Reflexivity and Quality in Teacher Training

1. Introduction

The iREFLECT Project

The Erasmus+ project *iREFLECT* responds to constant change in the education sector and the challenges that come with it by seeing reflective competence as a key link between theory and practice. The project partners developed a toolbox with methods that support students and teachers in all phases of their professional development – from their studies to their teaching practice to continuing professional development in their working lives.

Objective of the Card Set

The toolbox was developed as a card set to give teachers a variety of approaches to reflection processes. It has the following objectives:

- Promote self-reflection and reflection by others
- Support the creation of a continuous learning process
- Develop a professional attitude
- Contribute to the quality development of teaching and schools

The card set is suitable for individual reflection as well as for use in teams, seminars, and training events. It strengthens the ability to consciously reflect on and further develop teaching, communication, and educational decisions. The card set is used to systematically build and expand reflective skills.

Project Partners

iREFLECT is an Erasmus+ project carried out in cooperation with several European partners. From north to south, the following institutions were involved:

- City of Oulu, Finland
- Ludwig-Windhorst-Haus Lingen, Germany
- Zentrum für schulpraktische Lehrerausbildung (ZfsL) Kref, Germany
- Center of Excellence Split-Dalmatia, Croatia
- University of Valladolid, Spain
- Deutsche Schule Athens, Greece

The collaboration enabled a practical, cross-phase, and scientifically sound approach to promoting reflective skills in teacher training across national borders.

Reflexivity as a Key Competence in Contemporary Teacher Training

In the context of changing educational requirements, reflexivity is increasingly understood as a fundamental competence of professional teaching. It enables teachers to continuously question and readjust their pedagogical actions and to develop them further in relation to changing institutional, social, and technological constellations. The ability to reflect thus proves to be not only a central element of individual professionalization, but also a structuring factor in the context of *21st century skills*, which are paradigmatically condensed in the 4C model – Creativity, Critical thinking, Collaboration, and Communication. The theoretical framework is provided by Donald Schön's concept of the *reflective practitioner* (1983), which describes a dynamic process of change between theory and practice (cf. 2).

In an increasingly complex and unpredictable educational reality—characterized by digital transformation, diversity, and global change—a reflexive approach provides a solid foundation for educational decision-making and action.

The importance of reflexivity is also emphasized by the OECD Learning Compass 2030, which describes reflexivity as one of the "*Transformative competencies*" (OECD, 2019). It understands reflexivity not merely as retrospective analysis, but as a forward-looking navigational skill. It enables anticipatory thinking that looks ahead to future educational needs – for example, in the areas of digitalization or education for sustainable development – and anchors them in the curriculum. Reflexivity also forms the basis for systemic action that recognizes complex interactions between education, society, and global challenges and addresses them pedagogically. Last but not least, reflexivity creates the foundation for ethically sound, responsible action—an indispensable prerequisite for promoting democratic education (OECD, 2019).

This results in a clear mandate for teacher training: reflexivity must not be regarded as an additional skill that is possible but not mandatory. Rather, it must be systematically promoted and structurally anchored at several levels. At the individual level, tools such as professional learning diaries, video analyses, or digital reflection portfolios can initiate and support self-reflection (Korthagen, 2001). Collegially supported methods—such as networks or collegial groups—promote the development of a culture of reflection. At the institutional level, structural arrangements are necessary to establish reflection as an integral part of school development processes, for example through regular reflection spaces or the integration of reflective elements into school quality circles.

In summary, it can be said that reflexivity is much more than an individual act of reflection. It is a professional habit that enables teachers to remain capable of acting in a fluid, ambiguous, and dynamic educational landscape. As a cross-cutting competence, it is both a prerequisite and a driving force for a learning, adaptive education system. It thus corresponds to the guiding principle of the *OECD Compass*, which sees education as a guiding star for social change – providing orientation, connecting and transforming (OECD 2019).

The iREFLECT project thus meets the demand for strengthening reflective skills in the context of lifelong learning and contemporary education. It supports the development of a "*reliable compass*" for teachers in an increasingly complex and uncertain educational landscape (Schleicher, 2018).

2. Theoretical Foundations of Reflexivity in Teacher Education

Reflection versus reflexivity versus feedback

Reflection refers to an active, conscious thought process in which a person thinks about their experiences, actions, or thoughts in order to understand, evaluate, and, if necessary, change them. *Donald Schön* (1983) distinguishes between "*reflection-in-action*" (reflection during action) and "*reflection-on-action*" (reflection after action, cf. 2).

