



## 1. Evidence-informed teaching

### 1.1. Prelude

*A conversation between three teachers during lunch break...*

- Rik: "Why is it that every time I give homework to my students, about half of them won't do it? I can't remember having had this problem a few years back. At least not to this extent."*
- Barbara: "I know. It's the same for me. School just doesn't seem so predominant in students' lives anymore. I blame social media: they're just too much of a distraction."*
- Rik: "I never thought of that; always assumed it had something to do with lack of support from the parents."*
- Cristina: "I read something about how homework enhances student learning. If I remember correctly, it was a scientific study that concluded that the difficulty of homework assignments was quite important to take into account: kids generally just won't do their homework if it's too hard."*
- Barbara: "That makes sense actually: when lumbered with an assignment that is really hard to complete, a student might give up on it before he's even started."*
- Rik: "Okay.... But how can you be sure this 'scientific study' is true for how things work for your students?"*
- Cristina: "It's scientific; I think that means it should be valid for all students... Right?"*
- Barbara: "I'm pretty sure these researchers never visited my classroom! I think scientific research is about averages and is only useful when you're teaching average students. I never met an average student in my life!"*
- Rik: "Maybe I could set up a little experiment myself! I could ensure that I only give students relatively easy homework - so they can practice what they learned in class - and then count the number of students that actually did it each time to see if the number goes up."*
- Barbara: "Hmmm... Shouldn't take too much extra time if you do set it up like that. But maybe it would be even better if we started by simply asking these students why they won't do their homework."*
- Cristina: "I think the principal would probably be willing to support our efforts and give us some time to do this as a team. Maybe even change our teaching schedules so we can meet regularly. I'll ask her."*

## Introduction

Teachers, like the ones in the prelude, are continuously faced with questions about the adequacy of their teaching. However, finding out *systematically* what works in one's professional practice is generally not regarded as a part of the teaching job description, let alone reading scientific



ERASMUS+



2014-1-BE02-KA201-000432

publications about teaching strategies and the like. Moreover, working as a teacher also means struggling with different tasks fighting for priority.

‘Evidence-informed teaching’, in the way we propose it in project Linpilcare, presents a way of working for teachers that takes these issues into account, and helps them to become better teachers who are systematically engaged in improving their teaching practices, together with their colleagues. The main objective of the project is to help teachers make their practices more evidence-informed by linking practitioner inquiry on the one hand and academic research on the other, through professional learning communities. In this introduction we will explore these concepts, and give a concise overview of how they are related.

## 1.2. Evidence-informed teaching?

In project Linpilcare, we believe that knowledge of the findings of educational research can, in a variety of cases, help teachers’ decision making in and for their daily practice. Moreover, it is the project’s belief that research evidence could guide teachers in improving their practice. Furthermore, we would like to emphasize that teachers are professionals and therefore should be (left) in charge of making decisions for their specific educational practice. These two ideas are combined in what is generally called ‘evidence-informed teaching’. It is usually contrasted with the notion of ‘evidence-based teaching’; a concept that typically embodies a view of teachers applying findings from research in their classrooms, and therefore as a stance that teaching should be directed by research evidence.

*In the prelude, Rik and Barbara displayed evidence-informed stances by asking themselves if the findings of an academic study were valid for their own students. Cristina perhaps seemed to hold more of an evidence-based stance. Asked about the validity of the study, she hesitantly replied: “It’s scientific; I think that means it should be valid for all students... Right?”*

Both evidence-based and evidence-informed teaching differ from notions that refute the value of research findings for improving educational practice. They could, for instance, exclusively emphasize a teacher’s intuitions (i.e. his/her teaching expertise, originating from teaching experience or talent) as a decisive factor of teaching quality. The latter stance, in other words, refutes the potential of scientific evidence as a lever for improving education and adheres to the notion that teachers should be perceived as (nascent) artisans. These three stances (i.e. the stances of evidence-based and evidence informed teaching, and the intuitions-based stance) are contrasted in figure 1.



