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Qualitative Research in the Field of Reflection of Pedagogical Practices

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Abstract
This study investigates the role of reflection in the development of tacit knowledge among student teachers during their teaching practicum. Reflection is viewed as a process through which students make their implicit, experience-based knowledge explicit, thereby linking their practical experiences with pedagogical and psychological theory. Using a qualitative research design grounded in hermeneutic and grounded theory methodologies, we analysed 108 student reflections from undergraduate teacher education programs. The participants included second- and third-year students who had completed courses in general didactics, enabling them to assess both pedagogical and professional aspects of teaching. The study aimed to identify the factors influencing the quality of teaching practice, students' perceptions of their personal growth, and their views on the teaching profession. Data were collected through written reflections and analysed using open, axial, and selective coding, with the support of the Atlas.ti software. The findings reveal that reflection plays a critical role in shaping students' professional self-concept and pedagogical competence, as well as their emotional and cognitive responses to the teaching practice. Positive working atmospheres in practicum schools, characterized by open communication and support, were also found to enhance the students' experiences. This research underscores the importance of reflective practice in teacher education and highlights how it fosters the integration of theoretical knowledge with real-world teaching experiences, contributing to the holistic development of future educators.

Keywords: reflection, reflective practice, tacit knowledge, teaching practicum, student teachers, qualitative research, pedagogical competence, professional self-concept, teacher education.

1. Introduction
It is evident that student reflections are an important part of students' tacit knowledge construction during teaching practice. Through reflection, students learn, and their teachers support this learning process.
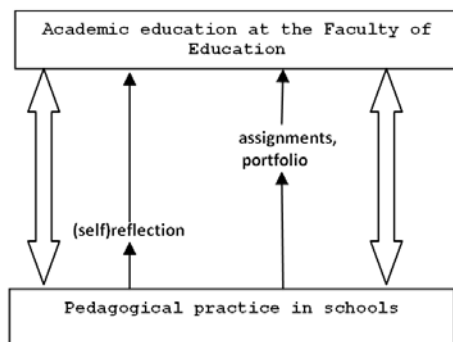
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In recent years, teacher education has increasingly emphasized the development of reflective competence as a foundational pillar of professional teacher identity (Loughran, 2020; DeLuca et al., 2023). Within this context, student reflection during teaching practicum has emerged as a critical factor in shaping not only pedagogical knowledge but also tacit knowledge – the often unconscious, experience-based knowledge that teachers intuitively apply in complex classroom situations (Polanyi, 1966; Eraut, 2000; Xu et al., 2022). Despite this relevance, the process by which reflection helps make tacit knowledge visible and actionable remains underexamined in recent empirical literature, especially through the lens of students' authentic narratives.

We consider reflection to be a thought process in which an individual looks back on a lived experience. Thus, we are concerned with reflection "after the event" (Schön, 1983). We understand reflection as a chain of ideas that has a sequential ordering, in which each idea prefigures the next (Janík, Najvar, 2011: 68).

In our research, reflection is a tool by which partially expressible tacit knowledge can be made explicit after an experience (we assume the existence of deeply rooted tacit knowledge that cannot be made explicit). The student is not aware of this knowledge when dealing with a pedagogical situation because the teacher's action is significantly tacit (Slavík et al., Janík, 2015: 6). Reflection "after action" can be considered as a link between these unconscious creative processes and their conscious highlighting (Slavík et al., 2013: 136). The successful functioning of the above-mentioned conception of teaching practice presupposes that students' practical experiences are connected to the pedagogical-psychological theory that students acquire in pedagogical and psychological courses. Building bridges between teaching practice and teaching is simplistically suggested in Figure 1.

Fig. 1. Creating bridges between theory and practice
Source: Pravdová, Švec, 2014

We can also judge the effectiveness of teaching practice based on the testimonies of the student teachers themselves. Pravdová (2016) investigated how students of teaching perceived the benefits of teaching practice immediately after completing the full cycle of three teaching practice sessions. Her analysis revealed that students perceived that the key benefit of the teaching practicum was gaining their own teaching experience and new knowledge about themselves in their role as a teacher.

It was also confirmed that the teaching practicum combined with reflective seminars on the practicum had a significant impact on the formation of the professional self-concept of the future teachers.

Some more recent research examines the emotional dynamics of the practicum (Ji et al., 2022) or the effect of mentoring on knowledge transfer (Xu et al., 2022), but few investigate how students themselves articulate the gradual construction of their pedagogical identity and tacit understandings through reflection. Likewise, emerging studies on digital support tools (Kager et al., 2025) and structured reflection (Hußner et al., 2023) reveal the potential of guided practices, yet they often lack an inductive approach to uncover student-generated meaning from authentic practicum experiences.

An important integrating role in the innovated model of teaching practice is played by the student portfolio, which includes tasks whose solution also requires the use of theoretical pedagogical and psychological knowledge (see Pravdová, Švec, 2014) and Kostrub (2022). The direct organisational support of the student lies in the collaboration between the faculty and

the schools where the students carry out their practice. The faculty provides students with schools where they can practice. The direct professional support of the student involves a series of interactions designed to ensure that future teachers acquire practical knowledge and that this is related to their theoretical preparation. This includes the student's interaction with the practicing teacher at the school and the student's interaction with the teacher educator, the field didactic in the reflective seminar at the faculty.

This study addresses this gap by analysing 108 reflective texts from student teachers in undergraduate education programs using hermeneutic and grounded theory methodologies. It uniquely captures how students' written reflections reveal their evolving thinking about teaching, pedagogy, self-concept, and the profession. Through open, axial, and selective coding, we constructed a causal model illustrating how reflection functions as a bridge between theory and experience, cognition and emotion, intention and action.

The relevance of this research lies in three main contributions:

It offers empirical evidence on how reflection facilitates the formation of tacit pedagogical knowledge during teaching practice.

It provides an original conceptual framework that maps how reflection contributes to the development of professional identity and self-understanding in novice teachers.

It responds to recent international calls to include student teachers' authentic, affective, and cognitive perspectives in the study of teacher education (DeLuca et al., 2023; Loughran, 2020).

This study advances educational science by providing a data-driven model of how student teachers transform experience into professional knowing. It emphasizes the role of reflection not merely as a curricular requirement, but as a transformational mechanism that enables the emergence of pedagogical tact, emotional regulation, and adaptive expertise.

