

# Teachers Do Not Make Mistakes? Two Explorative Case Studies Relationships Between Biographical Aspects, Thinking And Behavioral Patterns And Experiences In Classes. First Results Of A Qualitative Study On The Aspect Of Dealing With Mistakes

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## Abstract

*This article provides some insights into the complex relationships between thinking and behavioral patterns, biographical aspects and teaching style. The data was analyzed in the Grounded Theory tradition and with the help of ATLAS.ti. The results presented here offer preliminary findings only since the research is still ongoing. The focus is on the ways teachers deal with mistakes. Based on two case examples, it will be shown how the fear of making mistakes can lead to teacher-centered lessons, and thereby limiting pupils' possibilities to learn autonomously.*

## Keywords

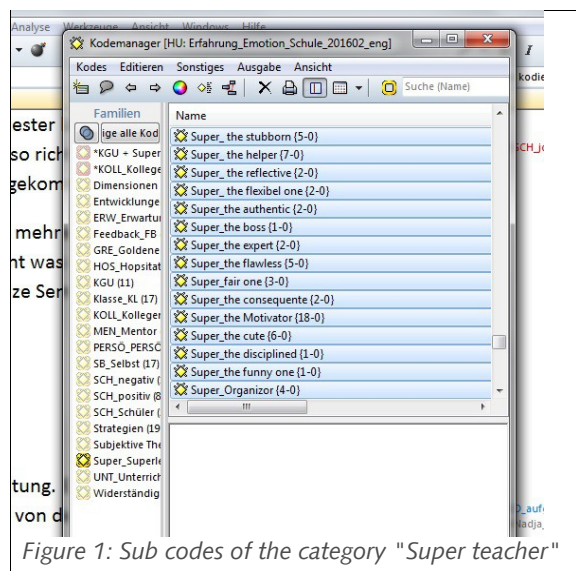
*Dealing with mistakes, personal development, learning, teaching, effects on pupils, ATLAS.ti*

## Introduction

The question of what good teaching constitutes has been subject to many studies in the past (cf. Hattie, 2009; Meyer, 2004; Ricken, 2011). Some of the studies focus for instance on the biography of teachers, teaching styles or teacher-student relations.<sup>1</sup> These studies focus either on the narrative aspects of a teacher biography, or on different structural and situational contexts. Less reflected are questions like, How do teachers develop a "teaching personality", how can a good teacher-learner relationships be built, or why do teachers become unable to cope with certain classroom situations?<sup>2</sup> The present study therefore combines the narrative side in the form of biographical interviews with self-documented expe-

riences of daily school life. The objective is to find out more about the relationships between the biographical aspects and the thinking and behavioral patterns in the everyday teaching context.

The motivation for this study arose when I was supervising student teachers during their internship semesters. While working with these students I began to wonder about the kind of developments these students were undergoing during their internships and their future professional lives. As part of the supervision, I asked students to prepare a collage or mind map about their personal model of "the good teacher." I analyzed twenty of these



<sup>1</sup> For an overview of studies on teacher biography, see for instance Kunze & Stelmaszyk (2008; for an overview of teacher professionalization, see Wieser (2008).

<sup>2</sup> What good teaching requires is a question that can hardly be answered and is not supposed to be discussed in this article. In his didactical concept, the author focuses on the learners' autonomous learning and the teachers' process-oriented support. This involves for instance inquiry-based learning (cf. Apelojg, 2015).

collages using a simple content analysis approach. Figure 2 shows one of the collages, and my coding in ATLAS.ti:

