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Cognitive Operations in Teachers' Development of Reflective Skills: WANDA Group Reflection in a Czech Primary School

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Abstract: *In the current rapidly changing world, demands on teacher quality and teacher change are ever- increasing. One important and powerful way to transform schools is through teacher professional development focusing on teachers' reflective skills. But the development of reflective skills is challenging not only from a practical standpoint but also in terms of the demands it places on teachers' cognitive operations. In our study we examined how a specific highly-structured method called WANDA facilitates the development of teachers' reflective skills. WANDA is a form of professional development through group reflection embedded in a five-stage reflective cycle. We connected the stages with cognitive operations employed in the development of reflective skills, and assessed how teachers respond to each stage. Our case study draws on a qualitative research inquiry including semi-structured interviews with nine WANDA participants who teach in a Czech primary school. Our results show that a crucial phase of WANDA that comes early in the process imposes very high demands on teachers' cognitive operations. Teachers might be better prepared to engage in this phase if it comes later in the process and is swapped with another stage that the teachers found highly engaging and fun thanks to its playful form. Overall, WANDA appears to be a meaningful tool in developing teachers' reflective skills, leading them to metacognition, the ultimate peak of self-reflection.*

Keywords: *professional development, WANDA method, group reflection, professional learning communities*

Introduction

In a rapidly changing world, old models of schooling become outdated and educational systems worldwide have to adjust. Schools are increasingly expected to develop students' knowledge but also equip them with key competences and dispositions for life-long learning, as well as prepare them to be flexible and able to adapt to the fast-changing world. However, this cannot happen without teachers who are able to facilitate the development of these competences. Teachers themselves must strive to constantly improve, learn new

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things, and pursue further professional development. The scholarly literature has documented that teacher quality is a strong factor influencing student outcomes (Nye, Konstantopoulos, & Hedges, 2004; Rivkin, Hanushek, & Kain, 2005; Rockoff, 2004; Wayne & Youngs, 2003). We know that students' socio-economic background plays an even stronger role, but it is a variable that is hard to change, whereas teacher quality can be enhanced (Starý et al., 2012). In this light, it is logical to support teachers' professional development and many regions and institutions around the world have taken steps to do so. For instance, the European Commission (2013) has drawn up recommendations encouraging its member states to stimulate teachers' active engagement in professional development, assess the development of teachers' competences, and provide coherent relevant learning opportunities (pp. 34-35).

Research shows that not all mechanisms of professional development opportunities can trigger the deep changes that can transform schools. Old paradigms of professional development relying on one-off workshop models in which teachers learn new methods in isolation and without support are not effective (Darling-Hamond & Richardson, 2009) and lead to superficial learning with little potential to impact on teachers' classroom practices. Transformative professional development needs to provide active, hands-on learning allowing teachers to apply new knowledge to practice, and, more importantly, reflect on their learning with colleagues in professional learning communities (Darling-Hamond & Richardson, 2009; Urban et al., 2011; Stoll et al., 2006).

The Czech Republic appears to be largely caught up in old-paradigm models of professional development, lagging behind other European countries in providing teachers with the kinds of learning opportunities research suggests are necessary. The results from the international comparison TALIS show that while the participation of teachers in some form of professional development continues to increase and in 2018, 97% of teachers underwent some form of professional development, the prevailing form of the development was limited to one-off workshops and courses. Only 24% of Czech teachers, as compared to 33% of EU teachers, had engaged in professional learning communities, knowledge sharing, or teacher reflections (Boudová, Šťastný, & Basl, 2019, p. 47). As for experience with collaborative learning, Czech teachers fared the lowest among all TALIS countries, with only 30% reporting this experience, compared to 72% of EU teachers (ibid, p. 47). This is troublesome, because collaborative learning is an important mechanism of active learning, allowing teachers to co-create the learning process while they can also adjust it to their specific needs and conditions in their schools (ibid, p. 51). The

dismal results from the TALIS surveys are corroborated by findings reported by McKinsey and Co. (2010), showing that Czech teachers are not used to collaborating with each other and many perceive their skills and experience as their know-how that they need to protect. In this environment of non-sharing, schools are stripped of one important source of learning because learning is more effective when it happens among peers (Wenger, 2015). But it is also troublesome because if teachers are not engaged in the process, deep changes in education are unlikely.

In this case study, we set out to introduce a method for building a professional learning community through structured group reflection and assess how it fared with teachers in one Czech primary school where it was introduced. This method, known as "WANDA", is an internationally recognized tool originally developed in Belgium in 2010. It has been used to support the system of building professional learning communities (De Schepper et al., 2016) and develop participants' metacognitive thinking as they engage in group reflections on their practice. The method takes its participants through a highly structured reflective cycle consisting of five phases. In general, it is difficult for teachers to find time to reflect on their practice but they often appreciate an opportunity to share their practical experiences and challenging work situations and reflect on them. WANDA appears to be a useful tool that allows teachers to address and solve their everyday problems while they develop their reflective skills. We were thus interested to see how WANDA contributed to the development of teachers' reflective skills, what specific elements of WANDA seemed to help this development the most, which cognitive operations were involved, and why certain phases seemed harder, whereas others might have been more enjoyable.