The aim of the research

The aim of the qualitative analysis of students' reflections on teaching practice was to find out factors of quality of the teaching practice in the preparation of future teachers of undergraduate students of teacher education programs in the common social scientific, pedagogical and psychological basis of teaching.

In this sense, we have oriented and focused our attention on the following sub-objectives:

– To find out how students reflect on the quality and contribution of teaching practice,
– To find out how students perceive the personal benefits of the teaching practice,
– To find out the students' opinion about the trainee teachers and their attitude during the implementation of the practice,
– To find out how students characterise the observed teaching,
– To find out the students' reflections on the teaching profession after the practicum.

2. Research methodology

In the research we decided to use a qualitative methodology approach, which allowed us to capture the formation of students' opinion through reflection. Qualitative methodology mainly focuses its attention on the depth or quality of phenomena, their interrelationships and situations, thus attempting to create a comprehensive picture through the process of induction (Švec, 1998). Its main aim is to reveal or decipher the subjective perspectives and ways in which research subjects view phenomena, their actions and what they attribute meaning to (Hendl, 2016). "Qualitative research is in line with the tenets of the interpretive paradigm, i.e., it focuses on exploring the subjective experiences of the individual and on recognizing the significance that the individual attributes to specific events" (Kostrub, 2016: 24). In a figurative sense, we could say that this kind of methodology searches for the kernel of the core of the phenomenon under investigation. It also gives us the possibility of transforming implicit data into the form of explicit and at the same time explicative statements of the subjects under study.

The partial research data, the subjects' statements, only make sense to us in terms of their totality, and each interpretation of the research subject's meanings and perspectives carries its own importance in the process of reconstructing the students' opinion through self-reflection.

We have chosen hermeneutics as a type of qualitative inquiry, which "is a theory and a tool for interpreting meaningful human action. It allows for in-depth interpretive analysis with identification of meanings" (Kostrub, 2016: 36). It can also be explained as an art or theory of explaining and understanding acts. Through these, we can learn about the structure of signs, meanings and interrelationships that are mediated by the research subjects (Hendl, 2016).

The different stages of qualitative research go through a multi-cyclical logic, which is also analogous to the process of understanding phenomena in hermeneutics. This process of understanding facts, in terms of meaning, can be described as spiral. In both cases, the research activity has an iterative character because the aforementioned understanding is subject to continuous revision in a specific context and contributes to the formation of a holistic picture of the phenomenon under study. In the research, emphasis and attention is placed on the process of forming a subjective view of the self, which the student acquires primarily through self-reflection. An anchored theory is a set of systematic inductive steps aimed at theory formation. At its core is encoding. In the process of open coding, data are broken down into fragments, conceptualized, and then composed in a new way. Open coding represents the first stage of coding, which is followed by axial coding. The essence of axial coding is the identification of relationships between categories that have emerged from the previous stage. Axial coding is followed by selective coding as the most demanding coding technique (Švaříček et al., 2007).

Grounded theory is a specific research procedure of qualitative inquiry that allows for the creation of new theory. Theory is built, grounded in the data collected. The researcher does not establish hypotheses or variables; these emerge as the researcher progresses through the levels of coding. In the process of analysis, there is progressively higher abstraction and emergence of variables and relationships between them. Strauss and Corbin (1999) describe this process in detail.

The decision to use the grounded theory strategy in our research was based on the very nature of the chosen phenomenon. The adequacy of our choice was also based on the statements of Strauss and Corbin (1999), who argue that it is appropriate to use qualitative research in those cases where we are trying to uncover the nature of someone's experience of a particular phenomenon. If we want to find out how someone subjectively deals with certain situations, how they understand certain phenomena and how they react to them, the most appropriate way of investigation is to use grounded theory, for which symbolic interactionism is the methodological starting point (Hendl, 2016).

Data were collected from written reflections written by students during and after their teaching practice. The validity of the research instrument is ensured by direct contact with students after the completion of the teaching practice and authentic testimonies as well as by systematically comparing each classification of research data with each other.

Research problem and research questions

We have outlined the definition of the research problem in light of the fact that student reflection as a phenomenon takes place in social reality and needs to be explored more deeply in the broader contexts, structures and manifestations of human activity. We conceived it on the basis of the natural chronological development of subjective opinion and at the same time, the action of the qualitative development of students, that is, especially in the context of dynamic change in the view of oneself.

Based on the focus of the research and the characteristics of the research problem, we formulated the following basic research questions for the purpose of the research in this context:

What are the students' expectations, emotions, and fears before practice?

How do students think about the teaching profession?

What specific suggestions do students have for the implementation of hospitality teaching practice?

How do students understand the benefits of the implemented practice?

What is the working atmosphere in the practicum schools during the implementation of the practicum?

How do the students think about the pedagogical competence of the practicing teachers?

How do students characterize the observed teaching?

Subjects of research

The selection of research subjects is crucial for qualitative research. We chose 2nd and 3rd year undergraduate students who had taken a course in general didactics to be able to assess the didactic and professional aspects equally. In qualitative research, the selection of subjects is always deliberate. In our research, we used theoretical sampling proposed by Glaser and Strauss (1967, in: Švaříček et al., 2007).

Our research material consisted of 108 reflections from students (84 female, 23 male) of undergraduate teacher education programs in the common social scientific, pedagogical, and psychological foundations of teaching.

Data analysis and interpretation

Open coding results in a number of inductively created terms, codes, concepts and categories that share a common core in terms of close links to the research questions. After very detailed and time-consuming work at the end of the analysis, the research data was reduced to the main indicators and at the same time expanded in relation to the interpretations of the phenomena under study. The research data were first mechanically processed by analysing the texts and then we used the software program ATLAS.ti. We chose this method mainly because of its greater clarity. In this study, we used Atlas.ti 23 a professional computer-assisted qualitative data analysis software to support the systematic analysis of 108 written reflections by student teachers. The decision to use Atlas.ti was based on its robust capacity to manage large corpora of qualitative text and its compatibility with grounded theory methodology, particularly in handling open, axial, and selective coding processes. We used network views and memo tools in Atlas.ti to integrate key categories around the central theme: Student Teachers' Reflection on Teaching Practice. The software's ability to create semantic networks allowed us to visualize and validate connections among categories.

Benefits Atlas.ti in our study are: ensured consistency and transparency in coding across a large dataset; enabled iterative comparison and refinement of categories as recommended by grounded theory methodology (Strauss, Corbin, 1998); enhanced the validity and reliability of findings through constant comparison, memoing, and visualization tools.

