

Erasmus+ Project LeaFaP

CONCEPTUAL FRAMEWORK



2024

Leafap

Leading and Facilitating Professional Learning Communities
in Schools towards an Inquiry-based and Reflective Practice
KA220-SCH - Cooperation partnerships in school education

Erasmus+ Project LeaFaP

Leading and Facilitating Professional Learning Communities in
Schools towards an Inquiry-based and Reflective Practice

Conceptual Framework PLC Facilitation

Kansteiner, K., Barrios, E., Avgitidou, S., Emstad, A.B., Louca, L., & Theurl, P. (2024). Conceptual Framework for the Facilitation of Professional Learning communities. LeaFaP Project.

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1 Introduction

In most of the European school systems, the continuous professional development of the school leaders and the teaching staff is regarded to be very important because their professional actions lead to successful learning and development of the children. According to the idea of schools as learning organizations, the promising findings about the connection between collaboration and school improvement highlights the relevance of professional learning communities (short PLCs) (e.g. Hirsh & Hord, 2008; Wei et al., 2009; Owen, 2014). PLCs have been discussed as an efficient approach towards enhancing the quality of professional decision-making in teaching (Avgitidou, 2019; Vescio & Adams, 2015; Grosche, Fussangel, & Gräsel, 2020). Likewise, PLCs of school leaders (short heads) have proven to support leadership development (Rittenour, 2017; Rist, Kansteiner, Stamann, 2020). Additionally, student teachers in initial teacher education also benefit from the PLC method (Kansteiner et al., 2022; Theurl et al. 2023).

However, through an international literature review, we have found a number of reasons that point towards PLC facilitation as meaningful for successful PLC establishment and proceeding. Likewise, in our international research study (<https://www.leafap.eu/results/>) about the experiences of people practicing or supporting PLCs, we have learned that any of the interviewed groups highlighted the importance of facilitation for effective PLC activities. Both, literature and people with facilitation experience emphasize the need to involve the professionals in processes of inquiry and deep reflection, competencies that are characteristic of a professional habitus (Schön, 1983; Kansteiner, Welther, & Schmid, 2023), but seldom well enough seen in collaboration (e.g. Trumpa, Franz, & Greiten, 2016; Gray, & Ward, 2019).

In what follows, we will present what exactly facilitation comprises and which aspects a facilitator should consider in his/her engagement with PLCs. The perspectives derive as much from the named international reports preliminarily worked out by the authors as much as by their particular scientific and practical expertise about PLCs.

1.1 Facilitation in Different Roles and Functions

After having inquired theoretically and empirically and summarized the international perspectives on PLCs we have identified the following roles within a range of facilitation:

(1) A peer and members of the PLC, who share an interest in the issue discussed and take over the moderation and support the group process according to PLC criteria; it can be the same person over several meetings or alternate who leads the group in this way; for this responsibility, the facilitating peer(s) have been introduced to the PLC concept before or even during training; example: teacher in a teacher PLC or student-teacher in a student-teacher PLC.

(2) A person who joins the group as an external expert and doesn't have a personal interest in the issues discussed; he/she is well experienced in the PLC concept and how to moderate a PLC; he/she might be expert on the issue or able to contribute to it, but her/his main facilitation focus is the PLC progress; the external person guides the group at every meeting or less often; example: an in-service trainer in a teacher PLC, a university instructor in a school leader PLC; a lecturer in a student-teacher PLC.

(3) A person who is neither one of the above but coordinates the network of a group of PLC facilitators and serves the PLCs indirectly by consulting with or training the moderators for good facilitation; it can be a PLC experienced teacher or head facilitating the group leaders; this facilitation includes the reflecting exchange about the guiding experiences; it connects the PLCs of the organization/network; example: a university teacher who trains facilitators for different schools and coordinates joint establishment, a lecturer who trains the moderating student-teachers who take over the facilitating role in their PLC.

(4) Supplementary, in the international discourse on establishing and supporting PLCs, we have recognized that the term facilitator is used for school leaders and their management power when they provide resources and integrate PLCs into the overall learning culture of the school (LeaFaP International Report, pp. 11-13). In the LeaFaP project, though, we focus on PLCs as single groups within a collegium. Therefore, in our conceptual framework, we prefer the term facilitator for all supporting people but leader exclusively for school leaders. If a

peer moderates and leads a single PLC, we keep the term facilitator, since the importance is less about the quality of action than the role.

We found out that when it comes to facilitating PLCs, we should expect a specific range of attitudes, competencies, and actions from the facilitator – either internal or external - and regardless of what professional provenance or position s/he engages:

- communication skills that lead to dialogue and mutual understanding
- structuring methods that serve efficient collaboration
- arranging the environment for a group to engage in a thorough discussion
- inquiry skills and knowledge of how to lead people to reflection
- effective evaluation, documentation, and monitoring
- supportive attitude that leaves autonomy to the professionals.

The following pillars of this conceptual framework shape the perspectives of the important aspects for the successful facilitation of a PLC. They follow the previous work in the LeaFaP project and have been additionally reflected by the scientific and practical expertise of the authors:

- ❖ reflection and learning
- ❖ inquiry and reflection dimensions and roles
- ❖ diversity and democracy-related perspectives
- ❖ contextual factors
- ❖ facilitating PLCs online

2. Reflection and learning

2.1 Reflection and learning as a joint activity to focus on

The starting point is that PLCs are based on the idea that knowledge is situated in the teachers' (or likewise leaders'/student-teachers') daily experiences and PLC activities serve that teachers learn to understand their experiences better through joint critical reflection on their practice (Vescio, Ross, & Adams, 2008). Teachers for example, who reflect on practice, examine the link between teaching and students' learning and make changes to improve (McLaughlin & Talbert, 2006). There is a close connection between reflection, learning, and inquiry. In consequence, members of a PLC need to engage in inquiry, including reflection and discussion with a set focus on instruction and student learning - or for school leaders there is the need to discuss their management practice with consequence to both, teachers' and students' learning (Emstad & Birkeland, 2020).