Theoretical framework

Professional learning community as a hopeful model of sustainable teacher professional development

Studies published abroad over the past 30 years have increasingly emphasized the importance of freeing schools from traditional models of schooling and strengthening teachers' work through collaboration in professional learning communities (DuFour & Eaker, 1998, 2009; Stoll et al., 2006; Toole & Louis, 2002). Stoll (2006) argues that coming to terms with globalization and abrupt societal changes requires new approaches to learning, which cannot be left at the discretion of individuals. It is vital for schools to foster the development of communities that will have the power to transform schools and create an environment where teachers can learn from one another and work together to improve student outcomes. These kinds of learning environments can be nurtured in pro-

fessional learning communities (PLCs). DuFour and Eaker (1998, 2009) define professional learning communities as communities of educators who share a mission, vision, values, and goals and work collaboratively in environments fostering emotional support and personal development. These kinds of communities are oriented towards action and experimentation, they strive for continuous improvement, and they focus on results.

Verbiest et al. (2005) offer a similar definition of PLCs, but, in addition to shared vision and collective learning, add supportive and shared leadership that creates conditions for collaborative learning by giving it structure (space and time for regular meetings) and creating other conditions within schools to create a culture of trust and mutual support. A professional learning community has a positive impact not only on the professional development of individual teachers, but on the development of the school as a whole. The transformation of a school into a professional learning community where learning takes place on multiple levels makes it possible for the school to respond to societal needs and implement innovation and reforms more effectively (cf. Leithwood & Louis, 1998; Vescio, Ross, & Adams, 2008). It is a means to fully exploit the potential of teachers' knowledge and experience, which is hard for schools to tap into as this knowledge often remains locked in the minds of individuals.

Action research and reflection in the teaching profession

The teaching profession is particular in keeping theory and practice separate. Graduates from teacher preparation programmes are largely unable to apply the theoretical knowledge they acquired in university in practice and they often find themselves in problem situations they do not know how to deal with (Švec, 2012; Korthagen et al., 2001). Early career teachers might experience a transition shock they are not able to withstand (Corcoran, 1981). When they encounter the reality, the flood of emotions may lead them to switch into an irrational mode of behaviour relying on familiar, deeply engrained old templates they encountered when they were students. This, coupled with fear, may steer them away from pre-set rational goals and formulated lesson plans into a survival mode resting on old templates developed over life or construed on mental images of other teachers (Korthagen et al., 2001; Korthagen, 2011). Korthagen called these templates *gestalt.* Prior to Korthagen but in the same vein, Argyris (1980) wrote about the dissonance between accepted theory (the theory that one resonates with and wants to apply) and applied theory (the theory one chooses to use in the end). Verbiest et al. (2005) discussed two types of knowledge that are often mentioned in scholarly literature: theoretical (explicit) knowledge and practical (tacit) knowledge, which

teachers often use unconsciously in complex, unclear situations that surface daily in classroom settings. Tacit knowledge is based on experience that one interprets in terms of one's individual mental models (gestalt). This knowledge is invisible and teachers are unaware of using it but they rely on it in their daily teaching practice. For this knowledge to be developed or for teachers to change their practice, it is essential they recognize their own preconceived notions, prejudices, and behavioural templates, and the experiences that had shaped them.

This can be achieved through reflection, dialogue with colleagues, and action research (Korthagen et al., 2001; Argyris, 1980; Švec, 2009, 2012), all of which can lead teachers to adjust their behaviour, and change and grow.

Action research gained importance in teacher professional development in the 1980s and particularly in the early 1990s, with the acceptance of the notion of the teacher as a reflective practitioner (Schön, 1987). This notion of an autonomous teacher as a professional reflects contemporary societal demands on teacher quality and the state of knowledge, learning, metacognition, reflection, and critical thinking. Teachers as reflective practitioners question their practice.

Action research and reflection are closely linked. Elliott (1981) defined action research as teachers' systematic reflection on their practice and a form of professional learning. This learning draws on *research* and *action* and it also has a *formative* element (de Vasconcelos & de Oliveira, 2010). *Research* represents a reflective and systematic process resulting in an objective and holistic description of the situation. The subsequent intervention is implemented throughout the *action* stage. In terms of the *formative* element, action research participants are constantly challenged to reflect on their actions, and they consequently change their values and attitudes. The most frequently declared objective of action research is its contribution to improved practice. The less frequently mentioned outcome is the production of knowledge (Janík, 2005). This new knowledge can contribute to the professional development of not only the individual but, with an appropriate method of group reflection, also to the development of the whole community.