Reflexivity goes beyond reflection and encompasses the ability to critically question one's own assumptions, values, and perspectives. It refers to a deeper, more comprehensive process that encompasses not only actions, but also underlying beliefs, social constructs, and power relations (Korthagen & Vasalos, 2005).

Feedback is external feedback on performance or behavior that can or should contribute to improving practice. *John Hattie* and *Helen Timperley* (2007) distinguish between feed up ("What was my goal?"), feedback ("How am I doing?"), and feed forward ("What's next?").

Relevance of reflexivity

Reflexivity should not be understood exclusively as a dialogue between a reflective and an observing person. Reflexivity in the form of self-reflection is an essential component of professional development. It is described as a habitualized form of open-minded reflection on challenging practical situations. It is important to take underlying attitudes, knowledge, and social conditions into account (Leonhard et al., 2010) in order to promote one's own ability to act and to contribute to school development.

Theoretical modeling of reflexive practice

The concept of reflective professionalism in teacher training is largely shaped by theoretical models that understand reflection not as a one-off activity, but as a structuring component of professional learning. Two paradigmatic approaches—by *Donald Schön* and *Fred Korthagen*—offer complementary perspectives on the underlying structure of reflective action.

Schön's concept of the *reflective practitioner* (1983) forms a fundamental frame of reference for profession-related reflection processes. In his model, he distinguishes between two forms of reflection:

- Reflection-in-action refers to reflective pausing **during** professional activity—for example, when a teacher spontaneously reacts to unexpected classroom dynamics and adapts their methodology.
- Reflection-on-action, on the other hand, takes place **after** the action and aims to systematically reconstruct and analyze one's own actions in order to generate viable strategies for future situations.

Schön understands reflexivity as a cyclical, practice-oriented learning process that does not pit theory and practice against each other in a dichotomy, but rather brings them into a productive interrelationship.

This approach is further developed conceptually in *Korthagen's model* of *reflective teacher training*. *Korthagen* structures reflexivity as a multi-stage process ranging from the analysis of concrete experiences and the identification of patterns guiding action to the reflection on personal values and professional convictions. He emphasizes that sustainable professionalization does not result solely from methodological skills or specialist knowledge, but is based on the ability to critically examine one's own inner dispositions, including implicit attitudes and behaviors. According to Korthagen, reflective learning in the sense of a profound transformation of professional self-image can only take place if teachers are willing to examine their ways of thinking, their professional ethics, and their implicit theories.

Carola Junghans (2022) and *Carola Junghans* and *Andreas Feindt* (2020) provide a practical application of these theoretical principles with their systematic approach to reflective work. Their four-dimensional model structures reflective analysis along key areas of tension in teaching practice:

1. The four-dimensional model distinguishes between the visible and underlying structures of teaching. This allows for a greater focus on the quality of learning and the didactic and methodological approach of teaching, taking into account cognitive activation and individual support. At the same time, these are deliberately separated from organizational and temporal structures.
2. The model enables differentiated reflection on one's own role as a learning guide, instructor, and moderator with the respective requirements for action.
3. Based on the didactic triangle, the model focuses on the personal and professional attitude of the teacher in the area of conflict between the subject matter, the teacher, and the learners. This allows for situational reflection on subject-specific, pedagogical-psychological, or didactic competence.
4. Finally, the model addresses the teacher's own attitude in the tension between fundamental pedagogical opposites: instructing versus letting students discover for themselves, controlling versus trusting, leading versus promoting self-regulation.

Junghans' model breaks down the rather general reflection processes described by *Schön* and *Korthagen* into the concrete content level of teaching and teachers. Through systematic examination of the pedagogical self-concept, it enables methodically structured reflection work. This can be directly put into practice, for example by integrating it into the iREFLECT card set.

All models share the view that reflexivity is not an additive component of pedagogical practice, but rather its integral core. By addressing different layers of the professional self—from situational decision-making in the classroom to reflective engagement with basic assumptions—*Schön* and *Korthagen* provide a solid theoretical foundation for teacher training that is not content with reproducing existing routines, but aims at development, change, and ethically sound action.

Reflexivity as the key to modern professionalization

Current research discourse on teacher training assigns reflexivity a central role in professional practice. Empirical studies and meta-analytical findings show that reflexive practice at the individual, collegial, and institutional levels contributes significantly to the professionalization of teachers.

