Factors Influencing the Implementation of Evidence-Informed Teaching Practices in

Dutch Primary Schools

S.L. Batenburg

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Abstract

Implementing evidence-informed teaching practices (EITP) in primary schools have been suggested as a promising solution to reverse the decline in school performances. Previous research shows differences in the extend to which teachers implement EITP. Both personal and contextual factors have been found to be explanatory for these differences. This research examines Dutch primary school teachers' perceptions on these factors in EITP implementation. An interview guide has been used to interview twelve teachers who had between 6 months and 42 years of teaching experience. Results have shown that a critical stance towards research and perceived social support are important personal and contextual factors, respectively. Participants have suggested their lack of research skills as the most substantial challenge in implementing EITP. Implications for research practice are threefold; 1) the Dutch government should promote research use amongst teachers by giving them free access to research; 2) TTPs should implement EITP training in their educational program; and 3) school leaders should offer professionalization opportunities for teachers by joining educational partnerships. This research suggests that future research may focus on how research skills among (primary school) teachers can be improved to ultimately reverse the decline in student performance.

Keywords. evidence-informed teaching practices, personal factors, contextual factors, primary school teachers, research skills

In 2018 the Organisation for Economic Co-operation and Development (OECD) reported a three-year decline in educational performances. This was found among Dutch primary school students in all areas of education (OECD, 2018). Despite efforts to address the issue, the trend persists (Ezzeroili, 2022; Hanushek et al., 2019; PE-council, 2022; Inspectorate of Education, 2024). Research shows that lower school performance can contribute to differences in wellbeing, earnings and health (Kolbe, 2019). It is therefore necessary to investigate how to reverse this trend. Especially because academic performance predicts positive well-being in elementary school students (Yang et al., 2019). Fauth et al. (2019) thereby found that teacher's teaching quality has a positive effect on student performances.

Evidence-informed teaching practices (EITP) are proposed as a potential solution to improve teaching quality (Larson et al., 2018; Toropova et al., 2021). EITP is defined as: "A combination of practitioner expertise and the knowledge of the best external research and evaluation-based evidence" (Brown & Zhang, 2016, p. 3). Teaching programs with a strong evidence base are associated with improved student learning outcomes in countries like Norway and Finland (Koski et al., 2023; Slavin, 2019). Furthermore, EITP forces the educational field to keep innovating. Innovation positively transformed other fields such as medicine (Slavin, 2019). Professional development of teachers is needed to effectively implement EITP (Sancar et al., 2021). Sancar et al. (2021) found that this professional development is, amongst others, affected by personal and contextual factors. Although teachers are increasingly being trained in using EITP there is a large variation in the implementation (Aragón et al., 2017). This variation is previously explained by teacher characteristics, such as personal factors (Baier et al., 2018; Bathgate et al., 2019). Locke et al. (2019) thereby stated that both personal and contextual factors provide an important context for understanding successful use of EITP. However, despite existing research on the efficacy

of EITP it is unclear how personal and contextual factors precisely work in effectively implementing EITP (Ashman, 2021; Bathgate et al., 2019).

Research shows that influential factors in implementing EITP are personal factors such as a teachers' attitude (Locke et al., 2019). A teachers' positive attitude towards the effectiveness of EITP and self-efficacy belief to implement the approach, influence the implementation of EITP (Bathgate et al., 2019; Locke et al., 2019). A lack of confidence leads to lower self-efficacy beliefs, which results in insufficient implementation of the change (Locke et al., 2019). Furthermore, Diery et al. (2020) found that understanding the teachers' educator role and perspectives towards EITP is crucial for successful implementation. Therefore, it is essential to also explore other personal factors such as teachers' experiences, opinions, and concerns regarding EITP. Furthermore, it is essential to identify the necessary steps to overcome these barriers.

Besides the influence of personal factors, the implementation of new educational methods is also influenced by contextual factors such as policy and culture (Gemmink et al., 2021). It is therefore important to investigate how teachers perceive the implementation of new teaching methods and how strongly they depend on contextual factors such as policies and resources (Domitrovich et al., 2019). Especially because a school's resources and policies regarding EITP strongly predict teachers' attitudes toward its implementation.

This research is therefore focused on the influence of both personal and contextual factors in implementing EITP as perceived by Dutch primary school teachers. Recognizing that these factors are part of a larger multilevel system, this study adopts an ecological approach (Domitrovich et al., 2019). Providing an overview of personal and contextual, and potentially other influential, factors may positively influence the implementation of EITP. This research thereby aims to highlight the significance of EITP and encourage Dutch primary school teachers to implement it (Nelson and Campbell, 2017).

Before providing further details on the personal and contextual factors, a description of the Dutch school system is provided. As this study focuses on Dutch primary school teachers, it is essential to understand the background of the Dutch educational system.

The Dutch School System

The Dutch educational system includes a variety of schools with different educational philosophies and organizational structures, reflecting the country's principle of freedom of education (Scheider et al., 2023). These differences make it challenging to generalize findings across schools and, more significantly, across teachers. As teachers may have varying perceptions regarding the best type of education, it is important to consider their perspectives (Scheider et al., 2023). These perceptions may thereby affect teachers' view on which factors affect EITP implementation (Bathgate et al., 2019).

Secondly, the content of the Dutch school system is based on a government-mandated curriculum. However, schools and teachers determine how they will ensure their students meet the educational requirements to pass the graduate. This decentralization of the educational system provides schools and teachers with a high degree of autonomy, which may influence the adoption of EITP (Gemmink et al., 2021).

Thirdly, primary schools in the Netherlands frequently struggle with limited resources such as finances and time. This may hinder EITP implementation (Gemmink et al., 2021). The Dutch educational system is subject to frequent policy shifts, which can affect how teachers perceive the impact of personal and contextual factors. For example, Sullivan et al. (2017) noted that policy changes may create uncertainty for schools and teachers. This may influence teachers' openness to change and thereby teachers' willingness to embrace new teaching practices. Sullivan et al. (2017) thereby found that policy changes may influence how teachers perceive EITP's overall value. Considering the Dutch school system's complexity, it is critical to be aware of these factors.

Evidence-Informed Teaching Practice

EITP was initially established in the medical field and has gradually been adopted in other disciplines, including education (Georgiou, 2020). Since EITP originated in the medical field, it is relevant to draw upon findings from that field. Especially to determine what works and what does not with EITP. The implementation challenges currently faced in education with EITP resemble those previously encountered in the medical field (Slavin, 2002).