ERASMUS+



2014-1-BE02-KA201-000432

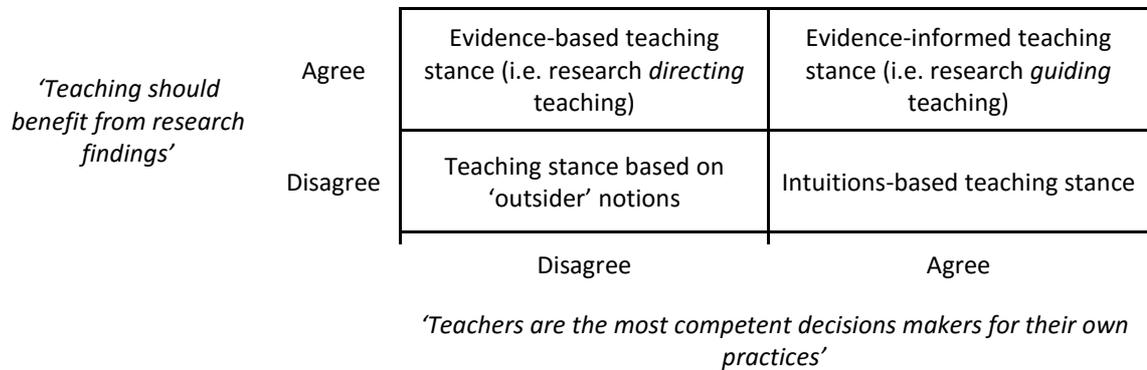


Figure 1: Contrasting teaching stances in relation to beliefs about the value of (a) research evidence and (b) teacher competence

To complete this diagram, the disagree/disagree cell has been described as an 'outsider notions-based teaching stance', rejecting both teacher competences and research findings as valuable for teaching quality, and therefore relying on the ideas of others, (e.g. policy makers, textbook authors).

Please note that we realize that the division into these four teaching stances is rather simplistic and certainly doesn't take into account all kinds of nuances in teachers' belief systems. It is not our intention to polarize discussions, but rather to make clear what is, and what isn't, meant by evidence-informed teaching in project Linpilcare, and also that, in general, teachers can have different opinions on who should decide on how to improve educational practice.

### 1.3. What counts as evidence and what is meant by research?

To be working from an evidence-informed teaching stance, it is crucial to establish what is considered evidence. When talking of evidence in daily life, we mostly refer to facts collected as a result of research efforts, and that, when combined, direct or guide us in answering a question. In evidence-informed education, these questions are primarily about 'what works in the classroom?', or, to be more precise: 'Too what extent, and under what circumstances, do certain teaching methods or approaches facilitate (or hinder) student learning?'

Please note that this doesn't mean that other types of questions that teaching professionals ask themselves are any less relevant. For example, questions about what should be taught in schools and for what reasons are no less important than questions on what works. The latter questions are, however, not questions you can answer without the help of research evidence.



ERASMUS+



2014-1-BE02-KA201-000432

So what does research evidence on what works in the classroom look like? The answer to this question can be derived from the answer to another question, namely: What is meant, from the viewpoint of project Linpilcare, by 'research'? We will start by answering this second question from the framework of project Linpilcare and then come back to the first one.

### 1.3.1. What do we consider 'research'?

In project Linpilcare, we distinguish two types of research that are valid and functional in the face of evidence-informed teaching: academic research and practitioner inquiry.

In the field of education as well as in other disciplines, research is a concept that is often reserved exclusively for the *academic* (or *scientific*) world: a type of research conducted by scientists, whose job it is to add to the academic body of knowledge in a certain field. They do this primarily by publishing their work and findings in peer-reviewed academic journals, that are available to other academics, but mostly not to practitioners, e.g. teachers. Academic research can take place in laboratory settings or *in vivo* (i.e. in schools). Teachers, students, and other actors in school practice serve as sources of data and/or actors in the implementation of research plans. In most cases, academic research is designed in ways that enable the researcher to generalize conclusions to different schools, teachers, or (groups of) students. It is important however to notice, that this not always the case. Academic research can sometimes also be aimed at describing very specific individual practices.