When the PLC concept emerged as a research phenomenon in Judith Little's paper in 1981, it represented a shift in perspective from the individual teacher's learning to the learning that takes place within a community. Some years later it was defined by five components: reflexive dialogue, deprivatization of practice, collective focus on students' learning, collaboration, and shared norms and values (Kruse, Louis, & Bryk, 1994). The component "reflexive dialogues" are closely related to the terms "*reflective practise*" or "*critical reflection*", which is often used in the literature on PLC.

When members of a PLC are to reflect on their own practice, they face the common challenge of overcoming the often-criticized superficial talk. Timperley, Barrar, and Fung (2007) say that participating in a PLC proves to be important for teachers' professional learning, but at the same time, they stress that it's not enough just to give teachers the time to meet and talk. Above all, it is the quality of their conversation that matters and whether they exchange in-depth. The conversation can be affirming and socialising, but if they do not contribute to challenging the horizon of knowledge or if they miss to problematise the content and context and they implement only weak reflection, they don't enhance learning (Earl & Timperley, 2008). Timperley and colleagues (2008), who distinguish between strong and weak reflection, say that strong forms of reflection are characterized to be challenging with the balance between support and challenge and where the focus is on substantial issues and an exploratory approach to practice. Weak reflections can be affirming and socializing, but do not get to

problematization and new knowledge (Earl & Timperley, 2008). Hence, it is important for PLC facilitators to have a precise understanding of reflection in order to help establish a reflective dialogue, critical reflection, or reflective practice.

2.2 Definition of reflection

According to the famous philosopher John Dewey, reflective practice refers to “the active, persistent and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it” (Dewey, 1910, p. 6). This implies a questioning approach, meaning that one considers why things are as they are, and how they could be. Following Dewey (1933), reflective practice in education implies that learning is not *in doing*, but in *thinking about doing*. In his understanding, knowledge development occurs as a result of the teacher being exploratory and open to critical thinking in the face of experience (Dewey, 2013). Teachers who have the opportunity to systematically reflect on their experiences contribute to their development as professionals (Dewey, 2009). When reflective practice is pursued, meaning and relevancy are created and growth and changes are initiated (Dewey, 1933).

Following Dewey, inquiry begins with an indeterminate (i.e., confusing, obscure, or conflictual) situation and goes on to make that situation determined. Dewey emphasizes language and reflection as crucial to linking individual experiences together in a continuous learning process (Dewey, 2009). This means that reflecting (reflective thinking) about one's own experiences enables teachers to have meaningful communication with other members of the community of practice. In this way, it increases interaction with and understanding of the outside world and the outside world's understanding of the teacher (Johannesen, 2019).

When people are faced with a situation that they are not satisfied with and want to improve, an important part of reflection is to do thorough research and compare different assumptions. The reflection process includes looking for further evidence, facts, or new data that can help to develop proposals for a solution. Before choosing a solution, one should also reflect on the consequences of the various alternatives. These solutions can be seen as tools that come to the test when faced with new problems. Because of this we “[.] can only be aware of consequences on the basis of past experience” (Dewey, 1974, p.75).

Dewey's theoretical point puts reflection close to inquiry (see Chapter 3). We extract from his ideas that conclusions shouldn't be reached too quickly, because then they are not sufficiently well-founded, but are based on reflexive thinking, which means that there must be genuine judgment (Dewey, 1938). Reflexive thinking as Dewey (1997, s.6) defines it, is the “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends, constitutes reflective thought.” This means examining our assumptions and then looking at the facts that form the basis for these, and further reflecting on these, thinking critically, looking for alternative solutions and any new data that can develop the proposed solutions (Emstad, 2012).

2.3 Prepare facilitator to promote a reflective practice

One of the tasks of a PLC facilitator is to direct attention towards reflection, which can be done by reflection-on-action (Schön, 1983), which means to reflect on a professional situation after it has occurred and decide what can be done differently in future practice. Anyway, reflection should also be done before action, when the PLC members bring in their plans for teaching.

Some PLCs may choose to let action research be the leading approach to their reflection activities, along with DuFour and Marzano (2011) who define PLC as “an ongoing process in which educators work collaboratively in recurring cycles of inquiry and action research to achieve better results for the students they serve” (p. 22). Action research always entails critical reflection: learning from experience (action) through investigating and trying to understand (research) the change process, thinking critically about the results and conceptualizing what worked, what didn't, how, and why, and identifying what can be done better (Zuber-Skerritt, 2018). The facilitator's role is to promote and support the members' reflection both before and after actions. Antonsen, Thunberg, and Tiller (2020) argue that critical reflection is about inquiring into our actions, trying to understand why we act, and to identify the consequences of our actions. Critical reflection requires analysing and discussing power structures relating to how they influence our actions. Drawing on Vince et al. (2018) they say that the results of critical

reflection may contribute to new solutions to problems, or on the contrary, reveal paradoxes, conflicts, and problems that cannot be solved. Emstad and Meier (2024) found out that facilitators in PLCs need to be highly skilled to respectfully challenge others' theories of action and how to create opportunities for individual and collective critical reflection. These results lead to the importance of the questions of *how* and *why* to promote reflexive dialogues.

The facilitator can also support reflection by drawing attention to its quality level. On possible systematic for different quality levels can be found in Larrivee's model (2008) which focuses on the development of teachers' reflection. The facilitator can involve the PLC members in a meta-conversation on their reflection qualities according to the four levels: (1) pre-reflection, (2) surface reflection, (3) pedagogical reflection, and (4) critical reflection.

- Pre-reflection: Interpret classroom situations without thoughtful connections to other events or circumstances.
- Surface reflection: Examination of teaching methods is confined to tactical issues concerning how best to achieve predefined objectives and standards. Beliefs and positions about teaching are supported with evidence from experience, not theory or research. The teacher's view of learners is somewhat differentiated, acknowledging the need to accommodate learner differences.
- Pedagogical reflection: Constantly think about how teaching practices are effective for students' learning and how to enhance learning experiences. The teacher's goal is to continuously improve practice and reach all students. Reflection is guided by a pedagogical conceptual framework. Beliefs and positions about teaching are specific and supported by evidence from experience, as well as being grounded in theory or research. The teacher's view of teaching and learning is multidimensional connecting events with a broader framework.
- Critical reflection: Engaged in ongoing reflection and critical inquiry concerning teaching actions as well as thinking processes. The teacher holds up both, philosophical ideologies and teaching practices for continuous examination and verification. The teacher consciously considers how personal beliefs and values, assumptions, family imprinting, and cultural conditioning may have impacts on students. The critical reflective teacher is concerned with promoting democratic ideals and weighs the ethical and social implications of classroom practices.