At the individual level, it has been shown that regular reflection correlates closely with the quality of teaching. Teachers who critically analyze their pedagogical actions are better able to create settings that promote learning, develop adaptive strategies, and respond in a differentiated manner to heterogeneous learning conditions. At the same time, this form of self-assurance strengthens the relationship with learners: a reflective approach to communicative, emotional, and social dynamics in the classroom promotes a climate of mutual appreciation and has been shown to increase students' motivation and engagement.

Reflexivity also has a transformative effect at the collegial level. In professional learning communities, school networks, and multi-professional teams, the ability to engage in shared reflection—for example, in the form of collegial teaching reflection—is a decisive factor in the quality of cooperative development processes. It creates a framework for a learning-oriented culture of error, promotes shared responsibility for educational processes, and increases the collective effectiveness of school stakeholders.

Reflexivity is also a structuring element of sustainable school development at the institutional level. Schools that systematically establish spaces for reflection, whether in the form of steering groups, school quality circles, or digital feedback systems, not only demonstrate greater innovation dynamics but also achieve better long-term learning outcomes among their students.

This makes it clear that reflexivity should no longer be understood as an optional skill, but rather as a structural prerequisite for professional educational processes. It acts as a catalyst for individual development, collegial learning processes, and institutional change. It is therefore at the heart of teacher training that is geared toward effectiveness, responsiveness, and transformative capacity.

3. Quality criteria for training and professional development

Characteristics of effective professional development

The effectiveness of teacher training has been the subject of empirical educational research for years. In several studies, *Frank Lipowsky* and *Daniela Rzejak* (2021) have identified key conditions that are necessary to have a lasting impact on teaching quality and enable the professional development of teachers. Their findings provide a crucial frame of reference for the design of reflection-oriented training programs—especially in the context of innovative approaches such as the iREFLECT card set.

Reflection and contextualization of one's own practice are considered key factors. Professional development programs unleash their transformative power when they enable teachers to systematically analyze their own teaching practices and critically examine them in light of institutional, didactic, and societal conditions. This examination of everyday professional life is not an add-on, but rather a constitutive element of professional learning.

Closely related to this is the principle of clear and practical objectives. Professional development programs must refer to concrete challenges in the school context and address the specific needs of the participating teachers. Abstract theory modules or normatively overloaded ideal images of pedagogical action remain ineffective if they are not linked to the teachers' experiential knowledge.

The accuracy of the content is another quality feature: only when training content is perceived as directly relevant and useful for one's own teaching will it be transferred into practice. This requires a careful needs analysis and flexible formats that take individual experiences and school contexts seriously.

In addition, *Lipowsky* and *Rzejak* (2021) emphasize the need for practical testing and continuous application. Professional learning remains inconsequential if it is not incorporated into everyday teaching practice and further developed there in a reflective manner. Reflection tools such as the iREFLECT card set provide concrete opportunities to repeatedly review one's own attitudes, decisions, and routines in the spirit of spiral curricular learning.

Another success factor is the coherence and integration of what has been learned into everyday professional life. Professional development has a particularly lasting effect when it is not understood as an external, one-time intervention, but is closely intertwined with school development, teaching development, and everyday challenges among colleagues.

Ultimately, long-term support is needed to initiate genuine professionalization processes. A one-off workshop can, at best, provide impetus. However, lasting change can only be achieved through continuous support, guided reflection, collegial exchange, and the opportunity for repeated further development.

The research by *Lipowsky* and *Rzejak* (2021) thus makes it clear that effective professional development is not a one-off event, but a structurally anchored, reflective learning process.

Reflective competence in the GRETA competency model

Another important frame of reference for the systematic description of professional competencies in teacher training is the *GRETA* competency model developed by the *German Institute for Adult Education*. The *GRETA* competency model, which was originally designed for adult and continuing education, offers a differentiated and empirically based structure for profession-related action competencies. *GRETA*, translated from German into English, stands for "Fundamentals for the development of a cross-institutional recognition procedure for the competencies of teachers in adult and continuing education." In addition to subject-specific and methodological competencies, which are often the focus of traditional qualification measures, the *GRETA* competency model explicitly places reflective competence at the center of professional development. Reflective competence is not understood as an isolated skill, but as an integrative element that permeates all other areas of competence. It enables teachers to analyze, evaluate, and further develop their own actions in light of didactic, institutional, and social conditions. Thus, reflexivity is identified here not only as an individual learning tool, but also as a constitutive dimension of a professional attitude—an understanding that directly follows on from the theoretical models of *Schön* and *Korthagen*.