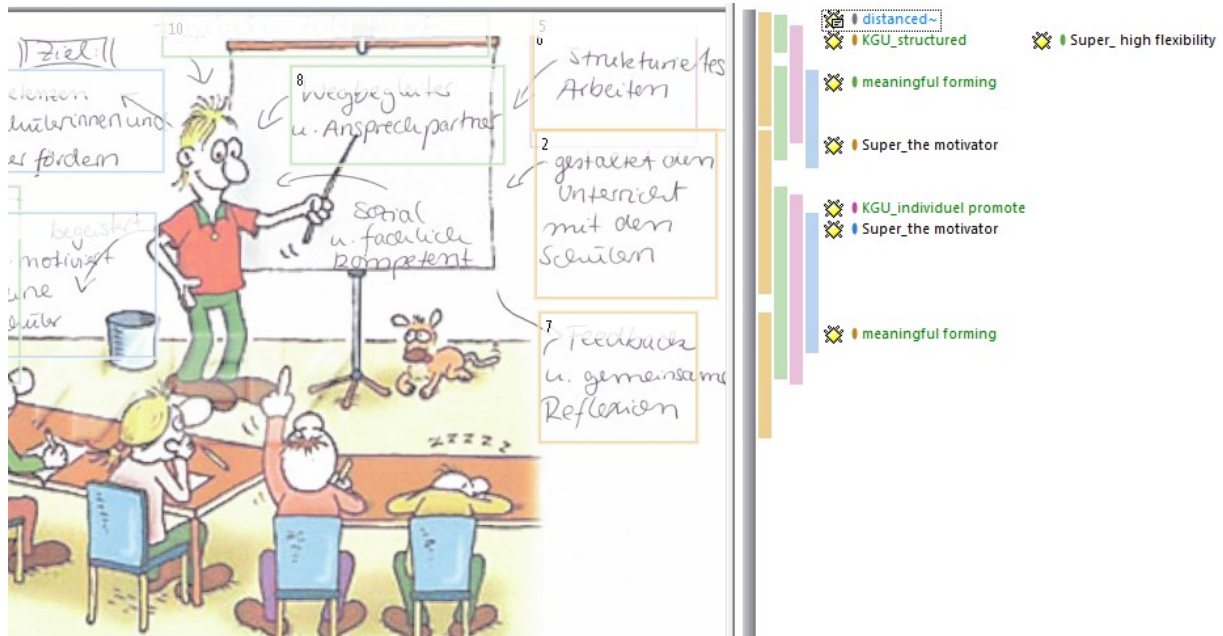


Figure 2: Student teacher model about being a "good teacher"

In total, the analysis revealed three types of teacher models. One model I named the *Ten Points of Professional Teaching*. These points were developed by Hilbert Meyer (2004), a well-known professor of Didactics in Germany. Thus, the students were familiar with it and used it to create their models. The codes "structured lessons" and "individual promotion," for example, were part of this model. The second model I named *The Super Teacher*. In this model, you can find personal characteristics of how students want to be, such as "the motivator" or "being flexible". Figure 2 shows codes of both models. They have in common that a reference to personal needs and characteristics is completely missing. Therefore, I describe these two models as *Teacher Models Without Practical Experiences*.

The third model, in comparison, contained elements with reference to practical experience like "want to become strict" or "working on relationships". Hence, it was named *Model of Development*. Elements of this model only occurred in collages of students who already had practical teaching experiences. When discovering this, I wanted to find out more about how students develop their thinking and behavioral patterns in daily school life.

### Methodological Approach

The overall study objective was to identify and compile links between a person's biography, work experience, thinking and behavioral patterns, education, as well as its consequences for the teaching process and the teacher himself. Therefore, I designed it as a longitudinal study (> 5 years). Most of the participants are students in their teacher training and are supervised throughout their practical training periods

(SPÜ)<sup>3</sup>. So far, seven females and one male student from the internship semester, one female trainee in the official internship, one female teacher and one female university lecturer have participated in the study. The choice to begin with female participants was made spontaneously. However, in the long run, I would like to compare both male and female student teachers in order to identify possible similarities and differences within and across gender groups.