Korthagen (2011) further links the idea of a reflective practitioner to teacher development through a model of a reflective process consisting of stages in which the teacher goes through action, reflects upon the action, recognizes important aspects of the action, formulates alternative behaviours, and tests these behaviours. The model assumes that teachers have sufficient experience to scrutinize their *gestalt* and become aware of their own ideas, feelings, needs, and fears.

However, there are more assumptions to be met for effective professional development and teacher learn-

ing. Rodgers (2002) cautions that the reflection must essentially take place in an interactive community. Collaborative reflection (Rearick & Feldman, 1999) enables participants to view the events that are researched from different perspectives and thus see them more clearly. This clarity provides them with a platform to consider specific subjective characteristics of the individual cases they need to solve and become aware of their relationship to the school. Subsequently, they are able to communicate on a level supportive of problem solving and they can organize further events and learning opportunities. Orland-Barack (2010) works with the notion of "professional conversations" that enable teachers to formulate and analyse events in their own practice, thus helping them to solve problems. This is the same kind of premise underlying the WANDA method that we implemented in our case study, the aim of which is to not only solve problems teachers encounter in their classrooms, but also to foster teacher learning through teachers' collective construction of knowledge.

To delineate the quality of reflection in teacher professional thinking, we look through the lens of Korthagen's levels of reflection process (what is called the ALACT model; Korthagen & Vasalos, 2005; Korthagen, 2011) connected with Píšová's reflection model (Píšová, 2005, p. 145), in which reflection is an expression of cognitive operations.

Quality reflection is achieved through metacognition. In Korthagen's spiral cycle, we can view metacognitive reflection as the ultimate goal of professional learning. Metacognition allows teachers to understand how they learn and where they stand in the learning process. It enables them to recognize their own cognitive styles and strategies as a springboard to plan and implement more effective cognitive and self-regulatory strategies (Krykorková & Chvál, 2001). They can reach these higher-order thinking skills if they use all cognitive operations in the reoccurring phases of the reflective process (Píšová, 2005).

Píšová's model incorporates Korthagen's levels of reflection process and proposes the following hierarchy of cognitive operations (Píšová, 2005, p. 145):

Description stands for the objective recording of phenomena, while phenomena refer to educational reality. This is the key cognitive operation, the quality of which predetermines the quality of all the subsequent levels of reflection. In other words, if the description is not clear enough, the teacher will not be able to recognize his or her actual level of professional competence.

Analysis refers to the scrutiny of a more complex reality by breaking it down into simpler parts, ideally through questioning. This process presupposes that facts are unequivocally identified. In connection to the previous cognitive operation, it is necessary

to label and describe the educational reality in such a way that one can navigate through it.

Evaluation signals an awareness of the causes underlying the facts that are identified, or, more precisely, evaluation refers to explanations of the reasons behind problems and success stories that are detected. Evaluation indicates that the teacher has understood the educational reality. This understanding presupposes that the teacher has some theoretical background knowledge, as well as personal traits that allow him or her to be honest with him-/ herself. It also means that he or she adopts a certain attitude to him-/herself.

Suggestions for alternatives – this level assumes that the teacher has mastered the previous levels of cognitive operations. She has enough theoretical background knowledge, but also practical experience that enables her to distinguish more effective approaches.

Generalization refers to the teacher's confrontation of her views with expert views, including the authors of research articles or university professors. In this stage, teachers cultivate their skills to formulate more general principles based on their own experience with educational practice.

Metacognition is thinking about one's own thoughts. It is also a skill of recognizing how one responds under pressure, when emotions often trump rationality. Metacognition focuses mainly on evaluating decision-making processes, which means that through this thought process a teacher is developing an awareness of how she solves problems, reacts, and makes decisions. Knowledge of oneself leads through auto-regulation processes to higher productivity. Metacognition can also be described as an ability to foresee possible mistakes and limitations of the human mind with the aim of avoiding them or finding ways to overcome them.

These levels of hierarchy in cognitive operations can be linked to the stages of the WANDA reflective cycle, which combines a certain type of action research and appreciative inquiry.

WANDA group reflection as a tool for teachers' development of reflective skills

The WANDA group reflection tool was developed in Belgium and its title comes from the words Waarderen (to appreciate) and Daden (analyse deeds) (De Schepper et al., 2016). Originally, the method was designed for teachers in pre-school education, but it can be used in any professional teams.

