with other criteria could be interesting. These other ways should integrate formal criteria and conceptual criteria. For instance, the second-level codes can begin by the first-level code name. For instance, all the second-level codes of the main category *aims* will begin with this word. Therefore, *aims-form*, *aims-number*, *aims-connections*, etc. will be codes developing the first-level category of the category *aims*. And so on it goes with succeeding levels of coding. In this way, all the codes related to the *aims* stay near to the list. In our research, we used non-verbal elements to identify the codes. Letters, numbers, or symbols can identify the nature, the level, or the meaning of a code. In our case, we chose the scientific numeral format – 1.1, 1.2, 1.1.1, 1.1.2, 1.1.3, etc. – that allowed identifying the level and or the category in a list. We could also use the asterisk – * – or others symbols to identify types of codes, maybe codes of emergent categories or ideas that were not foreseen or are outside of the research topic. The best way which we advise is combining the methods – the non-verbal identification and the verbal one, according to the needs of the research.

With these strategies, we generate a catalogue with another ordering criterion; that is to say, the alphabetical order becomes a meaning criterion to sort codes. When opening the code catalogue, the codes will be nearer to their meaning or function. In this way, we are also organizing the structure of knowledge and generating a meaningful scheme that will be very useful when analyzing. In our study, we were already purposing the second level of coding with the second figure. For instance, *1.2. public* and *1.2. private* are specific codes (third level) that belong to the main category number one (contexts where students can develop the in-practice training) and we are suggesting that they are both connected (both indicate the owner of the institution, a public or a private one). Another example: *10.2.*

report, *10.2. observation*, *10.2. diary*, and *10.2. questionnaire* expressed specific codes of the main category number ten (about evaluation) and we suggested they could be connected because all of them refer to the means of evaluation (number 10.2).

The nature of the codes:

We have already spoken about the meaning and profile of codes. The profile codes are common in any kind of research; they define the characteristics of members. In our study, they also characterize the groups. Therefore, we considered two kinds of profile codes: individual and grouped ones. The meaning codes are especially important and essential for the qualitative analysis, and above all for the analysis of content. This kind of analysis has to be systematic, based on logical and inquiring methodology to increase the reliability and validity, which is one of the basic ideas of the qualitative content analysis (Mayring, 2000). Consequently, the nature of codes is very connected to the analysis methodology.

The content is also related to the structure of the discourse, as well as to the thematic subject, the symbolic components, and the purpose of communication. So, according to the research aims, we have to discover the meaningful elements of this research process.

Most of the codes are connected directly to the research topic and then to the questionnaire as in our case. These are the main targets of our coding task and everything we are explaining is oriented to these kinds of codes. However, when in the process of coding, other types of codes are possible to appear. When they are often repeated in general categories, some codes reveal transverse dimensions. For instance, in our case the aims, contents, means, evaluation, etc., were the general categories in our study. In several of these main categories, different codes did appear as cross-references. Those codes are not related directly to the main structure but to circumstantial terms, to difficulties, or to solutions, for example. These codes might be considered as *cross-codes*, that is to say, codes that are common to several or all of the main categories, hypothetically or in reality.

Some of the other codes can be placed over the main structure, as references to general conceptions, definitions, or meanings about the topic. The researchers did not ask about them but some participants referred to them. These *emerging codes* were not foreseen because they did not worry the research team or simply they did not think about them. We asked about the aims, the contents, the means, etc. for in-practice training and some members did talk about their conception of training. They defined the in-practice, or they were able to express what its meaning meant for them. These kinds of codes might be named *meta-codes* but AQUAD does use this name to design *joining codes*, that is to say, codes that integrate several others and could replace it if the need arises (Huber, 1997). Indeed,

emerging codes are recovered categories, subjects, or ideas that can enrich our point of view and our analysis. In addition, we obtained codes from the *connection between the theory and the practice* as well as from the *conception of the practical training*.

Finally, some surface codes are more sporadic in one or several questions but they are referred to in unexpected topics outside of the main structure. Furthermore, we can find references to other problems such as themes, or comments outside of the main topic and we code them because they can be useful for the analysis. They can be helpful in explaining other phenomena, or they can explicit emergent topics to research in the future. Accordingly, we named them *tangential codes*. As a result of our study, we found references to the problems of the relationship between the teachers and students, with the conception of the initial training of teachers and the inability of some headmasters. We also coded them to save them and to analyze possible implications in this study or in future ones.

Improving the coding

Coding is always an open process. It must be revised constantly, even after the coding is complete. Some verifications that must be done are: changing, correcting, or deleting.

During or after the coding, you might want to change some codes, code names, or coding ways. Perhaps you have repeated the same category with different names. Therefore, you want to unify them. Any change in the codes can be realized by supplying them one by one using the replacing command (*Replace a code in all files*). You can choose a specific code and replace it with the new one. When revising the codes catalogue, you can observe spelling mistakes or identification errors. Use the changing commands to correct them. Sometimes you might want to delete some of them. Deleting a code in all files is very simple because there is also a specific command to get it done. When you want to delete the changes caused by the meta-code command, there is also a specific command – *Delete master code file* – which helps you to do it.

Adding new codes:

During and after the coding, you might also want to add other codes because you discovered some new elements. Accordingly, you decide to change the coding strategy, or you want to add new coding levels. If you have decided it while coding, you can choose to have some files coded in this way and others not. To detect if this is the case, revise your notes or memos or use the specific command to search unused codes. Just open the specific files and insert existing codes or create new ones.

Sometimes, the problem is in the detection of the mistakes. For this proposal, AQUAD has also some useful commands to detect problems with

the coding structure such as nested codes, overlapping codes, multiple codes, a sequence of codes, and redundant structures:

Table 1

Nested codes	<i>With it, you are able to detect coded text segments which includes another coding within.</i>
Overlapping codes	<i>You identify code text segments that overlap into one another.</i>
Multiple codes	<i>You notice all text segments coded with several codes.</i>
Sequence of codes	<i>You examine a determined area preceding and or following the coded text segments of a chosen code. You define the area size – number of lines – which you are checking before and after the specific studied code. AQUAD lists all the codes you will find in this interval.</i>
Redundant structures	<i>You verify the code's binomials that are repeated at least twice in a determined interval. AQUAD will retrieve the pairs of codes in this area defining it by the number of lines you want to apply before and after the boundaries of the coded text segments.</i>

Our complementary approach combines quantitative and qualitative research. Here, we are describing the second one. We have tried to explain the complex coding process. For us, this process is located between the word analysis and the coding analysis. The last part of the research will be explained from this point on.

Inquiring and analyzing

The sense of inquiring and analyzing

All of the previous steps – discussion groups, word analysis, and coding – prepare us to inquire and analyze with the most amount of data and elements. Inquiring and analyzing are intellectual activities that must allow us to better understand the topic for construction of the new knowledge. In addition, it should allow us to discover all the details of the analyzed facts. In fact, when developing the discussion groups, doing the word analysis and coding, the researchers are really inquiring and analyzing. In the qualitative approach, inquiring and analyzing is a process that is present throughout the whole research. They can always improve it, increasing the means, lengthening the time, or augmenting the researchers number.

Therefore, the research team has to prepare their strategy in order to permit an open attitude during the whole process.

Another important fact is the cyclic interacting we have to support throughout all of the process, advancing and coming back constantly, revising the conclusions and checking their impact on the previous results or their effects on the planned strategies (Strauss & Corbin, 1990). This approach forces us to revise not only the results but also the processes, enriching and adjusting them when necessary.

The qualitative approach brings learning unto itself, generating a self-improvement that must consolidate the designs, the means, the developments, and the evaluation.

In this context, we want to emphasize four relevant elements based on our experience (see figure 2). The research process has to structure the data, which is not much structured. This deepening development has to facilitate our understanding by means of technical strategies. In understanding the reality, we are generating new comprehensions that contribute to the scientific knowledge of our field. Sometimes, the researcher adds pieces of information that complete the previous advances or theories; on occasions, he/she generates new models or discovers innovating fields to research. A relevant part of this new knowledge involves the researcher's own process and the researcher's own style; we name it - *improving self-knowledge*. We are only explaining strategies in

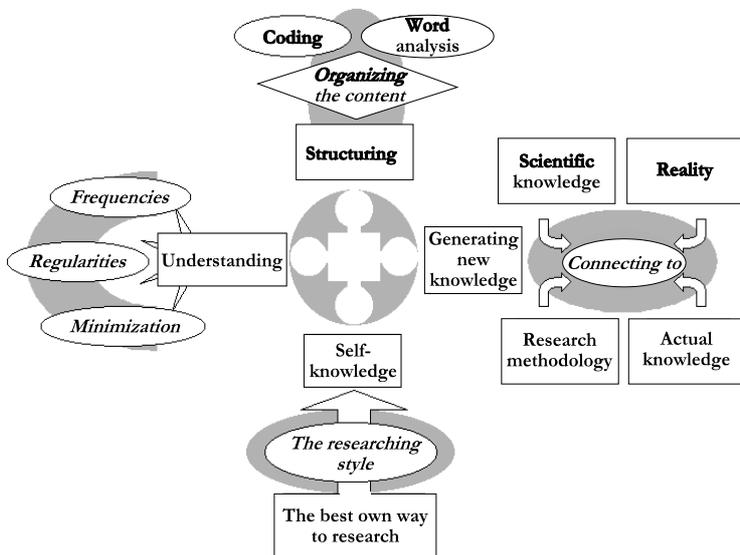


Figure 2

order to achieve good results. Another research team might prefer others depending on their aims, their experience, or their style. You can find a lot of bibliography concerning this diverse topic (see at the end).

Structuring

We have already said the discourse produced by the discussion groups has a rather unstructured content. Truly, there is a basic structure at the beginning. In this case, we suggest the question list to the groups. This basic net organizes the process, at least in the timing. The questionnaire puts in order the topics which they have to comment on or are to analyze. It also focuses the subject which they are discussing. After all, the aims of the discussion groups guide the members of the groups over all, and also the responsibility for each one. However, in our case, the questionnaire was very open and it only suggested the different aspects of the in-practice training of the pedagogue and the counseling personal. We considered the main points that allowed us to analyze the curriculum of the in-practice training. Most questions were focused on these subjects: the suitable institutions, the person in charge, the aims, the contents, the methodology, the kinds of activities, the means and resources, the length of school days or not – and the moment of the degree course. As to the evaluation: the person in charge, the high-priority criteria, and the essential contents. To complete the overall state, we added some other aspects about the contributions expected from the students, the teacher responsible for the in-practice training, and the innovatory experiences.

The proposed sequence is logical from an educational point of view. Most important, you locate the training (where); following this, you organize it (aims, contents, means, etc.); finally, you ask for problems and an improvement to these. Consequently, you ask for the aims and after for the means. Nevertheless, we could discuss the timing for the sequence (perhaps, with a discussion group). The important fact is that the researchers propose a list of topics to discuss, which are to be organized and sequenced.

Here is the basic net that will organize the field of study which we are researching, the subject map that will locate the relevant meanings, and the universal knowledge where we are inquiring. However, this reasoning space is an open area. Even once the group has begun the discussion about one of the questions, everyone can express other ideas or connect the proposed subject with other dimensions or experiences (which in fact, they did sometimes). Actually, the research team has observed these deviations within the questions and outwards of the questionnaire. In the first case, it originated at the top of the *fluency map*; in the second one, they were named *emerging categories*. The *fluency map* is a graphic description of the deviations from some categories to the others. The *emerging categories* are

new ones which were not planned for in the initial conceptual map from which we generated the scheme of the research.

At this point, our purpose is directed to organizing the content of the discussion groups' production. We have already described the ways to achieve this aim. The word analysis and the coding are both the best initial steps that will facilitate the understanding and the following construction of knowledge. The word analysis is a detecting technique which is more or less useful, depending on the aims we have proposed. We developed several strategies that we have explained previously in another paper and we have collected the real difficulties which were found back then. Evidently, when searching words, we are working with containers, and really, we are interested in the content analysis. Therefore, we have to be very careful with the formal difficulties of the language as synonymy, polysemy, or homonymy. We have also to preserve the creativeness of that kind of analysis, trying to obtain the best results by thinking of the real possibilities which can be achieved with it.

Nevertheless, the coding is the authentic basis for structuring the content. When coding, we identify the units of meaning but not only that. This process is not just labeling. When coding, we select which text segments, which events, and which ideas are relevant and significant. We also organize the content, deciding which levels we could create and which codes will belong to each level. This is a real structuring process, joining and relating elements considered relevant components of a whole unit. With numerical identifications, we combined codings on several levels and we distributed them on diverse sections. That is to say, we were characterizing or typifying the content. Therefore, we decided to code the object of the aims – institutions, students, etc. or its expression, capacity, imperativeness, feasibility, etc. So, we typified them at the same time we were detecting occurrences and organizing the content. That is what we call structuring the content. As a result, most main categories emerged directly from the questions but not always. There are still several situations to explain.

Main categories that the researchers expected:

These main categories expressed the content of the questions. The question about the aims suggested a main category about them and also for many questions. Consequently, there were categories about places, contents, means, and so on. However, sometimes, there were several questions about the same topic. For instance, several questions asked for the evaluation, so we reduced all of them to a whole category named "evaluation" that included all of the references to this subject. The main expected categories are *the context, the responsibility, the aims, the contents, the methodology, the activities, the means, the timing, the teacher, the evaluation, and the innovations*. They are expected because you can induce its occurrence by asking for them.

Main categories that the researchers did not expect:

As you can see from the first part, the questions revised curricular aspects of the in-practice training and some of the most frequent problems we have had. Nevertheless, some participants spoke of the connection with the theoretical training or expressed their general conception about the in-practice training. Those could be adequate categories because the research team considered them as relevant content for our research, but they were not planned. This situation is very usual in open discussion groups because it is very difficult to plan the discussion development. That is an interesting aspect of this technique and also the reason we say it is an *open technique*. The main categories not expected were *the conditions, the conception, the difficulties, the improvement, the theory, the practice, and other ideas*. All of them were relevant for our study because they contained relevant information about them.

Levels of coding:

When reading a text segment and the researcher observes that there is a relevant idea or a useful content. He or she might decide to code it. However, this segment could be coded in many ways. In fact, any segment can be coded in a number of ways. For instance, you might read a segment about aims and you decide to code it with the code *aims*. With it, you could check how people answer to the questions as well as when they are talking about aims throughout other questions. You could also retrieve all the segments about the aims and analyze what they are speaking about. Nevertheless, you could decide to deepen. That is the reason for creating codes on a second level or on a third one if necessary. For instance, here is the three-level coding of the first main category (the context), defined and described in English.

Table 2

First-level code: Contexts			
<i>The speaker comments his/her experiences, opinions, or analysis about the contexts where the students could realize their in-practice training.</i>			
Second-level category	Coding number	Third-level category	Description
Kind of context	1.1	Social work	<i>Institution dedicated to the social work.</i>
	1.1	Administration	<i>Public institutions.</i>
	1.1	Partnership - NGOs	<i>No governmental organizations.</i>
	1.1	Training centers	<i>Specific centers dedicated to the training.</i>
	1.1	Enterprises	<i>Organizations dedicated to the production or services.</i>
	1.1	Non educat. institutions	<i>Other institutions, with no educational purposes.</i>
Creation	1.2	Specific creation	<i>The speaker says the contexts could be created specifically to facilitate the in-practice training.</i>
	1.2	No artificial creation	<i>The speaker says the contexts could not be created specifically but they could be usual in-practice contexts.</i>
	1.2	Simulations	<i>The speaker purposes the contexts could be simulated situations to facilitate the in-practice training.</i>
Owner	1.3	Private	<i>The owner is private.</i>
	1.3	Public	<i>The owner is public.</i>
Benefits	1.4	Professional	<i>The in-practice training development could give benefits to the professional and to the workers of the institution that receive the students.</i>

	1.4	Social	<i>The in-practice training development could give benefits to the social environment.</i>
	1.4	Students	<i>The in-practice training development could give benefits to the students.</i>
	1.4	Institutional	<i>The in-practice training development could give benefits to the institution that receives the students.</i>
Naming	1.5	Organizations	<i>The speakers refer to the contexts naming them as organizations (a group of entities).</i>
	1.5	Entities	<i>The speakers refer to the contexts naming them as individual entities or institutions.</i>
	1.5	Programs	<i>The speakers refers to the contexts naming them as parts of entities or institutions.</i>
	1.5	Persons	<i>The speakers refer to the contexts naming them as individual persons (workers, professionals, teachers, ...)</i>
Institutional relation	1.6	Contract establishment	<i>The speakers express that it could be convenient for the establishment of contracts, which would compromise the university and the institutions where the students are realizing the in-practice training.</i>
Selection criteria	1.7	Several places	<i>It could be convenient for the student to realize in-practice training in several places or contexts.</i>
	1.7	Educational conditions	<i>The context has to be educational.</i>
	1.7	Availability	<i>The context has to be available (that is the only condition).</i>

	1.7	Functionality	<i>The contexts must have functional characteristics.</i>
	1.7	Needs	<i>The contexts need some reinforcement or help.</i>
	1.7	Potentiality	<i>The contexts could be interesting places for futures graduates but they don't have any employment for them now.</i>
	1.7	Student choice	<i>The student has the choice.</i>
	1.7	Selection-centers	<i>The university has the choice</i>
	1.7	Graduates are workers	<i>The institutions or centers have employed graduates before.</i>
	1.7	Student working place	<i>The student is already working in this context.</i>

Repeated categories cross several questions:

When analyzing, the researchers sometimes observe that some codes are appearing in successive main categories. For instance, people speak about the difficulties in achieving aims, in developing contents, in evaluating, and so on. When revising the codes file, you can decide to create a meta-code that generates a transversal dimension of analysis. Creating the new code about *difficulties*, which occurs or could occur in all of the main categories, we analyze a horizontal aspect of all the main categories.

Cross-codes (occurrence)	Questions															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Conditioning	0	6	5	12	2	6	9	24	0	4	2	5	0	0	2	0
Difficulties	2	22	1	2	0	4	12	12	1	3	1	1	0	5	5	6
Improvement	0	29	1	1	1	2	3	5	2	1	0	0	0	0	0	0

We named them *cross-codes*. In this table, it is possible to observe the three cross-codes – the conditioning, the difficulties, and the improvement proposals, which occur iteratively in successive questions.

Main categories in other main categories:

This strange event was unexpected but we found people speaking about subjects when we did not ask for them. We had to think of several explanations. Perhaps the sequence of questions was not adequate, some subjects motivate people, their experience or knowledge induce them to it, or they do not understand the questions. We had to analyze that event. In our study, we observed this fact and we did a graphic description

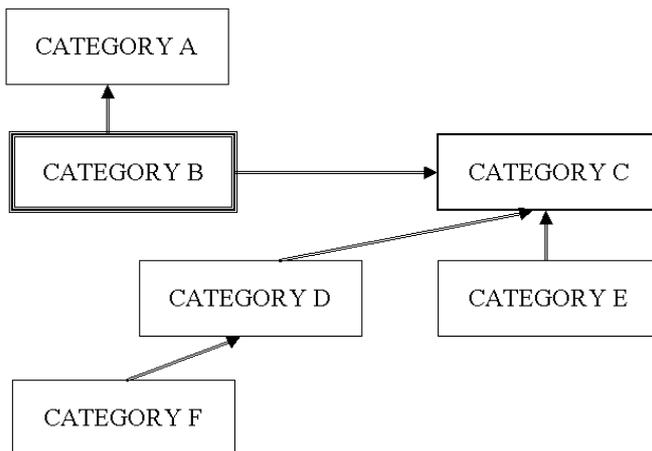


Figure 5

drawing arrows from the categories we were asking to categories which the speakers commented on. That is called the *fluency map*. In this graphic, we can observe that Category A occurs when asking about Category B. Category C occurs when asking about categories B, D, and E. We named it *fluency map* because it represents the course (development) of the river (discussion).

