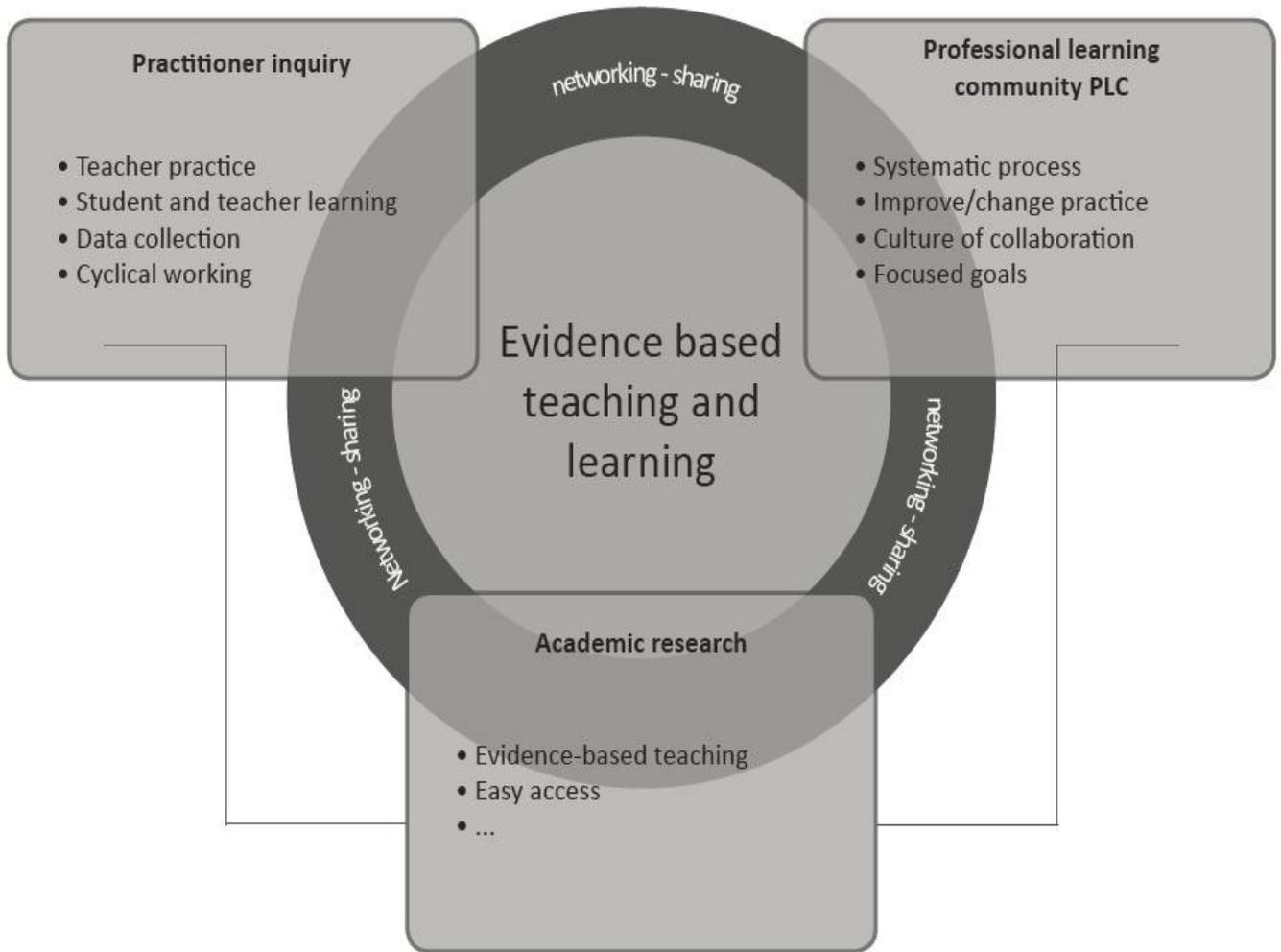


Conceptual frame of reference



LINPILCARE

Common Conceptual Frame of Reference

Pillar 1: Practitioner inquiry

What is practitioner inquiry

Practitioner inquiry (or: action research; teacher research; classroom research; teacher inquiry; teacher self-study) is defined as systematic, intentional study of one's professional practice for seeking change by reflecting on his/her practice (Cochran-Smith and Lytle, 1993; 2009). Action research is a form of inquiry that enables practitioners everywhere to investigate and evaluate their work. They ask, 'What am I doing? What do I need to improve? How do I improve it?' (McNiff and Whitehead 2006).