Research in the medical field suggests that the sustainability of implementing EITP is influenced by several factors, including both personal and contextual factors (Forman et al., 2009; Henderson & Dancy, 2007). This has also been suggested for the educational field (Bathgate et al., 2019). Sullivan et al. (2017) interviewed several pediatric surgeons to examine their views on the personal and contextual factors underlying evidence-based practice (a term initially used to describe evidence-informed practices) in the medical field. Following these interviews, Sullivan et al. (2017) created an interview guide that identified several subfactors for both personal and contextual factors. The following paragraphs detail these subfactors.

Personal Factors

Personal factors refer to characteristics and traits that are specific to the teacher, and that may influence their behavior and decision-making (Forman et al., 2009). Among personal factors are experiences, self-efficacy beliefs, attitudes, and social influences (Forman et al., 2009; Sullivan et al., 2017). This research further examines these personal factors.

Personal Experiences

Personal experiences refer to previous positive or negative experiences with EITP among primary school teachers (Henry et al., 2013). Negative experiences with EITP can impede the desire and ability to implement it effectively (Sullivan et al., 2017). Previous

research indicates that the extent and quality of personal experience with EITP correlates with the value that teachers attach to it (Henry et al., 2013). Moreover, experience with EITP has long-term implications. Teachers with prior experience are more likely to demonstrate greater proficiency in using EITP that those without any previous personal experience (Henry et al., 2013).

Self-Efficacy Beliefs

Teachers' self-efficacy beliefs relate systematically to their behavior in the classroom and their overall performances (Orakci & Durnali, 2022; Weber & Greiner, 2019). Bandura (1977) introduced the concept of *self-efficacy beliefs* as; "The beliefs people hold regarding their capabilities to accomplish a desired level of performance in completing a specific task." (p. 193). Self-efficacy beliefs drive one's motivation, it makes a person more resilient and more determined to pursue one's goals (Bjorklund et al., 2020). Teachers can acquire self-efficacy beliefs by observing others who have implemented a change (for instance EITP), by receiving positive feedback on their potential to use a change and by experiencing higher positive emotions (Bandura, 1977).

High self-efficacy beliefs are associated with favorable outcomes such as higher job satisfaction, improved support for students and increased student outcomes (Perera & John, 2020; Stein & Wang, 1988; Zee & Koomen, 2016). Most importantly to this research, teachers with higher self-efficacy beliefs are more willing to implement both teaching reforms and new teaching approaches (Guskey, 1988). This could also influence the readiness to implement EITP.

Although teachers' self-efficacy beliefs strongly predict how often EITP is implemented (Georgiou, 2020), their self-efficacy beliefs towards using EITP are low (Nicholson & Lander, 2020). The reason for this discrepancy has not been researched (Kiemer & Kollar, 2021).

Attitudes

A positive attitude and mindset towards implementing EITP also influences the willingness of teachers to implement it (Bauer et al., 2017; Locke et al., 2019; Reddy et al., 2017). *Attitude* refers to a psychological opinion towards an object, which can either be positive, negative or neutral (Eagly & Chalken, 2007). Nelson and Campbell (2017) state that it is necessary for teachers to value the idea and benefits of integrating EITP. Namely because there is a difference among teachers in the extent to which they have a positive attitude. This relates to the degree of involvement in the research and implementation of EITP. If teachers are more involved, they are more likely to be positive about EITP (Tack & Vanderlinde, 2014).

Social Influences

Social influences refer to changes in an individual's thoughts, feelings, attitudes, or behaviors, resulting from an interaction with others (Walker, 2015). The extent to which an individual adopts such changes is dependent on the credibility and value they attach to the opinion of the other (Walker, 2015). For example, a close colleague's opinion (for instance on EITP) is more likely to change a teachers' opinion than a non-close colleague's opinion (Rinehart et al., 1998). Other social influences on teachers' adoption of EITP are parents of children in their classroom, friends or the school community at large (Sullivan et al., 2017). Teachers thus tend to assign significant importance to individuals within their social circle.

Contextual Factors

In addition to personal factors, contextual factors influence the implementation of EITP (Baier et al., 2018; Locke et al., 2019; Sancar et al., 2021). *Contextual factors* relate to the context within which the teacher works and are often beyond the teachers' control (Forman et al., 2009). Among contextual factors are organizational policies, structures and procedures, resources and behaviors of stakeholders (Forman et al., 2009; Sullivan et al.,

2017). Sullivan et al. (2017) state that organizational policies and resources are the most significant contextual predictors of whether a teaching approach is implemented. The focus in their and this research is therefore only on these contextual factors. In certain cases, contextual factors refer to organizational factors. However, the definitions of both concepts are comparable and are therefore regarded as interchangeable (Forman et al., 2009; Sullivan et al., 2017).

Policy

Policy refers to what decisions and rules authorities state to influence the practice of individuals (Mulcahy, 2006). Authorities can be the national government, but also a division chief within an organization such as a primary school (Vanderlinde & Van Braak, 2011). Both are considered societal support. The support of a division chief eases EITP implementation in the medical field (Sullivan et al., 2017). This finding is consistent with suggestions from several education researchers (Vanderlinde & Van Braak, 2011). Notably, a school's vision and policy on EITP are identified as one of the most robust predictors of teachers' attitudes toward implementing EITP (Vanderlinde & Van Braak, 2011). In this regard, EITP needs to fit into the context of the school and must align with the school's policies, values and philosophies for successful implementation to occur (Forman et al., 2009).

Resources

Sullivan et al. (2017) define *resources* as the necessary means for an organization to function effectively, including finances and time. Availability of finances and time often hinder change in institutions, including primary schools (Aina & Bipath, 2020; Grol & Wensing, 2004). Respondents in previous studies indicate that time constraints and limited financial resources lead to stress and decreased job satisfaction among teachers. These are therefore the main reasons for discontinuing implementation (Ouellette et al., 2017; Sullivan

et al., 2017). Additionally, a lack of resources may interfere with the primary responsibility of teachers; teaching (Gemmink et al., 2021). Resources thus appear to have a substantial impact on the implementation of new teaching approaches such as EITP.