3. Inquiry and Reflection

PLC actions and processes often fail to challenge practices because they rely on the existing resources of PLC members and may not necessarily lead to the collaborative construction of new knowledge and in consequence practices. Because facilitators are expected to support PLC members in gaining new experiences and participating in PLC activities, offer constructive advice, and foster dialogue, these actions can position PLC- members in passive roles, merely receiving new knowledge, ideas, and guidelines without being encouraged to question or critically examine themselves what needs to change and why.

In the reviewed studies, in which inquiry is mentioned, the authors particularly point out the need for assessment or evaluation of PLC members' experiences and outcomes. However, in these cases, the inquiry is typically organized by the facilitator, and PLC members are not actively involved in designing the inquiry, analysing data or utilizing it to rethink practice. This lack of involvement prevents PLC members from becoming autonomous learners capable of designing and evaluating their practice based on the results of their inquiry.

3.1 The role of inquiry in enhancing PLC practice and transformation

The importance of supporting teachers as researchers and reflective practitioners has been advocated (Cochran-Smith, & Lytle, 2009; Hardy et al., 2018) as much as action research has (Carr & Kemmis, 1986). These inquiry and reflection processes within a PLC are particularly valuable when teachers (or leaders and student-teachers) share a learning vision, support one another, and collaborate to create a collective and participatory climate, driven by a moral commitment to ensuring high levels of learning for all students (Nehring & Fitzsimons, 2011; Stoll et al., 2006).

The facilitator's role in guiding a PLC through inquiry is justified since it is a demanding process and research tools have to be applied competently (Ponte, 2002) as much as PLC members often require guidance to achieve reflection and critical awareness (Pareja Roblin & Margalef, 2013).

The facilitator plays a crucial role for:

- fostering trust and respect among PLC members, encouraging them to explore deeper levels of understanding,
- initiating the inquiry process within the PLC,
- assisting members in identifying research questions to guide their exploration of issues of concern,
- introducing possible research designs and tools tailored to the concerns and objectives (e.g., tools for assessing teaching and learning processes, student performance, or issues such as inclusion, school culture, and collaboration/relationships),
- supporting the analysis of data generated from the inquiry,
- facilitating constructive dialogue within the PLC for discussing and reflecting on findings,
- helping members to interpret findings and reflect on them to design their action plans (including goals, actions, and timelines),
- supporting a co-designing of the criteria for monitoring the progress and initial outcomes of action plans,
- collaborating with PLC members to develop research tools for formative and final assessment of outcomes.

3.2 Dimensions of inquiry

The outcomes of inquiry can provide PLC members with new perspectives, offering insights from various perspectives of the issues, and informing them about factors influencing these issues and potential avenues for improvement or change. There is an interplay between inquiry and reflection since diverse inquiry dimensions lead to diverse paths of reflection that each serves to clarify another aspect of one's professional thinking and practice. The following approaches can be employed in PLCs to foster critical awareness (Avgitidou, 2020; Avgitidou et al., 2024; Kansteiner et al., 2024).

Inquiry into PLC-members' initial needs and priorities

Exploration of the PLC members' needs, concerns, and priorities can be facilitated through methods such as questionnaires or discussions (although the latter may require more time). The facilitator can compile the results of the needs assessment and present them to the PLC members in order to reflect on: a) why these needs are important, b) whether different needs expressed by the group show different priorities in educational work or/and if these are interconnected, c) the goals of the PLC (what do we want to change?) and how clear are they for all the PLC members.

Inquiry into PLC members' different meanings, understandings, and existing practices regarding the selected issue of concern

Selecting a common issue of concern does not necessarily guarantee that the PLC members' initial understandings of it are similar. Therefore, it is essential for a facilitator to initiate an inquiry about how the PLC members perceive the particular situation, and their reasoning behind it including the factors, actions, processes which affect the situation, the objective or changes aimed at, and the strategies for achieving it. This inquiry leads to the awareness of the different starting points and reflects on commonalities and differences among the PLC members' views and reasoning based on different knowledge and resources.

The facilitator supports the group to analyse the various beliefs, orientations, and proposals by asking questions like: What are our initial beliefs and proposals regarding the chosen issue and how do they compare? What do they reveal and how might they impact our future actions? Additionally, the facilitator can introduce theories for PLC members to reconsider.

Inquiry into the educational context and multiple actors' perspectives

Facilitation also connects the PLC members' knowledge to the educational context. Inquiry here leads to information about the current situation and its underlying reasons, exploring others' perspectives, such as those of children or parents, or gathering information that may not be readily apparent.

To facilitate this inquiry process, it should be collectively decided by the PLC members what kind of questions, informants, tools for exploration, ways of analysis, and interpretation will be applied. The facilitator can also suggest design approaches and inquiry tools. Additionally, by asking helpful questions, the facilitator, who might have more expertise, may suggest suitable design approaches.

To analyse and interpret data the right way, the facilitator may initiate reflection by asking questions on what new knowledge gained and how it differs from previous understandings, connectable changes, and actions. At this phase, it is important for the facilitator to keep in mind that the initial issue may change after the group has inquired about the educational issue. For instance, while the initial issue might have been about the lack of active involvement of children in class, the collected data may reveal that the organization of teaching itself should be a primary concern and the inquiry focus might shift.

Inquiry into the effectiveness of the intervention

According to the concept of a PLC, after having analysed and opened up to new ideas, PLC members plan actions of change in their practice, best with a thorough action plan. The facilitator engages PLC members to identify what aspects need to be observed in their practice and how to help them during the implementation phase, which evaluation criteria and tools to use to track the progress of the intervention. Once the intervention has been implemented and data collected, the facilitator guides the group to reflect on its strengths and weaknesses and what adjustments are needed for an even more effective action (formative evaluation). The same will be repeated on the final outcomes.