Understanding

Since the researchers have realized the word analysis and coded all the text files, we have to inquire about possible conclusions. We do this by means of the analysis, asking, observing, and contrasting. In fact, while doing word analysis and coding, we detected some relevant aspects, some of them unexpected, and we kept these observations in memos. Thanks to this, we will apply strategic techniques that will allow us to generate the new knowledge and the self-knowledge. The three techniques we used are: the frequencies analysis, the regularities searching, and the minimization applying (Huber, 1997). We will revise their possibilities in our research.

Until now, the simple occurrence is a relevant fact. With this, you can describe the whole discourse produced or the specific one of a speaker, a specific kind of speaker, a group, or a question. We could also hypothesize about the categories and we would check the occurrence of other categories or words. The frequency study supposes a more complex analysis of the occurrences. This observation enriches the previous one which allows us to know if people speak a lot or a little about an idea. Therefore, we are weighing the content up.

We can deepen much more. We can observe the occurrences in the groups, the questions, or the main categories by several means. When counting, locating, or retrieving words, codes, or segments, we can analyze the frequency. In our case, the researchers could observe in which categories the speakers or the questions are references to theoretical aspects, to problems, or to innovations.

We can list these observations, but the most useful space for organization is probably the table, that is to say, a double entry presentation of frequencies. Some authors named them matrix analysis (Miles & Huberman, 1994). Therefore, you have to hypothesize the crossings that could contribute to enriching the research. AQUAD facilitates creating tables, designing the columns and rows. The most useful and recommended tables have *profile codes* in the columns. *Profile codes* appear only once in each text. They characterize the groups or the speakers, according to the selected criterion to segment the transcriptions. For instance, in our case, the available data about the members are their experience, their gender, and their job. With the data from each speaker, we can apply this analysis to each member thanks to AQUAD possibilities of the *speaker's code* that join the interventions of each one as a text file. This "segmenting" function could be applied using other codes as a *speaker's code*. Thus, allowing the possibility to count, locate, or retrieve words, codes, or segments considering parts of the texts as independent ones. This allows us to compare questions or other codes. When segmenting, we prefer excluding codes to elude the intersection zones. Speakers and questions are excluding codes for instance, (when a speaker is speaking, or when we suppose the others are listening to him/her). We

divide the texts as if we were cutting them with scissors and we construct new texts with the speech of every speaker (see figure 6).

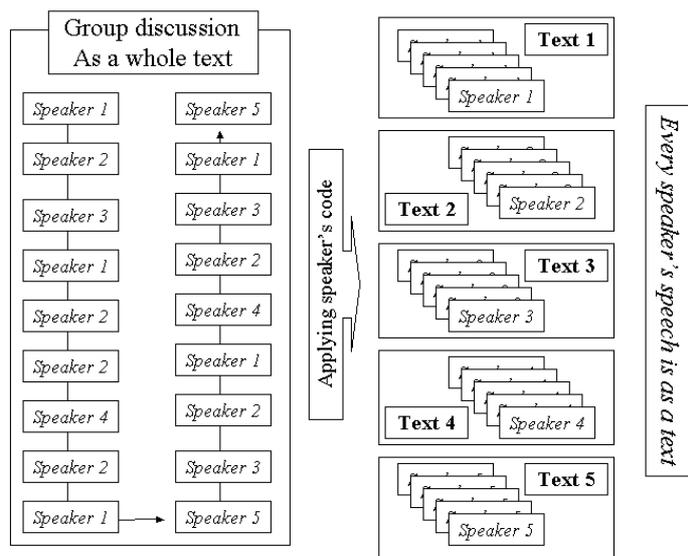


Figure 6

From tables, the researchers were able to obtain some very meaningful observations. For instance, the significant occurrence of the main codes in each other suggested to us the creation of the *fluency map* where we graphically described the deviation of the conversation. If the researcher introduces a second level of codes in the columns to differentiate the first level, he/she can observe which groups or speakers have contributed to this effect. By means of the tables, he/she is able to analyze the quality of the production. Furthermore, by combining groups, speakers, or other excluding codes, he/she can observe who and or when they are expressed with much more details or generalities, difficulties, innovations, or suggestions, etc.

The observation includes the changing process of the discussing behavior throughout the session. If you create a table, where columns are the questions (coded with the *speaker's code*), and rows are the main categories or speakers, you will observe their frequencies in each question.

However, questions are also expressing *the sequence of the discussion development*. Therefore, you can observe the changing behavior of each speaker or the evolution of the productivity throughout the discussion session. In our case, we observed how the production was

decreasing starting from the middle of the session in all groups. For instance, some categories regarding the comments about the connection between the theory and the practice were only expressed in the first half of the session.

We were also interested to discover possible regularities, that is to say, regular sequences of codes. That includes the fact of the complete coincidence or overlapping, but AQUAD can check this with the *structure coding* command (Huber, 1997). Here we are hypothesizing about possible sequences of codes. We could be interested to know when people express difficulties, innovations, or proposals for change. Perhaps they refer to them after another usual code. Perhaps after expressing these ideas, they infer other specific answers. Perhaps some speakers talk usually by following another specific one (students after teachers for instance). The researcher obtains a list of the codings and the corresponding text segments that verify the conditions of his/her hypothetical linkages. To facilitate this task, the researchers can use the constructed linkages that AQUAD offers. Since, the researcher is constantly finding some sequences of codes. If they are not complex enough, everyone can construct others. For instance, searching two codes that occur in the same text within a specified distance of each other.

AQUAD allows us to do a *logical minimization* from the selection of conditions (Huber, 1997). These could come from several studies. For instance, if we express their presence or absence with fictitious numbers (as in logical expressions), or we insert the frequencies values which we obtained counting words, codes, or segments. From these numbers, the researchers can construct a data table. First, you select the conditions and you insert them into columns; the number of cases will be in the rows. With the analysis of *implicants*, you can search relevant elements in the behavior of the groups' members or in the results of the characterizing process of the questions or main categories. In our case, we mainly observed the speakers according to their status or their experience, and the relevance of the questions to the main categories. This minimization process is also being applied to quantitative data from the systematic questionnaire – applied previously – to search connections between both of the instruments and between the data.

Generating new knowledge

All we did is oriented towards constructing new knowledge, to discover new ideas, connections, or events that could help us to better understand the reality about in-practice training and to improve it. Above all, this purpose leads us to construct a theoretical model for a greater understanding on this subject. All of these observations, from mere occurrences to strategic techniques as minimization, provides us with new data to contrast, to construct, and to reflect upon the topic which we are studying

such as, discussion group techniques and on the knowledge. We connected to the scientific knowledge through models and previous research, but also to the real one, which means to the knowledge that reflects the educational practice, their professionals, their students, and their collaborators.

Indeed, discussion groups do contribute to the self-knowledge improvement. By participating in them, people share experiences, opinions, and feelings. Sometimes they agree and sometimes they disagree with their group partners, but this allows them to question their beliefs, their perceptions, and their construction of practical knowledge. Researchers can improve their own style by adapting their behavior and selecting the best ways which accommodate to their own personal style. At last, we enrich the researching methodology as we contribute to open new ways and new techniques for any following researcher. Therefore, the self-knowledge is implied to the groups, the researchers, and the researching.

Conclusions

The coding facilitates understanding, organizing, and the creation of new knowledge. The computer is very helpful for this but we need preparation of the transcriptions for the discussion groups. We had to be especially careful with the non-verbal information and the identifications (groups, speakers, and questions). We obtained relevant aspects by joining all of the transcriptions into a whole one such as the word catalogue.

The discussion was guided by a question list, whereas the general developing of the coding was a step-by-step process beginning with the first question in the whole text and by the first level in all of questions. With this procedure, we focused the discussion field on a specific level and that allowed us to deepen progressively.

The code genesis combined a verbal and a numeral identification to facilitate the code localization; at the same time, it helped to organize them, ordering them thanks to the scientific numbering. This coding had to be improved by changing, correcting, and deleting codes.

With the use of coding and word analysis, we organized the content, structuring it. In addition, by studying the frequencies, the regularities, and the minimization, we now better understand the content and we were able to obtain a conclusion about the discourse development.

In the end, all of this generates new knowledge connected to the science through the reality, the methodology, and the actual knowledge of everyone. The knowledge of everyone plays of course a very important part in the self-knowledge of the researcher. Every researcher has to discover his or her own best way of researching, constructing his or her own researching style.

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Chapter 16

Group III: "Specific Methodological Questions"

Discussion summarized by Günter L. Huber

Participants of group III were: Julia Nentwich, Bernd Reinthoffer, Hannu Soini, Wolf Kirmayer, Wolfram Fuchs, Peter Holzwarth, Anne Huber, Ingeborg Huber, Günter L. Huber, Harald Witt, Gerhard Kleining, Martina Becker, Christine Riegel, Christian Schaipp, Franz Breuer, and Philipp Mayring.

The discussions in this group were focused on the interdependent relations between theoretical orientation of qualitative studies in psychology and necessary characteristics of qualitative methods applied in these studies. While all discussants agreed on demanding open, flexible, variable, even dialectic methods that allow situated, context-sensitive approaches to other peoples thinking and actions, there was a long debate about the consequences of this methodological stance. Does theoretical orientation in a broader sense structure the field of qualitative methodology - or do the necessarily low-structured methods liberalize theoretical orientations? Or is there a dynamic interplay of structure of demands and flexibility of application? The debate produced a trenchant confrontation of structure vs. chaos in qualitative approaches, which convinced the discussants; because the one characteristic does not exclude the other, at least not according to the principles of chaos theories. Mayring summarized the arguments favoring the necessity of order in conducting qualitative research projects:

Openness had been a crucial point of qualitative research from the beginning. Open ended interviews or observation and not variables restricted open interpretation of the material are important methods within qualitative psychology. But that does not mean that the whole research process has to be completely open. There is a dialectic relationship between openness and structuredness (cf. Bergold & Breuer, 1987). Structures - at least within different steps of analysis, specific phases of the research process - can bring in experiences from other research projects, can facilitate the intersubjectivity of the procedures and can support arguments of generalization of the results.

Order has a specific importance in respect to the overall research logic or the design of the research process. We cannot make the last step (e.g. discussion of research results) before the first step (e.g. explication of the research question). Even if qualitative inquiry for some researchers seems to have similarities to an art (e.g. Eisner, 1991), it is possible to formulate the underlying choreography (Janesick, 1998).

It is true that a strict linear model of the research process (e.g. theory, hypotheses, operationalization, sample, data collection, analysis of results) is inadequate for qualitative research. For example, within Grounded Theory there is no strict separation between data collection and data

analysis. But maybe circular models will be appropriate to describe the qualitative research process (cf. Flick 1998). In qualitative content analysis (Mayring, 2000) for example there are feedback loops to adopt and refine the categories in respect to the material. So we can identify at least some common phases and steps within qualitative psychology:

- (1) Theory and preconceptions are standing at the beginning and at the end of the research process, the refinement of research questions usually is a second step of analysis;
- (2) collection and analysis of material, empirical work, even within single case designs or document analysis standing in the middle of the research process;
- (3) possibilities of generalization of the results are discussed at the end.

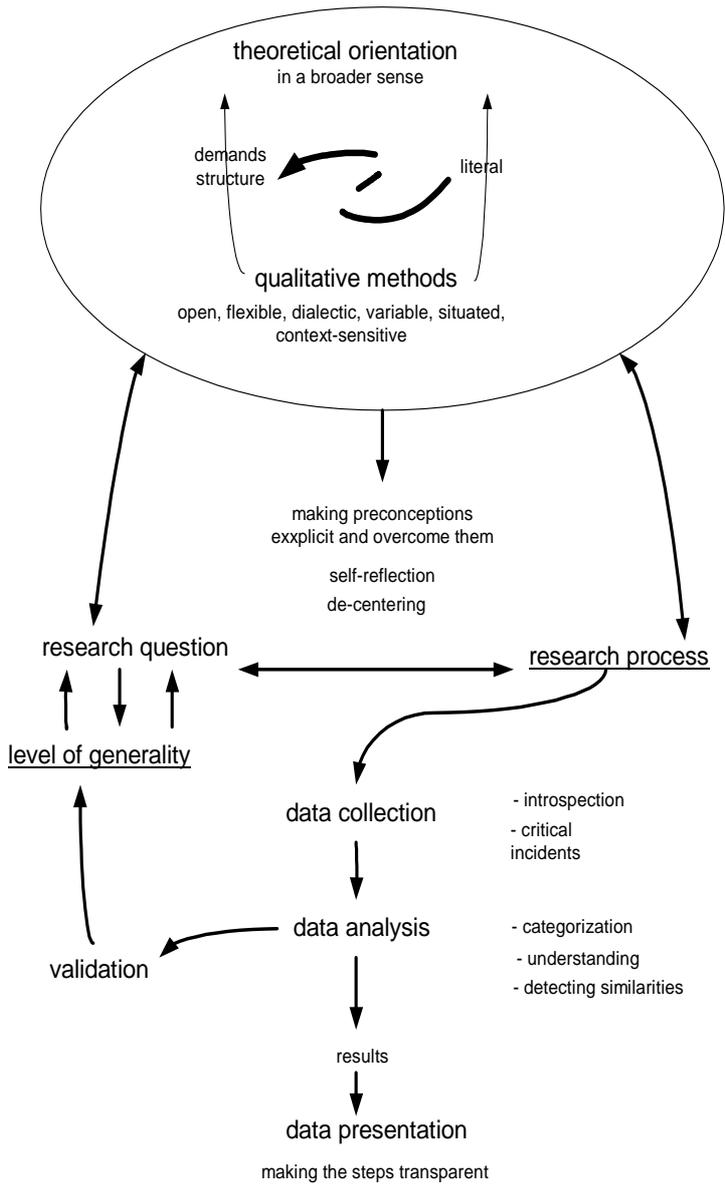
If we try to find an agreement on a certain logic of research, consisting in an ordered, step by step ongoing, we can enhance the methodological strength of qualitative psychology.

On a more concrete level of discussion, the relation of theory and methodology was reformulated in questions about linkages between research questions and central features of the research process in qualitative studies. The members of group 3 agreed that in the process of research any preconceptions inherent in the research questions must be made explicit. Stimulating self-reflection and de-centering the methods applied in qualitative research should contribute to overcome preconceptions.

When asking research questions it should be made explicit on which level of generality answers are expected. Even findings of a single case study can be generalized, that is, transferred from the situations studied to further situations, as for instance in a classroom observation study of an aggressive student, where we are looking for guidelines for interventions. Several theoretically sampled cases may lead to general hypotheses about principles or strategies underlying, for instance, the actions of those teachers who had to deal with this student. A greater number of cases, finally, allows to look for similarities and differences in our proponents' thinking and acting and to ask for "typical" ways of mastering their tasks. Thus, generality of findings is not an absolute criterion of qualitative research, but is defined in relation to the range of questions asked.

The research process is usually described in phases of data collection, data analysis and data presentation, which are understood not as sequentially but as cyclically linked to each other:

Empirical RESEARCH



Discussion about data collection reminded of the long tradition of methods of introspection in psychology, a tradition which should be re-conceptualized in terms of research questions of our time. Particularly in psychological studies, the approach of "critical incidents" deserves to be scrutinized for qualitative studies both from the point of view of typical questions and methodological tools.

As detecting similarities vs. differences is underlined generally (that is, not only within the tradition of "grounded theory" as core procedure of analyzing qualitative data, a better understanding of the methodological processes involved could be achieved by reflecting on the psychological nature of these processes. In this respect, too, psychology offers a rich tradition of research on concept formation, which may open new or re-open more or less forgotten perspectives on categorization as the main activity in the analysis of qualitative data. The role of positive and negative instances in categorization, for instance, would serve well to elucidate the discussion of sample size and case selection from a psychological point of view of making sense of empirical data.

The discussion of processes of data analysis raised the question of validation of findings in qualitative research. This issue was linked to the debate about levels of generality and their dependence on research questions in qualitative studies.

The discussants also agreed on the necessity to elaborate the relatively neglected - as compared to other topics of qualitative methodology - problem of presentation of findings. It appeared obvious that the presentation of results has to make transparent the steps taken during the process of data analysis. This issue was emphasized as especially important not only because it is the basis of establishing credibility, but above all because it is essential for teaching of qualitative methods. Making the research steps transparent is seen as the rational compromise between the extremes of overly structuring assessment and analytical procedures on the one hand (which would violate the requirements of openness and flexibility of qualitative methods), and sloppy practices of data collection and analysis on the other hand. Qualitative psychology can neither strive for the quantitative ideal of methodological rigor by mechanics of programmed procedures nor accept the post-modern slogan "everything goes" as its methodological guideline.

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The Analysis of Qualitative Data as Process of Classification

Günter L. Huber

Classification as basic epistemological process

Human activities to harmonize subjective experiences in an apparently chaotic world mostly have to do with classification. Elementary categories of experience and behavior do not need complex cognitive operations or constructions. Even very young children are able to order their environment and their behavior according to categories of "pleasure" vs. "reluctance" - conceptualized as "pleasure principle" already described by Freud. More differentiated analyses lead children to distinguish more and more precise classes of experiences, which are not structured exclusively by subjective preferences, but also by "objective" characteristics of objects and situations. In addition, these classes are linked to symbolic or speech labels. The analysis of the qualities in our surrounding world appears primarily as a process of classification.

Formulated from a researcher's point of view: By processes of classification and their results, that is classes or categories, the world becomes available to us - at least on a subjective level. Categories and concepts, which arise in this process, *are* the data in which the qualities of our world are represented more or less subjectively:

Qualitative data arise from distinctions drawn within a sample of observations. The act of drawing distinctions makes the observations distinguished of a different kind (Krippendorf, 1986, p. 9; italics in the original).

By its very nature each process of classification or concept formation is a process of abstraction: When we sort an object into a class ("pleasant," "noisy," "bird," etc.) we ignore many of its features and take into account only those characteristics - or even only a single characteristic - essential for our classification. When classifying we are no longer interested in all of the specific features of an individual object or a case, but in those characteristics determined by a particular category. Sorting objects into categories or classes is in turn successful when each of the resulting classes contains only elements which resemble each other as much as possible: These elements must be similar enough regarding the critical characteristics of their common class, but at the same time they must differ as much as possible from the elements put into other categories.