Present Research

This research aims to provide insights into the personal and contextual factors that influence the implementation of EITPs in Dutch primary schools. This research investigates both personal and contextual factors as they provide an important context for understanding successful EITP implementation (Bathgate et al., 2019). Implications from this research may assist policymakers and educational institutions to better support primary school teachers in implementing EITP. Especially in adopting and effectively utilizing EITPs to improve teaching quality and thereby student learning outcomes (Larson et al., 2018; Toropova et al., 2021). This research therefore examines the following research question:

1. Which personal and contextual factors do primary school teachers identify as determining in implementing evidence-informed teaching practices?

Method

Research Design

This qualitative research study adopted a social constructivist perspective, emphasizing multiple socially constructed realities. A combination of deductive and inductive approaches was used to provide clear answers to the research question. The deductive approach utilizes a semi-structured interview guide, while the inductive approach allows themes to emerge from participants' input (Guba & Lincoln, 1994). The study explored primary school teachers' ideas and experiences regarding EITP through semi-structured interviews. Twelve teachers from various Dutch primary schools were interviewed. A semi-structured interview design focuses on the specific populations' opinions and experiences (Boeije, 2010) and allows for in-depth questioning and exploration of

participants' reasoning (Creswell, 2007). The flexibility of semi-structured interviews thereby permits follow-up questions and detailed exploration (Kvale, 1994). Face-to-face interviews were done to enhance connection and honesty, with virtual options available for convenience (Keen et al., 2022; Rubin & Rubin, 2012). The interview guide was based on previous studies, ensuring all relevant topics are covered while allowing participant input (Forman et al., 2007; Parker et al., 2019; Sullivan et al., 2017).

Instruments

A semi-structured interview guide was developed to structure the interviews (Appendix A). The questions were based on literature (Sullivan et al., 2017). They were adjusted to match the educational field and key concepts that are relevant for this research. In accordance with the guidelines for developing a semi-structured interview guide, both warm-up and wrap-up questions were included to ensure a comfortable and effective interview experience (Adams, 2015). To respect participants' time and effort, the interview was designed to take no longer than 45 minutes. The topic list was reviewed by two researchers to minimize any potential gaps or biases in the guide (Boeije, 2010).

Participants

The twelve participants of this research were Dutch primary school teachers selected using a combination of snowball and convenience sampling techniques. These techniques are used to ensure the inclusion of individuals meeting the necessary characteristics (Boeije, 2010). The sample included four male and eight female participants from nine different schools in five different cities, ranging in age from 24 to 65 years ($M = 34,5$; $SD = 12,3$) (Table 1). Teaching experience ranged from 6 months to 42 years ($M = 8,9$; $SD = 12,1$). Besides differentiation in teaching experience, participants had diverse educational backgrounds. All participants had a degree at a university of applied sciences in teaching primary school. Three participants also had a degree at a university related to education in

general. One participant did not have a university degree but did receive education on

children's development at a university. To ensure a comprehensive understanding of the issue

at hand only teachers with experience with EITP were interviewed. Thereby, their

understanding of the concept was checked at the beginning of the interview and corrected if

necessary.

Table 1

Participant Demographics

Name	Sex	Age	Years of teaching experience	City of school	Educational Background	Extra tasks, within or outside, school environment
Adam	M	24	2	Rotterdam	Academic Pabo	Expert group vocabulary education
Benjamin	M	24	2	Rotterdam	Academic Pabo	/
Charlotte	F	25	1	Rotterdam	Pabo	/
Diana	F	29	8	Gouda	Pabo	Mathematics coordinator
Eve	F	65	42	Gouda	Pabo	/
Felix	M	47	6	Utrecht	Pabo	/
Gaia	F	32	5	Bunnik	Academic Pabo	Teacher at Pabo
Helga	F	34	0,5	Utrecht	Pabo	IT-learning team
Iris	F	29	6	Huizen	Pabo	School coordinator
Julie	F	45	23	Huizen	Pabo	School coordinator
Katy	F	34	10	Gouda	Pabo	Language coordinator
Liam	M	25	1	Utrecht	Pabo	Supervisor special needs student

Note. Participants were anonymized. To enhance the readability of this research

participants were given a fictive name. Their real names are known by the researcher. The

researcher tried to remove any information that leads back to the participant, whilst taking

relevant information for the research into account.

Procedure

Prior to approaching the participants, a pilot was conducted by interviewing one

teacher to ensure the quality and feasibility of the research (Braun & Clarke, 2006). Based on

the pilot, necessary adjustments were made, such as the rephrasing of several interview

questions (Appendix B). Participants were then gathered through snowball sampling and

those who expressed interest were sent an information letter (Appendix C) and an informed consent form (Appendix D) to provide detailed information about the study. Prior to the interview, all participants were required to sign the informed consent to ensure their security and awareness of their rights. The interviews were scheduled at the participants' convenience and conducted either in person or online via Microsoft Teams (Microsoft Teams, 2023). The interviews were conducted according to the interview guide and participants were reminded that their participation was voluntary and confidential. They were also informed they could withdraw from participating at any point before, during and after the interview and that there were no right or wrong answers. The interviews were recorded and transcribed using the automatic transcription service Amberscript (Amberscript, 2024). Since the accuracy of Amberscript is 85%-90%, the researcher read all transcripts and edited if necessary. Data was stored in Yoda (Yoda, 2024) and access to the data was limited to the researcher and the supervisor.

Quality Criteria

Korstjens and Moser (2018) summarized the quality criteria for qualitative research, which include credibility, transferability, dependability and confirmability. First, credibility was ensured by conducting a pilot before approaching participants (Braun & Clarke, 2006) and by using intercoder triangulation. Intercoder triangulation was conducted after coding two interviews. One independent researcher identified codes and themes within the interviews. Two of the interviews (17%) were randomly selected and coded by a second coder (O'Connor & Joffe, 2020). The second coder received the third version of the coding scheme (Appendix E) and two interviews that had been coded. The analysis revealed some differences, but after discussion, the researcher and the second coder agreed that none of the changes were significant. The coding discrepancies were attributed to a misunderstanding of the code descriptions. As the same codes and themes were identified by the researcher and

the second coder, the credibility was ensured (Cheung & Tai, 2021). This version of the coding scheme was used to code the remaining nine interviews. Second, transferability was warranted by using an interview guide that was based on extensive, relevant and recent literature (Sullivan et al., 2017). The use of this interview guide guaranteed that the findings were close to generalizable as the themes of the research were in line with previous findings. Dependability was ensured by providing a detailed and comprehensive course of action for the procedure and data analysis. The procedure described the steps taken before, while the data analysis described the steps taken after, the interviews. By giving a detailed and comprehensive overview of the course of action, this research can be replicated (Korstjens and Moser, 2018). Finally, confirmability was ensured by intercoder triangulation and an audit trail.