Inquiry into the process and functioning of the PLC

In addition to the inquiry and reflection processes on the issues, facilitation engages members to inquire about their participation in the group, and how that contributes to the outcome (professional learning and improvement of practice). This can be done by questionnaires or group discussions. This reflection should focus on what aids the creation of new knowledge and practice transformation, as well as theorizing practical experiences and developing knowledge through the exploration of practice.

3.3 Facilitators' self-inquiry and self-reflection

In parallel to fostering inquiry and reflection within the PLC, the facilitator him-/herself must understand the facilitation process and notice well, what is going on, make informed decisions during PLC sessions, and monitor the progress and effectiveness of the support provided and the outcomes achieved. A Facilitator needs to explore the PLC context and the educational biographies of its members, because there may be institutional or educational factors influencing the PLC's operation. Educational biographies encompass members' past experiences as well as current beliefs, understandings, and practices. By closely observing the PLC context (see Chapter 7) facilitators avoid imposing predetermined support processes. Instead, they adapt to each unique context and collaboratively shape the working methods with the PLC members.

Facilitators also need to recognize the diversity within the PLC, including different priorities, meanings, starting points, and practices among its members (see Chapter 5).

Considering the demanding nature of inquiry and reflection and the limited time for discussions /meetings at school, it is important that facilitators take PLC members' prior knowledge about inquiry and reflection into account. If some PLC members have prior experiences with inquiry and reflection, they can be empowered to take on a more active role within the PLC.

Finally, the facilitator inquires about the effectiveness of the support he/she provides to the PLC. There is a need for efficient use of time to ensure gradual progress in each meeting. It is also suggested that the facilitator records each meeting by documenting the exploring progress, challenges encountered, and actions taken. Meetings should be well structured and guided, yet be run flexibly enough for productive dynamics. Continuous inquiry into the progress and effectiveness of facilitation also includes occasional feedback by the PLC members, e.g., by

completing questionnaires or giving short written feedback about the facilitation process. Self-inquiry activities including the perspective of the PLC-members support facilitators to make informed decisions for future actions.

4. Dimensions of roles, functions, and responsibilities

A myriad of factors (contextual, organizational factors, availability of resources, etc.) may determine, whether a PLC is supported by an internal (e.g., school leader) or an external facilitator. Thus, drawing from the literature on PLC leadership and facilitation (e.g., Hmelo-Silver & Barrows, 2006; Honig & Rainey, 2014; Margalef & Robin, 2016), as well as empirical research on the experiences and perceptions (see International Report) the following roles, functions, and responsibilities deem essential for supporting learning groups (of teachers, leaders, and student-teachers) towards collaborative reflection and inquiry. We have put together these roles, functions, and responsibilities into dimensions that serve as a framework for designing PLC support training activities.

4.1 Relational, collaborative, and communicative dimensions in the facilitator's role

Relational dimension

The role of a PLC facilitator involves creating an environment conducive to collective learning. This entails prioritizing empathy, encouragement (particularly after setbacks), respect, and trust-building among PLC members, as well as fostering close, supportive, and non-judgmental relationships with and among them. Additionally, it is expected that a facilitator offers emotional assistance to the group in the event of conflicts and fosters a feeling of safety to encourage open communication and collaboration. In sum, the facilitator creates a safe and supportive environment where teachers feel empowered to reflect openly on their experiences and learn from both successes and failures.

Collaborative focus dimension

The PLC setting encourages a collaborative culture that goes beyond surface-level exchanges of help. The facilitator is expected to actively promote collaboration and interactions within the group. This role involves facilitating teamwork, encouraging active and equitable participation, and cultivating a professional community among members. Additionally, facilitators promote collective responsibility for professional development. Moreover, they assist in fostering community building and group cohesiveness by reflecting on and promoting joint decisions regarding group norms and establishing a shared language.

Communication dimension

In a PLC, members systematically discuss their practices to enhance their professional skills, and facilitators are expected to optimize communication skills within the group. This involves listening attentively and handling issues assertively and tactfully. The facilitator moderates, guides the communication, ensures equal and inclusive participation checks understanding, effectively summarizes, and engages the group in meta-conversations about communication within the PLC.

4.2 Learning and knowledge building dimensions, reflection and inquiry dimensions

Learning and knowledge-building dimension

A PLC facilitator serves as a catalyst for professional growth and development, empowering PLC members to continuously enhance their pedagogical knowledge and refine their teaching (or leading) practices for the benefit of the children. This may entail, for example (1) curating and sharing relevant resources, including research

articles, educational videos, and lesson plans, to support expanding the knowledge base and implementing effective teaching methods, (2) encouraging the PLC members to share their experiences, insights, and best practices with their peers. These activities may include lesson studies, peer observations, and reflective discussions. (3) The facilitator recognizes the diverse needs and experiences of PLC members and offers personalized support and guidance to address specific challenges.

Reflection and inquiry dimension

Furthermore, the facilitator encourages PLC members to engage in reflective practice by prompting them to critically analyse their practices, identify learning goals, successes, and areas for improvement, and experimenting with innovative approaches. For that, facilitation leads to collecting and interpreting data. Facilitation also provides constructive and effective feedback, asks questions to promote dialogue, critical thinking, and deeper analysis, and encourages PLC members to explore and rethink their assumptions, beliefs, and theories of action (see Chapter 2). Finally, the facilitator supports by documenting progress.

4.3 Organizational dimensions for collaboration in presence and in a digital version

Organizational dimension

Lastly, the PLC facilitator may be responsible for managing the logistical aspects, including scheduling and resourcing to guarantee that PLC meetings take place regularly. Additionally, he/she maintains the group's focus on the task and monitors the activities and progress of the PLC, which may entail handling documentation.

Finally, it is crucial to emphasize that a facilitator, should strive to establish a sustainable professional learning framework and thereby promote autonomy. This framework should empower the group to gradually take on facilitating roles itself. Along with this, it is significant for the facilitator's role, not only to guide the PLC into the acquisition of certain skills but also into modelling and applying them.

Online dimension

The facilitator needs to be capable of using digital tools to conduct online or hybrid sessions and to get PLC members acquainted with them. He/she should know suitable software applications for the different organizational needs as much as the exchange. That includes the knowledge by the help of which tools reflection in the group can be promoted and all members included in the processes.