WANDA draws on appreciative inquiry, described in the 1980s by Cooperrider and Srivastva (2017). Appreciative inquiry (AI) represented a breaking point in approaches to organizational development as it shifted attention from deficit-oriented problem solving (which, in the long run, may lead to a negative organizational culture) to a strength-based focus on

positive characteristics of an organization/community. In appreciative inquiry this positive force is titled the *positive core* and it is believed to foster more effective organizational growth than traditional strategies (Cooperrider & Whitney, 2006). The key to appreciative inquiry is an appreciative interview with community/organization members in which attention is steered towards success, strengths, and a positive future outlook. Answers to similar questions help to develop a positive culture throughout the organization. AI is based on what is called the "4-D cycle": discovery (appreciating the best qualities in organizational life), dream (envisioning the organization's future), design (making propositions incorporating the positive core), and destiny (summarizing the previous stages, providing support for new ideas, and establishing an appreciative learning culture). The 4-D cycle allows the organization to define its positive core and design a strategy to reach its goals. WANDA picks up on stages in the cycle in its own firmly set structure centred around formulating positive learning questions.

Unlike some other reflective practices, WANDA has a firmly set structure with a facilitator guiding teachers through five stages of analysis and appreciative inquiry (Chimes, 2016; Cooperrider & Whitney, 2006) set around an exploration of a problem situation that teachers examine from various perspectives. Appreciative inquiry ensures that problem situations are addressed critically but with respect, and the focus is on what might work instead of what has not worked or what has not gone well. WANDA can be implemented in an already-existing professional learning community or it can help to build a new professional learning community.

Positive learning question

WANDA draws upon appreciative inquiry as a mode of positive action research, which manifests itself throughout the reflective process as participants are guided to support each other, recognize their strengths, and acknowledge their personal success stories. This enables them to envision what their classrooms might become and set goals in their professional learning to reach those goals. A key instrument in this process and the core of WANDA is the formulation of a positive learning question. Teachers are expected to recognize and critically view links between their actual situation and the goal they want to reach (Korthagen et al., 2001). To foster teachers' learning, the positive learning question has to be about the teacher. It is common for teachers to initially aim the question at someone else, e.g. the pupils, the parents, or the school leadership, but the question has to be focused on them as they are the only ones who can modify their own behaviour. For instance, a question "*How can I make pupil X control his/her behaviour and not bother other kids?*" is

not formulated in positive or motivational terms and needs to be reformulated into e.g. "*How do I do it so that pupil X becomes fully integrated into the team?*" to meet the criteria. The formulation of the positive learning question is rooted in appreciative research and its careful formulation is the necessary prerequisite for the reflection process during the WANDA sessions.

Individual phases of the WANDA session and their potential to develop cognitive operations

WANDA sessions serve to create a platform where teachers look at problems they or their colleagues encounter in their practice from different perspectives, which opens opportunities for their continuous development and learning. The goal is not to create a handbook on how they should behave in certain situations, but the sessions lead them to develop skills to identify and describe problem situations, reflect on their behaviour, understand its causes, and offer and accept different perspectives on their problem situation. The method draws on group reflections leading participants to the development of an understanding of the relationships between what they think and what they actually do. WANDA sessions are intended for groups consisting of 8-12 participants with meetings scheduled at least once in 4-6 weeks and each session lasting 2.5 hours or more. Sufficient time is necessary to foster the development of strong relationships between the participants and create a safe environment, which is essential for the session to be effective. The first session starts with the facilitator helping the participants to establish common rules that will govern the whole process. The sessions adhere to a set structure and each session consists of five phases. In the next section, we outline the individual phases of WANDA and connect them to Píšová's cognitive operations, outlined in the theoretical part of this paper:

1. *Looking back* – the person who contributed to the previous session with a problem situation gets to talk about how he or she approached resolving the situation after the WANDA session. We believe that this phase draws on teachers' metacognition and evaluation, although these thought processes are not always fully exploited.
2. *Choosing a case* – during this phase, the participants share their problem situations and vote to select the most pressing or interesting one. The case should meet the following criteria: it should be focused on a specific event or a situation, which is e.g. controversial and urgent; the contributor should not be an observer of the case, but should be directly involved. The case should include what is called a positive learning question, which is open and unresolved. After selecting the case, the contributor describes it without any interpretations and formulates the learning question. **The key thought process in this phase is description,**

followed by analysis. When participants choose their case, they also have to consider what case may be suitable for group analysis. This decision also involves evaluation. Subsequent formulation of the positive learning question is a process that spills over into other phases of WANDA. Each phase may lead the WANDA participants to modify the positive learning question to best reflect the goal one wants to achieve.