Data Analysis

To conduct a thorough analysis of the data the analytic steps from Braun & Clarke (2006) were followed. A precise description of the analytic steps that were taken can be found in Table 2. To label and code NVivo was used (NVivo, 2022). A combination of a deductive and inductive approach was selected for this research. Following a deductive approach, some themes and codes were predetermined based on the interview guide which was grounded on previous research (see Sullivan et al., 2017). After transcribing the interviews verbatim all transcripts were reread, it was recognized that new themes also emerged from the data. Additionally, several codes that were not predetermined but were relevant for answering the research question became prevalent. Therefore, it was decided to also use an inductive approach where themes and codes emerge from the collected data. Based on previous research and the data a coding scheme was developed. Finally, the fourth version of the coding scheme was used to analyze the interviews.

Table 2

Analytic Steps Description

Analytic Steps (Braun & Clarke, 2006)	Analytic Steps Followed in this Study
Familiarizing with your data	The interviews were transcribed verbatim. The researcher read all interviews three times. Whilst reading, several quotes were identified.
Generating initial codes	Interesting quotes were compared to the themes and subthemes of the interview guide. Initial codes were then identified. A preliminary coding scheme was created.
Searching for themes	Based on the interview guide the initial codes were divided into themes and subthemes. This lead to updating the coding scheme. The themes and subthemes were discussed with another researcher, whilst taking the research question into account.
Reviewing themes	After the initial themes and subthemes three interviews were coded using the second coding scheme. Several additional subthemes were found. The themes were therefore critically reviewed leading to a third version of the coding scheme. After rediscussing the amount of codes were diminished and sorted under the themes.
Defining and naming themes	The definitions of the themes and codes were discussed with the supervisor. Furthermore the definitions were discussed with the second coder after intercoder reliability. No substantial differences were found, the fourth version of the coding scheme was final.
Producing the final report	Finally, the results were analyzed and described, in this thesis, using the coding scheme.

Note. This table is based on the *Analytic Steps Description* in Georgiou et al. (2023).

Results

The findings are displayed based on both the interview guide inspired by Sullivan et al. (2017) and the participants' input. The results revealed three themes (Table 3). The first two, theme 1) Personal Factors; and theme 2) Contextual Factors, are consistent with previous research. These themes answer the first research question. The third, theme 3) Challenges, emerged from participants' answers. Each theme is described using participant quotations. Since all participants were Dutch and this thesis was written in English, their quotes were translated to preserve their original wording. The original quotes can be found in Appendix F.

Table 3

Coding Scheme

Theme	Subtheme	Description
Personal factors	Personal experiences	refers to the previous positive or negative experiences with EITP among primary school teachers
	Self-Efficacy beliefs	Self-efficacy beliefs drive one's motivation, it makes a person more resilient and more determined to pursue one's goals
	Attitudes	defined as a psychological opinion towards an object, this can either be positive, negative or neutral
	Social Influences	changes in an individual's thoughts, feelings, attitudes, or behaviors, resulting from an interaction with others
Contextual factors	Policy	what decisions and rules the authorities state to influence the practice of individuals
	Resources	as the necessary means for an organization to function effectively, including financial needs and time
Challenges	-	Challenges faced when implementing evidence-informed teaching

Theme 1. Personal Factors

Following previous research and input from the participants, this theme was split into four subthemes: personal experiences, self-efficacy beliefs, attitude, and social influences. Each will be discussed separately.

Personal Experiences

Participants declared that their personal experience with teaching with EITP was impacted by their expertise, their experience with teaching methods, and building on existing research. Firstly, several participants stated that their teaching expertise impact their personal experiences. For example, Benjamin mentioned: "Because I'm still a starting teacher, I am still somewhat open to it. If something does not work right away, I think Okay, well, maybe I should just try and test things out again." Julie added: "I think that that (implementing EITP) will not work from day one if you have just graduated from teacher training college." … "Yes, I really think that you have to build up some experience for that.".

A second factor that influenced one's personal experience with teaching EITP is teachers' experience with teaching methods being EITP. For example, Julie mentioned: "I have to say that it [implementing EITP] may have taken me a lot of years, if you see me teaching now compared to ten years, fifteen years ago. It's very different.". Thirdly, seven participants stated that they experience not having to reinvent the wheel regarding their teaching practice, as an advantage of teaching EITP.

Self-Efficacy Beliefs

Teaching experience was also found to be related to self-efficacy beliefs. For example, Helga mentioned: "I don't really like change at the moment, because I'm still trying to get into a rhythm.". Observing others that have implemented EITP was seen as an important factor by participants. Felix for example declared: "You need someone who has knowledge of that [EITP method] who will guide you and actually provide training in it. I think that works better than … here you have a book.". According to four participants it also mattered who observed and gave feedback. Katy for example stated: "That frustrated me a lot, because I think: yes, they impose it and someone who actually has no understanding of it will then tell me what I am or am not doing right.". Katy's experiences emphasized the importance of another aspect of self-efficacy, namely experiencing positive emotions. For example, she mentioned: "Maybe not the right thing to do, but I have sometimes done it in my own way, until I was properly supervised and I really knew: 'okay, this is [teaching method]'.". Eight participants stated that their emotions do not withhold them from using certain methods or ways of working as it is simply their job. For example, Benjamin declared: "It gives a certain satisfaction if it works. … But it is also your job … and of course that has to do with emotion, but it is not that I become very sad or very happy when something works.".

Attitude

Two participants stated that they stand positive towards research. Charlotte for example declared: "Well … if you apply [EITP teaching method] you can simply help children better.". Four other participants see the benefits of EITP, such Benjamin, stated: "If you do not organize your education based on those scientific insights. Then you keep the status quo and you won't get any further, so you will have to try and test some things.". However, the six remaining participants were more critical towards EITP, such as Felix:

> In principle, a study must be completely independent, but in practice it is sometimes an urge among researchers to have as many studies as possible …. And a study that has no results, doesn't really appeal. So [I think] sometimes data is changed to seek results. (Felix, 2023)

It was also mentioned by Liam that he is starting to feel cynicism towards the 'ivory tower' because: "They did another study with two children in a small classroom and they discovered a nice theory and they now think that we should apply it again in our class with 30 children.". Nine out of twelve participants thereby mentioned that it is important to them to know why a certain EITP method is chosen before they implement it. They stated that detailed explanation about the added value of EITP is needed. Five participants furthermore stated that they need to feel responsible or it must have their interest before they take initiative to invest time in EITP. Two other participants thereby stated that their lack of patience is a factor in implementing EITP.