Like many others have done before us, we consider 'practitioner inquiry' a different, but certainly no less valuable, type of research. Practitioner inquiry (or 'teacher inquiry', 'action research', 'lesson-study', 'self-study', etc.; for a more elaborate description of practitioner inquiry, please refer to chapter 3 of this document) is conducted by practitioners (mostly teachers), whose job it is to facilitate student learning as well as possible. Practitioner inquiry refers to strategies these practitioners employ mainly to systematically help them (a) gain better information about their practice and (b) improve their practice in line with this information. Practitioner inquirers share their findings with other stakeholders in their practice (colleagues, school leaders, students, parents, etc.) as an inseparable part of their work. Practitioner inquiry always takes place in the specific educational practice of the inquirer(s). The validity of findings following from practitioner inquiry are therefore in principle also restricted to this practice, although it can serve as a source of inspiration for other practitioners.

*In the prelude, both Rik and Barbara spontaneously come up with activities that could very well be viewed as parts of practitioner inquiry. Firstly, the 'experiment' that Rik mentions as a way to test if the approach of giving students relatively easy homework would pay off. Secondly, Barbara's idea to ask students why they won't do their homework. In an inquiry cycle, these activities could become parts of plans that could also include: narrowing down what this issue is really about and what the*



ERASMUS+



2014-1-BE02-KA201-000432

objective of the inquiry would be, reading more about this specific issue, consulting other colleagues and asking their feedback, etc. Chapter 3 will describe practitioner inquiry in more detail.

In table 1 you will find a summary of how academic research and practitioner inquiry are different on seven key characteristics.

Table 1: Comparing academic research and practitioner inquiry (based on tables from Fichtman Dana & Yendol-Hoppey, 2014; Bolhuis & Kools, 2012)

	Academic research	Practitioner inquiry
<i>Goal</i>	Expand academic body of knowledge in a certain field	Provide insight into teaching in an effort to make change
<i>Conducted by</i>	Scientists	Practitioners
<i>Conducted in</i>	Controlled settings (labs) or in vivo (in schools)	A specific educational practice
<i>Impact on the academic community</i>	Broad on the academic community through publications in peer-reviewed journals	Very limited
<i>Impact on educational practice</i>	Very limited	Profound on the practice at hand
<i>Scope of findings</i>	Generalizable; valid for and transferable to different contexts	Limited to specific practice at hand.
<i>Involvement of practitioners</i>	Source of data and/or actor in implementation of intervention	As researcher or as critical friend in practitioner inquiries of colleagues

### 1.3.2. To what extent can findings from both types of research serve as evidence?

Following from table 1, different types of evidence can be distinguished in the face of evidence-informed teaching. Please note that we will be looking from the perspective of the practitioner: to what extent is a certain type of evidence valid for him/her to take into account when rethinking his/her practice? As indicated, we consider a practitioner the most competent decision maker for his/her own specific professional practice. Therefore it seems obvious to what extent different kinds of research findings could serve as valid evidence for that practice.

From this perspective, we discern three types of evidence:



ERASMUS+



2014-1-BE02-KA201-000432

a. Findings from a practitioner's own inquiry

When a teacher has conducted practitioner inquiry, the findings of that study are by definition valid for his/her future inquiries. S/he has established new understandings of his/her professional practice, with the help of critical friends and other stakeholders.

b. Findings from academic research

In the case of findings from academic research the validity of findings is not so self-evident. On the one hand, academic research is designed (in most cases) to ensure that generalizability of the results and conclusions is justifiable. This means that the findings are in principle valid for a variety of situations. However, to ensure this generalizability, academic studies have to fall back on the analysis of statistical data. By doing this academic studies necessarily lose specific details of individual practices. Therefore findings of academic studies are not to be interpreted as guarantees for success (or failure). More adequately, they should be perceived as indicators on how promising a certain type of intervention would be in a specific educational practice.