This normative and functional revaluation of reflective competence finds a practical counterpart in the iREFLECT card set. The set was specifically developed to create structured opportunities for reflection that are tailored to the diverse and often challenging practical experiences of teachers. By offering reflective impulses that can be worked on both individually and collegially, the iREFLECT card set operationalizes key quality criteria for effective continuing education, especially those aimed at contextualization, fit, and application orientation (cf. *Lipowsky* & *Rzejak* 2021).

At the same time, the card set contributes to the anchoring of reflective routines in everyday professional life. It enables a continuous and, in some cases, low-threshold engagement with pedagogical challenges, pedagogical attitudes, and professional dilemmas. In this way, it not only makes reflexivity visible in the sense of the *GRETA* competence model, but also makes it learnable and habitualizable. The integration of different methodological approaches in combination with powerful questions not only promotes individual self-clarification, but also the development of a collective discourse of reflection among colleagues or in a training context.

4. Promoting reflection with the iREFLECT card set

The iREFLECT card set was developed based on current research findings on promoting professional reflexivity in teacher training. The aim was to create a tool that is both theoretically sound and practically applicable – and thus effectively supports teachers in their professional development. The design principles underlying the card set reflect this dual perspective and make the set an innovative tool for reflection-oriented educational processes.

A key quality feature of the set is its flexibility. Its modular structure allows for differentiated applications in different settings. The cards can be used sequentially, thematically, or situationally, and can thus be adapted to different target groups, time budgets, and reflection goals.

In addition, the iREFLECT card set is based on a consistent practical orientation. Its design is based on theoretical models and empirical studies on reflexivity, professionalization, and teacher training—including the work of *Schön*, *Korthagen*, *Lipowsky*, and the principles of the *GRETA competency model*. The integration of scientific findings not only guarantees a theoretical foundation, but also supports connectivity with existing quality assurance and evaluation processes.

In terms of content, the iREFLECT card set is divided into different reflection categories that address the central dimensions of a teacher's professional identity and practice:

- **Biographical reflection** enables individuals to examine their own learning history, formative experiences, and professional development. The aim is to reveal implicit beliefs and critically examine the connection between personal development and professional conduct.
- The category of **didactic-methodological reflection** encourages the analysis of lesson planning, implementation, and evaluation. The focus is on how didactic decisions are made, what effects they have, and how they can be further developed in light of current findings.
- **Systemic reflection** focuses on the institutional, structural, and social framework conditions of pedagogical action. Teachers are encouraged to situate their professional work in the context of school policy, educational inequality, digitalization, and other systemic factors.

These categories enable the iREFLECT card set to unfold its multidimensional effectiveness: it combines individual self-reflection with structured discourse, allows for differentiated changes of perspective, and opens up new approaches to one's own teaching practice. This makes it a central component of reflective teacher training—in the service of professionalization that is oriented toward effectiveness, responsibility, and development potential.

The iREFLECT card set can be used in three phases of teacher training and professional development. In each phase, it unfolds a different function tailored to the respective development needs – from the initial initiation of professional self-reflection during studies to the systematic accompaniment of continuous professionalization processes in professional practice. In this way, one's own educational history becomes a resource for a deeper professional self-understanding.

In the first phase of teacher training, university studies, the card set supports the early development of professional reflexivity. It offers students structured opportunities to reflect on their first practical experiences, whether in orientation internships, practical school studies, or university seminar simulations.

In the second phase, the preparatory service (teaching internship), the focus is on in-depth examination of practical teaching, subject-specific didactic, and diagnostic skills. Here, the iREFLECT card set supports the systematic reflection of specific teaching experiences, enables the analysis of professional routines, and at the same time provides impetus for the further development of interdisciplinary skills such as self-management, dealing with stress, and building professional relationships with students and colleagues. In this phase, the card set can be effectively integrated into both accompanying seminars and individual coaching processes.

In the third phase, the career entry and professional development phase, the card set serves to promote continuous professional development in everyday working life. It supports teachers in critically questioning routines, recognizing potential for innovation, and reflexively accompanying change processes, for example in the context of school development or teamwork. In this context, the card set acts as a sustainable tool for self-assurance and the structured further development of pedagogical competence.