5. Heterogeneity and Democracy

5.1 The Relevance of Heterogeneity in PLC Facilitation

Heterogeneity in general is used to describe the structure of a group referring to the fact that people of that group are different. This is usually an expected characteristic of any group in the educational system (Budde, 2017). Heterogeneity is defined as “structural or environmental variance that provides the conditions required by diversity” (Eisenhauer, Angst, Asato, Beugnon et al., 2023, p. 2). It goes hand in hand with the idea that if a group is regarded to be heterogenous, then the people of the group, seen in their relation towards each other, are diverse. Diversity in this distinction is defined as “variation in the living components of a system” (ibid.)

After having reviewed the international literature, analysed data, and jointly discussed with different scientific perspectives, we assume that an inclusive PLC practice can be achieved if the facilitator aligns his/her actions according to the following levels of heterogeneity we systemized:

Context, profession, and range of autonomy

Each learning group that a facilitator guides may be different from any others, not only in the sense of their contextual background (student-teachers, teachers, heads, etc.) but also according to the possible hierarchical relationship among the facilitator and the PLC members. For example, school heads, engaging in a PLC, participate by their own choice in a daily work situation that differs from the one of teachers or student-teachers. Additionally, school heads might not have any other work relationship with the facilitator than this, whereas student-teachers depend on the lecturer, who is their facilitator in the university context. Anyhow, in every setting in the educational system, the facilitator faces the challenge of addressing a learning process as an autonomous development under various dependencies.

Diversity of PLC members' skills, values, and beliefs

Each PLC is an assembly of people with different capabilities and needs. In the scientific findings, there is limited information about the main differences related to social categories like gender, origin, religion, ability. From the experiences of the authors, who have facilitated PLCs, these social categories of difference can become crucial, and the facilitator needs to consider their relevance e.g., when it comes to issues of acceptance, the opportunity to exchange equally, or the opportunity to participate in the joint learning activities. It cannot be predicted which social category of difference may affect the operation of a PLC, but the following examples show the need for sensitivity when facilitating a PLC: (1) A member who cannot hear well (physical handy cap), a woman who has to care for family members (gender/care work) or a person who is a second language speaker (origin). In addition, PLC members may have stereotypes in mind that can cause discrimination among PLC members or discriminating teaching practices. In these cases, the facilitator needs to highlight stereotypes as an issue to examine, lead the group to reflect on the social construction of difference, find a new orientation for interaction, ensure a climate of acceptance, and prohibit any discriminating actions in the PLC.

Furthermore, we have found clear hints about differently shaped performance skills of PLC members that influence the exchange and reflection processes. Interestingly, in our data collection, the PLC practicing people report more often positively about how they gain new ideas from the exchange, whereas facilitators emphasized how different the competencies contribute to an effective and efficient exchange between PLC members. Thus, they recognize the need for learning support from a facilitator. He/she then has to engage all in joint reflection, and support individual members in raising their skills for equal participation.

Diverse topics and community-related qualities in PLCs

A facilitator has to balance diverse interests of the PLC members and get them well-connected. Even after the group has agreed on one common issue for investigating, which is often mentioned in the literature to be crucial, there can be different specific emphases. Hence, PLC facilitation deals not only with heterogeneity in relation to the topics but also with the ways and sub-issues of knowledge-building new practices.

Against the background of the PLC requirement that the group shares visions, goals, and values (Hirsh, 1997), we identified the dilemma that often PLC-members don't talk about values, just collaborate along seemingly shared ones which can cause conflicts. Facilitators have to be aware of this aspect of diversity and help clarifying values, goals, and visions.

Methodical variety and flexibility

As a consequence of different settings, skills, issues, and values, facilitation needs to apply a variety of methodological approaches (e.g., in the conceptual frame, and time structure) and diverse methods, tools, and materials. Along with this, PLC members need to become comparably familiar with the conceptual elements of a PLC and its practice. We learned that some PLCs prefer intense introductions to the concept before collaborating (deductive approach to PLC work), whereas others want to get right into practicing by working on their issues and reflecting along the way on how well they meet the concept (inductive approach to PLC work). Heterogeneity in the establishment is also added when already existing groups pay more attention to PLC characteristics and develop towards a PLC.

Facilitators' professionalism and competencies

An additional perspective on difference is about the facilitator himself/herself, which is seldom referred to in the international scientific literature. The person guiding others to successful PLC work usually has somewhat of a teaching profession or at least experience in group leadership and moderation. It is expected, that the individual understanding of the PLC concept along with the main focal points, which are important to the facilitator, influence the guidance and intervention of PLCs quite a lot. As for any teaching or training setting, also PLC facilitators need to reflect upon their favourite perspectives and be self-critical of possible blind spots.

5.2 Democracy in PLC Facilitation

The inclusive dimension of a PLC is closely connected to the democratic notion that every participant is an equally respected member of the community – a reference that is the fundament of the global inclusion discourse (UN-BRK). Assuring access and participation, by addressing the diversity of the group sensitively, is a democratic characteristic of a learning community. In consequence, it is a core idea, that facilitation is done with a democratic attitude and democratically laid out structures and processes. A facilitator of a PLC needs to attend to the following connecting points:

Access and group building

One layer of democracy is touched when a PLC is initiated in an educational context. Reflected against a micro-political point of view of organizational theory (Blase, 1998) groups don't get together in a neutral attitude but are affected by subtle dynamics, strategies of exclusion, sympathy, and more. Whether it is within a collegium, a university class, or a regional network, people always have a first impression and beliefs about others and try to influence the structure of and processes in a PLC by their power. Balancing the power relationships, helping all to get access to active participation in a PLC, taking on carefully possible resentments among the PLC members, and securing that PLC members open up to each other are all indispensable. Whether it is to help outsiders to connect or smart people to get involved with less competent ones, it is the facilitator's role to get the group to work together effectively and the PLC to become an integral part of the culture of a learning organization (Senge 2001).

Exchange processes and new learning

The exchange of democratic qualities should evolve into getting everybody to a share of talking, contributing, and providing learning options for all. Also, the decision on what to discuss and what goal the group aims at, should follow a democratic process. Furthermore, facilitation is meant to secure an eye-to-eye exchange in the sense of a dialogue, with everyone listening carefully to what the other person says, genuinely trying to understand the others' ideas, and referring in one's own speaking to the others' saying. Additionally, a moment of democracy comes alive when every member is willing to let others know what he/she is feeling and thinking. Sharing personal concerns and personal involvement is important for a trustful and open-minded community as much as a contribution to a democratic climate.