These formulations describe the approach used by Sokal and Sneath (1963) when they established a taxonomic procedure in the field of

biology. To this approach, organisms have to be placed into the same group or "cluster" according to observed common as well as different aspects. Having identified similar configurations of characteristics, the authors then tried to make conclusions about similarities that might have occurred in the process of evolution. Below the surface of similar "superficial" configurations of characteristics or "patterns," "fundamental" similarities are expected. Therefore, the construction of classes or clusters is not a merely descriptive endeavor, but always includes an interpretative aspect depending on the nature of objects to be classified and the state of (ontogenetic or professional) development of the classifying subjects.

When we apply processes of classification, our intention is not only to order and to represent a momentary state in our environment, but we also try to clarify implicitly or explicitly relations between phenomena, to interrelate our experiences, and to gain the power of predicting future events. As already underlined by Bruner and Olson (1978) in their analysis of the development of cognitive processes, we may understand that each cognitive representation can be found with two different but simultaneous perspectives that order and represent the world: from the point of view of available information about the world, and from the point of view of available activities.

Therefore, we can say that the process of classification is not only derived from concrete characteristics of objects, but also from concrete characteristics within the very process of classification. This aspect of "reflective abstraction" (Piaget, 1972) in operations of classification contributes in a most important way to the elaboration of the classifiers' cognitive systems. A classificatory approach is therefore, according to Breuer (1996), the main principle in qualitative psychology, when attempting to elaborate theories on the perspectives of research subjects:

Starting with concrete interactive events, case-related reports, specific documentations of events we try to find more general structures of order, rules, etc. to which the participants or actors orient themselves (from their own subjective view or from an external point of view) (Breuer 1996, p. 21; translation by G. L. Huber).

While the research subjects may be processing their world in one way, at the same time, we look at them and their process and we attempt to make rules for how we see them orienting themselves. Thus, we as researchers and as human beings, cannot divorce ourselves from the classification process, as we ourselves are doing what the subject does.

Interpreting and checking as basic activities

If we come to understand these two perspectives of interpreting the given information and if we reflect on our interpretation as poles of a dimension of classificatory activities, we are able to unify descriptive and interpretative aspects in the process of classification. When classifying in everyday situations, we sort by routine, classifying well-known objects by their essential characteristics into ready available classes. As soon as we come upon variations or even new, unknown cases, we have to question our classification schemes. At the same point we have to analyze new configurations of characteristics and we have to develop matching categories. In other words, we have to reformulate (class)hypotheses about the objects based on the (new) information about these objects, checking when necessary if these new division cause contradictions to occur.

So, in effect even during the process of classifications, knowledge or recognition can not be detached from each other, where there is recognition of specific relations of characteristics, and confirmation. In other words, *interpreting and checking* are inextricably interwoven in classification processes. With this perspective the discussions about methodology in social sciences appear to be inappropriate when they continuously emphasize confronting and delimiting the "competency" of qualitative and quantitative methods. Central arguments in these debates are summarized in table 1:

Table 1: *Typical confrontation of qualitative vs. quantitative methods*

Qualitative Methods	Quantitative Methods
subjective process-oriented domain of social sciences construction of hypotheses	objective result-oriented domain of natural sciences confirmation of hypotheses

Some authors even take a step further in their argumentation and declare qualitative and quantitative methods not only to be incompatible if used together within one particular research project, but they also claim that the very epistemological approaches are incompatible (for instance, Guba & Lincoln, 1994). However, inherent in this claim is an improper reduction of the epistemic processes, be it in separation of hypotheses, insights, knowledge gained from testing, or the resulting confirmation/falsification of these hypotheses. The identification of an object as an element of a category cannot be managed without checking the hypothetical interpretations involved in this process – (except maybe in routinized everyday categorizations). Neither can quantitative methods be applied to test hypotheses, as if their manifestation had materialized from

epistemological "hyperspace." Not to mention the qualitative-interpretative achievements during the construction of those quantitative instruments that produced the data!

In relation to the above problem, a suggestion from D.B. Wright (1977) is consequential: He advises us to refrain completely from using the expression "qualitative data" in methodological discussions. Instead, he proposes the term "content analyses," when referring to the analysis of textual data from interviews, discussions, speeches, or publications. These analyses are not only necessarily linked to a specific type of analytical procedure and the subsequent data. In addition, it is possible to define and to count keywords, to compare average frequencies of clusters of keywords in different texts, or it is possible to read texts and to interpret longer passages looking for less obvious meanings, that might have been expressed by the authors.

From this perspective, the complement of qualitative data are data in which something can be said about the distance between points. These are often called quantitative data. Interval and ratio data are types of quantitative data. Nominal and ordinal data are qualitative (Wright, 1997, p. 8).

Wright's suggestion is based on the assumption of a continuum of methodological approaches instead of mutually exclusive methodological orientations. The common ground which both methods have is characterized by classificatory activities, ranging from hermeneutic-interpretative endeavors on the one end to the application of statistical algorithms on the other end.

The question of generalizing qualitative classifications

If we link patterns of characteristics and hypothetical explanations for their appearance in a process of categorizing (see above), it may appear superfluous to ask questions about mutual complementation of qualitative and quantitative methods. To postulate a complementary relationship without scrutinizing conditions and consequences of both methodological approaches is perhaps a good example of problem solving by avoidance. Because in this case, essential questions are not asked. Here, under the perspective of qualitative analysis as a process of classification, we attempt to concentrate on one question: Is it possible to generalize findings produced by qualitative methods beyond those cases from which this knowledge was acquired?

Immediately, however, we come upon an additional question: What is the meaning of "to generalize" in the field of qualitative research? Or formulated in different words: How "general" do we want to deal with the

"specifics" in some few concrete cases? Of course, it depends on the research context of this question. We will distinguish three different situations and illustrate them by examples from educational research:

- Here we look for action-relevant orientation, based on findings from a single case.
Example: Several teachers in a school report problems with a difficult student. A school counselor talks with this student and observes him/her in some typical situations in and out of the classroom. Now all of this data needs to be "generalized" in the form of recommendation as to how the teachers should deal with the student in the future, that is to say, in other situations than those in which they have already experienced the student.
- Here we look for hypothetical explanations of findings from selected case studies.
Example: Now let us suppose, that the teachers from example no. 1 did not only talk about problems, but were also asked to describe what they usually do in these critical situations. The counselor thus finds out how different teachers behave in comparable situations - comparable from the counselor's initial point of view - in quite different ways. Therefore, the counselor observes these teachers in their classrooms and asks them for further explanations of what they are doing and why they do it, in order to discover a general relationship between the subjective experiences and action strategies: Which are the conditions on which their strategies depend?
- Here we look for similarities and differences between a larger numbers of single cases.
Example: Different students react quite differently to particular teaching methods, even if there may be no significant achievement differences in the long run. Thus it is not a question, which teaching method is the "best" for all students, but it would be an advantage to know which students are more motivated, experience less difficulties in the beginning, are more persevering in less exciting phases of practice, etc. if a particular method is chosen from a broader repertoire of teaching activities. That is, the question is whether there are students with "typical" preferences favoring or rejecting particular teaching methods. In this example, generalizing means analyzing a larger number of cases and aggregating them according to typical reactions in typical situations.

Strategies of generalizing qualitative analyses

The necessary degree of generality of the results of qualitative analyses may be achieved by different strategies, depending on the specific research question. The following suggestions refer to the three research questions outlined above:

(1) "Thick description" as a strategy of depicting findings

- Transfer of qualitative findings to particular educational situations is mostly done by the readers of the finished research report.
- Thick descriptions are written to allow the readers vicarious participation in the captured experiences (Denzin 1989, p. 83). Thus, the readers should be able to generalize from their own experiences to the reported experiences (Stake, 1988).

(2) Strategy of replication (of case studies)

- Codes are defined. In this example it would be each statement to how teachers respond to a comparable situation. Each code in each interview is then compared with all the other codes.
Two general questions are guiding this process of "constant comparison" (Glaser, 1992): (1) What is going on from the people's point of view, and (2) to which category does a particular event refer?
- The strategy seems to represent an analogy to the paradigm of experimental research (Yin, 1989), but a researcher will be able to qualitatively analyze only a more or less limited number of cases. Therefore, the cases have to be selected according to the research purpose rather than at random. Two criteria guide the process of case selection:
 - First criterion of selection:* Select cases that seem to invite similar interpretations.
 - Second criterion of selection:* Select cases that seem to invite opposite interpretations.
 These two criteria do not exclude each other, but in fact they complement each other. If the comparisons according to the first criterion produce repeatedly a stable set of interpretations *and* if indeed contrasts are found (which are expected according to the second criterion) then it seems to be possible to generalize interpretations.
- Differences between replication and experimental paradigms: The cases are not selected in advance by a schedule, which would ensure representativeness or randomness of the sample, but matching (similar or opposing) cases are instead selected during the process of

data analysis, depending on the actual state of interpretation, asking the question: What is similar? What is contradictory?

(3) Strategy of type construction

- The "constant comparison" (see above) is repeated on a more abstract level. The result may be a general topology of cases. That means, the process of comparison leads to an order of cases by those few properties, which remain stable, regardless in which other characteristics the cases may differ. When we ask teachers, for example, to talk about classroom discipline, we may find a group of teachers reflecting mainly about themselves, social relations, and teaching methods, while another group may accentuate student motivation and school climate (see example 1 below).
- The generalizing variety of "constant comparing" demands a specific perspective of comparison which allows us to compare wholes as configurations of their parts (Ragin, 1987, S. 84). The Boolean method of qualitative comparisons seems to be apt for this goal.

A more thorough explanation of these three strategies will be discussed as follows. Let us assume we suspect that there are three "conditions" A, B, and C, which influence the "result" X. Are all three of these conditions responsible for X? Could we find X even in cases, where none of these conditions is given? Maybe one of the combinations AB, BC or AC lead to X? Is this true in all cases? Could it be that B must be absent for X to appear? We have to check which of the various combinations of conditions are linked to the event X. This is done by means of an algebraic method called "logical minimization", which was introduced as early as the 19th century by George Boole. With this method we are able to discover more about how the configurations are related to the event X. Two examples of concrete studies may illustrate this strategy of type construction:

Example 1: Type construction from interview data

In his study of 106 teachers who had just started their careers, Marcelo (1992; see Huber & Marcelo, 1993) found that these teachers frequently talked about discipline problems in their classroom (178 times!) – although not all teachers in the study mentioned discipline as a problem. Using the above-mentioned logical minimization, we can look for critical differences between teachers that could explain their classroom problems. For this example, the analysis concentrates on six categories (which are also relevant for further consideration, for example in teacher training):

- A self
- B teacher-student-relations
- C teaching methods
- D discipline problems
- E student motivation
- F classroom climate

An analysis of configurations for condition D (discipline problems) as criterion results in three implicated groups:

$$D = ABC + ACEF + abcef$$

Capital letters symbolize here the value "true" of a criterion, while small letters stand for the value "false;" that is, "A" symbolizes that a teacher talks much about him/herself, while "a" would indicate the contrary. From the concrete result above we learn that we can distinguish between three groups among those beginning teachers, who talk a lot about discipline problems (D).

- Configuration ABC: This first group is characterized by the configuration ABC. The combination of these letters together means that these teachers reflect about themselves, teacher-student-relations, and teaching methods - but not about student motivation and classroom climate (e and f).
- Configuration ACEF: The second group of configurations (characterized by the configuration ACEF) is where teachers talk about self, teaching methods, student motivation and social climate - but do not seem to reflect on teacher-student-relations (b).
- Configuration abcef: The third group, typified by the configuration abcef, has teachers who mention discipline problems often in their interviews, but mention none of the other central categories!

This example illustrates the importance of generalization by construction of types, because the interpretation of these groupings seems to have serious consequences for the organization of in-service training of teachers.

Example 2: Type construction from observational data

This second example describes a study on active learning that was organized by the OECD for eight countries. Observation protocols (based on a standardized observation instrument) were analyzed from over 150 lectures (see Huber, 1997). The data was already on the level of abstraction necessary for logical minimization, that is, they represented truth-values in form of "specific event observed" vs. "specific event not observed." Data from 210 protocol items were summarized into six categories:

- A Students learn as self-regulated individuals
- B Students learn in autonomous groups
- C The teacher is in control
- D The teacher dominates, but allows some individual autonomy
- E The teacher dominates, but allows some small group autonomy
- F The teacher dominates, but is open to students' collective preferences

One of the main research questions in this study was concerned with which conditions were best suited for students to be able to practice individual self-regulation. Assisted by the software tool AQUAD Five (Huber, 2000) three types of classroom situations could be distinguished, in which the students are able to work in a self-regulated way (criterion A):

	A	B	C	D	E	F
1		X	X			
2		X		X		X
3			X		X	X

- (1) Here are clearly student-centered classrooms, in which students can enjoy high degrees of individual and group autonomy (combination BC).
- (2) A second type of classroom situations also promotes individual autonomy, but is combined with frequent teacher dominance (BDF).
- (3) Most interesting is a third type (CEF), which reveals high teacher dominance combined with openness for group activities and student preferences. This combination seems also to promote individual self-regulation. Maybe the teachers here support a transitive external to internal control of learning in their classrooms but do not oscillate between the very extremes. Again we can easily conclude practical consequences for teacher training, if we conceive of these types of observations as general patterns of classroom activities.

Conclusion

Many questions of applied psychological research cannot be answered by generalizing according to the "lawn mower principle" of averaging the findings from a representative sample. With this principle researchers are tempted to design treatments for "every one." Here is the problem when one tries to generalize and take "effects on the average" to predict success in cases that are just 50% around the arithmetic mean of a predictor variable. The problem becomes how to predict the remaining "rest" of the other 50% of cases that were not around the arithmetic mean. Obviously, these cases will not be adequately interpreted by generalization from the "effects of the average."

Therefore, the debate about methods in psychological research should overcome its current state of self-affirmation within isolated camps of qualitative and quantitative researchers. Instead, this debate should center itself on how these methods can work in a complimentary way. On the one hand, the flower meadow of qualitative classification needs a cut from time to time, otherwise the variety of species is no longer visible. On the other hand, when cutting the grass, we should not only admire the uniform appearance of the lawn, but reflect on the different underlying qualities.

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Group-Based Dialogic Introspection and its Use in Qualitative Media Research

Gerhard Kleining and Thomas Burkart

The method of dialogic introspection has been developed at the University of Hamburg to overcome some of the problems of classical introspection. It has been applied to different topics and with methodological variations since 1996. There have been some publications both in German (Hamburger Tagung, 1999) and English (Kleining & Witt, 2000, 2001).

The main advantage of the method is its access to psychic processes in a methodologically controlled way. Existing methods on media reception, quantitative but also qualitative, leave a void at the area in which the effect actually occurs - the mind of the person exposed to media. Examples of qualitative approaches with this deficit are Jensen (1991) on qualitative Reception Analysis, Lindlof (1995) on qualitative research methods in communication research, Bromley et al. (1999, 281-363) and Real (1989) on Cultural Studies' research. In this paper we show how introspection can be used to study reception - or the effect - of mass media. It is an example for the application of the method of dialogic introspection in qualitative media research.

The method itself is based on a methodology which we call qualitative-heuristic, a search-and-find procedure of exploration aiming at discovery, which also has been developed in Hamburg and which is our basic research approach.

The paper will present 1. a note on the relevance of the approaches suggested here, 2. a short description of the heuristic methodology, 3. a description of the method of dialogic introspection, 4. examples of a qualitative investigation of film and television communication using this method including an evaluation of the method and 5. a remark on qualitative methodology.

The Relevance of a Heuristic Approach for Qualitative Psychology

A heuristic methodology designed to assist scientific discoveries orients itself at explorative activities in general and the history of heuristics as a philosophical and empirical discipline (Kleining, 1995, 327-354). Its legitimization is based on gaining scientific knowledge. Discoveries achieved by the natural sciences have been most prominent during the past centuries and the ways in which they were reached is of particular interest to the researcher in psychology and the social sciences. In psychology itself there are a number of historical studies which can be regarded as land-marks in the field. Their research procedures - whether formulated

or not - qualify them as a topic of study (Kleining & Witt 2001, para. 11-22). To name a few under the aspect of discoveries: the Würzburg cognitive psychology, Gestalt psychology, Piaget's developmental psychology, Freudian psychoanalysis; and in sociology, American pragmatism and the reality concept of the Chicago school, as formulated by Blumer (1969). There is some relationship of our methodology to Glaser & Strauss' early work (1967) particularly regarding the attempt to "discover".

A heuristic research methodology is clearly different from hypothesis-deductionism and from reductionism of data as well as different from all forms of interpretative additions which have been discussed in sociology recently. Subjectivism associated with these procedures may be one of the causes for what Denzin & Lincoln call the "blurred genres" and "double crisis" of present (American) qualitative research (1994, 9, 10) said to occur in a "discourse of poststructuralism and postmodernism" (10).

Though there seem to be rather general procedures which can be condensed into a search-and-find methodology, the methods used in each research project will have to be adjusted to the particular topics in question. Dialogic introspection is a new technique which combines classical individual introspection with group interviewing. It is particularly suitable to study mental processes which can or could be recalled and thus regains a field of research which has not been studied thoroughly because of attacks from "objective" psychology (Brožek & Diamond, 1976, 93-100) and behaviorism (Watson, 1913).

The qualitative-heuristic methodology

Our basic methodology is heuristic. In everyday life we interact with our environment and ourselves, both confirming and changing our outer and inner worlds. Interaction relies on our sense organs but also on physical, verbal and mental activities and results in our orientation and behavior in ever changing situations. The heuristic side of interaction is the basis of the heuristic methodology.

The heuristic methodology uses four basic rules which refer to the situation of the researcher, the topic of the research, of data collection and data analysis. In short the rules are:

Rule 1: "The researcher should be open to new concepts and change his/her preconceptions if the data are not in agreement with them". Label: Openness of the researcher. Rule 2: "The topic of research is preliminary and may change during the research process." It is only fully understood after being successfully explored. Label: Openness of the research topic.

Rule 3: "Data should be collected under the paradigm of maximum

structural variation of perspectives." There should be as many different points of view as possible. Label: Maximum structural variation of perspectives.

Rule 4: "The analysis directs itself toward discovery of similarities." It tries to discover accordance, analogies, correspondence, regularities or homologies within these most varied sets of data to find structure or patterns. Label: Discovery of similarities.

The research process itself is performed as a mental dialogue between the research person and the topic of research respectively the data. This research is transformed into a dialogic (or dialectic) process of question and answer and new question, based on those answers etc. until all data are structurally incorporated. Analysis is a constant search to discover a pattern in the data. It is similar to Fenichel's description:

"Freud once compared psychoanalysis with a jig-saw puzzle (*"Zusammenlegbilder der Kinder"*, 1896, 441-442), in which the aim is to construct, out of the fragments of a picture, a complex picture. There is but one correct solution. So long as it is not discovered, one can perhaps recognize isolated bits of pictures, but there is no coherent whole. If the correct solution is found, there can be no doubt as to its validity for each fragment fits, beyond question, into the general whole." (Fenichel, 1935, 329).