*In the prelude, Barbara raises this issue when she responds Cristina's mentioning an academic study: "I think scientific research is about averages and is only useful when you're teaching average students. I never met an average student in my life!". Please note however, that academic research is certainly not always about averages and statistics. On the other hand, Barbara certainly makes a good point in being skeptic about the validity of these findings for her own practice.*

c. Findings from inquiry conducted by other practitioners

As is the case with academic research, findings from inquiries conducted by practitioners is not tailored to the specific practices of (other) practitioners. However, where academic researchers tend to conduct studies with a sample size (number of teachers and students involved) that transcends that of a single practice, in order to accomplish a certain degree of generalizability, this is of course not the case for practitioner inquiries. The nature of the practitioner inquiry limits it to a specific practice. Generalizability is in no way part of what quality in practitioner inquiry constitutes. However, practitioner inquirers could use the colleagues' inquiries as a starting point for the own reflections by comparing practices and subsequently assessing how promising the approach studied looks for his/her own practice: do I think this could work out similarly in my teaching practice?

#### **1.4. Evidence-informed teaching in practice: practitioner inquiry in professional learning communities**

##### *1.4.1. Practitioner inquiry as a strategy for implementing evidence-informed teaching*

From an evidence-informed teaching stance, teachers' knowledge of research findings is of course important, but certainly not sufficient to improve daily teaching practice. Teachers need to reflect on this information, decide to what extent it seems promising in the context of their own particular



ERASMUS+



2014-1-BE02-KA201-000432

practice, redesign this practice, implement this redesign, and monitor and evaluate their experiences. In other words, teachers need to use some kind of inquiry cycle to make evidence-informed teaching happen in practice. Many of these cycles have been developed over the years and a lot of experience has been gained with them in practice by teachers. These inquiry cycles form a backbone of practitioner inquiry. Moreover, over the course of the last few decades, academic researchers as well as teaching professionals have developed quite a few tools, and written a substantive number of publications and books devoted to the subject of practitioner inquiry, in order to guide teachers in conducting their own inquiries. As a result, teachers from different disciplines, and varying sectors of education have established quite an impressive track record on teachers' conducting of practitioner inquiry.

#### 1.4.2. *Professional learning communities as platforms for practitioner inquiry*

Experience with practitioner inquiry teaches us that one of the major challenges is to merge inquiry with other teacher activities. A general characteristic of teaching is that time for contemplation is very limited. Because of this, teachers mostly have to rely on their routine knowledge and intuition when making decisions in and for their professional practices. Teachers can therefore have difficulties taking up and embedding inquiry as part of their daily routines. This could make it problematic for teachers to make practitioner inquiry a sustainable endeavor in their schools.

As stated by a substantive number of authors, establishing a 'professional learning community' (PLC) in school as a platform for practitioner inquiry could help to counter this problem. Professional learning communities are defined by Hord (1997) as: "[...] a place where teachers inquire together into how to improve their practices in areas of importance to them, and then implement what they learned to make it happen." Consequently, professional learning communities help teachers to collaborate in realizing their inquiries.

*In the prelude, the teachers quite spontaneously come up with the idea of starting something that could become a professional learning community. Quite cleverly, Cristina thinks of talking to the school principal about their plans, so she can help them realize their intentions.*

#### 1.6. **In summary: what is evidence-informed teaching?**

In this chapter, we explored the concept of evidence-informed teaching as the scope of project Linpilcare. As can be inferred from the texts above, we consider three fundamental pillars underlying this concept, for successful implementation of evidence-informed teaching in school practices: (1) teachers' easy access to relevant research findings; (2) practitioner inquiry as a strategy for professionalization and curriculum improvement; and (3) professional learning



ERASMUS+



2014-1-BE02-KA201-000432

communities as sustainable platforms for inquiry in schools. The remainder of this document (chapters 2, 3 and 4) will be devoted to a more in-depth delineation of these three pillars.

From a teacher's perspective, it seems to make more sense to do this in reverse order compared to how the pillars were discussed in the introduction. So we will start discussing the usefulness of professional learning communities as platforms for teacher professionalization, then move on to practitioner inquiry as a preferred professional learning strategy, supported by PLC's, and finally go into how results of academic research help guide practitioner inquiry.