Teaching and inquiry must be intertwined to one another, blurring distinction between teaching and inquiring. Inquiry is not understood as a line but as a circle (Dana, 2013).

Student and teacher learning

Practice cannot be considered effective unless it is responsive to the participating students and promotes their learning. The worth of the co-constructed criteria in practice, therefore, needs to be judged in terms of how students are responding and learning (Timperley, 2011).

The teacher inquiry and knowledge-building cycle to promote valued student outcomes by Timperley shows connections between student and teacher learning: What knowledge and skills do our students need? - What knowledge and skills do we as teachers need: Deepen professional knowledge and refine skills - Engage students in new learning experiences - What has been impact of our changed actions? In this process learning theories - explaining how people learn - should be born in mind. Metacognition helps people take control of their own learning by defining learning goals and monitoring their own progress in achieving them.

Four principles are emphasised by Timperley (2011): 1) engaging prior conceptions of practice; 2) developing a deep foundation of knowledge in the context of a conceptual framework; 3) knowledge construction occurring through processes of interaction, negotiation and co-operation; 4) learners being pro-active and

developing ownership and responsibility for learning and improvement through meta-cognitive and self-regulated learning processes.

Self-directed (regulated) learning:

The challenge to promote self-regulated learning requires the effectiveness of practice to be monitored in terms of learning goals. Goals on their own, however, are insufficient to ensure the learning of adaptive experts. The conversations, therefore, need also to promote the monitoring of the goals and to help the teacher judge whether any changes in practice are more effective than what they were doing before (Timperley, 2011).

Teacher learning:

Teachers should experiment in teaching and try to explain the results of their experiments: "It is not enough to know what works, you need to know why!" (Petty, 2014). The importance of learning goals for students is well established. The purpose is to promote the fact that teacher learning can be more effective in promoting student learning. The teachers themselves, therefore, need professional learning goals, linked to student learning goals, against which to monitor the effectiveness of practice (Timperley, 2011).

Practice as teacher:

Defining research question begins simply with careful and critical reflection on a teacher's teaching process. Practitioner inquiry is about improving practice in the context of the school.

Students' involvement in inquiry makes teacher learning immediate, relevant, differentiated, self-directed, collaborative, active, and engaging, therefore it makes sense to share it with the students they teach (Dana et al., 2011). Teaching students through inquiry, helps them to cultivate critical-thinking skills in their students.

Planning - cover aspects as:

- The purpose of the inquiry;
- The 'right' question;
- How you will collect data;
- How you will analyse data;
- A timeline for your study

Cyclical working:

The cycle is as follows: Observe – reflect – act – evaluate – modify – move in new directions (action-reflection cycle). The process is ongoing because as soon as we reach a provisional point where the educator feels the situation is satisfactory,

that point itself raises new questions and it is time to begin again (McNiff and Whitehead, 2006). Dana (2013) describes the cycle as follows: develop a wondering – collect data – analyse data – take action – share, and “although one’s particular action research project might appear to culminate with the presentation of it, one’s inquiry stance continues to be a powerful force and source of knowledge for self and others throughout the professional lifetime – just like a circle, it has no end” (*ibid*: 82-83).

Questions:

PI should deal with real questions, not the questions a teacher has got already answers to: it is about an approach of a researcher, an approach of challenging one’s self and one’s own practice; not an approach of being an external expert. Real questions articulate the passions of a teacher. Real questions are connected to the context of the school, country and to literature. Real questions are focused on learning and they are genuine, which means that it is about improving and changing of educator’s (yours, not others’) practice.

H. Timperley: “Through engaging in ongoing cycles of inquiry and building knowledge, teachers develop the adaptive expertise required to retrieve, organize and apply professional knowledge when the old problems persist or new problems arise.”

Data and data collection

Educators must become comfortable with using data and evidence as tools in routinely and critically examining their own practice (by a process of Practitioner Inquiry). Data should provide new lenses for thinking and present opportunities for examining and challenging existing beliefs.

Data, however, is not synonymous with statistics. Data is an essential part of educators’ work: educators collect data; they interrogate data; they transform data into information, knowledge, constructive action. Data must be used in a learning-oriented manner in order to realize any valuable improvement in the learning; mistakes have to be seen as a vital part of the improvement process. The process of collecting and interrogating data leads to an ongoing process: collecting, analyzing, new learning, changes in practice (based on Dana and Earl)

Data collection - data enables us to capture the action, learning, and thinking that is occurring in the teacher’s classroom and/or school. There will and should be a variety of data, both quantitative and qualitative: the data should closely reflect the student and the learning experience in the classroom. The rule should be: look to the students for the data first.