This is a good metaphor with the exception that the "fragments" are not fixed elements but flexible and changing. This makes a scientific discovery the more complex and difficult. The researcher will assume which part may be related to which other part. This reflects Schleiermacher's suggestion to combine the "Divinatorische Methode" (to divine a relation on a subjective basis) with the "comparative method" (to achieve generalization) (1838, 169) as a psychological technique. But the success of discovery also will depend on the flexibility of the researcher and his or her readiness to abandon preconceptions. Mach describes the psychological process of discovery as the "adaptation of thoughts to the facts and thoughts to each other" (1905, 164). Einstein and Infeld compare the activity of a scientist to that of a detective. "If he [the scientist] ... wants to reach at least a partial solution he has to collect the existing disordered facts, integrate them into a coherent whole and make them understandable through a creative thought" (1938, 16, translated from German).

Explorative research is neither linear nor deductive but circular: searching, trying, assuming, testing, arranging and re-arranging. It is not restricted to a set of fixed assumptions nor to given data but interacts within an open environment in which all sorts of facts and information might be related to the topic to be studied (Witt, 2001).

Methods which can be heuristically applied are transformed from everyday techniques. All are variations of observation and experiment emphasizing a more receptive and a more active behavior within the interactive research process. The experiment is not only a quantitative technique but also has a history as the "qualitative experiment" particularly in psychology and as mental experiments in theoretical physics (Kleining, 1986).

For further information on the methodology and examples of its application in German, see Kleining, 1994, 1995, 1999; in English Kleining, 2001; Kleining & Witt, 2000, 2001.

The method of dialogic introspection

A historical remark. Introspection has been the dominant method of psychology after its establishment as a separate scientific discipline at the end of the nineteenth century. It was repressed by Behaviorism in the early decades of the twentieth century under the reproach of subjectivism, leaving a terra incognita at the area which once was regarded as the particular terrain of psychology. The removal of introspection from the discourse of mainstream academic teaching and research did not affect various fields of applied psychology, particularly psychoanalysis and analytically oriented psychotherapy. Everyday introspection continues to be a survival technique - imagine a person who is unable to learn about his/her inner life, his/her emotions or past experiences! A conference on introspection in Hamburg (1999), initiated to bring back academic scientific interest in the method, showed that many different branches of "qualitative" psychology actually use introspection in one way or another. Re-establishing the method acknowledges today's requirements concerning methodologies and methods in general. The suggestion of the Hamburg research group is what we call "dialogic introspection."

Definition. We use the term "introspection" to cover all forms of mental activities concerned with the self as the topic of the research. Introspection may have a more active ("experimenting") or more receptive ("observing") character. Examples of the former are the thinking experiments of the Würzburg School (Marbe, 1901; Bühler, 1907; Ziche, 1999) and Gestalt psychologists (Duncker, 1935; Wertheimer, 1956), examples of the latter is "self-experiencing" ("innere Wahrnehmung") on which Brentano (1874, 40) insisted in contrast to Wundt's rejection of "pure observation" (1896, 28) and his critique of "self-observation" ("Selbstbeobachtung") (1888) which would have to be performed under experimental conditions (1896, 27).

The everyday basis of introspection. As other methods of qualitative research, introspection is a commonly used technique. People reflect upon their feelings and experiences, e.g. when writing a diary. They also tell

other people about their inner world, discuss similar or different experiences. The method of dialogic introspection tries to overcome the personal opinions and evaluations, the unsystematic and selective presentation and one-sided views and arguments which are common in everyday introspection and particularly in the expression of feelings toward other people.

Application of the heuristic methodology. In all phases of the research the "rules" mentioned above have been the methodological guideline. An example is the selection of the topic. Rule 3 requires a variation of all aspects which might influence the outcome of the research. Topic certainly is one. Exploring the method of introspection therefore varies introspective topics: experiencing an unexpected irritation (Kleining & Witt, 2001, paragraphs 45-64), solving a practical problem, acting in a playful competition, experiencing a strong emotion, everyday anger and - again a different content - experiencing space in a public building (i.e., a railroad station). In this paper we are concerned with the role which introspection could play in studies on mass media reception, which is still another aspect of introspective research.

The introspective theme is "Erleben" ("experience") or the "inner world." All topics, which can be experienced are possible themes for introspective research. Emphasis is on a wide range of mental and emotional actions and reactions, fantasies, beliefs, assumptions, associations, either present or past. Both, introspective and retrospective techniques, can be applied.

The research process and the use of groups. The prominent difference between classical introspection and dialogic introspection is the use of groups. In our introspective groups 4-9 research people participated, all psychologists and social scientists. After a general instruction, the stimulus was presented and participants were attentive to their feelings, thoughts and sentiments. They could take notes during and after the presentation, which was approximately five minutes, but, the participants were not under time pressure. Then they presented their experience to the group, the first person volunteering, others following clockwise. There may have been a second round. The presentations were tape-recorded and later analyzed.

Depending on the subject, participants could also introspect individually at other places but they always came together to present their experiences in the group and listen to the reports of other group members.

Combining dialogues with self and others. Dialogic introspection in a group encourages mental activities within the individual and toward other participants. It creates more detailed and more authentic experiences:

- The self-dialogue confronts the experience of the individual with his/her notes and report about it. The participant can ask him-

self/herself whether the presentation was sufficient and may complete or specify his/her information.

- It also contrasts his/her experience with that of other participants about the same topic. The individual may recall parts of his/her own experience which might have been forgotten, regarded as too unimportant or too difficult to formulate. He/she may be encouraged to look at his/her own experience from another perspective and discover causes and backgrounds.

Control of unwanted group processes. Group dynamics may interfere with individual introspection and presentation of the experience. Therefore introspection groups have to be carefully controlled. The following rules are set:

- Critical or devaluating remarks or commentaries during or after the presentations are not allowed. They may influence the readiness of participants to report their experience openly (Fiedler, 1996, 453-499 on therapeutic groups). Participants should listen silently and attentively to the reports, and the participants are encouraged to speak freely.
- There should be no interruption of reports, and there is freedom concerning their length. Every participant may choose to talk as long as he/she desires, which also includes the possibility not to say anything at all. In our research we had one case of no reporting at one particular task, but none of people who could not stop.
- The group should not build hierarchies or confirm existing ones. Experiments of Sherif and Asch (see also Avermaet, 1996) showed that group pressure and achievement orientation can influence individual judgements. Hierarchic influences already may be reduced if all group members are given full time for their reports. Minority experiences are particularly welcome.
- There should be no inquiry after the report. Spontaneous questions from the researchers tend to introduce the position of the "interrogator" and limits the introspection in a context of social legitimization. Listeners may not fully comprehend the meaning of the statement during the presentation, yet they may later consult the protocols.
- A group coordinator may be helpful to inform participants about the task and intention of the research, explain the rules and ask for their observation. Particularly useful is a group coordinator for repressing spontaneous reactions and commentaries of listeners toward a reporting person, and stopping general discussions should they arise. The coordinator may be a different person in different sessions.

Introspective groups are an assembly of individuals. They differ from small groups, formed to study group dynamics, focus groups with

discussion of topics among the participants, experimental groups established for a particular purpose, e. g. to solve a task combining their abilities, self help groups, therapeutic groups etc. All those groups form, use or study intragroup-relations. Introspective groups, on the contrary, favor the individual. The group should help to explore his or her inner world, stimulate, ease and widen the possibility of intro- and retrospection. Introspection groups should be seen as a collection of individuals rather than a "group" with a body of its own.

Systematized and varied documentation. Inner and transitory experiences have to be transformed into documents. There are several possibilities which are also used in everyday introspection:

- verbal communication
- written documents
- non verbal communication as gestures, physiognomic expressions and artifacts as objects, pictures, sounds, artistic productions

Verbalization and expression in writing of course depends on the individual's ability to express himself of herself; non verbal communication might be of special importance for children, therapeutic patients and for expressing those emotional conditions which are difficult to describe in a differentiated way. Any recording needs agreement of those concerned.

As transformation of inner processes into documents may result in an incomplete or one-sided presentation of the actual experience, we suggest documenting experiences in different forms - e. g. writing texts, reading and presenting them, freely speaking about one's own experience, using gestures - corresponding to rule three of the heuristic methodology concerning variation of perspectives but in line with the possibilities and requirements of the investigation.

Separation of data production and analysis. Everyday introspection tends to mix observation, evaluation and interpretation. To avoid blending, the method separates data production and data analysis. Analysis always is based on written documentation: in some cases the notes of participants and - always - the transcription of the tape recorded presentation in the group.

Basic methods are observation and experiment. Introspection is not a method per se but as experiencing the inner world (e. g. emotions) and actively dealing with it (e. g. to recall a name, to solve a problem) is related to receptive and active behavioral modes of everyday life. Systematic dialogic introspection in this respect is not different from observational and experimental methods. The particularity of introspection is that observer and the observed, i.e., the experimenting person and object of - experimentation are the same. Confusion may arise if this is taken as dealing with identities - which is not the case, since different functions of

mental activities or different perspectives within the mind are concerned.

Research on media reception - the overall design

The following is an example of the application of the method. The research work was done within the workshop of introspection research 1998-2000. Participants were Thomas Burkart, Otmar Hagemann, Gerhard Kleining, Elisabeth Krieg, Friedrich Krotz, Peter M. Mayer, Heinz Schramm, Hartmut Schulze, David Ulrich, Monika Wilhelm, and Harald Witt. Research papers are available (Schulze, 1998; Burkart, Kleining, Mayer, Wilhelm & Witt, 2000). We started with the assumption - or hope - that studying media reception would help us to explore the possibilities of the introspective method. Introspection was our theme, not media research. There was no hypothesis which could qualify in a hypothesis-deductive sense and there were no conflicting theories which we wanted to test. In fact all of us, except one person, knew very little about modern receptive theories in media research. There was just the concept - which one could call a pre-conception or even a prejudice - that we could learn something more about introspection if we confronted a viewer, actually ourselves as viewer or receptors, with a film, video or TV sequence. These stimuli seemed to be more "objective" than the stimuli we had used earlier e. g. the ringing of an alarm clock or our own emotions and life experiences.

We were informed however, that introspection was quite uncommon or even unknown in media research. Therefore the method seemed promising.

Exploratory research develops out of data, which does not deductively follow a preconceived plan. It was clear that a test of the procedure and maybe its revision should be the beginning. It became research # 1. Two participants suggested to test experimental films to which they had access and without much discussion all agreed (researches # 2 and 3, an example of "oneness" requested by rule 1 of the qualitative-heuristic methodology). As both films, though very different from each other in form and content, turned out to be not easy to understand, we wanted to test a different and "easy to understand" topic which we assumed the daily TV news cast would offer (research # 4). Following rule three of the methodology, we accepted the "opposite" of news relevance and tested a TV news cast which was 20 years old (research # 5).

Topic	Data Collection	Data Presentation	Basic Methods	Number of Participants
# 1 Newscast of the day: Tagesthemmen ARD 10-10.15 PM, "first three topics"	individually	in group	pretest on method of documentation	6
# 2 Abstract cartoon film fragment, black & white, no sound, 11 sec.	in group	in group	pretest on use in group	9
# 3 Art film with actors, black & white / some color, 10 min.	in group	in group	experiment/ observation	9
# 4 Newscast of the day: Tagesschau, 8-8.10 PM "first three topics"	individually	in group	experiment/ observation	7
# 5 Newscast: 1980 ARD, originally 8-8.15 PM	in group	in group	experiment/ observation	7
# 6 Daily Soap: Gute Zeiten, schlechte Zeiten RTL, 7.40-8.15 PM	individually	in group	experiment/ observation	4
# 7 Homepage Daily Soap: Gute Zeiten, schlechte Zeiten RTL	individually	in group	experiment/ observation	4

Table 1

Another alternative seemed to be a "daily soap" cast which has a longer sequence with episodes dealing with everyday problems of a certain target group. Another topic was the home page of this TV cast - thus changing our topic from reception of a given stimulus to virtual reality. The different topics reflect the intention to cover variations of mass media communication (rule 3). We will continue by enlarging the samples and design new approaches depending on the analysis of the previous open questions which will arise from the analysis.

Analysis of protocols from five to ten participants were considered sufficient for this kind of research which sometimes can not be reached during the first session due to external circumstances. The analysis was done by members of the introspective workshop, all trained in qualitative-heruristic methodology. They said that they found the transcripts of their own reports similar to the others, which did cause some amazement for one spontaneous speaker. In this case, the analysts were Thomas Burkart, Gerhard Kleining, and Hartmut Schulze.

Doing the research and previously analyzing it - always looking at similarities according to rule four of the methodology - we learned that introspection gave information on the actual process of media reception. It turned out not to be "receptive" but rather an "interactive" process. It brought us to a level of abstraction where we could compare findings with existing theories which we now studied to compare with our findings. These concerned not only media "reception" theories but also empirical and theoretical fields. These fields dealt with interaction of individuals in their environment in general, with orientation and identity formation, symbolization and transformation, recall and learning - rather "grand theories" and were not restricted to a particular effect-non effect-registration of impact. The original topic was still the same - the method of introspection - but its representation changed from the narrowly defined topic of receiving a media's message to the operation of the psyche in respect to itself and its environment. Openness to accept this change is a requirement of rule one and two of the heuristic methodology on openness of the researcher and the research topic.

The following will present the steps of the research more in detail. We will concentrate on # 1-5, topics 6 and 7 will be discussed at a later occasion.

Pretest on method

The first investigation (# 1) tested the overall approach. Participants watched the first three topics of a television newscast and recorded their thoughts and feelings as early as possible, also trying "thinking aloud."

Results: (a) "thinking aloud" could not easily follow the quick sequence of the TV-recordings. It became obvious that transformation of feelings into words and sounds needed some time - trained sport reporter might have been better at performing this task because of their very rapid speech. Under time pressure, "thinking aloud" produced expressions of emotions and exclamations of short words and sounds (similar to reactions of fans in an soccer-stadium, which may be called the "soccer-stadium effect") also leaving unpleasant feelings with viewers at not being able to express their emotions fully. The film did not only arouse emotions but also repressed them. (b) The same was true for writing notes but or a lesser degree. (c) More time was available at the end of the film when whole sentences could be formulated but there were still the problems of transformation of quick emotions into slow writing, the fading of emotional impact and a fragmentary recall and formulation compared to the original experience.

We concluded that individuals should combine documentation of immediate reactions with a more detailed description without time pressure and use a group to stimulate their own recall of which they might have repressed or forgotten:

- writing catchwords simultaneously
- writing a more detailed description of the experience shortly after the broadcast
- presenting their thoughts and feelings verbally to the group, listening to the information from other members and, if available, present additional aspects to their reports

Analyzing these reactions, it became clear that the process of documentation involved several changes of experience:

- First a double transformation: of feelings first, to writing and then to speaking
- Second a transformation from private feelings to a socially acceptable presentation
- Third an extension from introspection to retrospection
- Fourth a change from ephemeral, fugitive experience to written and recorded documents

Seen from the outside, the documentation loses spontaneity, directness and richness of experience but seen from the individual researcher there is a broadening of his or her experience as it is reflected in different modes: a recall of the experience, documentation in catchwords, private notes, verbal presentation and the reaction to the presentation of group members.

Pretest on the use of the group

The next research unit (# 2) was to test and develop the method: showing the stimulus in the group, by silent recording of introspection individually and presenting the data immediately after it. This brought the recording closer to the actual experience. The film was a cartoon-like abstract movement of lines and forms of 11 seconds, a fragment.

The instruction was: "Be attentive to what happens inside you when watching the video. These impressions will be documented in writing after it." Participants were told about the length of the film.

Results concerning the method: (a) The collective image was regarded as more realistic than were individual perspectives. (b) The individual experience becomes clearer, not more blurred. (c) The proper introspection is not destroyed but becomes more precise and complete. (d) Individual introspection achieves more contour as part of a whole. (e) Participants can clearly decide whether reports of other members differ from their own experience or not. (f) Problematic might be the "half-public" setting ("Halböffentlichkeit," Schulze, 1998) of the group. Data from earlier research showed that some topics of the private notes were not presented to the group. This indicated us that an atmosphere of confidence, non-hierarchical group structure and trust is very important for this kind of research.

Results concerning content. (a) "Nothing" could be identified within the film sequence. This caused irritation, frustration and disappointment. (b) The feedback of the evaluation of the film what was expected did not materialize. (c) Searching for meaning - or coping processes - immediately started, leading to a rejection of the film and regarding the self as responsible for not understanding or being able to produce meaning - all with the function to reduce frustration and handle an emotional problem.

Examples of introspection data

Introspection # 3 followed the scheme tested earlier: individual (or group) introspection of several participants, if possible quick notes, longer description of feelings, verbal presentation within the group, tape recording and transcription.

The kind of data produced by this method is presented in the following excerpts. The topic was a daily television newscast: the prominent news was on a report of an airplane crash hours before.

The protocols presented here are parts of the introspective reports from three participants in the group session referring to this event, translated from German by the authors.

(Protocol A) "I started immediately writing down what ever came to my mind. The first thing was a picture of a - somehow - Bermuda triangle with a little x in it for the missing airplane and I thought this looks like a treasure-map and then I had the feeling that this was minimized somehow, I felt kind of an ambivalence - on the one side they emphasized that there were only Egyptians aboard the plane and no Germans and then I thought - well, well - and then they make such a tremendous search by the US marine force, somehow this doesn't fit together, if they devaluate that they were only Egyptians and then I thought why would it be that they suspect a terror-attack - why do they get this idea that it might have been one? Only because Egypt is situated some place in the Near East and they throw everything into one pot. And then I also noticed that they talk about the seriousness of the airline Egypt Air in a way as if they would have to emphasize particularly that this actually is a serious air line and then I think that they somehow assume that someone might regard the airline as irresponsible and kind of junk and then they show scenes in Cairo where they were lamenting about the bad organization, that the Egyptians do not handle this correctly, that they do not deal with the relatives in a right way and again and again they assert security. And somehow they had pictures of this airline which really looked shabby and somehow of deteriorated buildings and the flag also was completely ragged ..."

(Protocol B) "The first impression was that it is a catastrophe and that I knew it already because I have heard it on the radio and that there is no more hope and that they found corpses and that everything should fly to Cairo and that there were no Germans, but that for the others there is no more hope and that it is a catastrophe. Then I looked at the speaker, whom I did not know, I noticed that he had a very nice hairdo - well, good make up - then I learned that Boeing is a reliable air-company or has reliable airplanes and has maintained that everything was in order but there also was something about terror. Looking back, I could not verify if a terror attack was seen as possible or excluded. At any rate it is a mystery how everything happened and there are pieces floating around and in Cairo the state of emergency is announced - as a precaution, announced - and a center will be established to console the victims or rather the bereaved and there are breakdowns which also are shown and there is a funeral service and a press conference where they say that Egypt Air has a good reputation and crashed just once 23 years ago."