As much as inquiry and reflection are the main parts of the PLC activities (see chapter 2 & 3) that facilitation should secure in the service of innovation, empowering PLC members for those can also be regarded as a contribution to a democratic educational system and a collective professional responsibility.

The exclusive role of the facilitator

PLC experiences lead to the conclusion that a facilitator needs to balance helping the group and at the same time caring for the person's (professional) autonomy within a democratic relationship. This has to be considered in facilitation done by a peer member taking over the moderation, being a speaker of the group, or guiding the others into deeper exchanges. It also applies when an external expert like a scientist, university member, or a supervisor who has more expertise on the issues guides without forcing their point of view. This applies in a similar way to what a PLC has to be like, which goals should be reached, and how PLC members specifically have to engage. The facilitator should not predetermine the progress but guide flexibly according to the group's needs, wishes, capabilities, etc. in response to the democratic core idea.

Ethical standard in adult learning situations

Taking standards in personnel development into account, the facilitator has to acknowledge the theoretically justified professional autonomy (Elm, 2016; Oevermann, 2002) and respect the autonomy of the learning adult. We have experienced that while acting as a facilitator one comes across situations where lessons could be learned but the learners are not open to them, sometimes unconsciously. Even if the PLC has not been established voluntarily but by a supervising act, the relationship between the facilitator and individual person and the group is one of equal rights and has to be treated with professional respect and professionally distanced involvement. It can occur that the facilitator gets into a dilemma when his/her ideas of a PLC, goals, or even agreements with the supervising level differ from the group's goals or vice versa.

Methods applied

During the last years, a growing set of methods for PLCs have been invented and pre-structuring tools can be found online. All these are supposed to lead to effective and efficient group processes that make a difference in other collaborative settings. A facilitator should apply methods with an openness that the group might want to proceed otherwise. Also, in this manner, a democratic attitude and sensitivity to the diversity of the group is realized.

6. Contextual factors

The operation and sustainability of Professional Learning Communities (PLCs) may be influenced by various contextual factors differing across different countries. Thus, while PLCs share common characteristics, their formation, operation, and impact may significantly vary based on the local culture, school norms, and other contextual factors. These differences and commonalities reflect each country's diverse educational landscapes and priorities, highlighting the complexity of implementing and supporting PLCs nationally. At the same time, they emphasize a need for context-specific strategies in promoting professional learning and development, underscoring PLCs' critical role in shaping educational practices.

6.1 Contextual Factors - national dimensions

National Policy

The national policies regarding PLCs exhibit considerable variation. Drawing from the consortium's range, we identify countries that see PLC as an integral part of professional development. Despite the shared objective to enhance teacher collaboration and elevate educational outcomes, the methodologies for PLCs differ while still embodying a similar essence, e.g., in some countries we find PLCs as an integral component of a teacher's regular professional obligations, whereas in others PLCs are introduced through the specialized institutions for teacher in-service training. The former approach assimilates PLCs into routine professional responsibilities, potentially supplemented by promotion from an external institution. The latter approach perceives PLCs as externally driven initiatives. Often, we see state involvement in initiating or supporting PLCs, either through educational policy innovations (Greece, Germany, Austria), regional government funding (Spain), or formal state regulations (Cyprus). A mandate for all school staff to participate in PLCs, as can be found in Norway, emphasizes collective responsibility, likewise but nudged by in-service training in Cyprus. Facilitation needs to take these specific contexts into account and the facilitator must adapt the approach based on the specific context. This involves considering local policies for PLCs. Voluntary vs. mandatory participation reflects a different stance into the PLC process. Also, support coming from inside the educational system or outside from experts needs to be decided.

Initiation of PLCs

The initiation of PLCs across different countries presents an interplay between educational policy, leadership, and external influences. The Norwegian example proves that the motivation for PLCs often arises organically within the educational institution itself, be it from local authorities, head teachers, or team leaders, suggesting a

decentralized approach. Contrastingly, it can rely heavily on external agents, such as university faculty and school counsellors, to initiate PLCs, suggesting a more top-down approach, e.g., in Greece. Spain presents a third example: in-service trainers propose and support the implementation of PLCs in schools. We can also see an approach from several sides, like in the German example, in which state in-service training and universities highlight the importance of PLCs and provide training but each on their path of responsibility. In Austria, the school principal plays a crucial role in initiating and establishing PLCs. Cyprus adopts a collaborative approach where the initiation of PLCs involves both the school leadership and interested teachers. For a facilitator, the particular interaction means to especially pay attention to the factors playing a role in the initiation of a PLC, as these factors may contribute to the culture of the PLC. Coming from a top-down or bottom-up approach, a PLC may have different sensitivities and need to be identified by the facilitator.

Support Level and funding

PLCs across the countries are supported quite differently when it comes to the group of teachers or leaders. However, the main origins of support come: (1) internally (part of the school's organizational structure or school management), (2) externally (connected to further education), (3) externally (connected to external projects or university faculty), (4) from school advisors, responsible people for school development or by in-service training. On the level of student-teachers, there is support on the class level and, if connected to the internship, by the mentors. In some universities, PLCs are already part of the curriculum.

Accordingly, the obligation to engage in a PLC and the funding differ. Financial support for PLCs can typically be integrated into the regular workload, as mandated for example by the Educational Act in Norway, or be part of the job description when PLCs are regularly facilitated by members of the in-service training (see Spain, Cyprus, or Germany). Occasionally support is externally financed for a certain period of time along with broader national reforms or professional development initiatives. It can occur, though, that there is no internal financial support for PLCs like currently in the Greek education system. Austria does not allocate specific funding for PLCs, viewing it as a component of regular work.

Participation in PLCs also varies, and for teachers or heads it is mostly voluntary but expected in an understanding of self-responsible further learning obligations. Contrastingly, Norway has adopted a more structured approach by making teacher participation in PLCs mandatory. In comparison, in Austria, while school development is mandatory for all teachers across all types of schools, the choice of the method for carrying it out, whether through PLCs or other forms of cooperation, is left to the decision of individual schools.