All participants were given dictaphones to record personal thoughts about their own teaching and teaching experience. No further instructions were provided. The aim was that they record whatever they felt was important with as little influence as possible by the researcher (cf. the self-regulated interview, Apeloig 2013). The self-regulated interview gives every participant the option to individually determine topics and questions, and to record their thoughts at self-selected times, one or several times a day, or on different week days. The recordings were made during the internship or during the semester and later transcribed. In addition to the self-regulated interviews, narrative interviews were conducted (cf. Schulze 1977). The aim was to link the biographical data to the teaching activity. Furthermore, lesson plans, teaching concepts, worksheets, and portfolios were also considered to be data. All of these data were added for analysis to an ATLAS.ti project.

As analysis method, a Grounded Theory approach was chosen because it is well suited to discover new insights.<sup>4</sup> The software ATLAS.ti turned out to be an essential tool for data analysis in the context of this study. I especially appreciate it for allowing me to develop the study in a successive manner through a process of linking data with memos, categories, and codes.

### Data Analysis

The Grounded Theory approach suggests an early analysis of the data. This permits to identify preliminary links, which potentially lead to further theory-generating questions in the process of developing a subject-related theory (Straus, 1998, p. 44). One of these preliminary links that I found was the category "dealing with mistakes." It emerged during the process of axial coding (cf. Strauss, p. 63) and led to a number of further questions like:

- What importance does "dealing with mistakes" have for the participants of the study?
- Does tolerance towards mistakes play a different role in the period of the official internship as compared to the internship semester?
- What type of experiences appear to be basic for dealing with mistakes?
- Which reported thinking and behavioral patterns support or hinder the tolerance towards mistakes?
- How do the teachers deal with their students' mistakes?

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<sup>3</sup> The SPÜ ("schulpraktische Übungen") are part of the teacher training bachelor program at a German University. SPÜ are practical trainings where students get their first teaching experiences. Their practical task consists of designing, implementing and reflecting on two classroom lessons. The internship semester – which is part of the teacher training master program at a German University – is a practical training for future teachers, lasting a period of three months. There, students are responsible for up to 96 school lessons in total.

<sup>4</sup> For practical reasons this paper will refrain from giving a more detailed introduction to Grounded Theory. Recommendable sources of information are Strauss (1998) or Breuer (2010).

In order to find answers to these questions, I purposely selected a female teacher training student (Ulrike) in the internship semester and a female university lecturer for a closer examination. The following open coding is from the transcription of Ulrike's self-reports. Her self-report is about her teaching experiences in a linguistics seminar. She decided to record her thoughts directly after the course. In Figure 4 the original German transcript was translated into English. Ulrike speaks about her negative feelings as a result of the lesson. In her eyes the students did not learn enough. This not only makes her unhappy, she is also taking personal responsibility for it.

Ahhh, today I was teaching again. And I got angry with myself. Now, a few hours later, I am even more angry. Actually, I should not be that angry. Yes we've done some work in groups and it went well. They all participated; well, almost all. And we discussed what went well, but I did not do a good job in summarizing. Somehow nothing came out, nothing at all. I reproach myself that my questions were too narrow. That annoys me a lot, because some good stuff could have come out of the discussion. In the end, the many hours of preparation time and mental effort that went into it, dissolved in cluelessness as far as the students are concerned.

☹ I got angry~  
 ☹ students' activity  
 ☹ I unhappy~  
 ☹ I unhappy with the reactions of the students

Figure 3: Open coding – dealing with mistake

Open coding for me meant to go through the text and to name every part I deemed important. Figure 3 shows some codes that describe different feelings, like being unhappy or angry, and codes about the activity and reaction of the students. These codes are merely descriptive. Figure 5 shows the same data after developing the code system further. You can see that most of the code labels have changed and I began to sort and order using prefixes like "D\_" (=emotional dimensions), "LE\_" (=lessons), "SD\_" (=self-description), "STUDENTS," and "SBT\_" (=subjective theories).