(Protocol C) "Well, despite this task I noticed that for me it is routine to watch this newscast, this was nothing special. I had a piece of paper and took notes but nothing occurred to me and also regarding this report about the crash of the Egypt Air flight I observed that maybe I should feel pathetic about it but I did not succeed at all and I only could gain a certain amount of boring disinterest despite having to look at it. What I then noticed was this remark that, of course, there was no German aboard, the news mentioned this matter quite strongly anyhow, that Germans had no part in it and there was a lot of talking, a lot of things presented, but actually it was not interesting to me. And I noticed that this always happens to me if I watch this newscast, that routine emerges, maybe it should be shocking but was simply covered with this habitual boredom which I associate with it. Finally I found at the end that this news maybe encourages me not to want to fly, well I don't have a tremendous fear of flying but I also have not been on a flight yet."

(Later in the protocol): " I would like to add something. I have been thinking about this report on the Egypt Air. There has been continuous reporting during the last weeks. And despite this tragic event - somehow 270 people died - this in a way or other was something of an anecdote, which I realized somehow but what, as mentioned, had nothing to do with everyday experience, nothing concerning myself and I did not talk about it with other people or was tremendously interested, it was such an everyday blah-blah, such a background noise which one hears every day."

The method creates complex and detailed reports about feelings, ideas, reflections and associations during and after introspection. Obvious is a peculiarity of form: it tends to be a sequence of small pieces of information not much related to each other ("then ... and then ...") though the film was better organized than selective reception. Verbal coherence would be stronger in narratives, e. g. TAT stories or narrative interviews, but weaker in emotional exclamations or free associations. Formally these reflections are placed between the level of verbalization of private (psychic) feelings and that of grammatically correct, well formulated sequences of sentences forming a story in a socially acceptable form.

The Art Film Research

The test object of research unit # 3 was a film of approximately 10 minutes length, the plot after a mystery story by the English author R. Middleton. The film is open to interpretation. Its content, according to the stage director, is:

"A tramp is on his way somewhere, meets another tramp. Walking the same route, they decide to walk together. Something must be wrong with the companion! After a short while the companion suddenly collapses ... and dies. The tramp continues alone until he sees the deceased leaning against a tree. Both continue their trip together without words and seemingly without a destination ... "

Introspection was done within the group, the research design and instruction corresponding to research # 2. Reports were tape recorded and transcribed.

Summary of results (more detailed in Burkart et al., 2000):

(a) Trying to find relations or the quest for meaning. All participants are concerned with the meaning of the film. Respondents ask themselves exploring questions: what was the effect of the film, how was it produced, what did it communicate? One person felt impatient for finding out what it means. Others are glad if they got the point, or "made sense out of it." There are attempts to connect the film with personal experiences (as a child, the experience of the death of a mother, other films which have been seen, hobby filming, etc.) or connecting to familiar categories of film analysis (art film, idealization of a plot). What cannot be reconstructed is rejected as strange and difficult to understand.

"Thinking about it, I tried to understand the meaning of the film. This was very difficult for me. I was constantly going around and around, what actually would be the message of the film? I went back from my contemplation which did not bring me further, back to the pictures of the film ... Maybe the author had a relationship with the actor, maybe they are friends. And the darkness in the film, whether this also had a meaning, whether this is a better alter ego ... I could not make any sense of it."

(b) Mental dialogues are used for exploration. They combine active and receptive modes and transformations.

- Passive / receptive qualities. The film constantly produces feelings, associations, recollections. Example: " I very quickly went into this emotional atmosphere. I did not reflect whether this is a god film or not. I took a note: depression, kind of heaviness, strenuousness."
- Active qualities. The same viewers also behave (mentally) active toward the film: they ask (inner) questions, produce expectations, even rework and change the pictures (e.g. change the colors), evaluate and interpret the content of the film (characters, events, music) and its form (cuts, colors). Example: "At the beginning I was very much expecting what to see after the protocol of our last meeting." "I

asked myself : Is this person is supposed to be a man or a woman? A little bit later I could decipher it."

- The dialogic receptive - active sequence. The process always involves a continuous interaction and change from one attitude to the other. An example:
"The music became very irritating, shrill, too loud. Then I asked myself who is it really, who is shown here? I wanted to find the meaning of this leading figure, the leading actor ... Then I observed that the leading actor has hair that is too long and that this is not fitting for the Fifties. And then I comprehended, he is supposed to represent a vagabond, a tramp. But this is not real life but role playing and show."

The report starts from the experience of an unpleasant musical impression (receptive), transforms the attitude into an (active) question about the person's identity, transforms him from a "figure" into an "actor" (active) with wrong hairdo proving his "role playing and show" - the transformation seems to be acceptable (receptive) and might also explain the impact of the music as unprofessional (would also be receptive).

(c) Discovery of meaning (summary):

- is an active search
- is a (mental) dialogue between the viewer and the film, the viewer receiving impressions and asking questions about it and receiving another answer etc.
- is an attempt to combine unrelated messages with known and accepted meanings, initiating a search within the mind for those meanings, which also is a dialogic processes
- if successful, will integrate the unrelated bits into the existing system of meanings - a kind of appropriation, if not successful the message will stay unrelated, the puzzle unsolved

(d) Three reception styles. We call them "involved", "detached" and "disinterested or bored". They roughly correspond to protocols A, B and C above. The styles present the predominant mode of mental interaction of a viewer with a certain communication form and content at a given moment.

- Involved reception is accepting, consonant, open for sensual impressions, or involved reception's feelings, sentiments, and associations -- even if they are touching or if the content is not immediately understood. Examples from various participants:
"The pictures were a little confusing at the beginning because I thought it is summer, judging from the light. But then there was a leafless tree. This I didn't comprehend. Also the words I did not understand, which they exchanged. At the same time I noticed that it

is not so important to understand the words but rather the feeling. And this was sympathetic. And then I thought: it is in harmony, they leave together."

Another person described the process as: "You will be addressed, you accept and are involved." The risk of involvement is that the film may bring strong emotions to the surface - in our group the death of a respondent's relative and the situation in a concentration camp. Protocol A is a good example of involvement which does not have to be positive but shows strong interaction between viewer and film.

- Detached reception. It evokes judgement, evaluation, description and has little acceptance of the emotions and sentiments aroused by the film. Examples:

"Well, the first impression was, that it is an art film. Yes. And that it is black and white and that it has music and that the music is very loud. And that I was somewhat disturbed. The sound was too loud for me." "I recall my own amateurish Super-8 experiments. We also filmed everything possible...." To legitimize emotional distance, parts of the film are criticized: music too loud, too aggressive, unrealistic presentation, unpleasant associations, moral advice to the viewer, manipulation of him or her. Strategies of detachment are devaluation of the film, making fun of it, observing (constructing) contradictions between reality and film. That detachment is not equal to negative evaluation can be seen in protocol B above.

- Disinterested or bored reception. This form of reception did not occur within this research but was very obvious introspecting the newscast 20 years ago (# 5). It also was a reaction to the television newscast of the day (protocol C):

The respondent describes himself as a routine viewer, regarded the crash report as disinteresting and boring. However, thinking about it later, he discovered that the reason for his disinterest was because it lacked any relationship to his private life and world.

Summary of findings - a preliminary view

1. The basis of a relationship between an audience and a communication "product" (a newscast, a film) is the mental interaction or the mental dialogue between a person and the product.
2. Interaction or dialogue are techniques of viewers to explore the possibility and their kind of relationship toward the product.
3. Meaning attributed to the product identifies its position of the audience in the social environment which serves as a background or a frame of reference.
4. Lifeworld research of actual or prospective audiences must be considered an important part of media research.

"Ground" (versus "figure") is the term used in perception psychology, "frame" by Goffman (1974). We prefer the concept "lifeworld" which has a philosophical tradition as it was elaborated by Husserl in his phenomenology and is part of later developments in this tradition. In empirical research lifeworld as a complex unit integrating socio-economic, psychic, social and cultural conditions of a person or social group. (For empirical lifeworld classification, see Krotz (1990); Kleining & Prester (1999).

5. Three interactive styles represent different forms of the dialogic processes. The interaction (or receptive) style is dependent both on the product and the lifeworld of the audiences.
 - Involved reception is characterized by a rich mental dialogue covering many areas of psychic activities, including emotional interaction. This dialogue will find many different topics and perspectives for the interchange of ideas, thoughts, emotions and sentiments, and connect with it different experiences and meanings: past and present. Transformations will change meanings to get them closer to the viewer. The viewer does not have to agree rationally or emotionally to everything which a topic represents but the fact that it offers interaction will already be experienced positively.
 - Detached reception goes along with diminished or no interaction. The distance between the film and the viewer is considerable and the viewer might be more concerned with himself or herself than with the product. Transformations might be used to get away from the product and place a distance between the two "worlds", that of the medium and that of the viewer. There will be criticism rather than positive comments but distance is an evaluation in itself and not dependent of the positive / negative scheme.
 - Disinterested and bored reception. This does not necessarily mean "distance" or "lack of impulse". Psychologically it rather means "inhibition both of the urge for activity and for the readiness to accept the longed-for incitatory stimuli." (Fenichel, 1934, 292, his italics). A dialogue with the product is attempted, the viewer is open for information but the product only can send unrelated and therefore meaningless messages. A need or requirement, which is not satisfied, may be experienced negatively.
6. Introspective research sees the individual as an active person who is constantly in dialogic interaction with her or his environment and with herself or himself, using particular techniques to learn about her or his outer and inner world, adjust to it and change it. It could help to design a generalized theory of communication processes which go beyond media reception theories in their known forms (Shannon & Weaver 1949; Hall 1972, Jensen 1991).

The method's state of development and its possibilities

- Dialogic introspection in groups can offer access to mental processes which are not as easy to obtain by qualitative research methods described in textbooks (Larsen, 1991; Lindlof, 1995).
- Dialogic introspection is not restricted to particular topics.
- Dialogic introspection brings intersubjectivity into a seemingly subjective method.
- Participants had no problems with the method but those not experienced with systematic introspection may have to receive some training before introspecting in a group.
- Dialogic introspection in groups is a rather efficient technique for the collection of intrapsychic data.
- Possible limitations are (a) its dependency on verbal and written data. This the method has in common with other qualitative research techniques. We have indicated that nonverbal data also could be applied but have not yet experimented with it. (b) The empirical basis is yet too small: extension and variation of research topics are necessary to define the range of applicability of findings. The qualitative-heuristic methodology suggests the use of extreme groups for this purpose.
- Several theoretical fields could profit from introspective research by:
(a) Having a new look at recall and learning processes. (b) Exploring the much discussed, but little understood process of "Verstehen" instead of relying on plausible descriptions. (c) Investigating processes related to fantasy production and its relationship to problem solving. (d) Exploring transformation processes which could draw on concepts of Symbolic Interactionism, sign- and symbol theory and association theory, among others.

The main attempt of dialogic introspection would be the integration of empirical research on intrapsychic processes into communication theories which tend to be social or cultural theories. The psyche should be the missing link rather than a black box.

In sum: Research so far conducted with this method in a context of discovery definitely encourages continuation of the investigation and enlargement of its topics. There is an expectation to learn more not only about particular research questions as reception analysis in mass media but also about themes of general empirical and theoretical importance.

What to do with qualitative methodology?

The authors suggest to explore the possibilities of the qualitative-heuristic methodology in various fields of psychology both in basic and in applied

research. It would stimulate methodological interest in classical research work and re-animate approaches which were dismissed or repressed during and following the Nazi period in academic research. Also it would offer a chance to bridge the gap between research associated with different forms of data (qualitative versus quantitative) or different topics (humanities versus natural sciences) which was seen as a border dividing different methodologies but actually is obscuring important differences in strategies of research: explorative versus descriptive, heuristic versus hermeneutic, critical versus affirmative research.

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Note: Historical works in the text are listed under their original publication year, pages refer to the later edition mentioned in the bibliography.

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The Process of Understanding in Qualitative Social Research

Julia Nentwich

What is understanding?

The question I am addressing here is, how we can be confident that we have understood¹ a certain passage in an interview properly. What do we mean when we are saying that we have understood a particular part of a text? The fact, that we do understand what was said is taken for granted and not reflected by most methodologies. Researchers use their everyday hermeneutic knowledge and competence, but it is never really made explicit how they exactly would do this.

- The question remaining is: "What exactly do researchers do when analyzing a text?" Reflecting on this question provides a basis for the discussion of the following topics quality criteria for qualitative research
- the justification of methodological procedures
- how to teach qualitative methods

Leithäuser & Volmerg (1988, p. 119-130) have taken this problem more seriously, than for example, grounded-theory-oriented methodologies (i.e. Strauss & Corbin, 1999; Witzel, 1989, 1996). Leithäuser & Volmerg talk about *understanding as a method*, which means that they use the everyday hermeneutic competence of every researcher as a method for understanding. To do this thoroughly, it is necessary to define the notion of *understanding* and how it could be used for justifying the research process. In doing this they refer to Wittgenstein's notion of understanding as participation in a *language game* (PI 1-23).²

¹ I am referring to texts originally written in German. All technical terms were translated from these texts. With *understanding* I am referring to the German *Verstehen*.

² PI is the abbreviation for Wittgenstein's "Philosophical Investigations". The numbers are referring to the paragraphs. All citations and page numbers are from the German issue "Philosophische Untersuchungen" (1997, first published 1953).

Drawing on Wittgenstein: Understanding as participation in a language game

For Wittgenstein understanding is possible because we are all participating in specific language games (PI 23 & 206). That is all we need in order to understand each other. This means, that the meaning of the words depends on the context in which the words are used. Language games describe the frame for this context. Language in Wittgenstein's understanding cannot be seen as only words – it contains acting and performing as well (PI 7). Talking is part of an act – or a form of life. This implies that the meaning of a word is identical with its performance and cannot be found in the word itself (PI 38-43). There is no "real" meaning, no meaning in the word itself. If I know *how* a certain word is used, then I know what the meaning is. This implies that language does not exist for its own sake but only in language communities and its particular performance in that context. Wittgenstein calls these communities *forms of life*. Forms of life are the cultural frame or horizon for the language game (PI, part II, p. 572). The concept of the form of life is closely connected to the concept of rules: *Forms of life* and *rules* are the two concepts on which the language game builds on. This explains how meaning evolves in language games (see picture 1).

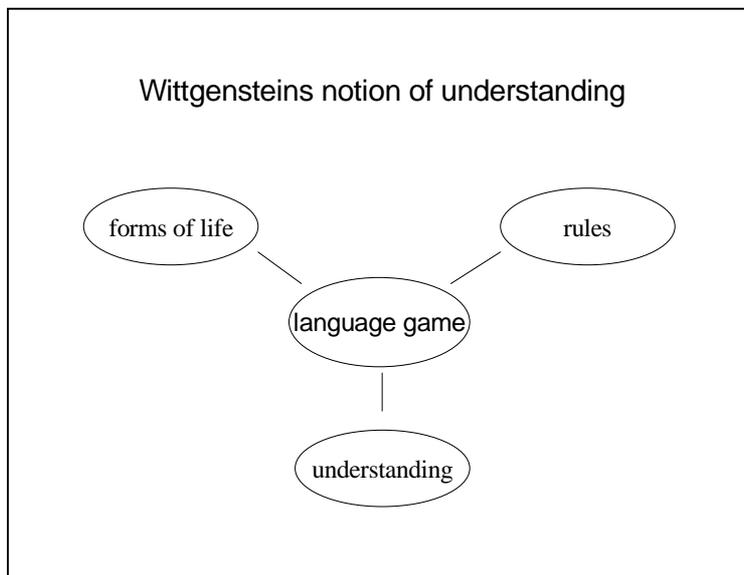


Figure 1

Each language game has its rules, and if we play a certain language game we are engaging in certain rules (PI 217-241). Following a rule in a language game means participating in a social practice which is only possible in a given community. The rules are identical with the agreements in this community. The rules of language games are not firm however, – they are flexible, indefinite and vague (Leithäuser & Volmerg, 1988, p. 125ff.). It is possible to change the old rules into new ones or to make up new ones. If one is following a rule in a language game, one is following a tradition or practice. Rules describe acts in a certain context and therefore have a close link to the meaning of those acts.

What does this tell us about understanding? Following Wittgenstein, talking is part of an act – or a form of life (PI 23). The meaning is created in language games that are following flexible rules depending on the form of life. This means, that understanding is only possible, if one is *participating* in a certain form of life. "Wenn ein Löwe sprechen könnte, wir könnten ihn nicht verstehen." ("If a lion could speak, we could not understand it" PI, part II, p. 568, translated by the author). We could not understand the lion because we are not participating in its form of life. It would also be impossible to understand the meanings of our ancestors or, as Europeans, the Chinese, if we are not participating in their forms of life (Grayling, 1999, p. 135). Participating in different forms of life is the only possibility we have to *join* in a certain understanding. Wittgenstein's notion of understanding is not "primarily concerned with anything mysterious going on inside our head, but simply with us 'going on' with each other, with us being able to sensibly 'follow' each other, to intertwine our activities with those of others" (Shotter, 1995, p. 1). Understanding is not a feeling or psychological process but the possibility or chance to participate in a form of life (Fischer, 1991, p. 58).

Methodological implications: participation, systematization and documentation of the research process

Leithäuser & Volmerg (1988, p. 234-261) use Wittgenstein's notion of understanding as a foundation to explain what researchers should do when evaluating qualitative research. To make understanding possible, one has to participate in the forms of life and join the language games. Leithäuser & Volmerg suggest the so-called *Kernsatzmethode*³ as a method for text analysis. Using this method one looks for *natural generalizations* or subtitles that break the text up and express the main topic of the abstract (Leithäuser & Volmerg, 1988, p. 245) in the language used by the interviewed person. Being forced to use the subject's

³ The term "Kernsatzmethode" refers to the identification of central sentences in the text.

own words for discussing and legitimizing the interpretation is a way of participating in the language game. The Kernsatzmethode is an attempt to reduce complexity within the material and at the same time minimize the loss of context. The method also suggests that the researcher needs to provide the findings along with the context, providing as much context as is necessary for readers to join in. Understanding without knowing the context, in which the meaning was created, is impossible because the participation in the forms of life is not possible without context.

Two other important parts of the research are the *systematization* and *documentation* of the interpretation process. Leithäuser & Volmerg (1988, p. 256) developed a model for systemizing their psychoanalytic oriented research. In addition to Wittgenstein they make reference to Lorenzer and his notion of *scenic understanding* (Lorenzer, 1995). The Model distinguishes four different levels of understanding: the subject or content ("what are they talking about?"), the relational level ("how do they talk with each other?"), the pragmatic level ("how do they talk about what?") and the intentional or scenic level ("why do they talk in a certain way about something?"). Each level in the communication model guides the researcher to different questions and therefore helps to navigate through the research process. I am not discussing their model in detail because the purpose of this paper is more general and not focusing on psychoanalytic social research.

Having a model that tells the researcher what questions to ask in order to accomplish understanding changes the research process from an indefinable and intuitive process to a process consisting of several conscious steps. The process becomes easier to navigate and allows others to understand what has been done. The model is built on everyday communication skills. This includes both the questions asked in everyday life in order to achieve understanding as well as the questions developed from a specific research interest. This model leads to the identification of the rules one has to follow to achieve understanding.

Systematization of the interpretation process implies that this process must be made explicit: That is, what the documentation of the process of understanding means. One has to record what questions were asked and where and in which context the answers were found. Or – according to Wittgenstein – one needs to become aware of the rules one has followed to achieve this understanding.