3. *Asking questions* – participants ask the contributor questions about the case to clarify any misunderstandings and gain a better understanding of the context. The facilitator ensures the questions are exploratory and lead the contributor to provide sufficiently specific descriptions of the case. Insufficient questioning can lead to misunderstandings of the situation and subsequently to superficial analysis during the other phases of the process. After answering all the questions, the contributor is invited to rethink his or her positive learning question and reformulate it, if necessary. In this phase, the participants develop an awareness of significant elements in their case and their response. On the basis of their peers' questions, the teacher re-considers and re-evaluates his or her behaviour, which often leads to modifications to the positive learning question.
4. *Collecting perspectives* – the contributor becomes the observer, with the other session participants actively exploring the case from the different perspectives of all the actors present in the case. To this end, all sorts of visualization tools can be used, e.g. name cards, glasses, Lego bricks, or Dixit cards. Participants often find this phase difficult as they have to free themselves from their own opinions and put themselves in someone else's shoes. This phase should lead to formulating hypotheses and analysing the motivation of the individual actors. In the end, the contributor comments on the different perspectives and clarifies his or her standing with the last opportunity to modify his or her positive learning question. The thought processes involved here mainly include analysis and evaluation.
5. *Giving advice* – during this last phase, the participants give the case contributor their suggestions, ideas, and advice on the next steps. The contributor has a chance to respond and decide what suggestions he or she will accept while trying to find an answer to his or her positive learning question. In this phase, the participants develop alternative approaches to their actions. This is the ultimate peak of the reflective cycle. Often, the theory and practice get linked and the facilitator or a participant provides a theoretical framework of the situation, leading to recommendations of scholarly literature, workshops, or other study resources to the group. Generalization and metacognition are the key thought processes in play here.

Research methods

The aim of this research was to assess how the WANDA group reflection method develops teachers' reflective skills.

We took a case study approach and interviewed teachers in a Czech primary school during the time when WANDA was being implemented in that school (the year 2017).

Our main research question: How does WANDA contribute to the development of teachers' reflective skills?

Subquestion 1: Which phases in the WANDA cycle were most challenging in terms of their demands on teachers' cognitive operations?

Subquestion 2: Which of the WANDA phases appear most helpful in developing teachers' higher cognitive skills?

The school site and the case study participants

The case study was conducted in a large school in a high-rise residential area in the Czech Republic. Currently, the school serves nearly 900 students and employs over 80 teachers and education support professionals, including a counsellor, school psychologist, and special education counsellor. It is a community school engaged in two separate programmes: Step by Step and bilingual education. It is also a university teacher training school that participates in a number of innovative projects. WANDA was being implemented in this school during the 2016-2017 academic year with 22 participating teachers divided into two WANDA groups, one comprising 12 teachers and the other ten. The WANDA sessions took place once a month throughout the whole academic year.

We approached all 22 participants, inviting them to participate in our case study, and ended up with a total of nine who agreed to take part. All were women but they represented diverse teaching experience, with some of them only starting their teaching careers and some of them seasoned teachers with more than 30 years of teaching experience.

Methods of data collection and data analysis

We employed qualitative research inquiry consisting of two stages: a preliminary study and the case study. The preliminary study consisted of observations and the administration of a survey that allowed us to identify key areas of research. The study explored the development of the teachers' reflective skills through semi-structured interviews with the participants in the WANDA sessions in June 2017, when the WANDA sessions were coming to an end.

All the interviews were audiotaped, transcribed, and subsequently analysed by three researchers through open and axial coding. Each researcher first individually coded two pre-selected transcripts. The codes corresponded with

cognitive operations important for reflection, as defined by Píšová (2005). The most frequently coded speech segments were various phrases from the participants' speech.

Results and discussions

Here we walk through the individual phases of the WANDA cycle and interpret the teachers' development of the reflective skills of the WANDA method in terms of the cognitive operations (cf. Píšová, 2005) at work in each phase. The quality of the reflection is defined by the degree to which teachers are able to carry out the cognitive operations essential for the reflective cycle. We were looking for evidence of the following operations: **description, analysis, evaluation, alternative suggestions, generalization, and metacognition.** As mentioned earlier, these cognitive operations are interconnected and basically create a type of reflective skills hierarchy. Through continued examination of her own pedagogical experience, the teacher gradually learns to think about her actions, define the educational reality, analyse her approach, and evaluate her intentions, execution, and the results of her work. In this continuing process, the teacher's reflective skills are developed up to the level of metacognition, the highest cognitive level in terms of quality. Concurrently, it can also be called self-reflection since both phenomena have a common denominator – autoregulation.

As mentioned earlier, **description**, as an objective record of phenomena, predetermines the quality of all the subsequent phases of reflection. Within the WANDA method, description occurred in the initial phase, *Choosing a Case*, where the participants identified their own case to present to others. Some of the teachers we interviewed reported having trouble defining a situation under time constraints in a manner that would allow others to understand it. The following quote illustrates this: "*It was quite difficult for me to describe my case comprehensibly in just a few minutes.*" Another respondent was worried about losing her colleagues' attention: *"It was very difficult for me to figure out what I should say so as not to take too long and at the same time state all the important facts in the case which I was describing to my colleagues. I sometimes felt as though I was taking too long and was losing the others' attention. It helped me for the subsequent WANDA sessions to write down a few bullet points to help me get ready if my case was going to be discussed."*