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☹ LE\_teach independently~  
 ☹ D\_dissatisfied~  
 ☹ SD\_responsibility for learning success~  
 ☹ STUDENTS\_join in  
 ☹ D\_unhappy~  
 ☹ SBT\_ST\_Knowledge and skills~

Figure 4: Further development of the coding system

## Preliminary Findings

Case 1: *Nadine* is in her mid-twenties and grew up as the second child between her two brothers. Regarding her time at primary school, she only has positive memories. Her English teacher for instance enabled her to approach learning English as a second language without any pressure. She always had good marks in primary school, which however changed when she moved on to secondary school (in Germany: Gymnasium). "The fear that I might not understand something, or what would you do if you don't un-

derstand it? I was already blocked from the beginning..." (P3, 61:61). Learning, which was effortless before, became problematic when she went on to secondary school.

Nadine was a very quiet pupil, only raising a hand when being absolutely sure her answer was correct. For her it was very important to avoid mistakes in order not to make a fool of herself. Due to the lack of participation, her marks even got worse in certain subjects. To this day she primarily blames her teachers for her weak performance.

Nadine's father, a doctor, expected his children to do their A-levels in order to go to university. He was very upset because of Nadine's poor grades. Her father's expectations seemed to have served as an incentive as well as being a source of pressure for her to achieve good marks. As a child, Nadine never felt totally accepted by her parents. While her brothers received a lot of attention, Nadine felt left alone. In her diary she gave examples of activities her parents undertook with her brothers. Later she compared this with how much (or little) attention she got from them. While reflecting on this, she came to realize that her parents did not attend the parent-teacher conferences of her class, or supported her in choosing a career. Even today, dealing with mistakes and being criticized cause huge difficulties for her. "During my SPÜ I'm still allowed to make mistakes, but I think I won't in my internship semester" (P3, 50:51). Nadine will soon finish her teacher training study program and has just completed the internship semester.

Case 2: Ulrike is a graduated ancient philologist in her early forties. She is married, has two children and is working on her postdoctoral qualification. During her school time in the former GDR she never had any problems. She always received very good marks and also achieved outstanding results in her A-levels. Ulrike's father worked for the railroad and received his degree in engineering through second-chance education. Her mother worked as a draftswoman. Ulrike herself says that her parents followed her career with amazement and admiration. She completed her doctorate with the help of a scholarship from the German National Academic Foundation. For her postdoctoral qualification she received a scholarship from the German Research Foundation (DFG).

Ulrike describes herself as a shy person who is not comfortable in large groups. She only finished the first state examination of her teacher training because one of her professors recommended it. Her early teaching experiences, however, showed that she actually did not want to become a teacher. "They (the students) did as they pleased, it was terrible" (P 5, 12:12).

After her doctorate, Ulrike began teaching at the university as part of her job. In her first class, which she had prepared meticulously, Ulrike passed out after a few minutes. Since that time she gave numerous courses and at some point felt that she did not advance in her work as a lecturer. "I was sitting in front of them asking questions, which they did or did not answer and I did not know what else I could do" (P 5, 23:24). In order to improve, Ulrike attended several advanced training programs in academic didactics. Her school life and her professional career have so far been free from any disruptions, but often Ulrike

feels insecure. This was reinforced by German reunification as this meant more uncertainties for the future. She also experienced her own puberty as a very difficult time.

Both, Ulrike and Nadine are afraid of making mistakes and to make a fool of themselves. While that means for Nadine to withdraw from challenging situation or to refuse learning, Ulrike worked very hard to become an expert in her subject. Nadine is standing right at the beginning of her career as a teacher. The internship semester serves as a test for her to see if she has chosen the right profession. Ulrike already teaches for many years as teaching is a part of her job as scientific researcher.

The aim of the following section is to examine how the category dealing with mistakes influences the preparation and the actual teaching of a lesson.