However, PLCs at the university build on the workload that the students have to invest in, and the workload the lecturers provide teaching with. Hence, the situation for facilitation is neither voluntary nor connected with 'extra workload' whereas this perception can sometimes be found in the school settings. A facilitator then has to consider the source of support and finding, as different contextual situations may direct support of a PLC work in different approaches. Having the ability to request for support is very different than being responsible for identifying support within a school or education system. Likewise, options for support might be limited in terms of time or quite extensive if, for instance, support may be requested from a centralized school system throughout the school year.

6.2 Context factors – structural level

Duration, mode of Interaction, and size

The duration of PLCs varies significantly – in the period of time PLC members collaborate and in the number of hours one PLC meeting takes. Of course, in the university setting student-teacher PLCs run according to the structure of semester weeks (e.g. 7-12 weeks) and hours (e.g. 1,5 h) or weeks of internship (e.g. 5-15 weeks). Anyway, if put into the curriculum it can outlast a semester and be a comprehensive element across the semesters. Some PLCs in Norwegian schools are ongoing, with colleagues meeting weekly to work on the development of school and individual teaching practices. Other PLCs, particularly those associated with further education, may last for a year and beyond. There are also voluntary, ongoing PLCs, such as those that involve head teachers from different schools, which meet once a month. The variance in PLCs concerning duration,

interaction mode, and size has significant implications for facilitators. They need to adapt to varying timeframes and be flexible in managing PLCs across different contexts.

In an examination of the interaction modes of PLCs across the example of six countries, distinct patterns and preferences emerge, reflecting cultural tones. More often conventional face-to-face meetings for PLCs within schools are predominant, yet with occasional online and hybrid interactions. Pure online-driven PLCs are seldom.

Related to the PLC size, we compare PLC groups size based on (1) small PLC group settings against (2) whole collegium or class PLCs (see Chapter 1). The above-presented consequences for facilitation mainly address the idea of a PLC as a small group of 3-10 people. When the entire school is addressed a broader exchange of ideas and practices takes place. The size of small groups differs from 3-10.

Different school characteristics and demographical conditions

In examining the characteristics of schools participating in PLCs across the six countries, we find all types of schools from the elementary to secondary level, including private schools and all levels of education. The size of these schools varies significantly, ranging from 100 to 1000 students. Geographically, these schools are spread across urban, suburban, and rural areas. Schools in their first year of PLC activities benefit from individual teachers, head teachers, or deputy head teachers who bring along experience from other schools they worked at before.

When we look at student-teachers, we mainly find PLCs applied to those who carry out initial teacher education programmes and during phases of internship – either at school or university classes. The expectations for facilitation of course depend vastly on the specific school and field of practice that is given. As overall aspects of facilitation, we see that it is important for facilitators to recognize that each school has unique characteristics. By understanding these, facilitators can tailor their approach to meet the specific needs of the school community. For instance, a facilitator might adjust the pace of discussions, choose relevant topics, and adapt strategies based on the school's context.

In respect of the background of social categories of difference (see Chapter 5) we are attentive to the fact that in the teaching business, a higher percentage of women is employed, and the age of the staff has quite a range. All have acquired at least the level of an academic BA, in some countries like Germany the MA level is obligatory in order to work as a full-time teacher at a school. Accordingly, the student-teachers find themselves in academic programmes.

Since facilitation is either provided by the school authority, university partners, or in-service trainers who come from a former teaching position, all facilitators are academics, with their experience in facilitation varied from short or longer. Some might bring other qualifications like coaching etc. with them. Nevertheless, we hear about obstacles that derive from missing time, and insufficient school culture, including mistrust toward facilitators, staff tensions, and a reluctance to engage in peer observation. This underscores the need for robust professional development and support structures for successful PLC implementation.

7. Facilitating PLCs online

Over the past ten years, the concept of PLC has become a widely discussed and often explored as a method of professional development in the European school systems, some already in online versions. The digital transformation, which all institutions in the educational system currently find themselves in, can often be thought of as a common issue to reflect on and find new practical approaches for teaching and learning. Quite often we find PLCs reflecting on how digital tools can be included in successful classroom teaching. Also, some groups reflect on the opportunities and critical aspects of artificial intelligence. As foreseen in the PLC concept, any oncoming and important issue can be turned into a topic of joint reflection – as school and digitality receive a growing attention.

7.1. Digital collaboration and tools for reflection processes

Since the COVID-19 pandemic, collaborative work has been organized in a digital way which has become usual in the educational system, especially in university settings and initial teacher education. Meanwhile, school leadership and collegial collaboration are more often practiced virtually, likewise part of the classes in in-service training. Thus, facilitating PLCs expands to the facilitation of a digital learning environment and smart virtual exchange practice, tools included. Some PLCs follow that setting consistently, others once in a while according to the opportunities and needs of the group (see Chapter 6). From the international findings, we have learnt that digital PLCs are well appreciated because they require less time to get together (no travelling), but still make a concentrated exchange possible. Negative aspects mentioned are usually related to the concern that community aspects like a trustful and open atmosphere, and personal contact diminish in online contexts.

Facilitating digital PLCs necessitates not only knowledge of appropriate tools but also expertise in seamlessly integrating these tools into collaborative work. As the range of collaborative tools expands, a facilitator's ability to adeptly manage these resources becomes a fundamental aspect of maintaining professional standards and effectively responding to the dynamic nature of group interactions. For a facilitator guiding groups in educational development or organizational improvement, the integration of the latest tools, coupled with consideration of contemporary literature, is as crucial as maintaining traditional academic rigor. Platforms and project management tools that visualize tasks and workflows on boards and help teams track their work with comprehensive project and task management features, even with chat and real-time collaboration or data management, are pivotal. These examples merely illustrate the broader range of tools available that facilitate transparent and democratic structures within teams, allowing for equitable participation and access to information, which are crucial for effective collaboration.

While these project management platforms are instrumental in enhancing team dynamics and efficiency, they can sometimes come with significant costs, which might not be feasible for every organization or educational institution. However, for different requirements, there are also free versions or alternative tools available that offer similar functionalities. This is where the competence of a facilitator becomes crucial, as they need to be knowledgeable about various free tools that can suit different settings and needs.