Social Influences

In this research participants were asked about social influences; perceived colleague support, their trust among colleagues and whether they shared their insights with each other. Firstly, half of the participants explicitly declared that they receive colleague support and that this helps in becoming enthusiastic about new methods. Three other participants mentioned

that they would like to receive support but do not feel like they have it. The remainder of the participants did not explicitly mention colleague support. Adam emphasized the importance of colleague support by mentioning: "If I had to do it on my own, I would feel less confident. But if I had to do it with the whole team, … Yes, that's where I feel more confident.". This was also mentioned by three other participants. Secondly, Liam declared that trust is fairly important in accepting input from others. For example, he experienced that his colleague was less likely to accept from someone that is not part of the team. Thirdly, participants were asked about whether they shared insights with colleagues. All but one participant mentioned that they share their teaching experiences in general, Charlotte for example stated: "Luckily I have a lot of other colleagues who have done that too, I say, … tell me how. Yes, we usually figure it out together.". It was considered less common to share insights related to EITP. Katy for example emphasized, "You always talk about it [teaching experiences] with colleagues, but not necessarily about research.". Four participants mentioned that they also share teaching experiences related to EITP.

Theme 2. Contextual Factors

Based on previous research and participant input, this theme has been divided into two subthemes: policy and resources. Both are discussed below.

Policy

Policy entailed the decisions and rules the authorities state to influence the practice of individuals. From the participants, it became clear that policy was multilayered, since it consists of societal support but also support from the school where one works. According to participants, having professionalization opportunities is part of this societal support. For example, Helga stated:

> I'm just very practical, but if there is something … that has been researched for me, then fine. For example, we now have… [online environment] which are courses that

you can take online. I really like that because then it is already sort of collected for me

somewhere. (Helga, 2023)

Eight participants explicitly mentioned that they feel supported by their school. Iris

for example stated: "At least we [the organization] also offer workshop rounds within the

foundation …. So then we … offer, … professionalization, for example for a new way of

working." Six participants expressed that they do not feel supported by the Dutch

government. For example, Benjamin stated: "Society thinks it is important that we do this

[EITP], … and you also hear ministers say this, but in practice …. There is no time available

to do that …. It is mainly more words than actions.". Two participants declared it depends on

your surroundings whether you feel supported. Five participants stated that they do feel

supported by their teaching training education.

Secondly, participants were asked what they believe is central when starting with the

implementation for EITP. Felix stated:

"The … management team must be convinced. … and then step two is for the

management team to give teachers a good presentation to show them, hey, this is it. We

got excited. How do you see this and if … the team becomes enthusiastic … then you

… have a basis to start.".

This course of action was also stated by five other participants. Eight participants

thereby stated that in order for the implementation of EITP to work all colleagues have to

follow the organizational course. For example Benjamin declared: "You have to carry that

[EITP] within your team" "Because if you don't have support within the team, it won't get off

the ground.". The other participants did not explicitly mention this.

Resources

Resources such as finances and time were recognized by all participants as factors that

hinder them or their institution in implementing EITP. For example, Katy stated: "There is

much more to it than [teaching] and I sometimes have days when I am busy with all kinds of administration things and … I haven't … been able to prepare my lesson well for tomorrow.". In total 'resources' is, with 47 times in the 12 interviews, the most mentioned factor. Furthermore, literal access to scientific literature was also found as a resource that hindered teachers in implementing EITP. Iris for example stated: "[Research] is not something that is financed or that as a school you have a certain standard subscription.". However, Benjamin mentioned that if he would have access to literature, he would still experience time as an obstacle. Another resource when implementing EITP was found to be population modification. Charlotte for example declared: "Well, in a positive way, because I can simply give extra explanations to children who need it …. It helps and you notice that the children are better able to work independently afterwards.". Diana however was more critical and emphasized that there are other issues to take into account:

"We [the school] are not in a good position at the moment and the inspectorate will come soon. They … just want to see higher results and then we choose to do things that we already know work. … Now is not the time to be precise.".

Theme 3. Challenges

This theme, *challenges*, focused on the additional challenges that participants faced when implementing EITP. These challenges were not found in previous research and are therefore derived from the data. Based on the input from the participants the challenges are; critical appraisal skills, scientific language translation and scientific literacy. Each is discussed separately.

Critical Appraisal Skills

Critical appraisal skills, the assessing of strengths and weaknesses of research, is the first challenge according to five participants. Critical appraisal skills splits into different aspects. Firstly, there is a lack of figurative access to articles, which involved the ability to

read and understand the articles. For instance, Charlotte stated: "Because I think yes, very honestly, looking for articles yourself that fit very well, that's quite a job.". Secondly, three participants mentioned that it is important to be critical towards the research that you find. As Benjamin pointed out: "Education websites that claim all kinds of things and that is all a bit more favorable than often the research itself actually indicates. ... We must have a critical attitude towards what you read or hear.". The importance of being critical is emphasized by Helga due to the amount of research that is available. As Helga stated: "I think there is a lot nowadays, even at teacher training college you get so much, you get a model or a theory or something for everything and I find that really overwhelming.". A third challenge in critical appraisal skills is being able to assess the effectiveness of a method. Katy mentioned:

> "We have been working with [teaching method] only for a few years. So I don't know how you can really draw a conclusion from that, but we often have methods that you change again after a year …. those children have had three, I think, different methods in three years, but then you cannot really see whether it is changing quickly and why. You have to make a conscious choice.".

Scientific Language Translation

A second challenge according to six participants is *scientific language translation*. Half of the participants stated that they, or their colleagues, did not have the skills to read and understand scientific language. According to Adam and Liam this can be quite challenging. Liam explained:

> "I think it is also a bit of … language skills. Scientific articles are simply quite difficultly written and difficult to get through. … what I see for a lot of my colleagues is that this is where they get stuck." "there really is a big barrier before they [teachers] start reading such a study themselves." "But yeah, those are all skills I learned in college."