The reflective skill of "description" is further developed in the subsequent phase, *Asking Questions*, where questions posed by the other colleagues and the facilitator play a key part. Here, important things come to light and the teacher uses her colleagues' questions to **analyse** the situation and develops the skill of identifying unequivocal facts to make sense of the situation. Apart from analysis, the teacher also evalu-

ates or re-evaluates her actions and often rephrases her positive learning question at the end of this phase. This phase of the WANDA method, particularly the formulation of a positive learning question, accentuates the cognitive operation of evaluating, which is very challenging for many teachers, as the following quotes illustrate: *"It was very difficult to formulate the learning question, to sort of realize what it is that I actually want, why I brought up this problem, to realize what is in it for me."* or: *"The moment of formulating the positive learning question was interesting for me because that's where the problem is formulated, as well as what I wish to accomplish, what it is that I actually want."* Another respondent succinctly pointed out that during this phase, one must be able to use descriptive language, which is distinct from evaluative language. Her quote also points to her awareness of this skill being a part of a complex cycle leading to the solution of the case: *"When you identify a problem, you're already in the process of resolving it. To identify a case and learn the language to describe that case, to search for a method of describing it in a way that others understand – you learn by doing all of that."* In the course of the year, the teachers began realizing the importance of describing without interpreting or making judgments, which initially seemed too lengthy to them: *"I only gradually realized the importance of keeping away from interpreting and I increasingly feel that this is incredibly important. A person really does let go of their own emotions and reasoning, and views it as something 'mechanical and material'".*

The Asking Questions phase ends with formulating the positive learning question and it is essential for the subsequent sessions as it determines the quality of ideas for a solution that the participants are expected to generate at the end of the session. It is also the most difficult part, to judge from our field notes and observations and responses from the teachers. We attribute this to the fact that in terms of cognitive operations, several levels are at play here at the same time: **description, analysis, evaluation, and metacognition.** This makes this phase cognitively challenging and frustrating for some. We thus propose to move the formulation of the "positive learning question" to the end of the subsequent phase of *Collecting Perspectives.*

During the *Collecting Perspectives* phase, we focus mainly on the cognitive skill of in-depth **analysis**. During this phase, teachers engage in analysis, which significantly enhances their current experiences with reflection as it significantly stimulates their creative thinking and intuition. It requires that one empathizes with the feelings and needs of other people in the same situation. Every participant selects one role, regardless of what they think about the situation themselves. The facilitator encourages empathy by posing questions such as: What does the situation mean for you? How do you feel? What would

you wish for? What are you striving for? What are you worried about? The analysis is supported by props and techniques that allow participants to visualize the problem – e.g. Lego blocks, sets of small figures, or Dixit cards. Most of the respondents appreciated this phase as the most engaging. For instance, one interviewee saw the main benefit of the WANDA method in *learning that things can be resolved differently to what she thought.* She was mainly speaking about new teachers who often lack sufficient experience to be able to understand how children perceive the case at hand. A novice teacher confirms this: *"I often realized there: "I see, so that's how someone can interpret that."* Or: *"It gave me a different perspective, another perspective on the situation."* In terms of reflective skills, the teachers clearly benefited from being forced to view a problem from perspectives which are not always familiar or comfortable. The teachers step out of their comfort zone and develop their skills of self-regulation: *"A person doesn't actually have to literally realize something, it doesn't have to be rational but I feel that it forces me to accept positions which are not my own and helps me understand students who are a mystery to me."*

This kind of analysis is often emotionally powerful and enables teachers to re-evaluate their views. This phase culminates with the **generalization** and **metacognition** cognitive operations.

Various views of the same case from many different perspectives support the development of the metacognitive abilities, and not only those of the contributor of the case; they can also inspire other participants in the session who did not consider the selected problem their own at the start: *"I thought that next time I could also try a different solution."* By going through the cognitive operations together with the contributor, the teacher discovers things which can be transferred to another context. While trying to solve a different case, one of the interviewees realized she had a similar problem, even though she was initially not aware of it. *"I saw myself in it because I also sometimes latch onto something and I think that it's the right way for everybody, even though that isn't the case. For example, in the situation with my colleague K., I later thought about how I have to let go of what suits me and offer the children the widest spectrum of options possible to reach the goal."*

During this phase, the participants often had ideas about **suggesting alternatives** (according to Píšová, 2005) or what are called alternative methods of action according to ALACT (Korthagen et al., 2001). This shows through the responses of the teachers who were inspired enough by this phase of perspectives to reflect it in their own teaching methods, e.g.: *"I then modified my own teaching as a result of the opinions which (participants) expressed. And I was really dealing with some serious problems and I let the children figure them out on their own. I don't know if I would have done it if we hadn't spent so much time deal-*

ing with how to treat opinions which are unfounded, naïve, or even stupid and harmful from our subjective professional viewpoint."