### **Nadine – Everything Is Under Control**

At the beginning of the semester, Nadine illustrated her own teaching concept: As a teacher she wants to "take everyone along" (P320, 14:15) and she wants to treat all pupils equally. She wishes for harmonic lessons in which her work is appreciated and acknowledged through the pupils' active participation. Hoping that the pupils want to have a "nice" teacher, she wants to be their caring and an always approachable friend. During her first lessons in economy-work-technology (German: Wirtschaft-Arbeit-Technik) she teaches healthy nutrition. This is a topic that is very dear to her, and she plans out these lessons in great detail. However, her lessons in the seventh and tenth grade do not go as expected. The seventh grade pupils often disturb the lesson, make a lot of noise, and sometimes it is hardly possible to work constructively. From her supervisor she receives the feedback that she is being too nice:

"...that clear rules have to be set first and you need to reprove every small interruption. Only then you're allowed to loosen the reins. It's a shame that the pupils themselves demand it that way" (P357, 30:32).

To combat the noise in class, Nadine tries to tighten the reins. You can tell that it is difficult for her to operate against the pupils' disinterest. After three weeks of work she states in frustration on her recording, "I've done what's required of me" (P356, 1:1).

Nadine's lessons are strongly teacher-centered, which means that she is mostly standing in front of the class presenting the topic or moderating a teacher-pupil-discussion. These methods mostly demand verifiable knowledge. She interprets the pupil's disinterest as a lack of appreciation of her own preparatory work. It is difficult for her to accept poor motivation as a permanent factor when teaching children or teenagers. Therefore, she struggles to develop strategies to enhance motivation. Linking this to the biographical information she has provided in the narrative interview, she risks to fall into the same trap as in her own school days—to withdraw from the situation and to blame the pupils for the problems in class. Her manner of *dealing with mistakes* is a pattern she acquired during childhood and reinforces her teacher-centered way of teaching. In doing so, she increasingly has to show severity. At the end of the internship semester, Nadine's teaching concept included new objectives like "being more consistent,"

and "saying no" once in a while. The caring and friend-like aspects has vanished from her teaching concept. From the supervisor's point of view, it would be helpful for Nadine to learn that teachers have to try out what works and what does not. The fact that Nadine likes her profession and wants to give good lessons can help her in doing so. But her current way of *dealing with mistakes* is problematic as she does not accept mistakes as part of her professional development.

### Ulrike - Only The Best

A central occupation of ancient philologists is working with texts. For years, Ulrike has been analyzing Latin and Greek texts. Already in her school days she was afraid of being insufficiently prepared. "I always thought to be badly prepared and was always very well prepared" (P5, 12:12). Ulrike's concern of being under-prepared, and her intrinsic motivation for her subject, resulted in meticulous preparation for all her courses. After several years of teaching, she reached a point where she as a teacher was not developing anymore. Therefore, she decided to undergo advanced training in academic didactics with the aim of learning how to give less teacher-centered courses. Based on this training, she adopted the technique of group work. Her concept for the group work in her lessons is to have students read and discuss a text and to express their opinions critically. At the same time, Ulrike does not abandon the idea that a course has to have certain results. "What troubles me is that the teacher-centered classes work better and appeal more than the group work that I prepared with so much dedication" (P62, 29:30). The tasks Ulrike chooses for the work in groups are often aimed at a certain output and do not enable an open and critical exchange. Ulrike is stuck in her dilemma of perfectionism while wishing for more student participation. Although she is aware of the reasons for her teacher-centered way of teaching and wants to change the situation, she falls back into her old patterns of teaching. Also, here we see a link between her biography and her teaching style.

It is possible that Ulrike's fear of being insufficiently prepared holds her back from posing questions that are more open. Allowing for more openness could result in a situation in which she does not know the answer to a question. Besides that, the group work may be of lesser quality than expected from her. Speaking from a supervisor's position again, Ulrike possesses all qualifications to prepare competence-oriented courses. In order to allow learning in a more open way, she needs to accept that students, too, have to develop, and teachers do not need to know the right answer to every question.

The following explorative network shows the relation between different thinking and behavioral patterns, the experiences of teaching and the teaching styles of the two teachers.