One of the components of the teaching practice portfolio is the final reflection, which provides a space for deeper analysis of teaching practice. Given the nature of the research data, we have chosen a qualitative research design. We subjected the final evaluation reflections to textual analysis (Řiháček, Hytych, 2013), looking for common and different elements in the evaluation of pedagogical practice.

Textual analysis of the data was conducted between January and March 2024. Based on the semantically similar responses, we thematically classified the identified elements into one of seven categories that emerged from the textual analysis of the reflections. We processed the analysed research data in Atlas.ti individually for each student's reflection, creating 108 hermeneutic units. The creative process of mental abstraction and open-coding analysis of the research data resulted in the abstraction and subsequent creation of 7 main interpretive categories (Table 1), which are further subdivided into their associated interpretive subcategories.

Table 1. Main interpretive categories and subcategories

Status	Interpretive categories	Interpretive subcategories
State at the entrance	Emotions, thoughts, fears, expectations of the student before the practice	Previous experience
		Reactions to unfamiliar environments
		Expectations before practice
		Pre-exam meeting and preparation
		Expectations related to didactics
		Positive emotions
		Stress and nervousness
State of the process	Characteristics of observed teaching	Clear articulation of learning objectives
		Variability of teaching methods
		Didactic principles
		Interaction between teacher and pupils
		Individual approach to pupils
		Use of material means
State of the process	Atmosphere during teaching	Friendly and supportive atmosphere
		Cooperation and teamwork
		Mutual respect
		Open communication

Status	Interpretive categories		Interpretive subcategories
			Focus on individual needs
State of the process	Supervising teacher	Supervising teacher approach	Professionalism and willingness
			Diversity of approaches
			Interaction and support
			Commitment and interest in teaching
			Variability of pedagogical approaches
		Pedagogical competences of a supervising teacher	Professionalism and dedication
			Communication and interaction
			Flexibility and variety of teaching methods
			Authority and relationships with students
			Commitment and interest in teaching
State at the exit	Benefit of the internship for the student		Gaining practical experience
			Connecting theory with practice
			Personality development and self-development
			Reflection and understanding of the teaching profession
State at the exit	The vocation of a teacher		Insights and attitudes
			Reflection and self-evaluation
			Interest in education and youth work
			Practice and experience
Recommendations and proposals for changes			Adaptation of the timetable
			Positive and negative experiences
			Organisation and communication in school
			Diversity of teaching methods

Each of the thematic categories represents several elements that have their own narrative value. For each category, we identified elements of similar content focus that emerged from the content analysis of the reflections.
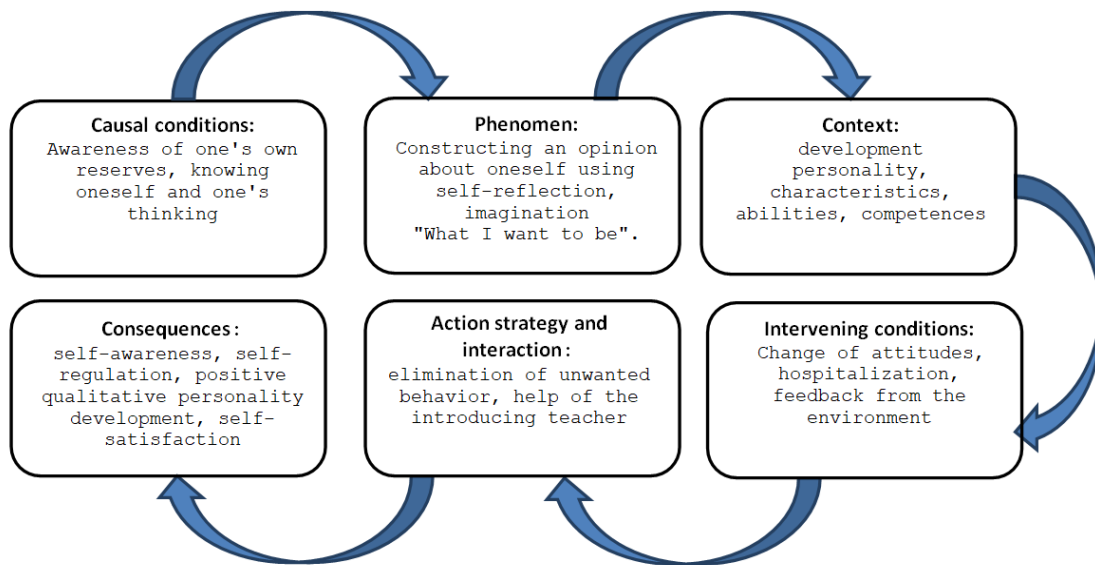
The methods we used at each stage of the research were based strictly on the application of grounded theory. In the collection phase, we used the method of content analysis of the texts of the students' reflections. In our research, we sought to use the qualitative method of written self-reflective narrative. According to Woods (1986), this is an excellent source of data. Its positive point is that through such method it is possible to reach the internal perspective of the actors (Šeďová, 2012).

We worked using the software program Atlas.ti. We chose this tool mainly because of its ability to clarify and systematize greater corpora of data (Figure 2. Example of research data analysis by open coding using the Atlas.ti software).