The short reflections on the notion of understanding give us an idea about what issues should be tackled in the future and clearly show that the discussion has by far not reached an end. There is still a lot of work to be done. The argumentation of the more explicit tasks of participating, systematization and documentation, however, give us some interesting clues for future discussion of the following kind of issues:

- The criteria for qualitative research
If understanding is possible through participating in different forms of life and playing the same language game, then the process of participation should be the basis for quality criteria in qualitative research. Developing and discussing different models for the systematization and documentation of the research process could lead to more specific guidelines regarding general quality criteria of qualitative research.
- The justification of methodological procedures
Wittgenstein's concept of meaning and understanding enables researchers to explain what is meant by the notion of understanding in a certain context and how the process of understanding was navigated, systematized and described. This is the basis for reasonable and therefore well-founded qualitative research. Well-founded research is where its results can be legitimized and justified through the explication of every step in the process; for example, the explanation of a specific procedure preference and its consequences.
- The teaching of qualitative methods
The Kernsatzmethode is a detailed step-by-step "what to do description" of how to read a text and how to perform an interpretation. Additionally, the systematization of the research process provides guidelines for students when conducting their first qualitative research. Taking part in different research processes through a method of documentation would give students some clues about what questions to ask in order to be able to interpret a text.

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Forming Categories in Qualitative Data Analysis

The Teaching Research Project "Teachers' Attitude and Practice concerning Elementary Science in Primary School"

Bernd Reinhoffer

Categories in qualitative methodology and qualitative teaching research

In qualitative data analysis categories have a very important role to play: "They are retrieval and organizing devices that allow the analyst to spot quickly, pull out, then cluster all the segments relating to the particular question, hypothesis, concept, or theme. Clustering sets the stage for analysis" (Miles and Huberman, 1991, 80). As descriptive frames of analysis, categories must be more abstract than the material they categorize (or are supposed to categorize) under more generalized concepts. "They constitute generalizations which have evolved from the level of concrete empirical fact; they are therefore theoretical statements" (Mayring, 1996, 79).

How to build categories in qualitative data analysis? I will refer to the methods described in theoretical literature. Some of the problems involved still remain: How precise are the built categories and are they distinguished logically? How can categories be united or divided in a systematic manner? Do we really register all relevant aspects of the research field? For the domain of qualitative teaching research I suggest to add one more way of forming categories. It was elaborated and tested in the project "Local Studies and Elementary Science for Young Beginners - Developments, Significance, Tendencies" (Reinhoffer, 2000). In my opinion we have a special chance in educational research: This is to deduct categories from educational meta-theory. The following chapters deal with these aspects of category formation in teaching research and present some results of the educational research project mentioned.

Research questions and methodological decisions

What do teachers say about their attitudes towards the subjects of the first two grades in German primary school? Do they give priority to the so called "culture techniques" (reading, writing, arithmetic)? Or do they orient themselves from the situation of the class or the pupils and deal with commonplace themes, in which they integrate courses of instruction in the culture techniques? Are they able to transpose their attitudes into practice without any loss at all? To what extent do ideals correspond with everyday work? And how do teachers react if faced with differences

between ideals and practice? I decided to focus on elementary science. Elementary science is the translation of German primary school's subject "Sachunterricht." It contains elements not only of natural and technical science but also of social studies, and enables children to interact with their local environment on various levels.

In order to understand the effect of elementary science on teachers, colleagues of the 1. and 2. grade, the so called "Anfangsunterricht" (elementary instruction), were interviewed in an empirical pilot study. I used a half-structured interview guide to give an orientation to the interviews (problem-centered interviews according to Witzel, 1985) and resulting conversation. Within this structure it was possible for the teachers to narrate and express themselves frankly. Twenty-nine teachers of public primary schools in villages, small and big towns in Baden-Württemberg, a state of the FRG, took advantage of speaking freely in these interviews. They presented a lot of information about their personal attitudes towards elementary science and their daily practice in planning and holding lessons. I received astonishing insights into their week-day!

Following the advice of Oswald (1997), I examined a central problem with many single cases instead of asking voluminous questions in few case studies. Besides "opportunistic sampling" Patton (1987, 51–61) enumerates at least 10 strategies for "purposeful sampling" within qualitative research. In this study the following strategies were combined: The maximum variation sampling (e.g. teachers of different age, formation, working in different locations or structures), the homogeneous sample (e.g. "the whole school-team" of teachers in 1. and 2. grade), and the snowball or chain sampling (s. Ulich, 1985, 78).

The sampling could not be regarded as representative. When the material was compared with statistical data of the Statistisches Landesamt Baden-Württemberg, however, it showed that those teachers were not a peripheral group. Model- or reform-schools were not examined, because I agree with Hartinger and Fend, that an extra ordinary profile of a school would even increase the unavoidable and statistically uncontrollable influence of each single school (s. Hartinger, 1997, 90f).

The transcribed open, half structured interviews were interpreted according to the research progress model that Mayring (1996, 53) suggested for qualitative, structuring data analysis. Elements of type-building and elements of summarizing data analysis were integrated. The postscriptum and a short questionnaire supplemented the level of data adding socio-demographic data. Computer aided interpretation of the transcripts was supplemented with the program AQUAD five (Huber, 1997).

Formation of Categories in Teaching Research

Deductive and inductive formation of categories in qualitative data analysis

The development of a system of categories forms a core-element of qualitative data analysis. In methodological literature three different methods of categorization are discussed:

1. In stricter empirical classifications, categories can be developed directly from the material (see for instance Glaser & Strauss, 1984; Mayring, 1999, 79f.)
2. Categories can be derived in a more theoretical classificatory sense directly from theoretical preliminary considerations (e.g. Bos & Tarnai, 1989, 9; Früh, 1991, 91).
3. There is the orientation toward the direction of research interest that is manifested in approach, hypotheses, core-concepts and important thematic issues (e.g. Miles & Huberman, 1991, 56; Kuckartz, 1997).

The second two approaches result in deductive category formation (top-down strategies). The first methodological approach must be regarded as an inductive form of categorization (bottom-up strategy). The "coding paradigm" of Grounded Theory (Glaser & Strauss, 1984; Strauss & Corbin, 1990; Strauss, 1991; Glaser, 1992) follows this approach and accentuates theoretical openness: The development of a theory takes its initial position in the material, and less in the exchange between material and theoretical pre-assumptions or hypothesis. Theoretical concepts are developed through "open coding" and "selective coding" (Glaser, 1992) respectively "open coding", "axial coding" and "theoretical coding" (Strauss, 1991).

Without pre-assumptions or hypothesis the coding is oriented in the collected data, and patterns are deciphered in a second step. Openness is regarded as obtained when the data can be coded and arranged theoretically in totally different manners. Therefore, they are coded in an axial respectively selective way and finally put together under a central theoretical aspect, that develops itself. What doesn't fit into the system of the categories has to be examined carefully and then can be attached to a rest-category. Striking and relevant remarks are supplied with memos and will be considered once again during later examinations of the material.

Flick (1991, 65) points out that it is possible to combine these approaches. The construction of a descriptive system is thus located within the relation between theory and empirical studies. The focus can be directed more to the theoretical or more to the material-orientated field. "More theoretical classifications are derived directly from

theoretical pre-considerations and applied to the material. More strongly empirical classifications are developed from the material itself and then integrated into a theoretical context." (Mayring 1996, 80).

Deduction from meta-theory – a speciality of deductive formation of categories in educational research

A fourth approach has been embarked upon in an educational research project (Reinhoffer, 2000): the meta-theoretical level was also taken as a starting-point. This was made possible by the "measurement" of the educational field through the empirical approach of what is known as the "Berlin Model" (e.g. Heimann et. al., 1972) and the "Hamburg Model" (Schulz, 1980). These "general educational models" (Allgemeindidaktische Modelle) enumerate structural elements in classroom teaching. As meta-theoretical structure theories (Peterßen, 1994, 26 and 119f) they facilitate a more exact analysis in the complex area of school instruction.

Heimann (1972) arrange structures out of observations of teaching units. The everyday field of teaching is regarded by the Berlin Model as defined by decision factors affecting intentions, topics, methods, media and conditioning factors of anthropological-psychological and socio-cultural pre-conditions. Blankertz (1969) comes to the thesis that constant interdependence with negative excluding character: These factors are mutually dependent, i.e. interdependent.

Schulz (1980) develops this "Berlin Model" into the "Hamburg Model." This activity- model contains teaching objectives (intentions and topics), mediation variables (methods, media and teaching assistance), the basics of teachers and learners and success control. The didactical activity is embedded in institutional conditions and even more in the self-understanding and the ideology of all those involved in school activities, respectively socio-political and economical relationships.

Möller, Tenberge, and Ziemann (1996) take up these elements in their examination of technical education in elementary science, by distinguishing between micro-levels and macro-levels. Micro-levels are situative conditions like location, equipment, offers of education and further instruction, additional school characteristics as well as individual characteristics like attitudes, estimations, wishes and needs, personal conditions and personal characteristics and macro-levels are socio-cultural, political, legal and economical context.

Authors like Heimann (1972) describe and analyze the basic structures of a teaching unit and examine it for procedures of empirical sciences. These relationships also have pragmatic reason in regard to research. Therefore, the field of research could be structured systematically for the description: From creating questions up to the building of categories.

To preserve "openness" for the field of research, a heuristic model was developed in order to structure and organize the field of examination. The structures of the "Berlin Model" and the "Hamburg Model" were adequately supplied in regard to the research intention like in the "Empirische Bestandsaufnahme des Sachunterrichtes (EBESA)" of Marquardt-Mau, Geiser, and Langenheine (1997) or in the examination of technical education in elementary science by Möller, Tenberge, and Ziemann (1996).

In my educational research project, elementary school teaching staff were interviewed on their attitudes towards the subject "elementary science." Topics, methods and media were categories which I would describe as "formally relating to one aspect" or as "formal groupings" in the evaluation responses relating to intentions. In my opinion, such categories, deductively formed from educational meta-theory, offer the chance to follow the advice given by Miles and Huberman (1991). This advice is to establish a very general, non-content-specific frame of reference for the search for meaningful units. This is an opportunity to rationalize the operational sphere before texts are read. During the analysis of individual texts, this frame of reference then serves to aid decisions on meaningful units.

The advantages of this method are obvious:

1. Formal categories derived from educational meta-theory prevent oversight of individual structural features of the object under discussion.
2. With these formal categories as a basis, all structural features can be examined expressly for certain biases of content which possibly have not yet been addressed in the theoretical preamble.
3. In accordance with interdependence theory, mutual influence of certain features is to be expected. These can be described in content-terms and thereby made clearer.

On the advantages of distinguishing formal and material categories

As categories of evaluation are always to be regarded as temporary constructs, the non-content-specific frame of reference and the units of meaning must remain open and accessible to revision, complementation or even replacement. This is made easier by distinguishing between formal and material categories.

Teaching staff gave information about the ways they conducted their classes with regard to different decision factors and to pre-conditions established subjectively or objectively according to the heuristic frame (Allgemeindidaktische Modelle). The responses were placed in formal categories which had been derived deductively from meta-theory.

Formal categories therefore relate to a particular dimension or thematic field connected with the object of examination. They define such a field, giving it shape, structure and dimension. Formal categories establish no emphasis or focus on particular aspects and dimensions of the field examined. They remain, that is, open, formal frameworks which can be filled with content.

This occurs through valence and intensive analysis and leads to the establishment of "material categories" which flesh out the formal structure in terms of content, and also establish focal points of emphasis. Material categories thus define the areas of the focus on content within a formal category.

The formal category "lesson planning=PLA," for example, contains statements which describe generally the planning of teaching units. It contains statements about different planning activities, about orientation on textbooks, or about the average time needed to prepare elementary science lessons compared with other subjects. The material category "planning teaching units with subordinate elementary science=PNR" contains statements in which elementary science is described as mainly subordinated. It is also possible to distinguish planning teaching units according to a preference status or a equal status model for elementary science (s. 4.1.).

Another example is that it is possible to collect all statements that the teacher makes about cooperation, in the category KOP (=Cooperation). The quality of cooperation can be judged as positive or negative. Within the formal dimension KOP we receive two statements of material categories, KOPNEG=inadequate cooperation and KOPPOS=successful cooperation. There is a third possibility, a non-valuing statement about cooperation. In this respect there are three possibilities in this formal category KOP.

Only formal categories were derived deductively from meta-theory. The research interests and the theoretical constructs (in this case models for the status and position of elementary science within elementary instruction) were formulated on the basis of the teaching method model theory (Didaktische Modelltheorie) and put forward by Popp (1970), Knecht-von Martial (1986), Salzmann (e.g. 1986) and Plöger (1992). The theoretical construct, then, allowed material categories also to be created.

However, formal and material categories were also derived inductively via memos from the material, according to the principles of Grounded Theory. Keywords and dimensions are constantly compared in different cases according to the "constant comparative method." This method is the basic approach of Grounded Theory. The critical moment, according to Shelby and Sibert (1992), is when inductive conclusions drawn from the material are checked with general principles by drawing deductive conclusions back to the database.

Results and discussion

Models for the status of elementary science in elementary instruction

How important is elementary science in elementary instruction for teachers? Statements of the teachers about this status were classified in three groups. The "preference status model" (Vorrangmodell), the "equal status model" (Gleichrangmodell), and the "subordinate status model" (Nachrangmodell).

The preference status model contains a preference rating. Teachers (11 of 29) rate elementary science as predominantly preferred to other subjects. "Well, for me the elementary science is just central," (interview 3, line 9-10). The preferred lesson planning (7 of 29) and implementation (8 of 29) regard elementary science as central subject, and as basis for all teaching in primary school. For instance, elementary science is used for teaching about the seasons. The teachers take hours above average for elementary science, so it becomes the core element of teaching.

In the equal status model teachers regard elementary science as equally important to other subjects. "Well, equally with German and arithmetics in any case" (interview 27, line 1232-1234). The equal lesson planning (4 of 29) and implementation (5 of 29) treats elementary science as an equally valued subject. Elementary science is one subject among others, not a basis or an addition to their teaching. The teachers use an average amount of hours per week for the elementary science and regard this as sufficient.

The subordinate status model reflects a subordinate rating. Teachers rate elementary science as predominantly subordinated compared with other subjects. "Well, the priority is reading and writing and to master the numbers" (interview 21, line 583-584). "That is just a matter of peripheral interest" (interview 8, line 381-383). The subordinate lesson planning (15 of 29) and implementation (16 of 29) put elementary science aside, while the central subject of teaching is culture techniques. The teachers use only a few hours per week for elementary science.

Basic orientations

Interesting to me are the basic orientations of the preference and subordinate models offered by teachers. In their explanations of their attitudes and behaviors, they explain the preference model of the elementary science in regard of social- and personality education. I like to characterize teachers with the preference model as fact- or student-oriented. They offer education that is aimed at children and based on the topics of elementary science. Here, culture techniques serve as the means.

I like to characterize teachers with a subordinated model as culture-technique or norm-orientated. They intend to teach culture techniques in

elementary instruction and place less emphasis on elementary science. The subordinated model, on the other hand, is based on the preference of culture techniques by teachers. The teaching of culture techniques is regarded as the central goal of primary school. Disciplined behavior and the perfect mastering of culture techniques are requirements for elementary science. Elementary science itself is described as burdened by intensive preparation need and indefinite learning goals.

Evaluated with the aid of the computer program Aquad Five (Huber 1997), interview transcripts illuminated the possible relationship between socio-demographic data and teachers' attitudes. The results of the evaluation allow hypothetical statements about possible relationships. Education and professional experience seem to play an important role within the preference model. Teachers with (at least some) knowledge or training in elementary science tend to rate elementary science with preference and also to implement it with preference.

All teachers with a preference rating of elementary science or a preference implementation have sufficient experience. Certainly not all experienced teachers, however, prefer the preference model. If wider studies could prove these results, some claims about teaching would need to be renewed: Support would be due for profound elementary science education for all students, for cooperative embedding of all beginning teachers and for better equipped schools.

The gap between ideal and practice

Gaps were found between the ideal conception (statements about ideal ranking) and statements about the actual realization of lesson planning and lesson implementation. The difference between ideal and implemented practice appears in two forms: First, there is a difference between high rating and mediocre implementation. Secondly, there is a gap between mediocre rating and high implementation. Teachers are dissatisfied with both gaps.

1. Difference between preference rating and equal- or subordinate-lesson planning and implementation. Teachers plan and rate elementary science as preferred and like to plan it accordingly, but the implementation leads to equal- or subordinated rating. Reasons are, according to the teachers, the pressure built up by the amount of topics and the expectations, and the fact that the discipline was easily combined with culture techniques. Further reasons were lacking acceptable instructional preparation, having less time for open elementary science, the textbooks used, and the fact that teaching seems much simpler after finishing culture techniques.
2. The difference between equal- or subordinate rating and equal or preference- lesson planning and implementation. Teachers plan and rate elementary science as equal- or subordinate, but the implemen-

tation leads to equal or preference rating. Reasons are, according to the teachers, unexpected events like projects (lasting days or weeks) or an unexpected great interest of children in a certain topic. Sometimes the teachers had taken up additional topics.

Attempts to bridge the gap

Some teachers expressed inconsistencies between their ideals and their practice, and their unsuccessful attempts to bridge this gap. This is why they only talked in limited ways about elementary science teaching, e.g. referring to certain time periods in the school year. Most of the colleagues with subordinate ratings (8 of 11 answers) or with subordinate lesson implementation (9 of 12 answers) represent such stages with varying ratings or varying implementations during the 4 years of German primary school. Indeed we found four different types:

1. Subordination of elementary science up to the end of culture technique. Elementary science stays subordinate until all elements of culture techniques are almost finished, i.e. in the first grade, it is taught only during the days right before the three main vacation periods (before Christmas, Easter, and the summer vacations). The culture techniques are regarded as requirements for successful results and successful presentations in elementary science. With the arrival of spring, some teachers prepare local field trips and thereby increase the proportion of time spent for elementary science. A subordinated rating at the beginning of the school year is regarded by teachers to be in accordance with the children's interest in learning reading, writing and arithmetic. Additionally, the amount of topics in the culture techniques serves as explanation for this type of teaching organization.
2. Increase of importance of elementary science from grade 1 to 4. Some teachers noted an increasing importance of elementary science from grade 1 to 4, because the children work with increasing independence and have therefore more possibilities to acquire knowledge.
3. Partial reduction of importance. An other group of teachers decreases the importance of elementary science several times. For example, at the end of grade 2 or 4, because at the end of these classes the children have to master their topics in culture techniques and are tested at this time for grades. Here, the pressure to do well and receive good marks has an impact on the emphasis of teaching.
4. Frequently changing evaluations. Here, teachers change the nature of their evaluations during one school year or during the whole four grades. Changes are due to the habit of planning in weekly units (Wochenplanarbeit) or due to a teaching practice based on student projects that last several days or weeks.

Building phases like these create wide gaps in the transfer of profound education. Experiences with natural and social- scientific or technical aspects of our life are delayed.