On the basis of this phase of the WANDA method, some respondents develop the skill of recognizing and realizing decision-making processes outside the group reflection, that is to say, to use metacognitive abilities in their practice more intentionally: *"...when something happens, I try to look at it from another perspective. I feel as though I'm trying to listen more to how the children think and what details they notice. How much they notice when the teacher treats them condescendingly, they notice every detail. I try to listen to them more and use mirroring so as to be a role model for them; and if I don't behave well, then I comment on it out loud, I label it. If I'm tired or irritated, I say so and try to explain my behaviour."*

Even though in terms of cognitive operations, the *Collecting Perspectives* phase was no less challenging than the previous phase of *Asking Questions*, the teachers found it to be the most inspiring and beneficial phase. More than half of the interviewees declared that it was during this phase that they realized something important and understood why the controversial situation that was being discussed occurred or realized that the problem was somewhere else than they had initially thought. We attribute this to the choice the participants have in acting out their role, which, unlike the previous phrase, has a number of playful elements (playing the role using glasses, visualizing relationships using Lego bricks, parallels with pictures on Dixit cards, or simply describing the situation in the third person). In this way, different learning types and intelligences are engaged and every person can thereby choose a path that will most easily lead them to the given cognitive operation.

It must concurrently be said that this phase was always emotionally powerful and exhausting, not only for the contributors but for the other participants as well, who had to step into the shoes of a complete stranger and empathize with her guided solely by descriptions and questions. They also found it difficult to look at a situation through the lens of theory, scholarly literature, curricular frameworks, and the education quality standards.

If **alternatives** are beginning to emerge in the previous phase, then the last phase, *Giving Advice*, targets them explicitly, as is apparent from the title of this phase. Here, theory and practice are often connected, particularly theory with a small "t" (Korthagen et al., 2001) if the facilitator or one of the participants "frames" the situation, recommends scholarly literature, workshops, or other resources which could advance the entire group. It is in this phase that **generalization** occurs and teachers form general principles based on their own experience with educational reality, as illustrated e.g. by the following: *"It is actually a matter of passing experi-*

ence on to novice teachers because some of the problems in their classrooms occurred because of their lack of knowledge; they don't know how to act and how they can reach a certain level of security."

Metacognition is also the ability to see a problem while taking a step back and detaching oneself from it, which allows a person to take emotion out of the equation and to describe the problem objectively and then solve it less emotionally. The WANDA method develops this skill systematically and teachers identified this advantage in the following manner, e.g.: *"While in the situation itself, a person usually doesn't have the time and space to think why they said this or that, but only once we look at it in retrospect, then we're able to think about it while taking a step back and seeing it more objectively. It doesn't bring me down so much any more."*

Several interviewees also spoke about becoming aware of their own emotions, e.g.: *"It seems good that I can let the emotions run through me in a protected closed environment where they can't affect you so much."* Similarly: *"It was good to live through it and forgive myself for it."* A big plus is that a WANDA session can help participants get rid of guilt over something that happened and allows them to find their place in their own experience with various situations.

Here is another example of a cognitive operation pointing to the development of the **metacognitive skills** of the interviewees: *"Some things didn't work exactly according to my expectations in the classroom and I spent a lot of time racking my brains as to why that is and I realized it's actually my personality."* This realization finally led to the idea whether it is perhaps not necessary to modify one's expectations rather than actually changing oneself. Another interviewee had the same moment of discovery: "*I finally realized that it's not the chosen methodology but my approach, that I actually aggressively forced it on them and it wasn't just a suggestion."* In other words, at the start of the session, the interviewee did not know why she was not succeeding in the lesson and thought it was the students' problem. It was only through the various phases of WANDA that she came to the conclusion that the problem lay in herself. Thanks to that, she was able to change the formulation of the learning question and then solve the case more efficiently.

The fact that reflective processes occur within a group has a significant impact on the quality of reflection in WANDA. Moreover, such groups, which have similar experiences, focus on similar goals and deal with similar challenges. Teachers therefore enrich one another and can inspire one another; they can adopt certain strategies from each other and modify them for their own context.

Conclusions

Our aim was to assess WANDA's contribution to the development of teachers' reflective skills in a group of

Czech primary school teachers, and identify the phases of the reflective process that presented the teachers with most challenges in terms of the cognitive operations required. We also wanted to learn which WANDA phase they found most beneficial. Our findings showed that WANDA has the potential to develop all levels of cognitive operations, including the ultimate goal of reaching metacognition. The teachers in our group showed most difficulties with the WANDA phase "Asking questions", which entails formulating a positive learning question. This is understandable, considering that this phase challenges several higher-order cognitive operations all at once. We thus propose moving it to the later stages of WANDA and bringing in the phase of "Collecting perspectives" earlier.

All in all, all the teachers showed strong appreciation for the "Collecting perspectives" phase. They often claimed they had found it engaging and fun and consequently, this had a positive influence on their willingness to actively participate in the WANDA session, and in this phase in particular. From the point of view of cognitive skills, they were highly engaged in operations such as analysis, offering alternatives, and metacognition. We believe that the general success of this phase can be attributed to the creative and playful process which enabled the teachers to join and choose a tool of visualization according to their individual learning style preferences. However, we are aware that the success of this stage depends on many factors, especially the length of experience with WANDA (in the case of the facilitator as well as the participants).