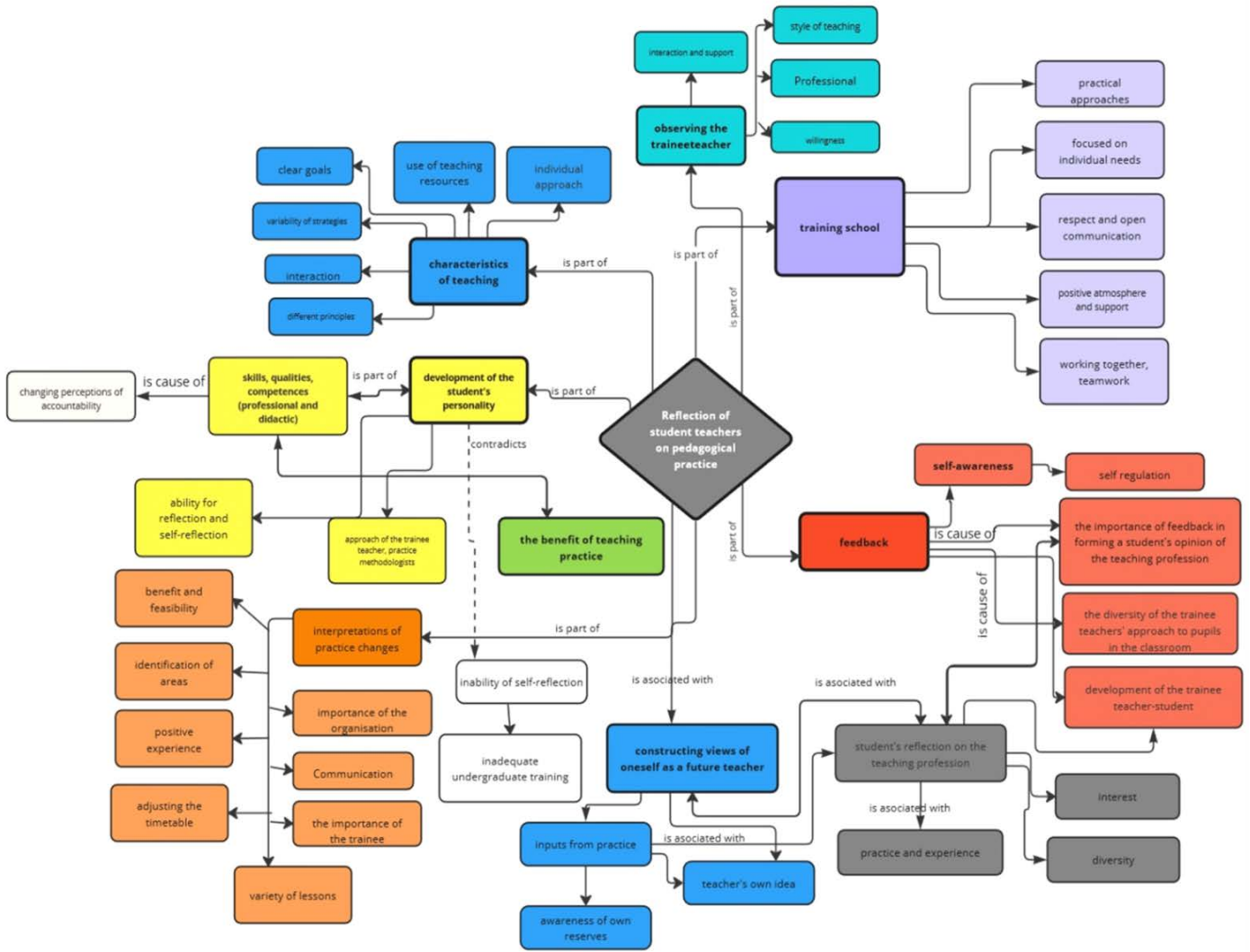**Fig. 2.** Analysis of research data using Atlas.ti

The next step was axial coding, which follows seamlessly from open coding. "It aims at making connections between categories and subcategories" (Strauss, Corbin, 1999 in Švaříček et al., 2007: 232). Both types of interpretive categories involve existing phenomena emerging from the congruent features and nature of the research data, emerging from students' reflections. Using induction to identify specific elements of the symbols, we uncovered conceptual relationships that contribute to the creation of a holistic picture of the phenomenon under study in students' reflections. In doing so, we contributed to the re-grouping of categories that implies the creation of structure through the systematic categorization of research data. In short, we identified interrelationships, which were later used in the creation of the conceptual map (Figure 4). Thus, the aim of axial coding was to create several axes that link interpretive categories and subcategories to each other. We conceived the axes on the basis of a paradigmatic model (Figure 3). Example of the creation of a schema of the phenomenon under study.

Fig. 3. Paradigmatic model

The above paradigmatic model allowed us to think systematically and form new interrelationships between the main interpretive categories and subcategories.

The last analytical technique we used was selective coding. According to Strauss, Corbin (in Švaříček et al., 2007: 233), it "involves the selection of a single key category around which the basic analytic narrative is organized". The other categories are closely linked to it, i.e. they are correlated. The central category is "Student Teacher Reflection on Teaching Practice," to which the sub-category of constructing a view of the teaching profession, containing the phenomenon under investigation, is linked. In selective coding, we focused on describing the phenomenon under study based on the frequency of relationships between the categories with each other and the dimensions resulting from axial coding. In this step, it was mainly a repeated analysis of the interrelationships, which we continuously verified and improved, thus bringing a dynamic effect of constructing the student's opinion of the teaching profession into the interpretation of the phenomenon under study. Thus, based on the causal model, an analytic story emerged in which any change in conditions causes a transformation in the underlying phenomenon. Thus, the student's subjective view of himself through his self-reflection and reflection changes depending on the influence of various factors such as personality development, feedback from the environment, forms of self-reflection, and so on. The structure of the conditions of constructing the student's opinion of himself is also related to the change of opinion, the way of changing the opinion, the development of personality, and the frequency of self-reflection realization. The conditions cannot be understood as a static fact, especially because the variables of the causal model forming interrelations are dynamic and influence the phenomenon under study itself depending on the particular trajectory of the formation of the student's opinion of himself as a future teacher.

Fig. 4. Causal model based on selective coding

3. Results

In this section, we present the most important research findings based on the analysis of the research data in the form of interpretations of individual indicators, i.e. categories and subcategories from the students' written reflections. First of all, it is about the creation of explicative diagrams, which are theoretical in nature, and offer answers to the research questions. We want to draw attention to the fact that the results are not a trivial description of what is said or a simple description of students' shared experiences, but they provide a picture of the process of gradual formation of students' opinion conditioned by self-reflection, through the analysis and subsequent interpretation of the research data. Through analytical techniques, we have created a structure that includes interpretations of the research findings from the students' perspectives.

Using the analytical technique of axial coding, we avoided a fragmented, i.e. fragmentary, description of the phenomenon under study. In interpreting the research findings, we focused on uncovering and explaining the incentive of a particular action in the role of the student as a future teacher.

What are the students' expectations, emotions, and fears prior to practice?

Some common interpretations for students' expectations, feelings and fears prior to practice can be drawn from the reflections and identification of interrelationships:

Previous experiences influence expectations: Completing the teaching practice (A), influenced their feelings before the teaching practice (B). Those who had a positive experience with previous practice had less stress and fears before the next practice.

Different reactions to unfamiliar environments: students had mixed feelings or fears about new environments, especially a school they were not yet familiar with. Those who already had experience with the school had fewer concerns.

Expectations related to didactics: students expressed interest in the didactic aspect of teaching and looked forward to the opportunity to observe the teaching methods and practices of the teachers.