Conclusions

Content-specific conclusions

The results of this pilot study are not exhaustive. Further research is necessary because in "the didactics of elementary science there is a great demand for descriptive and explanatory knowledge proofed by research" (Einsiedler, 1997, 38). I think it is worthwhile to make progress in further research in this area, using both qualitative and quantitative methods. Developments of teaching-method-theory and practice of elementary science in elementary instruction could be improved by understanding different model perceptions. In addition, conclusions and prospects for teacher education could be expanded. Even the equipment of schools and the amount of hours for teachers is of interest. Finally, the debate about professionalism could be benefited especially for teachers in elementary instruction.

About the understanding of primary school

Further research is needed about primary school and elementary instruction. Studies like this can benefit teachers, students, researchers, politicians, and even pupils. I am concerned about the danger that grammar schools are limited to teaching culture techniques. I argue that primary school is more than the training of three culture techniques and that consequences education are needed. The goal of profound education (Faust-Siehl et al., 1996; Gesellschaft für Didaktik des Sachunterrichts, 1998; Klafki, 1992; Lichtenstein-Rother & Röbe, 1993) is not only dealing with letters and numbers. The orientation of the topics in the reality of the children with thematic units in the center of teaching offers more opportunities for lively teaching.

Constructing and analyzing lessons

Evaluations of the role of different subjects are made possible by ranking models of elementary science in elementary instruction and by a reconstruction of lessons. With the help of the models, planning and implementation of lessons are far easier to create and are more open to discussion. Here we find the possibility for discussions between colleagues and ad-

visers. Differences are to be identified and analyzed. A discussion about it can be an impulse for increased cooperation with colleagues, starting with the exchange of material. Important to me is also the question of matching the model of rating elementary science in elementary instruction to the school's profile.

Differences between evaluation and practice of teachers can be shown with this research. Considerations about the relation of education, experience, hours of work, media- and material- equipment have to be formed. An intensive discussion of advantages and disadvantages of different ranking models has already been made (Reinhoffer, 2000, 304ff). The different topics of elementary science should remain varied and follow the principles of exemplarity. A systematical training of reading, writing and arithmetic is still required.

Methodological consequences for qualitative research on teaching

In my opinion, the combination of deductive and inductive category formation, the deduction of categories from meta-theory and the distinction between formal and material categories can help to improve the effectiveness of work and exactness of procedures in qualitative data analysis.

Combination of deductive and inductive category formation

At first, categories for further research are based on existing theory. "Categories are formed out of an operational procedure with respect to the material out of earlier examinations, research, recently developed theories or theoretical concepts" (Mayring, 1997, 75). Inductive formation of categories derive its evaluation-instruments directly out of the material without regarding pre-established theoretical concepts. It "intends the most possible naturalistic, objective reproduction, a perception of the object in the language of the material without distortion caused by pre-assumptions of the researcher" (75). Grounded Theory describes this process as "open coding."

The argument of Lissmann (1997, 110) is in favor of mixed forms: "If codes were derived out of data there will be the danger of early binding to a certain code which could exclude alternative concepts." Huber (1994, 27) points out the necessary supplement of deductive approaches with inductive elements: "Only this inductive approach guarantees that one has access to the subjective philosophy of life of the other person and that not a few elements of it, possibly without any recognizable context are caught in the researchers framework." The variants of qualitative data analysis offer the advantage of theory guidance at least partly compared with the pure form of Grounded Theory.

Deductive category formation from teaching methodological meta-theory

The "measurement" of the educational field through the empirical approach of the "Berlin Model" (e.g. Heimann et. al., 1972) and the "Hamburg Model" (Schulz, 1980) two meta-theoretical structure theories allow us to enumerate structural elements in classroom teaching. In the educational research project "Teachers' Attitude and Practice concerning Elementary Science in Primary School" answers of elementary school teaching staff were classified concerning their attitudes towards the subject "elementary science." The responses were categorized in "formally relating to one aspect" or as "formal groupings," e.g. relating to intentions, topics, methods and media.

These categories, deductively formed from educational meta-theory, served as a basis in my the search for meaningful units. This procedure proved to be a contribution to rationalizing the operational sphere before texts were read. That frame of reference then served to aid decisions on meaningful units. It prevented an oversight of individual structural features of the object under discussion.

Distinction between formal and material categories

The efficiency of work is a general problem of qualitative data analysis. If one wants to compare individual evaluations in an advanced stage of analyses she or he needs to examine the meaningful units and their coding in all interviews with respect to their coherence. If necessary one has have to change them. Miles and Hubermann (1991) offer a compromise in regard of efficiency. They suggest creating a non-content-specific frame as a tool for the search of meaningful units. During the analysis of text, decisions about meaning units and meaning in general should be made within this frame. The suggestion is acceptable because the reduction of data takes already place at the planning stages of the examination. I transferred this into the differentiation and distinction between formal and material categories.

Table 1: *Deductive and inductive formation of codes in educational research, distinguishing formal and material codes*

	Empirical Approach (Inductive Formation of Codes)	Theoretical Approach (Deductive Formation of Codes)		
<i>Source of Codes</i>	data-material	meta-theory	theoretical preliminary considerations	research interest
<i>Character of Codes</i>	material and formal codes	formal codes	material and formal codes	material and formal codes

A method was designed which attempts to combine and optimize deductive and inductive category formation. This was through deductive category formation from teaching methodological meta-theory, through combination of deductive and inductive formation of categories, and through the distinction drawn between formal and material categories. Apart from the points already mentioned, the procedure described has at least one further advantage over the ideas put forward by Schmidt (1997), who suggests either doing without pre-conceived categories of evaluation or first designing fairly vague ones (548). The further advantage is that meta-theoretical pre-structuring and pre-conceptions are clearly expressed and better accounted for, because they flow into the main questions addressed, and are independent from theoretical preliminaries and predefined research interests.

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The Contribution of Qualitative Approaches to Learning Research: A Critical Incident Technique as a Research Method for Studying Student Learning

Hannu Soini

Introduction

Recently, many researchers have argued for the advantages of qualitative research (Polkinghorne, 1988; Henwood & Pidgeon, 1992; Kvale, 1994). However, in psychology, unlike in other disciplines of the human sciences, qualitative research methods in scientific inquiry have often been undervalued. It has been assumed that qualitative research typically produces lengthy narratives and is at best only a kind of forerunner to proper and serious scientific research. These researchers argue that although new concepts or relationships might be discovered by using qualitative methods, the discovered new variables have to be fully developed and confirmed by traditional experimental research methods (Ascher, 1996).

The reason for this controversy may be explained in the way qualitative research has been understood in psychology. First, there is a lack of clarity over what constitutes qualitative and quantitative research. Qualitative research has sometimes been equated just with typical methods of data gathering or non-numeric ways of reporting the results. This debate has been anchored in the use of certain terms describing the opposed epistemological positions known variously as "experimental" versus "naturalistic" or "positivist" versus "interpretative" (Lincoln & Guba, 1985; Henwood & Pidgeon, 1992; Maykutt & Morehouse, 1994).

The origin of this debate can be traced back to the ideas of German historian and philosopher Wilhelm Dilthey (1894), who argued that a clear distinction should be drawn between the disciplines of natural sciences (Naturwissenschaften) and human sciences (Geisteswissenschaften). Interestingly, Dilthey directed his criticisms toward early experimental psychology of the 19th century, which he thought to have had an uncritical attitude on natural science and a reductionist approach to human consciousness. According to Dilthey, natural sciences could be based upon external observation and upon explanation of regularities in physical events, while human sciences, like psychology, should be premised upon the search for meaning and understanding (Henwood & Pidgeon, 1992).

In the methodological discourse of psychology, quantitative research has been described as a synonym for objective and "good" research. For instance, in a single quantitative study, it is not considered necessary to present any larger philosophical argumentation on behalf of the

methodological solutions made by a researcher. However, in qualitative studies such an argumentation is seen as the most essential part of the research rapport (Kvale, 1994; Guba & Lincoln, 1994). For example, it is generally accepted that interpretation of the data is a challenging task in qualitative research; however, this is not seen as a problematic issue in quantitative research. The reason for this can be explained by the differences of observation and interpretation. A quantitative researcher only makes "objective" observations and calculations, but qualitative researcher has to interpret (create meaning from) his or her data (Denzin, 1989). In quantitative research, on the other hand, these interpretations go unnoticed: in quantitative studies very propounding interpretations of the nature of reality have already been made prior to the study. To make and report results according to the principles of positivist paradigm also requires an interpretation of reality. Actually, what the positivist researcher calls "pure data" is always determined and reconstructed in the light of some theoretical interpretation.

The complementarity of interpretive and causal-explanatory research

The benefits of the qualitative approach to the development of psychological theory have been described from different perspectives. One perspective assumes a benefit to be its helpfulness in liberating theoretical imagination and generating in a direction that is contextually sensitive and relevant (Henwood & Pidgeon, 1992; Polkinhorne, 1992). This has been argued as being sensitive to a person's experiences as seen on his or her own terms (Belenky & al., 1986), especially where psychology has been accused of an uncritical use of quantitative methods in learning research (Biggs, 1993). Where quantitative methods could be assumed to neglect the uniqueness and complexity of human experience, qualitative methods are more adaptable to dealing with multiple realities. They are more sensitive to the many mutually shaping influences, which might be relevant for the understanding of learning process (Lincoln & Guba, 1985).

In his study about the culture of education, Bruner (1996) takes the position that "interpretive-hermeneutic" and "causal-explanatory" research methods are complementary and essential to a legitimate science of psychology. Interpretive research is the systematic analysis of the personal experiences of individuals contained in their stories about life. This could be in my example a thorough analysis of stories about favorable learning situations an individual has encountered. Bruner claims that such an analysis illuminates not only the "idiosyncratic histories" of individuals but also the "canonical ways" in which reality is constructed within various cultures. Such an approach to science speaks to the 'real life' contexts of

human experience. Cognitive science "would be arid without such intervening interpretative assists" (ibid. 112). The reason for this is that explanatory science seeks causal explanations for human actions by means of experiments in clinical settings that, for the most part, exclude such real life experiences as "desires, beliefs, knowledge, intentions, (and) commitments" in the name of 'objectivity' (ibid. 123). For Bruner, the strict division of these two important types of research creates a serious problem for the science of psychology because it ignores the reality of how science actually progresses. In his view, science progresses by means of generative tension between interpretive-hermeneutic and causal-explanatory schools of thought.

According to Bruner, these schools of thought are complementary. Both are vital to the life of any legitimate science, including psychology. In the actual progression of science, "scientists use all sorts of aids and intuitions and stories and metaphors to help them in the quest of getting their speculative model to fit 'nature.'" Of course, interpretive models in particular must be very explicit and avoid "logical contradictions" in order to make serious contributions (ibid. 124). The process of "science making" in psychology, according to Bruner, is narrative. A matter of creating richer and richer descriptions of reality by "spinning hypotheses about nature, testing them, correcting the hypotheses, and getting one's head straight" (ibid. 126). This narrative includes, necessarily, both interpretation and explanation. It is the tension between interpretive-hermeneutic and causal-explanatory research that keeps the study of psychology vibrant. Without such tension, theories of mind would become either a "set of shallow experimental routines" or overly hermeneutic, "literary theory" (ibid. 112). Because these two types of research are complementary, there emerges a concrete explanation of reality, which is science.

A critical incident technique in the study of student learning

The study of critical incidents has a long history in psychology. Mostly, the term critical incident has been used to mean personally meaningful experiences in the life history of an individual (Maslow, 1962; 1970; Woods, 1993; Antikainen et al., 1995). According to Flanagan (1954), a critical incident is an activity that is sufficiently complete in itself to permit predictions to be made about the person performing the act. Brookfield (1991) defines critical incidents as students' brief descriptions of significant events of their lives.

Typical for these experiences is emotional engagement, enthusiasm, excitement, autonomy and collaboration (Sikes et al., 1986; Belenky *et al.*, 1986; Woods, 1993; Morgan, 1997; Lauriala, 1997). However, the

exact definition of these situations is difficult because the learners themselves must identify a critical turning point in an event. That is, situations can only become critical incidents afterwards.

In recent years, the usefulness of critical incidents for the understanding of human learning has become evident for many researchers. Brookfield (1987) has applied the critical incident method in trying to help students to reflect on what they really understand as "learning." According to Brookfield, the use of critical incidents gives learners a possibility to focus on their own experiences. However, this method presumes that learners' general assumptions are embedded in, and can be inferred from, their specific descriptions of particular events. The benefit of critical incidents in the analysis of learners' personal view on learning is twofold. Firstly, they give insight into learners' everyday practices that are indisputably their own. Secondly, asking learners to describe specific situations, events and people is much less demanding or threatening than asking them to define their general assumptions or abstract definitions about learning. The analysis also utilizes an indirect rather than a head-on approach. Brookfield (1994) believes that the critical incident technique is especially appropriate for teachers or people, who are interested in developing the learning of others. Before asking others to learn or reflect on learning, teachers should be aware of their own assumptive world. Woods (1993) has reported several benefits that critical incidents possess for understanding the nature of student learning. Firstly, critical incidents as learning experiences have a strong emphasis on "reality." That is, learning is integrated in the self, because it is based on students' personal needs and goals. Through personal experiences students have a real possibility to construct their own view on reality. Secondly, they have a large amount of control over their own behavior in learning settings. In other words, students are the owners of the products of the learning process.

The qualitative analysis of critical learning incidents

In order to examine how students' beliefs about learning are manifested in their experiences of critical learning incidents, we asked 1st and 4th year education students in Canadian and Finish colleges to describe any situation in which they felt they really had learned something. Students were free to describe any situation, which came to their mind. The task of the students was to write a short story with the following instruction: Give a concrete example of a situation and context, where you really learned something. There were no time limits for writing, but typically students got through it in ten minutes. Here is a typical example of the story written by students.

In my ... class this past year we were discussing and comparing poems that we had recently read. The general theme of the poems was about man's relationship with nature. Through our class discussion, we gained an insight into many different viewpoints and the background of the poems. Our professor never came out and said that this is the conclusion you should have come to, but instead encouraged us to develop our own ideas. From that I learned that "the arts" provide a whole new way to look at life on earth. Science, for example, provides a very efficient way to approach and deal with our environment. The arts provide a unique way to look the world from different perspectives and develop our conclusions and realities about the world we live in today.

The constant comparative method was utilized in the analysis of these critical learning incidents. This method was originally developed by Glaser and Strauss (1967) for theory building. This method allowed the students' "own voices" to emerge from their written stories. In this study the model of Lincoln and Guba (1985) was also utilized. They have operationalized the research process by offering more operational refinements and providing more sub-steps than are found in the model of Glaser and Strauss (Grove, 1988).

The analysis of my study contained three phases in which data was unitized, categorized and contextualized. In the unitizing phase of analysis, student's descriptions were read and reread, and the units of meaning were abstracted from the verbatim responses. That is, units of meaning were identified by carefully reading through student's descriptions and an inductive category of coding was started. In the categorizing phase, the properties of each category were identified, and named and rules for inclusion were developed. Categories were evaluated and examined to determine the possible relationships between and among them. In the contextualization phase, students' verbatim responses were examined within each category. A limited number of prominent responses offered a tentative understanding of how students' descriptions were used to formulate each category.

Characteristics of critical learning incidents

Using the constant comparative method we proceeded through three cycles of analysis. In each cycle we unitized and categorized the responses in an evolving process of describing the context where critical incidents occurred. During the unitizing phase of the cycles, more and more salient units of meaning were abstracted from the verbatim responses of students,

and the frequency of their occurrence was calculated. These units were compared for similarities and differences and assigned to categories. For example, in the first cycle of the analysis, the most salient meaning feature of student responses was where critical incident occurred, and this constituted the initial unit of meaning by which the analysis proceeded. When these units of meaning were abstracted and compared, two primary settings for critical learning incidents emerged. Students claimed that critical incidents took place either in everyday life situations or in institutional settings such as schools and universities.

In the second cycle of analysis, how critical incidents occurred constituted the units of meaning for the analysis. In this phase, specific situational and organizational features of critical learning incidents within everyday and institutional settings and were categorized. These characteristics included such things as working collaboratively with others or listening to a lecture. In the third cycle of analysis, students' descriptions of why certain situations were conducive to a "critical incident" constituted the researchers units of meaning. In this phase of the analysis, a number of aesthetic, cognitive and interactive features that were identified within these descriptions were categorized. For example, students claimed that critical learning incidents evoke feelings of emotional involvement and intellectual autonomy. In this way, each of the three cycles of analysis revealed more about students' conceptions of the setting, organizational characteristics, and subjective features of good learning situations. From this analysis useful examples of where, how and why critical learning incidents took place emerged. The following is a detailed presentation about the findings of the third cycle of the analysis. For a more detailed description of the results of the first two cycles, see Soini (1999).

In the third cycle of analysis the major features that distinguished critical learning incidents, whether everyday or institutional situations, were:

1. Emotional involvement in the learning process
2. Time for reflection
3. Possibility to see things from different perspectives
4. Autonomy
5. Collaboration with peers or experts
6. Dialogue.

The feature of critical learning incidents cited most frequently by Finnish and Canadian education students was emotional involvement in the learning process. Students described this feature as an intuition of relevance emerging from feelings of a personal and emotional connectedness to some subject. Emotional involvement was described by students

as times when they were "very excited to learn" and felt that learning had something to do with them personally. Typically, students claimed that the feeling of excitement allowed them to persevere even when learning was difficult. During difficult periods, it was emotional involvement in the learning process that made it possible to devote "a lot of time" to it and, as a result, learn an amazing amount that "really benefited" them. This category is also closely related to the earlier findings that students, especially in Western societies, evaluate their learning as needing a "personal stake" in it (Boekaerts, 1998). The college students both in Finland and Canada seemed to describe their learning experiences systematically from this perspective.

Finnish and Canadian education students described that time for reflection was a vital feature of critical learning incidents. Reflection was most often reported as time to stop, analyze, evaluate or think over their basic assumptions, feelings, or ways of doing things. A case in point is the student who, following a lecture took the time "to critically examine my own memories to try and see if they were reliable or not."

Students also explained how reflection was closely related to another key feature of critical learning incidents, a growing awareness of different points of view. Seeing things from a new or different perspective, according to students, was an ability most often gained by working in a new role, participating in a group discussion, or by traveling to a foreign land. For example, one student explained her learning how to fallow land one summer:

So one day we drove to the field and I watched and helped Dad check the equipment. Then we began doing the summer fallow. Dad did the first few rounds and explained how to and what to watch for. Then he let me try. He stayed and helped me. Then he left and returned home and I continued to work the field. (I had observed Dad doing this before but had never done it all by myself).

In this everyday experience a Canadian student describes how she first is in the role of observer, then gradually her role changes towards a more responsible participator in the event: "I had observed Dad doing this before but had never done it all by myself." Conversely, many students reported that working with groups of other students or traveling led to new perspectives that "allowed me to see different points of view" and realize that "other people have a different concept." The insight gained often led them to take a "different approach" to answering a question or solving a problem.