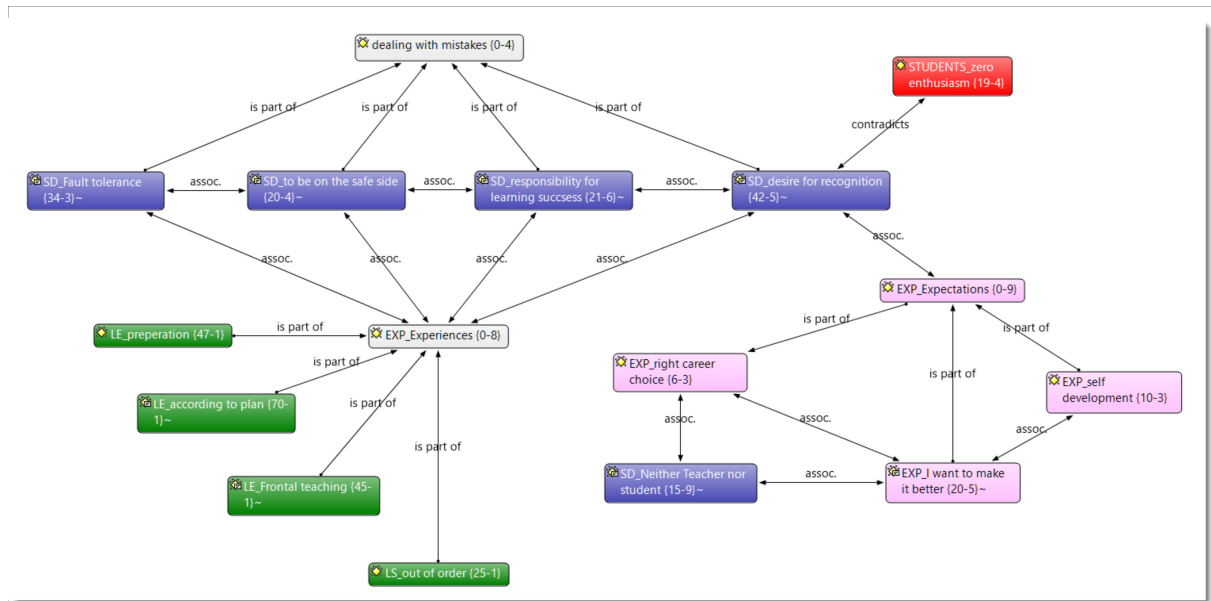


Figure 5: Exploratory network view – dealing with mistake

## Conclusion

How students and teachers deal with mistakes is influenced by a variety of factors. Both Ulrike and Nadine feel a high responsibility for the learning success of their students. At the same time, they have a low fault tolerance—especially for their own faults. This could also be found in their biographical narratives. Moreover, their biographies also revealed different patterns of dealing with their low fault tolerance. In both cases, the experiences made during the internship semester collided full force with their wishes, perceptions and ideas about teaching. This was no different for the more experienced teacher Ulrike where modern teaching methods did not fit her perception of self-responsibility for the learning success. Putting on the supervisor hat, my recommendation based on this study is that emphasizing a *new and positive way of dealing with mistakes* in combination with reflecting on personal patterns of dealing with certain situations could motivate students to work on themselves as individuals to overcome these patterns and to improve their teaching style.

From a methodological perspective, the case study has shown how important it is to link biographical data to the teaching experience of teacher students. The self-guided interview had the advantage that the students could report on everything that came to their mind. In addition, it motivated self-reflection which provided valuable insights.

ATLAS.ti allowed to bring in all of this material into a one project, including lesson plans, portfolios, teaching concepts and worksheets. During the analysis process, I could link the biographical narrative to the reports on the teaching experience, review the associated teaching concepts and the materials pre-

pared for each lesson. This enabled me to develop a comprehensive picture of each case and eventually will support me in developing a more general applicable subject-related theory.

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