There are numerous strategies for collecting data: student work, test scores, notes, interviews, focus groups, pictures, journals. The teacher should begin by articulating what 'it' means to them, then use the tools to enable them to explore the issue.

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Pillar 2: Professional learning community

Starting from the practice

Teachers are the professionals of teaching and learning. The role of teachers as professionals radically changes the governance of education systems. Participation in professional learning communities (PLC) becomes important (OECD, 2014). A professional learning community can be defined as "a place where teachers inquire together into how to improve their practices in areas of importance to them, and then implemented what they learned to make it happen" (Hord, 1997). So a PLC starts from the practice. Inquiry is used to structure the practice and participants return to the practice with what they learned in the PLC. It is a cyclical working method, focused on improving the own practice. The powerful collaboration that characterizes professional learning communities is a systematic process in which teachers work together to analyse and improve their classroom practice. Teachers work in teams, engaging in an ongoing cycle of questions that promote deep

learning. This process, in turn, leads to higher levels of student achievement (DuFour, 2004). PLCs serve to connect a group of professionals to do just what their name entails - *learn* from practice (Dana and Hoppey, 2015).

There is evidence that teachers' participation in well-functioning PLCs is indeed worth the effort. PLCs have the power to change school culture, teacher impact and student achievement. In regards to culture, PLCs cultivate collective responsibility, as well as leading to reflective dialogue, and faculty empowerment (Southeast Regional Educational Laboratory, 2007).

DuFour (2004) recommends that educators continually reflect on the ways they are working to embed student learning and teacher collaboration into the culture of the schools. Ultimately, however, educators must critically examine the results of their efforts in terms of student achievement.

To demonstrate results, PLCs must be able to articulate their outcomes in terms of data that indicate changed teaching practices and improved student learning; something they have not yet established as common practice.

Well-functioning PLCs have also an impact on teachers. PLCs typically lead to decreased teacher isolation and heightened commitment to shared goals and responsibilities (Hord 1997).

Students of teachers who participated in mature PLCs that really focus on student learning perform more successfully on standardized tests. Students also demonstrate better attitudinal and behavioral outcomes including: greater satisfaction, increased commitment to doing school work and more engagement (Buffma and Hinman, 2006; Erb, 1997; Natkin and Jurs, 2005; Wheelan and Kesselring, 2005; Wheelan and Tilin, 1999 - collected by Dana and Hoppey, 2015).

So, when PLCs are "well done", teachers can untangle collaboratively some of the complexities associated with student learning that occur within their classroom, their school. Teachers can proactively solve their own dilemmas rather than waiting for others to mandate solutions to these problems (Dana and Hoppey, 2015).

Culture of collaboration

The condition in which to realise effective professional learning communities is a culture of collaboration. A lot of work of building collaborative cultures is informal, based on trust and positive relationships. However it is not advisable to leave the building of a collaborative culture to spontaneity or to change. A collaborative culture can also benefit from deliberate arrangements: meetings, structures, protocols. Building a collaborative culture should not be done in a hurry (Hargreaves and Fullan, 2012). In a collaborative culture, teachers collaborate collegially. Collegiality defines the type of relationship that is needed for powerful and meaningful PLC work to unfold. (Dana & Hoppey, 2015). The behaviors that characterize the conditions of collegial work are (Warren Little, 1981):

- Teachers must have frequent, continuous, concrete and precise talk about their teaching practice;

- Teachers have to be able to observe each other's practice;
- Teachers work collaboratively on curriculum;
- Teachers share their new craft knowledge by teaching each other what they learned.

A PLC is a **community**, where practitioners are committed to have collective responsibility for a common educational purpose. They are committed to improving their practice in relation to that purpose and they are committed to respecting and caring for each others' lives and dignity as professionals and as human beings. (Hargreaves & Fullan 2012).

Systematic process

A PLC is a place where **learning** happens. Practitioners are committed to improve student learning. This means the learning, well-being and achievement of students (Timperley, 2007). Practitioners learn collectively by examining their own practice. The process of improvement is heavily informed by professional learning and inquiry into student's learning and into effective principles of teaching and learning in general. Problems are addressed through organizational learning, which is a process by which organizations, as collectives, learn through interactions with their environments (Cyert and March, 1992). The solutions they find are not "quick fix" solutions (Hargreaves and Fullan, 2012).

A PLC is a place where **professionals** meet each other. Those professionals are informed by evidence from their own practice or from academic research, but they are not dependent on the evidence. They are guided by their experienced collective judgments. They are pushed forward by challenging conversations about effective and ineffective practice (Hargreaves and Fullan, 2012). They have stopped the culture of niceness (Timperley, 2007) and delve deeper in their practice with the focus on being the best teachers they can and on realizing the best practice they can.