Stress and nervousness before new tasks: Selected students admitted that even though they had previous experience, they still felt some nervousness or stress before new tasks and challenges, especially when it came to the didactic focus of the practice.

Positive emotions after the internship: Students expressed themselves positively about the internship after the internship, highlighting the beneficial experience and the good environment in the school.

Overall, teaching practices are an important part of the preparation of future teachers and influence their feelings, expectations and experiences in teaching and education. The main indicators and extensions in relation to the interpretations of the phenomena under study can be the following: previous experience, emotional reaction, expectations from the practice, reactions after the practice.

What is the working atmosphere like in the training schools during the implementation of the internship?

The following interpretations and conclusions can be drawn from the students' reflections:

Positive atmosphere and support: Descriptions of the practice schools emphasize the pleasant atmosphere and support from the management, teachers and even among the students themselves. This support creates an environment in which students felt comfortable and motivated.

Respect and open communication: relationships between teachers, pupils and students were based on respect and open communication. Students also had the opportunity to express their opinions and have a conversation with the school management as well as with the teachers, which contributes to a better pedagogical practice.

Focus on individual needs: students had the opportunity to observe that teachers try to adapt teaching to pupils' individual needs and support their development not only in educational but also in social areas.

Collaboration and teamwork: In the training schools, collaboration and teamwork are also given attention, which helps students to develop social skills and to learn from each other.

Overall, we can conclude that, according to the students, training schools are places where not only cognitive performance is important, but also the development of students' personality and social skills. There should be a friendly and supportive atmosphere in the schools, mutual respect between management, teachers and pupils, and open communication with students as well.

From the above indicators, a suggestion was made to organize workshops, team building activities, emphasizing the importance of cooperation in all aspects of education. Furthermore, the possibility of providing space for individual meetings between practising teachers and students to solve problems, organising events that strengthen relationships and cooperation between teachers, pupils and practising students, such as sports competitions, theatre performances and joint activities outside the school.
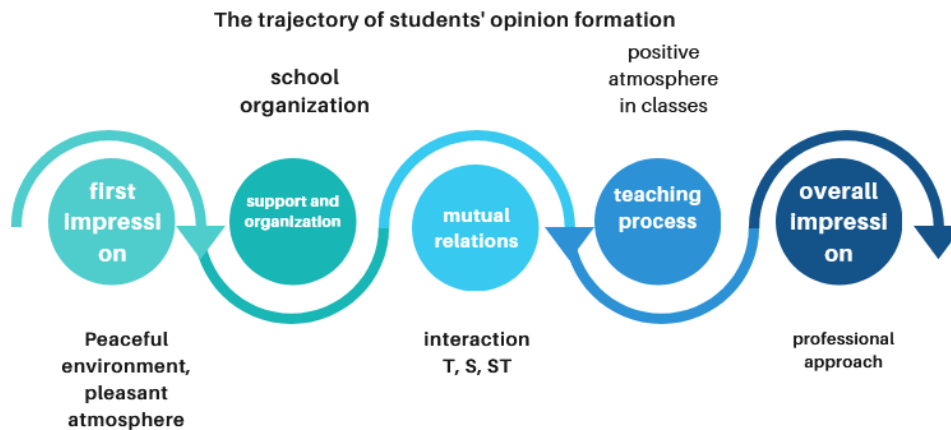
How do students think about the pedagogical competencies of supervising teachers and also the approach of supervising teachers?

Common interpretations and conclusions could be drawn from the comments on the pedagogical competencies and approach of supervising teachers:

Professionalism and willingness: According to the students, the supervising teachers are professional in their profession, willing to help the students. Their ability to communicate with students and answer questions are highlighted as positive aspects.

Variety of approaches: The supervising teachers have different teaching styles and use different methods. Some preferred classical methods, while others were more open to interactive methods and also used modern technology. This diversity gave students a broader perspective on teaching and teaching methods.

**WORKING ATMOSPHERE AT TRAINING
SCHOOLS DURING PRACTICE**

The trajectory of students' opinion formation
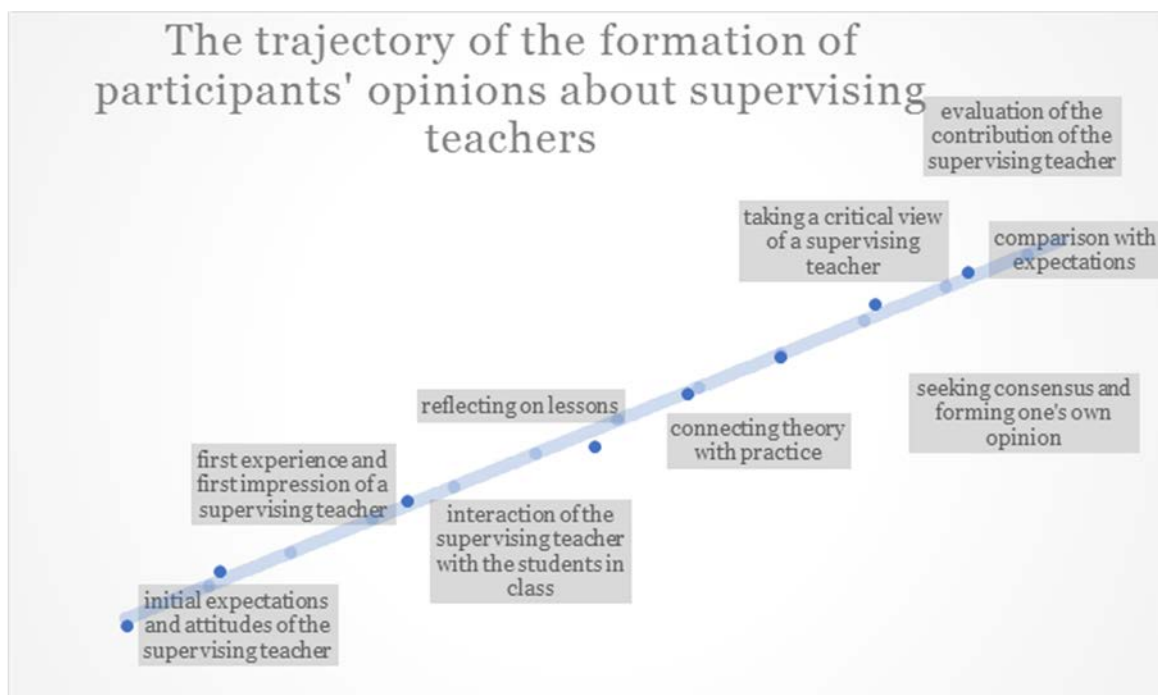

Fig. 5. Trajectory of shaping students' views on the atmosphere in training schools

Interaction and support: The supervising teachers had a positive relationship with the students during the placement and tried to support them. Their ability to actively interact, be approachable and support students in learning are highlighted as strengths.