Integration into different formats of teacher training

The iREFLECT card set demonstrates its strength not least through its didactic flexibility. It can be integrated into various training and continuing education formats and adapts to the respective objectives, group sizes, and time resources:

- The card set can be used in **seminars and workshops** with a specific focus, e.g., on relationship building or lesson planning. It can also be combined with theoretical elements, group reflections, and portfolio work.
- In **coaching processes**, the iREFLECT card set offers structured reflection prompts in the form of “strong questions” that precisely address and explore individual concerns. It thus supports not only the diagnosis and processing of specific challenges, but also the development of long-term strategies for self-management and professional orientation.
- In **collegial case consultation**, the cards serve as catalysts for systematic reflection on real-life situations. They help to change perspectives, reveal blind spots, and develop solution-oriented approaches through collective exchange.
- Finally, in **mentoring**, the iREFLECT card set accompanies dialogical learning processes between experienced and prospective teachers. It structures conversations, promotes the exchange of experiences, and supports a reflective attitude on both sides of the mentoring process.

In all these contexts, it is clear that the iREFLECT card set is much more than just a methodological tool. It is a didactically well-designed reflection tool that can be flexibly adapted to the needs of different target groups and can make a lasting contribution to the development of a reflective, learning, and cooperation-oriented profession.

5. Recommendations for use in seminars, tutorials, and coaching contexts

In order to maximize the potential of the iREFLECT card set, it is recommended that it be integrated into existing formats in a way that is tailored to the specific teaching situation:

- **Seminar leaders** can use the thematic combination of cards to supplement or deepen specific seminar content —for example, on lesson planning, differentiation, or professionalization. The cards can be integrated into existing reflection phases, for example, after classroom observations or as part of the preparation and follow-up to classroom visits. In addition, they stimulate peer learning processes and support collegial exchange in seminar groups or self-organized learning communities.
- In **tutorials**, the card set can be used to structure initial practical experiences. The cards offer low-threshold entry points into reflection processes and facilitate the linking of individual experiences with central theoretical concepts. This not only cushions the shock of practical experience, but also supports the first steps toward professionalization.
- In **coaching formats**, the set enables a targeted, individually tailored selection of relevant reflection prompts. It supports the systematic accompaniment of development processes and can be integrated into longer-term professionalization projects—for example, to establish a personal reflection portfolio or to document and track professional learning steps.

In all areas of application, it is clear that combining the cards is not a mechanical process, but rather a didactic creative act. It requires sensitivity to the respective objectives, contexts, and developmental stages of those involved. When selected wisely and used in dialogue, it opens up a wide range of possibilities for promoting reflective, learning teachers.

6. Reflexivity as the foundation of professional teaching

In an increasingly complex and dynamic educational landscape, reflective competence is of central importance for the professionalization of teachers. It acts as a key resource that enables teachers to critically question their own actions, develop them further in a theory-based manner, and act adaptively, responsibly, and in a learning-oriented way in different contexts.

Reflective competence contributes to quality development in education on several levels: it enables the continuous development of one's own pedagogical practice, creates productive bridges between theory and practice, promotes a reflective learning culture at both the individual and institutional levels, and makes a concrete contribution to school development through professionally sound, systemically embedded action.

The iREFLECT card set offers an innovative, theoretically sound, and practical tool that systematically promotes and supports reflective competence. It addresses different phases of teacher training, different levels of reflection, and diverse perspectives. At the same time, it opens up perspectives for future developments, such as

- **digital enhancements** that enable online reflection formats and facilitates use in hybrid learning settings,
- **subject-specific adaptations** that specifically address the particularities of different school subjects, or
- **international adaptations** to make the card set compatible with different education systems and cultural contexts.

Overall, the iREFLECT card set makes a substantial contribution to establishing a sustainable culture of reflection in teacher training. It strengthens individual professionalism, promotes collegial exchange, and helps to anchor reflective practice as a constitutive element of a learning, responsible, and future-oriented education system.

7. Appendix

Bibliography

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Overview of the GRETA Model

[Here a detailed visualization of the GRETA competence model would be inserted]

Overview of Lipowsky's Effect Models
[Here a representation of the levels of effectiveness and of the offer–use model would be inserted]
https://www.greta-die.de/webpages/projektergebnisse/greta-kompetenzmodell

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