Research studies show that similar methods for teacher professional development must be intensive and sustainable and that they take time (Darling-Hammond & Richardson, 2009; Korthagen, 2017). The Belgian study on WANDA supports this view (ISSA, 2019, p. 35): *"WANDA doesn't bring change in practice with one or two sessions. We need to build a path (how long this path needs to be depends on the context, but we usually saw that a group needs at least one year of WANDA sessions to start changing practice."*

We acknowledge that our study was not without limitations. The case study took place in an innovative school where teachers' attitudes towards reflective professional development may be somewhat skewed and not represent the views of mainstream Czech teachers. It would thus be important also to conduct this study in a different kind of school. Neither can we generalize our results, because we only looked at one school that worked with a very specific facilitator, who was also essential to how WANDA played out in this school. Our case study shows how WANDA can work in one school. Despite these limitations, we consider the results important in providing empirical evidence for the use of a new tool for teacher professional development that is

currently widely discussed in the Czech educational context. However, it is important for future studies to continue examining the use of this method, not only from teachers' perspectives, but also to assess the method's impact on change in teachers' beliefs, practices, and student outcomes.

The main issue with WANDA in the Czech cultural context, where teachers are not used to reflecting on their practice, is a lack of time for such activities connected with the absence of group reflective culture. It thus seems important to start building awareness of the importance of reflective methods and begin as early as in pre-service teacher training. We believe that the method is suitable for implementation in pre-service teacher training institutions during the time when pre-service teachers do their student teaching internships. These internships could be supplemented by reflective workshops that would allow student teachers to link theory and practice, namely "t-theory" (Korthagen et al., 2001). In that manner, they would learn to solve problems from their practice, which is a basic prerequisite of WANDA, and simultaneously develop habits in sharing their professional problems within what is termed their "learning community". We believe that because these student teachers are all in the same year, they can build on established relationships and lay the grounds for developing a sustainable professional learning community that will last beyond their studies. This is another area suitable for further empirical studies.

We find overlaps in the belief that WANDA has great potential for use in pre-service teacher education and it can serve as a springboard to acquaint future teachers with the essence of group reflective practice in the context of teacher education and pre-service teachers' future practice.

In sum, our study showed that WANDA can serve as a tool for the systemic development of teachers' reflective skills: from description through analysis, evaluation, and offering alternatives to highly demanding operations such as generalization and metacognition. At the same time, it can improve the quality of teamwork because it provides a structure in which to share and solve problems that teachers encounter in their daily practice. It is thus crucial to build awareness of the importance of group reflection as a tool for the professional development of teachers, both student teachers and teachers with long-term experience.

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POCHE KARGEROVÁ, J., VALLIN, P., ETCHEGOYEN ROSOLOVÁ, K., BAJEROVÁ, K. Kognitivní operace při rozvoji reflexních schopností učitelů: skupinová reflexe WANDA na české základní škole

V současném rychle se měnícím světě se nároky na kvalitu učitelů a jejich profesní posun neustále zvyšují. Jedním z důležitých a účinných způsobů transformace škol je profesní rozvoj učitelů se zaměřením na jejich reflektivní dovednosti. Rozvoj reflektivních dovedností je však obtížný nejen z praktického hlediska, ale také z hlediska nároků, které klade na kognitivní operace učitelů. Tato případová studie zjišťovala, jak lze rozvíjet reflektivní dovednosti učitelů prostřednictvím vysoce strukturované metody zvané WANDA. WANDA probíhá formou profesního rozvoje a umožňuje skupinovou reflexi v cyklu sestávajícím z pěti fází. Tyto fáze jsme propojili

s kognitivními operacemi uplatňovanými v rozvoji reflektivních dovedností a hodnotili jsme, jak učitelé na každou fázi reagují. Data pro tuto kvalitativní studii jsme sbírali prostřednictvím polostrukturovaných rozhovorů s devíti účastníky metody WANDA, kteří učí na základní škole. Naše výsledky ukazují, že vysoké nároky na kognitivní operace učitelů přicházejí v klíčové fázi metody WANDA, která v celém procesu nastává velmi brzy. Pokud by tato fáze přišla později, učitelé by na ni mohli být lépe připraveni. Proto doporučujeme, aby se tato fáze prohodila s jinou fází, kterou učitelé díky její hravé formě shledávali vysoce poutavou. Metoda skupinové reflexe WANDA se obecně jeví jako smysluplný nástroj pro rozvoj reflektivních dovedností učitelů a metakognice, jež se považuje za nejvyšší stupeň sebereflexe.

Klíčová slova: *profesní rozvoj, metoda WANDA, skupinová reflexe, profesní učící se komunity*