Dedication and interest in teaching: The supervising teachers were passionate about working with students and showed interest in teaching, according to the students. Their friendly but still authoritative approach was encouraging to the students.

In the next section, we present the trajectory of the formation of students' views of supervising teachers.

Fig. 6. Trajectory of students' opinion formation about introducing teachers

How do students characterize the observed teaching?

Common interpretations and inferences for the characteristics of observed teaching during teaching practice can be stated as follows:

Diversity of methods and approaches: students had the opportunity to observe a variety of teaching methods, indicating that teachers tried to adapt their approach and methods according to the needs of the classroom and the subject.

Clear articulation of teaching objectives: Teachers clearly articulated teaching objectives, which is important for structuring and effective teaching.

Use of didactic principles: Teachers tried to apply didactic principles such as appropriateness, intuition and activity, which can have a positive impact on pupils' retention and understanding of the material and/or learned content.
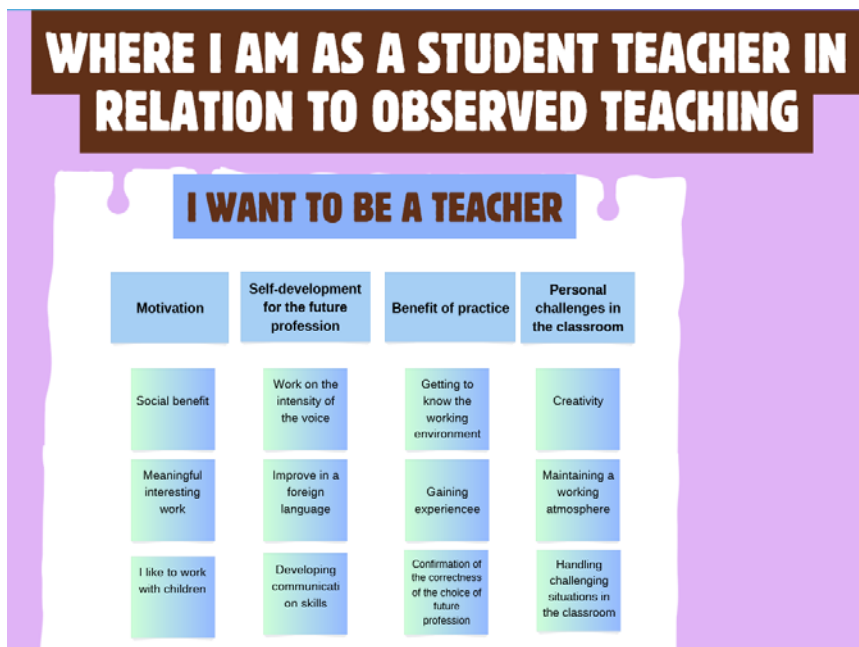
Appropriate use of material resources: The material resources were well adapted to the content of the lesson and helped pupils to better understand the content.

Interaction between teacher and pupils: the students were able to see that the supervising teachers tried to create an interactive environment where there was room for discussion, questions and pupils' involvement in the teaching process.

Individual approach: students reported that teachers were aware of the needs of individual students and tried to adapt the teaching to suit them, whether through individual work, pair work or group work.

These shared interpretations and conclusions suggest that dynamic and adaptive teaching was identified by the subjects in their pedagogical practice, which sought to take into account the needs of the learners and to effectively achieve the stated learning objectives.

What is the student´s thinking about the teaching profession?

Fig. 7. Graphical representation of the trajectory of forming a student's opinion of him/herself as a future teacher through self-reflection

From the students' reflections, we can draw several common interpretations and conclusions regarding students' thinking about the teaching profession:

Diversity of perspectives: students have different perspectives and attitudes towards the teaching profession. Some see it as a stable and important profession, while others are concerned about the difficulty and poor pay.

Enriching experience: Students perceive the experience of observing teaching as enriching and motivating. The experience provided them with a space to reflect on their future careers and gain necessary knowledge and experience.

Commitment to education: Students realise that the teaching profession is not just a job, but also a commitment to pupils and their education. This involves: responsibility, patience and challenges.

Decision-making process: Some students feel more confident in their decision to become teachers after the experience, while others remain unsure or become more open to other options such as working in psychology or other support roles in education.

Working with people: students recognise that working with people, especially children and young people, is challenging but fulfilling. They are interested in learning and influencing the next generation.

The need for practice and self-improvement: It is important for students to gain experience in the field and to continuously improve in their profession. Practice allows them to gain knowledge about the realities of teaching and communicating with students.

These shared interpretations and conclusions give us insight into the diverse reflections and experiences of students.

How do students characterize the benefit of the implemented practice?

From the students' reflections, common interpretations and conclusions regarding the benefit of pedagogical practice for students can be drawn:

Gaining practical experience: Students reported that the teaching experience allowed them to gain practical experience and competences that are important for their future profession. This experience helped them better understand what it means to be a teacher and how to cope with the challenges of teaching.

Linking theory with practice: Students emphasized the importance of linking theoretical knowledge acquired during studies with practical experience from (observation of) teaching practice. This connection enabled them to better understand and, in the future, to better apply didactic principles and methods in a real teaching environment.

Personality development and self-development: Students mentioned that teaching practice helped them not only to acquire professional knowledge, but also to develop personal qualities such as critical thinking, flexibility, ability to adapt and building relationships. These aspects are just as important for successful teaching as professional knowledge.

Reflection and understanding of the teaching profession: Students expressed that the teaching observation experience allowed them to gain a deeper understanding of what it means to be a teacher and the impact they can have on the lives of their students. This experience motivated them to further personal and professional growth in the field of teaching.

Pedagogical practice has a significant benefit for students, as it provides them with the opportunity to connect theory with practice, gain a form of practical experience and develop personal qualities necessary for successful teaching.

What specific suggestions do students have for the implementation of the teaching practice?

From the reflections of the students, we can state several main interpretations and conclusions about proposals and recommendations for the implementation of pedagogical practice:

The importance of a variety of teaching methods: Students emphasize the importance of experiencing different types of teaching strategies. They suggest that the internship should include different classes, subjects and teachers, which would allow them to gain a varied perspective on teaching approaches and school environments.