Scientific Literacy

The third challenge, as mentioned by three participants, is *scientific literacy*. This entails teachers' ability to translate evidence to their practice to reinforce the quality of their teaching. Eve declared that when implementing EITP she considers: "Well, I think mainly the fact that there may or may not be practical examples included … Was it pure? Only scientific? Without practical examples, without any tricks, I don't think that makes me very enthusiastic.". The remaining nine participants did not mention this explicitly.

Discussion

The purpose of this study is to provide a complete overview of the influence of both personal and contextual factors in implementing EITP as perceived by Dutch primary school teachers. This research is unique as a relatively new insight emerged, Challenges, from participant data. Furthermore, this research is relevant because it has provided insight into Dutch primary school teachers' opinion on EITP. Most research that has been done focused on other countries (Koski et al., 2023; Slavin, 2019). As mentioned before the Dutch school system differs from others, it is therefore insightful to research specifically Dutch teachers. By providing a complete view of these factors, the significance of implementing EITP becomes more apparent and may motivate Dutch primary school teachers to place evidence in practice.

To answer the research question participants are asked several questions related to personal and contextual factors. Questions regarding personal factors center around their personal experiences, self-efficacy beliefs, attitudes and social influences. The results indicate that attitude is a determining personal factor in implementing EITP.

Participants have contradictory stances towards research which impact their attitude. Four participants have a positive stance towards research. In line with Locke et al. (2019) participants are more willing to implement EITP when they have a positive attitude and

mindset towards research. However, participants thereby emphasize that it is necessary for them to know the benefits of integrating EITP. This is in line with Nelson and Campbell (2017). Eight participants are however critical towards research and researchers. One (Felix) suggests that he does not always believe in scientific statements as he feels data is altered to find a certain result. Participants thereby state that research is often done in the most optimal setting and thus not comparable to their own situation. In practice all schools, teachers and classrooms are different and need specific adjustments (Baier et al., 2018; Botke et al., 2018). Teachers therefore experience changes, such as EITP, as difficult to translate to their own situation. This is in line with Botke et al. (2018), who stated that the translation of research to practice is considered difficult in an implementation process. The translation of EITP from research to practice is called *far transfer* (Botke et al., 2018). Furthermore, as EITP is a soft skill, related to intra- and interpersonal skills, the implementation of EITP is even more difficult (Botke et al., 2018). Future research may clarify the precise role of transfer in EITP implementation.

Following the questions about personal factors, participants are asked several questions related to contextual factors. The results indicate that participants especially feel a lack of support from the Dutch government. Participants note that they are expected by the government to implement EITP but are not given resources (for example finances, time) to do so. This finding is in line with previous research, since Mulcahy (2006) for example stated that the decisions and rules authorities make, influence the practice of individuals. Vanderlinde & Van Braak (2011) added that societal support is of utmost importance. Although a shortage of resources are known impeding factors in all innovations in the (teaching) world (Gemmink et al., 2021), it is also relatively new that it is not just these resources. It relates to literal access to literature behind a paywall. When being a student one has free access to literature, however once graduated this is denied. Due to costs, and perhaps

interest, few primary schools give their employees access to this research. As a result, teachers can hardly access scientific literature without paying for it themselves (*National Regulatory Body for Educational Research* (NRO), 2023).

Some participants state that there are professionalization opportunities for them as provided by their school. However, these opportunities take form as a course, e-module, or buying a book. If teachers need professionalization regarding a specific issue with a student, for example, this is not available. They therefore do not feel societal support to implement EITPs. More support from the work environment is thus necessary. This is in line with Bathgate et al. (2019) who found that when teachers perceived more social, personal and resource supports they reported greater EITP implementation. To enhance this feeling of support the NRO (2023) started a trial in 2019 to grant teachers access to scientific research on education. This trial is financed by NRO and the Royal Library (KB; NRO, 2023). Teachers from primary and secondary schools and intermediate vocational education are hereby included. This trial was a success and is extended to at least 2026. Further research should show whether this trial indeed enhances the feeling of support and thereby effective EITP implementation in primary schools**.**

The results also indicate that personal and contextual factors are interconnected in influencing EITP implementation. For instance, participants note that lack of sufficient societal support (contextual factor) leads to low self-efficacy beliefs (personal factor) regarding EITP implementation. This aligns with Lizarondo et al. (2022), who found that an individual's knowledge and skills are related to resource access and other factors in clinical areas of EITP implementation. Furthermore, Fackler et al. (2021) found that a work environment that provides secondary school teachers with a clear goal-structure, amongst others, makes teachers feel more self-efficacious. More research is necessary to examine how

both factors precisely influence each other and if this is truly also the case for primary school teachers.

The theme challenges is likely the most important finding of this research. This research indicates that implementing EITP is not just influenced by personal and contextual factors. Participants identify various challenges which are conceptualized as; 1) critical appraisal skills; 2) scientific language translation; and 3) scientific literacy. Several participants mention that although they intend to implement EITP, it demands too much effort. This is because they have not learned the necessary critical appraisal skills, the ability to assess strengths and weaknesses of research (Crombie, 2022), in their teacher training program (TTP). For example, their scientific language translation skills, reading and understanding scientific language (Barr et al., 2019), is not well developed. Finally, participants emphasize finding it difficult to apply scientific literature to their own practice; scientific literacy. This entails using evidence of what works in one's practice (Shaffer et al., 2019). Jegstad et al. (2021) also emphasized the importance of these research skills. In several countries, such as Norway and Finland, TTPs at universities teach both practical and research skills (Jegstad et al., 2021). In these countries teachers therefore implement more EITPs which is shown to contribute to better school performances ("Education At A Glance 2023", 2023; Jegstad et al., 2021; Ritchie et al., 2023). Research is thus needed to investigate how to adapt Dutch TTPs, which will improve teachers' research skills.

Limitations and Future Research

There were several limitations to this research, two are described. The first limitation is that only large cities were included in this research, which may have impacted the results. Teachers in smaller cities might experience less (time) pressure and might therefore be more open to implementing EITP (Putwain & Von der Embse, 2019). The limitation was addressed by using social media (e.g. Instagram, Facebook, LinkedIn) and emailing several schools that

work with EITP across the Netherlands (Benedict et al., 2019; Parker et al., 2019). The latter yielded no responses. The Ministry of Education, Culture and Science (OCW; 2023) thereby states that although all schools have a teacher shortage, this is more evident in larger cities. To investigate the possible influence of teacher shortage on the implementation of EITP further national research should be done.