In our sample both Canadian and Finnish students understood autonomy from the broad perspective emphasizing especially the freedom to set their own goals for learning. Students described autonomy first as a

process, which meant that they felt empowered by situations in which they could plan and organize their own learning and working independently. On the other hand, students described autonomy as an outcome. Autonomy means that learning experiences created possibilities of becoming more independent from others and afforded students more self-creative ways and freedom to live according to their own aims. Collaborative learning was described from two different perspectives: collaboration with peers and collaboration with experts. Peer interaction was seen useful because it helped with communication and provided support and social approval in learning situations. Collaboration with experts was described from the point of view of apprenticeship (Resnick, 1991). An expert of a more experienced person was described better as a facilitator than a teacher. He/she helped to start working, pushed students at critical points and then stepped back when students could work on their own.

Sometimes the pieces which we play have such difficult parts that I can't play all the notes. Once after some training my teacher asked me to stay. He wanted to hear me play a difficult part of the piece. I could play it right if I played it slowly, but if I had to play it in a rapid tempo with the orchestra; I could not do it. We played it together in a rapid tempo and then I was able to do it. We played it together and then after a while I could do it by myself. I found I learned the difficult parts by playing it together with my teacher.

Finally, in many of the students' descriptions the importance of dialogue was emphasized as a remarkable aspect of a critical learning incident. Dialogue was described by students as an evolving process of debate and questioning among peers in pursuit of some intellectual or practical end. The vital aspect of this process, in their view, was that it involved a multilateral exchange of views as opposed to the unilateral transmission of a particular view that often characterized formal classrooms. Dialogue was portrayed as an on-going narrative in which the individual feelings and ideas of participants were woven together into stories that helped explain difficult concepts or solve practical problems that faced the group.

Conclusions

The benefits of the critical incident technique rests on the assumption that concrete experiences about certain learning situations offer a more adequate way to understand students' conceptions of learning as compared with traditional inquiries, where the special interest has been

given to students' own definitions of learning. It has been claimed that definitions of learning are learned, and abstract conceptions do not have any meaningful connection to the experienced world of students (Säljö, 1994). Definitions ignore the "personally experienced" nature of human learning, and students' definitions are implicitly seen as deficient versions of the "official views" (Lucas & Ashworth, 1997). It is evident that students' definitions of learning mostly reflect the values and teaching methods accepted by those educational institutions, in which they have studied, and thus are not necessarily the psychological properties of individual learners.

Consequently, the study of critical learning incidents reveals a different and a more interesting perspective on how students conceptualize learning. From the student point of view, critical learning experience was an emotional and holistic process, where students had the possibility to reflect on their own work, as well as the work from others, and to look at things from new or different perspectives. As in a real learning situation, artificial control was removed and students had the ownership and control over their learning. It was based on active collaboration with peers, or with experts, or both. Dialogue was an essential part of the critical learning incident. This is an important finding because, as Bruner states, researchers should be involved in the adventure of "getting our speculative models to fit nature" (Bruner, 1996, 124). The stories of these students allowed us to enter into their concrete experiences of learning and to adjust our abstractions, or theoretical ideas of learning, accordingly.

The results of the study may be criticized for building an ideal picture of learning. Students reported special situations, which sometimes were so meaningful and extraordinary, that they will never forget them. However, a closer examination of stories showed that the majority of the students described ordinary, everyday situations. The stories revealed that students understand learning as a social and collaborative process, and that they appreciate the sort of teaching, which allows them a more responsible role in the learning event. These categories give us a possibility to evaluate our theoretical ideas about learning and develop practical methods, which could help us to produce more meaningful learning experiences for our students. The characteristics of critical learning incidents found in this study, support the concept of learning developed by situative learning theory. The theory calls these situations "interactive systems" (Greeno, 1997), which seems to be essential for meaningful learning. Each of the categories found in this study is not a new one. They have been recounted in most research on learning. However, sometimes the categories have been considered as factors that cause learning, while other times they have been included into the concept of learning.

The concept of learning, which was found in this study, represents our interpretation of the data collected on the narratives of learning

experiences told by Finnish and Canadian students. According to Bruner (1996), interpretative research is the systematic analysis of the personal experiences of individuals contained in their stories about life. However, as Bruner points out, an interpretative approach to science speaks to the "real life" contexts of human experience. Although explanatory (cognitive) science, which seeks causal explanations for human learning by means of experiments, for the most part excludes "real life" experiences as desires, beliefs or intentions in the name of objectivity, these two approaches should not be seen as alternatives but complementary (Bruner, 1996; Kumpulainen & Mutanen, 1999).

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Conclusion

Contributions of Qualitative Approaches to Psychological Inquiry

Leo Gürtler, Josef Held, Günter L. Huber and Mechthild Kiegelmann

Introduction

Which conclusions can be drawn from the studies presented at the conference and represented in this book? Rather than attempting to create one unified and fixed conclusion from the range of contributions, we focus on a perspective of further questions that were explicitly or implicitly formulated in the discussions of this conference. When reviewing the papers we distilled five central themes to be considered within the discourse on qualitative research methodology in psychology. These were

- the concentration on research questions,
- the deliberation of research methods,
- particular characteristics of qualitative approaches,
- openness as a standard of qualitative approaches, and
- dimensions of openness within the research approach.

These themes will be presented and explained in more detail in this article.

Concentration on research questions

The planing phase of a research project includes the task of formulating descriptions and interpretations of a phenomenon. Somebody, not necessarily those people carrying out a particular study, has to espy an interesting problem that is worthwhile being scientifically investigated. Both the general purpose of the envisioned study as well as some more specific research questions need to be developed and communicated to scientific peers and practitioners. Thus, unless an object of interest is marked out, there is no research, whatever type of design and methodology the researchers may have in mind. Without a deliberately formulated question it is unavailing - to put it mildly - to search for hypothetical answers.

In the process of interpretation a scaffold for the design of a study is organized, and one forms a conception of what the inquiry will be about (Peshkin, 2000):

This conception is mutable. It must be if I am to exploit the

opportunities for learning ... I select what will come into and affect my conception. Such selection, together with ordering, associating, and meaning making, is an element of interpretation (Peshkin, 2000, p. 9).

Most psychologists familiar primarily with quantitative methods would not hesitate to attest the validity of this statement, but they would also stress that it describes "only" a preparatory phase of a long research process. We argue that traditional training in research methods can not deny a complimentary relation of qualitative and quantitative approaches. However, many teachers in psychology continuously emphasize that the proper place for qualitative approaches is in the preliminary stages of a more comprehensive study. Krapp, Hofer and Prell (1982) described qualitative methods as appropriate only to clarify the "area of research." More than a decade later, Breakwell, Hammond and Fife-Schaw (1995, p. 262) still introduce students to qualitative methods in psychological research by characterizing them as merely descriptive, conceding: "These kinds of results are certainly interesting in their own right ..." To go beyond "the most simple level" of analysis, the authors recommend quantitative procedures (in their case, this would mean multidimensional analysis).

At least there is agreement among all psychologists that interpretation cannot be banned from the process of psychological research, without cutting its very roots. Moreover, we notice today a revived interest in "open-ended" approaches to psychological phenomena. As an indicator of this we consider the growing number of publications referring to Peirce's theory of inference and the mode of abductive reasoning (for instance, Kelle & Kluge, 1999; Koppola & Suzuki, 1999). Today, abduction is honored again as the key to new insights - although it is only one key amongst many that cannot be grounded in abductive reasoning alone, but need to be confirmed by an interplay with other modes of thinking:

At the stage of abduction, the goal is to explore the data, find out a pattern, and suggest a plausible hypothesis; deduction is to refine the hypothesis based upon other plausible premises; and induction is the empirical substantiation (Yu, 1994).

However, we challenge the idea that "openness" is limited to a preparatory, if not preliminary stage of research, that just has a minor explorative role. As soon as we move to concrete decisions about access to data, we challenge the (quantitative) ideal of "interpretation-proof" procedures of collecting and analyzing data - an ideal, which cannot be fulfilled. We remind interested readers to remember the interpretative endeavors of earlier phases of psychological research which have been

forgotten within the current methodological discourse. Furthermore, they have almost vanished out of the curriculum of psychology. For instance, interpretation is indispensable for the development of items of rating scales or experimental manipulations as well as in rules of scoring responses. Rather than writing a history of the development of psychological methodology, we ask in this article, whether "closed" methods are apt at all to produce psychologically relevant answers to "open" questions.

We want to underscore the phrase "at all" in the above sentence. This is so, because, there are psychologically interesting research questions aiming at confirmation of one of several alternative explanations. Other studies, however, strive to reveal new phenomena or currently unknown aspects of human world views and actions. A distinctive element of qualitative psychological studies of this kind is that they take into consideration the practical importance of their questions, that is, they try, above all, to consider in advance who benefits from the study and its results. Thus, qualitative approaches in psychology often are linked to emancipatory methodological orientations.

In comparison, "closed" methods demand that a researcher denies or suppresses his/her own preconceptions or theoretical orientations. This neglects not only personal knowledge and experiences but also individual interpretations that (re-)construct reality and subsequent scientific theoretical understandings that are bound to the person – regardless to which science they subscribe. These orientations nevertheless may influence the understanding of the psychological phenomenon studied, but within the framework of "closed" methodological approaches, there is no room for considering these influences - because they were ruled out theoretically in advance and are lost at this very moment for the entire research process.

Deliberation of research methods

Interpretation and inference establish the character of psychological research methods as a whole. Whatever line of questions is pursued, in the end we want to achieve a state of clear and distinct answers. Therefore, we need to express our findings in terms of results of measurements that clearly and unequivocally represent the phenomenon in question. This is equally true for qualitative and quantitative approaches. Measurement is defined

as the process of determining the value or level, either qualitative or quantitative, of a particular attribute for a particular unit of analysis. ... Qualitative attributes have labels or names rather than numbers, assigned to their respective categories (Bailey, 1978, p. 51).

The challenge for psychologists and other social scientists is hidden in the nature of their "units of analysis," regardless of the particular "attributes" studied. Such attributes as "knowledge," "competence," "well-being," etc. cannot be accessed directly, but must be inferred from specific behaviors and/or verbal reports. To find a fundamental constituent of these inferences we first have to interpret typical behaviors and/or statements to indicate those theoretical constructs we are interested in. What does it mean, for instance, to be "socially competent?" Which physical and verbal reactions to which situations and events do we expect to see in another person, to whom we would ascribe such an attribute? Which values or levels of this attribute should we be particularly interested in? In any case, before we are able to apply any instruments, standard situations or scoring/coding rules, we first have to interpret some characteristics as valid indications or symptoms of the interesting quality. Secondly we have to make sure that we will be able to qualify the phenomenon in question, that is, its intensity, amount or personally ascribed meaning. While we recognize that in exploratory studies these achievements – interpretations and inference standards – are goals in themselves, we argue that these qualitative "measures" provide more analytical potential.

Having deliberated over the research methods, there are still some issues to confront:

- A method, in its etymological sense, is a distinguished path to a particular result. That is, the aims of a study and the methods applied can not be discussed separately, but instead in mutual dependence. If we decide in advance to use or not to use specific methodological approaches, these approaches will lead us to particular goals. For instance, to apply only "objective tests," will lead us only to results represented in objective measures, but not to others. If we decide, on the other hand, to strive for particular knowledge about the problem in question, we are no longer free to choose any method from the repertoire of social sciences. Even if we are assured that particular "paths" will safely lead us from ignorance directly to understanding, we may eventually wonder whether the newly gained knowledge really was the goal we wanted to reach. For instance, the presumably safe and fast way of questionnaires might lead us to knowledge that we were not asking for. That is, we should doubt any advice claiming particular methods as principally "good" or even "best" methods in psychological research and be aware of so called fast and obviously effective ways. Since methods determine what we get to know about the phenomena studied, we better clarify what we truly want to find out about them and select methods matching these goals. In other words, methods depend on their respective objective.

- Methods tie a researcher down to approach particular properties of the object of research - which may not be the most interesting and scientifically relevant ones. In educational psychology, for instance, there is a long tradition of argumentation about the effects of counting and quantifying particular elements of students' gained knowledge. In the long run, this practice of testing and grading in classrooms may lead teachers to focus on those aspects of the curriculum that are most suited for quantification. In this way other crucial areas are neglected; for instance, creative problem solving. This example illustrates that methodological approaches do not only determine goals, but may also have much influence on its application to practice. Thus, we argue that a selection of methodological approaches based on convenience, tradition, or advisors' authority can override the crucial criterion for method selection; that is, how to answer best the research questions. Inappropriate research methods not only provide the danger of leaving the research questions unanswered, but also of formulating detrimental suggestions for practical implementation of the results. In this case a vicious circle of inadequate roads to "understanding a phenomenon" to inadequate intervention towards the phenomenon in question is closed which, in effect, qualifies the research not only as superfluous because of answering the wrong questions, but also as harmful. In the end, if the participants of psychological studies learn about the methodological points of view from which they and their activities are perceived, they themselves may adopt this perspective. An abstract methodological perspective thus would be transformed into a concrete action orientation through interactive effects. As a consequence – because of habits, ignorance or belief systems, other methodological approaches and roads of research are rare on the map of scientific research making.
- Last but not least, methods determine interactive relations between researchers and their research partners. A researcher's decision between a qualitative and a quantitative approach also canalizes attitudes and behaviors towards the people studied: An empathic stance and readiness to interpret what can be observed usually is necessary when qualitative methods are applied, while a distant frame of mind and readiness to follow standardized procedures of "objectifying" subjective experiences characterize the demands of quantitative approaches. The "subjects" of a study, on the one hand, are encouraged to express authentic experiences in situation-specific or context-specific modes when they are, for example, interviewed. A rating scale or a questionnaire, on the other hand, would reduce the possibilities to depict their subjective world views in the space offered - in literal and figurative sense - for answers on the instrument's

sheets. A distant researcher's frame of mind disregards the eventuality of a potentially respectful relationship between researchee and researcher. It also neglects the "principle of self-applicability" (Groeben, 1986, 410ff.) because researchers fail to apply psychological insights to themselves.

The contributions to this conference offer rich and colorful examples of methodological deliberations in favor of qualitative alternatives to methodological procedures in psychology that are constrained by a limited focus on quantitative tools and their results. The articles in this book also offer many opportunities to discuss important questions for further studies and subsequent conferences; for instance, about appropriate ways to research goals, interactions of methods and phenomena studied, and interactions of researchers and their research partners.

Particular characteristics of qualitative approaches

If standard procedures of psychological research had been applied in the studies presented at this conference, what would have been left out? To clarify our point of view and underscore the significance of the research methods, we take three examples from the texts in this volume.

Openness for the experiences of subjects

In his contribution to the "critical learning incident technique as a research method for studying student learning," Soini claimed to approach learning *not* "as a distinct process, neither from the personal experience and development of the individual learner, nor from the historical and cultural change of society." He identified his central research problem as "how these seemingly distinctive factors can be united in the concrete empirical research of learning." It is obvious that applying standardized quantitative instruments before and after some teacher interventions would not solve this above mentioned problem. If the goal is to understand learning from the learners' point of view, including their maybe puzzling experiences, emotions, and actions during particular teaching-/learning episodes, then the learners' personal experience (building "the bridge between social and individual" aspects of learning) must be taken into account. By adapting the method of critical incidents to studies of learning, Soini achieves access to truly important dimensions of students' experiences, namely their "emotional involvement in the learning process, time for reflection, possibility to see things from different perspectives, autonomy, collaboration and dialogue." These findings offer insights into the dynamics of learning processes, which we would rarely gain from

studies using mainstream methodology only.

Openness for alternative access to data

The introduction to a promising new access to research data and an example of unique bearings of qualitative approaches, was given by Ertel in her study. She described that psychological contributions to family research focus by studying the relations of family members. Communication as the medium of relating to each other – in studies of families: the communication between parents and children – is of central importance for this research. However, there is a striking discrepancy in the publications between underlining the relevance of communication processes and realizing concrete methodological access to actual communication of family members in their everyday life. Thus, Ertel concludes that not only psychological knowledge about family relations leaves a lot to be desired, but to fill this gap, there is also a lack of adequate psychological methods to access and analyze everyday communication in families. She suggests a promising approach of participation in family situations, in which everyday routines will not be substituted by more or less sophisticated reactions to constructed conditions of interaction. In addition, she elaborates content analytical methods to the extent to which can open the data up to psychological questions.

Openness for analytical perspectives

The contribution of Plaude and Held combines quantitative and qualitative data analysis. The purpose of this combination was to, on the one hand, get access to complex phenomena in intercultural comparisons, and on the other hand to be able to develop theoretical explanations for the findings. The crucial element in their approach was to enlarge the data base by confronting general findings and individual, subjective problem situations. Thus, they were able to learn about individual and contextual specifics of given cases as well as to generalize these subjective, qualitative data by theoretically linking single cases to more abstract conditions. Their goal was to describe single cases in terms of *typical* cases. Thus, analytical openness is achieved by applying a strategy of "structural generalization" as opposed to "frequency generalization" in quantitative methodology.

Openness as standard of qualitative approaches

The characteristic interaction of researchers and "researchees" as well as a non-deterministic view of the objects studied determine a complex context for psychological studies, where environmental and situational

influences still can be observed. Communication and interaction with participants can bring data to light that are not indisputable but demand interpretation. In this way interpretation and communicative validation – as one of a variety of possibilities to validate findings – offer new perspectives in psychological research. Although this kind of research may consume more time and sometimes demand more effort, it is from the start a most engaging process. But this type of interactive research not only modifies scientific theories, it also has the potential to challenge participants.

Dimensions of openness within the research approach

In summary, we want to repeat that openness has different meanings. The studies presented and discussed at the workshop in Blaubeuren demonstrated at least four perspectives:

- Openness for experiences and orientations of subjects respects the principle of self-applicability: These subjects' experiences are unique and a pre-categorization through quantitative methods could miss a very important part of such experiences, and of the data as a whole.
- Openness to alternatives of access data emphasizes an interaction between research question and methods, or the instruments necessary to answer them. Data access mirrors many degrees of freedom in situ if e.g. researchers participate in the field or directly ask research partners about issues that are related to thematic topics, instead of a mere trusting of anonymous questionnaires.
- Openness to alternatives for analyzing data is pursued in subsequent phases of research. The analysis of data in psychology could be described as searching for crucial elements and their hidden relationships with each other. It identifies elements where they are seldom obvious and self-evident. Openness helps to explore new ways for discovering important relationships and structures that otherwise would not be seen. However, once a particular approach to analysis is chosen, it is necessary and recommended to apply it until all data have been processed. Openness is not arbitrariness.
- Openness for alternative interpretations of data is the freedom of choice to interpret data as they are, but not as one would want them to be or as they seem to be at first. Hence, the impact of openness in this context is one of the possible - but mainly temporarily - liberation from social pressures and internalized world views.

To conclude of this brief workshop summary on the contribution of qualitative methods in psychology, we reiterate that the essential element of research is phenomenal adequacy of methods. Methods are liberation and restriction simultaneously – liberation in the sense that any pheno-

menon can be investigated in multiple ways. Methods are restriction because other "paths" are closed once one path has been chosen. The common element we emphasized – openness – is double-natured: it is flexible and it is fixed, depending on the contextual situation of the predominant phase of research.

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