The importance of better organization and communication: Students point out the importance of good organization and communication in schools. Students seem to appreciate an environment where it is easy to navigate and where school staff are friendly and helpful.
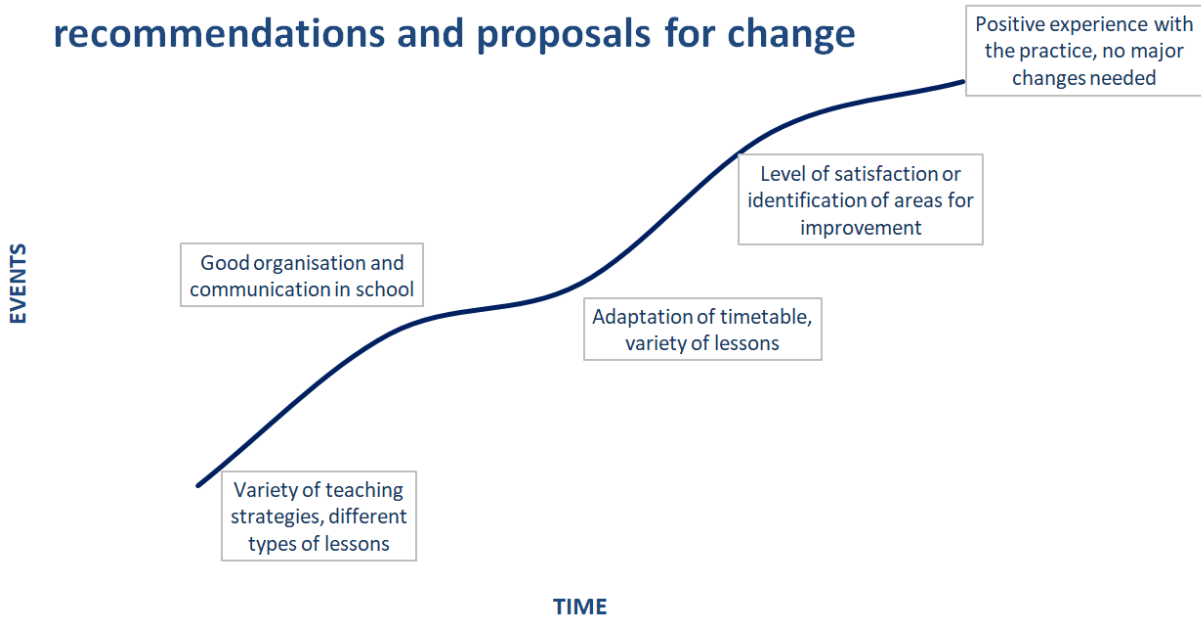
The need to adjust the schedule: Students expressed the need to adjust the practice schedule to include more different classes and teachers and to focus on subjects within their approbation. This proposal emphasizes the need to ensure that students gain sufficiently diverse experiences during their internship.

Positive and negative experiences with practice: students report rather positive experiences with practice and do not see the need for any fundamental changes.

From these interpretations and conclusions, it follows that important aspects for the implementation of pedagogical practice are the diversity of experiences, effective organization and communication in the school, and adaptation of the schedule so that students get the most from their practice.

Trajectory of shaping students' views on recommendations and proposals for change

Fig. 8. The trajectory of forming students' opinions about recommendations and suggestions

In the final phase of colloquia (reflective discussions) of pedagogical practice, we asked the students to comment on the implementation of the colloquia. We asked the students to give their evaluation and feedback on the colloquium. Here are some parts of the students' statements:

S-1: "I was very satisfied with the colloquium... I know that it helped many, including me, in clarifying several didactic concepts."

S-2: "The course of the colloquium followed what was announced at the beginning, everyone had a chance to express themselves."

S-3: "I liked the colloquium. It was individual enough, so everyone had room to express themselves. There was also plenty of time for additional questions".

S-4: "Pleasant, it didn't miss a point. It's a shame that little time was spent on the discussion".

S-5: "The colloquium was held in a pleasant atmosphere, I liked the individual opportunity to comment on the evaluation, the acceptance of feedback and the willingness on your part. The discussion was stimulating, the questions were practical, focused on reasoning, I positively assess that the focus is on real experiences and not theory from lectures".
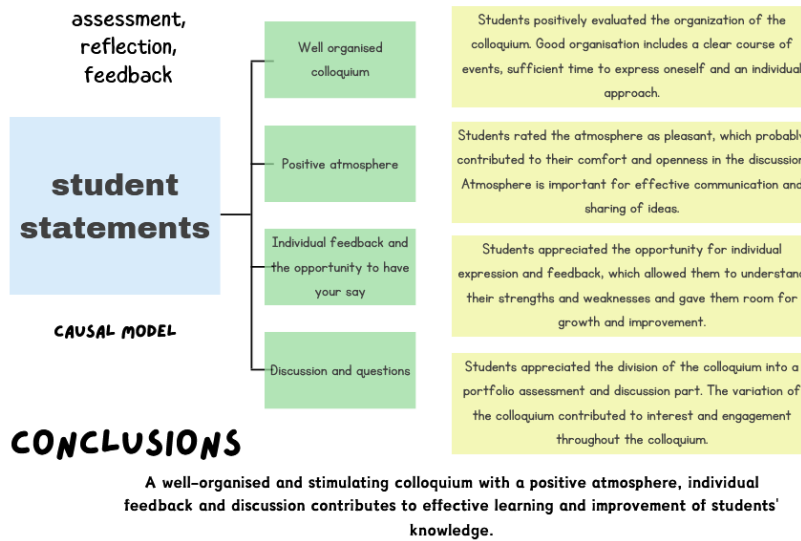
S-6: "Very pleasant atmosphere. I appreciate this opportunity to have an open and free discussion, also considering that there is also a director with experience and a rich perspective on the matter".

S-7: "It is an effective activity that allows students to point out the shortcomings but also the strengths of their performance in the field of practice. It allows students to "take on" the role of a teacher and make students think about how they would proceed".

S-8: "In my opinion, it was well organized. I liked that it was split into two parts. One that was dedicated to our portfolios and the other that worked on the style of the debate. It was also in a pleasant atmosphere.

S-9: "In my opinion, feedback on our portfolios for pedagogical practice is very important for us students, so that we know in which part of the portfolio we expressed ourselves incorrectly, in order to confirm or gain knowledge regarding the education of pupils and that we could defend our opinions. I liked that it was completely open and everyone could comment on the topic or their portfolio." Based on the students' statements, we can create the following causal model of students' thinking about the final colloquium – Figure 9.