Beyond these management tools, a facilitator should consider integrating interactive platforms that promote active participation and real-time collaboration (additionally or included in a management platform). Well-known are collaborative whiteboarding platforms that facilitate dynamic brainstorming sessions with features such as sticky notes, drawing tools, and pre-designed templates for structured activities like SWOT analysis, mind mapping, and Kanban boards. This Sensible is an application that is particularly effective in collecting resources, sharing inspirational materials, and gathering input from PLC members asynchronously or in real time. The effective integration of these tools into PLC sessions requires not just familiarity but also a strategic approach. Facilitators should plan sessions with clear objectives for each tool's application, possibly providing training sessions or introductory tutorials to maximize comfort and competency in using these platforms. This reduces technical barriers to participation and ensures that the technology enhances rather than complicates the collaborative process.

In conjunction with the introduction of these online tools in PLC sessions, it's essential for a facilitator to ensure that all members, regardless of their prior familiarity with these technologies, have access to adequate learning resources. Facilitators must therefore develop, provide or organize comprehensive training materials that can help different members to become competent and comfortable with the new tools.

7.2 Technology for digital collaboration and data protection

In addition to the methods and the tools, when it comes to virtual PLC groups, the technical side of digital collaboration turns out to be a very important issue, less highlighted in the international literature, and more from the partners' facilitation experiences. Resources need to be given for the facilitator and the PLCs' members to set up the technical environment – usually not the job of a guiding person like the facilitator but a requirement that he/she cannot do their job if missing.

A primary concern in digital facilitation is the adherence to data protection and privacy laws. Various international regulations such as the General Data Protection Regulation (GDPR) in the European Union, the Personal Information Protection and Electronic Documents Act (PIPEDA) in Canada, and the Federal Act on Data Protection (FADP) in Switzerland mandate stringent data protection measures. Many collaborative tools that store data outside of these jurisdictions, such as certain US-based cloud services, pose significant compliance challenges. A facilitator must possess an understanding of these legal frameworks to choose tools that not only facilitate effective collaboration but also align with legal requirements. This often requires a blend of technical knowledge and legal insight, as the misuse of non-compliant tools can lead to severe penalties and undermine the trust of participants.

Many of the issues that appear strictly legal in nature actually require a fundamental technical understanding for correct assessment. Facilitators need to grasp the underlying technologies to navigate these complex legal landscapes effectively.

Furthermore, technical infrastructures vary widely among different institutions, which can significantly affect the choice and implementation of digital tools. For instance, some educational institutions may have robust firewalls that block access to popular collaboration platforms such as Slack or Trello. Additionally, administrative policies might restrict the installation of certain software or limit functionalities like screen sharing, which is often crucial for interactive sessions. An example of this is in some corporate environments where only administrators have the right to install software, limiting the ability to use newer or less standard tools that could enhance collaboration.

Basic technical issues, such as audio quality, also play an important role in the effectiveness of digital collaborations. Poor audio quality, often due to inadequate microphones or unstable internet connections, can disrupt communication and hinder the collaborative process. Therefore, setting minimum standards for audio equipment and ensuring a stable internet connection are essential steps to address these issues.

7.3 Technology as an actor in social processes

In addition to the necessary skills of all participants to use digital tools productively, an important aspect to consider is the tools themselves, with their inherent characteristics, that influence the proceedings in PLCs. Technical conditions are playing an increasingly important role in educational processes. The Actor-Network Theory (Latour, 2006) employs the term *actants* for all non-human entities. Like human actors, they are also interaction partners in interpersonal processes (Kneer, 2009). Technology has a direct impact on human actors and thus takes on an ethical aspect (Herold, 2016). Technical or technological development therefore always requires critical consideration of the effects on interpersonal processes.

The limitations of digital communication in conveying non-verbal cues like body language and facial expressions also present significant challenges. These subtleties of communication are often lost in digital formats, which can lead to misunderstandings or a lack of engagement. Employing high-definition video conferencing tools and training participants on effective digital communication techniques can help mitigate some of these challenges.

To address these diverse challenges, a hybrid approach that combines online and in-person interactions can be particularly effective. For instance, initial kick-off meetings could be held in person to establish rapport, followed by regular online sessions to continue the collaboration efficiently. Another possibility would be audience response systems, the regular implementation of short online satisfaction surveys, or a simple discussion with individual group members at the end of each session.

Essentially, setting up digital collaboration in PLGs means overcoming a variety of technical challenges that are linked to a variety of other mission-critical areas. Facilitators need to be well-versed in these areas to craft environments that are not only productive and engaging but also adhere to legal standards, ensuring a smooth and compliant experience for everyone involved.

8. Conclusion

Facilitating a PLC is one carved-out need for successful collaboration of all groups in the educational systems. This conceptual framework has laid out seven main dimensions with information on the most important issues for facilitation and the expectations toward the person who takes over the facilitation.

At first, we define the idea of a facilitator – a person who assists a group in their process of establishment. That can be a person from outside the institution with a scientific background, a consulting or further training expertise, or a networking partner. We put aside our original distinction of the leader (inside the group) and the facilitator (outside the group), and we only work with the idea of facilitator for both. The reason is that our preliminary work showed that whether the person is part of the group or accompanying the group, he/she is confronted with the same expectations and needs to serve the group.

Our conceptual framework puts reflection and inquiry at its centre since these are core processes that any collaboration that is called PLC should pursue. These processes cannot take place successfully unless a facilitator is aware of the dimensions his/her activities should take place. Also, like in every group, aspects of heterogeneity, come to play a role and are to be well handled. Likewise, in a PLC, the exchange and learning activities should take place within a democratically run setting, which should be monitored by the facilitator.

Last but not least, a facilitator is confronted not only with a certain group in a certain context, but additionally within a particular educational system that plays a significant role when it comes to resources and obligations. It is important to reflect this and make sure the particular needs are taken into regard. Also, deep knowledge and appropriate skills when the PLC activities take place in an online setting.

With this compilation of a general addition to the concept of a PLC in this conceptual framework the LeaFaP Consortium has prepared the fundament on which the learning outcomes that lead to training for people who take over that role in a PLC can be worked out.

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