Secondly, the first and last interview were held almost six months apart, which could have impacted the reliability of the research. The researcher tried to schedule the interviews as close as possible. This was however a challenge due to time constraints. According to Von der Embse & Mankin (2021) teachers might experience different attitudes towards change when experiencing stress. The intensity of teachers' schedules might vary in different periods of the school year. Being stressed could impact teachers' attitude on curriculum reform, as attitude relates positively to stress (Putwain & Von der Embse, 2019). Future interviews should therefore be held within the shortest possible timespan.

Implications for Educational Leaders – Research Practice

The findings of this research may offer promising insights for the Dutch government, TTPs and school leaders. Firstly it can be noted that the Dutch government should promote research use by teachers. Although there is an organization which gives (primary school) teachers access to literature behind a paywall, this is not financed or promoted by the Dutch government. It was thereby found that participants do not feel supported by the Dutch government. If the government promotes giving (primary school) teachers access to research, the threshold for finding and using literature will likely be lower (Vanderlinde & Van Braak, 2011). This may lead to more EITP implementation as perceived support makes teachers feel more self-efficacious (Fackler et al., 2021).

Another implication of this research is for TTPs. Although Dutch TTPs do contain some courses on reading scientific literature this has not, according to this research' results,

lead to primary school teachers being confident in reading scientific research. This indicates a gap in their research skills. For teachers to feel comfortable in implementing EITP they will need research skills (Sancar et al., 2021). EITP training should therefore be implemented in the educational program of TTPs. This will likely lower the barriers to accessing literature and, consequently, implementing EITP.

Finally, this research provides an implication for school leaders. Until all primary school teachers have received adequate research skills training in their TTP, it is essential for them to acquire these skills otherwise. School leaders allocate the school's financial resources and may therefore be able to create opportunities for teachers to professionalize. They should thus undertake action. For instance by joining educational partnerships which will likely lead to professionalization opportunities for all primary school teachers.

Conclusion

This research aims to identify the personal and contextual factors influencing EITP implementation according to Dutch primary school teachers. Understanding these factors may emphasize the significance of EITP and encourage Dutch primary school teachers to implement it (Nelson and Campbell, 2017). The results show that personal experiences, self-efficacy beliefs, attitudes, and social influences are critical personal factors, while policy and resources are essential contextual factors. Additionally, acquiring research skills through TTPs or professionalization courses is key to implementing EITP. These findings can guide policymakers and educational institutions in supporting primary school teachers with EITP implementation, which is linked to improved student learning outcomes (Toropova et al., 2021). EITP can thus play a crucial role in reversing the decline in student performance, as today's students are tomorrow's leaders.

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Appendix A Topic List and Questionnaire

<u>**English**</u>

Introduction

- Thank you again for your participation.

- Do you have any questions in advance?

- Was the consent form successful?

- If you have no questions or other comments, I will start recording now.

Start recording.

Demographics

1. Age

2. Gender

3. School you work at

4. Function

5. Years of experience

Interview

Definitie

1. What do you think evidence-informed teaching is?

State how I define information-based research:

Evidence-informed teaching is the use of knowledge from practice in combination with

knowledge from research in the classroom.'

Personal factors

Experience with evidence-informed teaching.

2. What do you know about evidence-informed teaching?

3. Do you have experience with using research evidence in teaching?

4. Do you believe it is an easy decision to use research evidence in your practice?

5. Have there been any experiences (either good or bad experience) in your past practice that influence whether you use new evidence now?

Self-efficacy beliefs.

6. When you think about implementing evidence-informed teaching, how do you feel?

7. How comfortable are you with changing the way you work in general?

    a. How comfortable are you with changing the way you work to best reflect the latest research on what works best?

8. What do you think are the skills needed to implement information-based teaching into practice?

    a. Do you think you have those skills?

    b. How confident are you in using these skills?

9. Do you believe you have a strong enough knowledge base to implement new best research evidence in your practice?

Attitude.

10. Do your emotions ever influence implementing evidence-informed teaching?

11. What do you think are the advantages and disadvantages of implementing information-based teaching?

      a. Do you think the benefits of implementing information-based teaching outweigh the disadvantages?

          i. Why/why not?

12. If you wanted to encourage the implementation of evidence-informed teaching at a team or practice level, what would be the necessary steps?

13. Do you want to implement evidence-informed teaching?

14. Do you believe that implementing current research evidence is essential to reach best practice in teaching?

15. Do you intend to use research evidence in your practice?

Social influences.

16. Have you heard positive or negative experiences from others with evidence-informed teaching?

      a. Have they influenced your opinion?

17. Would any other team members influence whether or not you implement evidence-informed teaching?

18. Do parents influence whether or not you implement evidence-informed teaching?

Contextual factors

19. Does the teaching culture encourage or support the implementation of evidence-informed teaching?

      a. In general and specifically at your school.

20. Does your position as a school teacher influence whether you implement research evidence in your practice/school?

21. Are there any resource factors that influence whether you implement evidence-

    informed teaching?

    a. Such as time or money or something else.

Closing

- These were the questions, is there anything you missed in the interview? What else

  would you like to add?

- If you want to add or withdraw something later, you can always send me an email.

- Thank you again for your participation.

- Then I'm going to stop the recording now.

Stop recording.

Do you perhaps know others who would like to participate?

Table 4

Overview of themes related to personal factors

Domain according to TDF	Theme in current research	Question in Sullivan et al. (2017)	Question in current research
Knowledge	Experience	What do you know about evidence-based practice?	What do you know about evidence-informed teaching?
	Self-efficacy beliefs	Do you believe you have a strong enough knowledge base to implement new best research evidence into your practice?	Do you believe you have a strong enough knowledge base to implement new best research evidence in your practice?