FINAL COLLOQUIUM

Fig. 9. Student's reflection on final colloquiums

Overall, we can say that a well-organized and stimulating colloquium with a positive atmosphere, individual feedback and discussion contributes to effective learning and improvement of students' knowledge.

4. Discussion

The findings of this study confirm that reflection is an essential process in the development of student teachers' tacit knowledge and professional identity during teaching practice. This supports Schön's (1983) concept of "reflection-on-action," where individuals engage in meaning-making after a professional experience. Through their reflections, students in our study articulated deeply personal and professional transformations, often drawing connections between theory and practice – an outcome emphasized as essential by Korthagen et al. (2011) in their model of realistic teacher education.

In alignment with the work of Loughran (2020), who highlights reflection as a bridge between knowledge and professional growth, our data show that reflection enabled student teachers to critically analyze their experiences and internalize key pedagogical principles. The students' ability to identify effective teaching strategies, classroom dynamics, and their own emotional and cognitive responses suggests that reflective practice nurtures the integration of practical and theoretical knowledge.

The supportive and communicative atmosphere in practicum schools, as highlighted by our participants, resonates with the findings of Zeichner, Liston (1996), who emphasize the importance of mentoring relationships and school culture in shaping pre-service teachers' learning. Similar to the work of Hobson et al. (2009), our study underscores that the quality of mentoring – characterized by openness, feedback, and professionalism—significantly contributes to the student's confidence and identity development as future teachers.

Moreover, the observation that students valued variety in teaching methods and mentoring styles corresponds with the findings of Farrell (2013), who argues that diversified teaching exposure is crucial for fostering reflective capacities and adaptability among future teachers. This variety allowed students to compare approaches, evaluate effectiveness, and imagine their own teaching personas, which is a key outcome in teacher professionalization, as noted by Beauchamp, Thomas (2009).

A particularly important outcome of our study is the recognition of tacit knowledge as a formative element in the professional growth of student teachers. Following Polanyi's (1966) theory, which states that "we know more than we can tell," our research illustrates that reflective writing enables students to uncover, articulate, and refine knowledge that is otherwise inaccessible or unconscious. Similar observations have been made by Eraut (2000), who emphasizes that

professional knowledge is largely tacit and that reflection serves as a vehicle for making it accessible and actionable.

The final colloquia, as described by the students, proved to be meaningful reflective spaces that encouraged deeper engagement with teaching concepts and allowed for open dialogue – mirroring the role of structured reflection seminars described by Hatton, Smith (1995) as central to effective teacher education programs. Students appreciated not only the feedback and discussion but also the opportunity to verbalize their self-concept and internal changes, reinforcing the idea that professional identity is constructed socially and dialogically.

Lastly, our results suggest that pedagogical practice is not only a technical training but a transformational experience, supporting the view of teaching as an evolving identity (Beauchamp, Thomas, 2009; Sachs, 2005). The teaching practicum, when embedded in reflective structures, fosters critical thinking, personal development, and a deeper commitment to the teaching profession.

5. Limitations and prospects for further research

Despite the rich insights gained from this study, several limitations must be acknowledged. The research was conducted using written reflections from a specific group of undergraduate student teachers from selected programs. This limits the generalizability of the findings to other educational contexts, cultures, or institutional settings. Since participants were voluntarily submitting reflections as part of their course portfolio, there is also a possibility of social desirability bias, where students may have emphasized positive experiences or downplayed critical views.

The study relied exclusively on qualitative, text-based data, without triangulation through classroom observations, interviews, or mentor perspectives. As a result, the findings capture only students' subjective interpretations of their teaching practice and not the actual classroom performance or mentoring quality. Although grounded theory and hermeneutic analysis provide deep insights, they do not allow for statistical validation of findings across larger populations.

In this paper, we present only the results of the content analysis of the written products, but our broader analyses of reflections on pedagogical practice included analysis of interviews with research participants in the colloquia. The interviews conducted support the theory derived from the content analysis method of the products. The scope of this paper, however, did not allow for the inclusion of these interview analyses in the results.

The data were collected at a single point in time—immediately after the practicum – making it difficult to assess long-term impacts of reflection on professional development or tacit knowledge retention. Reflection is a dynamic process that evolves over time, and longitudinal studies would be needed to understand how initial insights from practicum experience influence later teaching practice.

Future research could build on these findings in several directions:

– Longitudinal studies could track student teachers from practicum through their induction years, analysing how early reflections influence later professional identity and classroom behavior.

– Mixed-methods approaches incorporating interviews, video analysis, or teaching portfolios could provide a more comprehensive picture of how tacit knowledge develops and manifests in real teaching actions.

– Comparative studies across different teacher education systems and cultural contexts could offer valuable insights into how reflective practices and professional growth are shaped by institutional frameworks and local norms.

– The integration of digital tools for reflection (e.g., video journals, online feedback platforms, AI-supported analysis) also represents a growing area for exploration, particularly in the context of hybrid or online practicum experiences.

– Finally, future studies could include mentor and supervisor reflections, enabling a multi-perspective analysis of how different stakeholders interpret teaching practice and support the development of novice teachers.

By addressing these limitations and extending the scope of inquiry, future research can contribute to a more comprehensive understanding of the role of reflection in teacher professionalization, especially in cultivating tacit pedagogical knowledge, emotional resilience, and adaptive expertise in diverse educational environments.

6. Conclusion

The findings from this research highlight the significance of reflective practice in the preparation of future educators. Through reflection, students not only internalize their observed

teaching experiences but also build fundaments to bridge the gap between theoretical knowledge and practical application. The process of reflection allows them to better understand their personal and professional growth as educators, as seen in their evaluations of teaching practices. The qualitative approach, particularly grounded theory, enabled us to uncover how students' expectations, emotions, and perceptions evolve throughout their practicum experience.

Moreover, the positive atmosphere in the training schools, characterized by support, respect, and open communication, plays a crucial role in shaping students' perceptions of the teaching profession. Collaborative environments and tailored teaching methods further enrich the student-teacher experience, encouraging both cognitive and social development.

Teaching practice is not merely a procedural requirement but a transformative journey for future teachers. By integrating reflection into the curriculum, educators can better prepare students for the dynamic and multifaceted nature of teaching, ensuring that they enter the profession not just with knowledge but with the ability to critically assess and improve their practice.

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