PLC is about pulling practitioners towards **interesting change** by providing time; connecting to practitioners' passions and purposes; by the excitement of the process and the inspirational feeling of the engagement. It is about creating a culture of successful learning and about creating positive energy and excitement in relation to a common valued goal. In this way a PLC can encourage educators towards the common purpose of schools, which is learning.

Agreed goals and focused activities

Effective professional learning communities have external leaders who focus on the agreed goals of the PLC. Those external experts help to extract the problems and to keep focused on the goals. The danger of not using an external expert is that educators and therefore establishments continue with current practice: they continue to talk without achieving action or results. (Timperley, 2007).

Leaders of a PLC have to pull, to push and to nudge. It is like Yin and Yan. They work in a conscious manner, focus on the common agreed goals and are humble. They are determined and empathic; they support collaboration and work towards results; they create urgency and are patient; they have a common focus and are flexible.

PLC-members can use protocols to approach challenging conversations about their practice during the PLC and to have results for the practice at the end of the PLC-meeting. Protocols can ensure focused, deliberate non-personal conversation and dialogue by teachers about student work and student learning. Protocols ensure the best possible use of time during a PLC; they ensure that all members of the PLC can formulate their ideas; they give a pace to the PLC and ensure that the PLC works towards results. Results mean relevant practical information, couched in theoretical frames that practitioners can use in their next practice, or inquiry.

The pitfalls of working in PLC's are: not focusing on innovative and ambitious goals, narrowing the meetings to technical meetings, narrowing the goals towards narrow measurable goals, 'stranding' when defining the focus, collecting data and not realizing via protocols actions and finally in building up PLC-teams (Hargreaves and Fullan, 2012).

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Pillar 3: Easy access to the results of academic research

Evidence-based teaching

An important theme in evidence-based practice, as well as the third pillar of project Linpilcare, is about giving teachers easy access to the results of academic research. The notion of evidence-based teaching is sometimes interpreted as encompassing the belief that teaching practice should be directed by ways of working that have proven to be effective by scientific research. In project Linpilcare we like to emphasize that teachers are professionals and therefore should be (left) in charge of making decisions for their specific educational practice. However, we also believe that knowledge of relevant outcomes of educational research can, in a variety of cases, help them make better decisions. Perhaps it would be better to talk of *evidence-informed* teaching.

Why teachers mostly do not work in an evidence-informed manner:

It seems that the issue of stimulating teachers to use academic research to enhance their practice hasn't received a lot of attention from educational researchers (or policy makers and teaching professionals). Quigley stated almost twenty years ago that "...the majority of teachers, counsellors, and administrators spend their careers at the receiving end of "manufactured" research products produced in remote university "factories" by unseen research experts." (1997, p.3). There are, for instance, hardly any academic publications on how teachers' use of academic research affects teaching quality or, to go one step further, students' learning

outcomes: “Although there are very many normative perspectives on what the relationship of research and practice *should* be, there are surprisingly few data about what it actually *is*.” (St. Clair, 2004, p. 225). From what *is* written, we can conclude that teachers in general are very reluctant to read academic publications, let alone enhance their daily practice as a result of the information these publications provide. But even if teachers are able to access academic publications, the problem in most cases will be that the information contained will hardly be readable because of the rather hermetic nature of academic language¹. Research articles are evidently written for the academic community and not for teachers:

“The individual teacher engaging with a research report so that it can be applied ‘in practice’ must often wrestle alone with challenging levels of abstraction. [...] practitioners need to connect intellectually, practically and emotionally with the knowledge they are offered in the research accounts if they are to take it on board and use this to inform their practice. They are a particular audience and, as with all other audiences, their specific needs and contexts need to be taken into account if the texts are to “speak to” them.” (Cordingley, 2008).

Another topic addressed in academic publications is a difference in views of academic researchers and teaching professionals on the usefulness of academic knowledge. Academics usually “want research studies that address global issues in a way that is broadly applicable to understanding”, whereas teachers “want studies that will guide them through everyday problems of practice rather than studies that address broad areas of interest” (Fox, 2000, p. 239).

Following this observation, it could be concluded that a possible solution lies in directing academic publications more towards teachers (see e.g. NTRP, 2000; Kerr et al., 1998; Cordingley, 2008, summarized writing recommendations for academic researchers from the two previous mentioned publications). That is however, beyond the scope of project Linpilcare because Linpilcare focuses on teaching professionals, not academics. The same is true for TLRP’s (Teaching and Learning Research Programme) initiative to offer selected research findings in the form of ‘practitioner applications’ (also described by Cordingley, 2008): “short evidence-informed, reflective activities” for teachers.

¹ An aspect of this language problem is of course also that most scientific publications are published in English, which gives non-natives English speakers a disadvantage in trying to understand what is written.

What do we mean by academic research in project Linpilcare?

Before discussing possible ways for teachers to ‘buy into’ academic publications, it is important to clarify what we mean by academic research. A secondary function of such a description within the context of project Linpilcare is that it, especially in a comparison with practitioner inquiry (pillar 1), could help by “demystifying” academic studies and researchers for teaching professionals.

It is important to understand that typifying academic research as opposed to practitioner inquiry can easily lead to oversimplifications and caricatures of both concepts. As Hammersley (2002), in a critical review of the concept of evidence-based education, states:

“... research knowledge is always fallible, even if it is more likely to be valid than knowledge from other sources. Thus, we are not faced with a contrast between Knowledge with a capital K, whose epistemic status is certain, and mere opinion, whose validity is zero.”

Bolhuis and Kools (2012) constructed a table depicting a continuum on types of knowledge construction, ranging from informal learning to fundamental scientific research, with practitioner inquiry somewhere in between. Table 1 shows the parts of the table relevant to the conceptual framework of project Linpilcare.

Table 1: Characteristics of practitioner inquiry, applied scientific research, and fundamental scientific research (part of an adapted and elaborated version of table in Appendix 1 in Bolhuis & Kools (2012))					
	Extend of making explicit and regulation	Function and/or goal orientation	Actors: stakeholders and their roles	Outcome	Shared how and by whom
Practitioner inquiry as professional learning strategy	Explicit inquiry in one’s own practice. Rules (regulation) under construction, thus under debate. Much	Goal: systematic data based construction of new insights in practice that help the researchers and others involved to	Professionals in education (teachers, school leaders) collaborating with – preferably all – stakeholders (e.g. students, parents) who are involved in	Professional performance based on insight in one’s own specific practice. Insights collectively shared with those	Shared by all stakeholders through involvement. Possibly inspirational for colleagues in and outside school by spreading

	borrowed from social sciences.	improve their individual and/or collective practice	the topic.	involved. Teacher professional development and school development	information.
Applied scientific research	Research question is explicitly derived from practice. Rules and regulations of scientific research.	Goal: general knowledge about questions relevant for educational practice.	Educational researchers (with a focus on practice). Education: source of questions, field of research, possible further cooperation.	Researchers learn about their topic. They provide information on these outcomes in diverse media including social science journals.	Shared with schools where research was done and in general educational media. Shared in educational science (peer reviewed) journals, mainly with other researchers.
Fundamental scientific research	Explicit question from educational science. Rules and regulations of scientific research.	Constructing and testing theory, contributing to the scientific body of knowledge on education	Educational researchers Education: field of research Teachers, students, school leaders/boards, and others: data source	Researchers learn about their topic. They provide information on these outcomes in educational or other social science journals.	Shared in peer-reviewed journals, mainly with colleague researchers. In part popularized information in other media.

As can be derived from this table, Bolhuis and Kools make a distinction between fundamental and applied scientific research. By doing so they make clear that academic research that starts from problems teaching professionals encounter, but conducted by academic researchers and aimed – at least partly – at the academic community, is not considered practitioner inquiry. Practitioner inquiry is always initiated and carried out by teaching professionals and is directly aimed at improving (understanding of) their professional practice.

Possible strategies (draft)

So far, the partners of project Linpilcare have considered several ideas and strategies in helping teachers bridge the gap between teaching practice and the results of academic research:

- *Making teachers familiar with relevant search engines* - In several countries projects were conducted to develop search engines that are connected to databases of academic research written for teachers. Sometimes these projects emphasize rewriting scientific publications to make them better readable for teachers; others are more aimed at making available existing archives of professional journals and the like in which academic research is discussed.
- *Training teachers to read academic publications* - As part of working in a PLC teachers could discuss together how to read academic publications: How are journal articles structured? And which parts of it are usually the most relevant to teachers? In project Linpilcare we could develop tools that help teachers to become familiar with academic writings and the way in which to read them.
- *Questioning researchers* - In some cases, instead of (or in addition to) reading publications, teachers could engage in dialogue with the author(s). This could be done by inviting researchers with expertise on the subject at hand from a local university into their professional learning community, or for instance by contacting them by email. Most teachers probably feel hesitant to directly contact a researcher, whereas researchers may be very willing to explain their writings or the key points of their field of interest to teachers.

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