Skills	Self-efficacy beliefs	Do you feel you have the skills needed to implement research evidence in your practice? (e.g. do you have the skills needed to use a new method) (ensure they discuss what skills are needed to do this)	Do you think you have the skills needed to implement research evidence in your practice?
	Experience	Do you have experience searching for research evidence in pediatric surgery?	Do you have experience with using research evidence in teaching?
Beliefs about capabilities	Self-efficacy beliefs	How confident are you in your ability to implement research evidence in your practice?	How confident are you in your ability to implement research evidence in your teaching practices?
	Self-efficacy beliefs	How comfortable are you in changing your current practice to align with the best available research?	How comfortable are you in changing your current practice to align with the best available research?
Optimism	Attitude	Do you believe that implementing current research evidence is essential to reach best practice in pediatric surgery?	Do you believe that implementing current research evidence is essential to reach best practice in teaching?
Beliefs about consequences	Attitude	Do you believe the negative aspects of implementing evidence-based practice are worth the benefits? Why or why not? Note: "negative aspects" can be financial but also more subjective (ex. time	Do you believe the positive aspects of implementing evidence-informed teaching are worth the drawbacks? Why or why not?

		it takes to learn and implement)	
Intentions	Attitude	Do you intend to use research evidence in your practice?	Do you intend to use research evidence in your practice?
Behavioural Regulation	Attitude	Do you expect to implement evidence-based practice? IF YES: Why? What will help you following through with using research evidence? IF NO: Why? What usually prevents you from following through with using research?	Would you expect to implement evidence-informed teaching?
	Attitude	If you wanted to encourage the implementation of evidence-based practice at a team or practice level, what would be the necessary steps?	If you wanted to encourage the implementation of evidence-informed teaching at a team or practice level, what would be the necessary steps?
Goals	Attitude	Do you want to implement evidence-based practice?	Do you want to implement evidence-informed teaching?
Memory, attention and decision processes	Attitude	Is it an easy decision to use research evidence in your practice or something that you struggle with and think about with every case? Can you provide more information or give an example of where this was the case?	Do you believe it is an easy decision to use research evidence in your practice?
Emotion	Self-efficacy	When you think about implementing evidence-based practice, how do	When you think about implementing evidence-

		you feel (e.g. anxiety in having to learn a new procedure, worried about the learning curve, frustrated with the amount of research to keep up with, worried about patient outcomes if you switch to a less familiar method, etc.)?	informed teaching, how do you feel?
	Attitude	Do your emotions ever influence implementing evidence-based practice? (e.g. you're tired and so you stick with the procedure you're comfortable with, that patient is in bad shape and so you want to stick with the method you know, etc.)	Do your emotions ever influence implementing evidence-informed teaching?
Social influences	Context/Parents	Does the patient or their family influence whether or not you implement evidence-based practice? (e.g. do their expectations influence the implementation of EBP)	Do parents influence whether or not you implement evidence-informed teaching?
	Attitude	Would any other team members influence whether or not you implement evidence-based practice?	Would any other team members influence whether or not you implement evidence-informed teaching?
Reinforcement	Experience	Have there been any experiences (either good or bad experience) in your past practice that influence whether you use new evidence now?	Have there been any experiences (either good or bad experience) in your past practice that influence whether you use new evidence now?

	Experience/Colleagues	/	Have there been any experiences (either good or bad experience) you have heard that influenced your position on evidence based practice?

Table 5

Overview of themes related to contextual factors

Domain according to TDF	Theme in current research	Question in Sullivan et al. (2017)	Question in current research
Social/Professional Role and Identity	Policy	Does the pediatric surgeon culture encourage or support the implementation of evidence-based practice?	Does the teaching culture encourage or support the implementation of evidence-informed teaching? In general and specifically at your school.
	Policy	Does your position as a pediatric surgeon influence whether you implement research evidence into your practice?	Does your position as a school teacher influence whether you implement research evidence in your practice/school?
Resources	Resources	Are there any resource factors in your clinical setting that influence whether you implement evidence-based practice? (e.g. journal subscription, institutional access to online journals, ability to attend conferences)	Are there any resource factors that influence whether you implement evidence-informed teaching? Such as time or money or something else.

Nederlands

Introductie

- Nogmaals bedankt voor uw deelname.

- Heeft u nog vragen vooraf?

- Was het gelukt met het toestemmingsformulier?

- Als u het goed vind ga ik dan nu de opname starten.

Starten van opname.

Demografische kenmerken

1. Leeftijd

2. Geslacht

3. School waar u werkzaam bent

4. Functie

5. Aantal jaren ervaring

Interview

Definitie

1. Wat is informatie-gebaseerd lesgeven volgens u?

Benoemen hoe ik informatie-gebaseerd onderzoek definieer:

Evidence-informed teaching is het gebruik maken van kennis uit de praktijk in combinatie

met kennis uit onderzoek in het klaslokaal.

Persoonlijke factoren

Ervaring met informatie-gebaseerd lesgeven.

2. Wat weet u over informatie-gebaseerd lesgeven?

3. Heeft u ervaring met informatie-gebaseerd lesgeven?

4. Denkt u dat het een makkelijke beslissing is om wetenschappelijk bewijs te implementeren in de praktijk?

5. Heeft u weleens ervaringen gehad (goed of slecht) in uw lesgeven die u beïnvloeden in het wel of niet gebruiken van bewijs van wat werkt, op dit moment?

Self-efficacy beliefs.

6. Als u denkt aan het implementeren van informatie-gebaseerd lesgeven, hoe voelt u zich dan?

7. Hoe comfortabel bent u in het algemeen in het veranderen van de manier waarop u werkt?

    a. Hoe comfortabel bent u met het veranderen van de manier waarop u werkt om het beste aan te sluiten op meest recente onderzoeken over wat het beste werkt?

8. Wat zijn volgens u de vaardigheden die nodig zijn om informatie-gebaseerd lesgeven te implementeren in de praktijk?

    a. Denkt u dat u die vaardigheden heeft?

    b. Hoe zeker bent u in het gebruiken van deze vaardigheden?

9. Denkt u dat uw kennisbasis groot genoeg is om de meeste recente en beste bewijzen te implementeren in uw lesgeven?

Attitude.

10. Beïnvloeden uw emoties u weleens in het implementeren van informatie-gebaseerd lesgeven?

11. Wat zijn volgens u de voor- en nadelen van het implementeren van infomatie-gebaseerd lesgeven?

    a. Denkt u dat de voordelen van het implementeren van informatie-gebaseerd lesgeven opwegen tegen de nadelen?

        i. Waarom wel/niet?

12. Als u de implementatie van informatie-gebaseerd lesgeven zou willen vergroten/starten binnen een team of binnen het lesgeven, wat zijn dan volgens u de nodige stappen?

13. Zou u informatie-gebaseerd lesgeven verplicht willen implementeren?

14. Denkt u dat het implementeren van huidige bewijzen essentieel is om de beste manier van lesgeven te bereiken in lesgeven?

15. Bent u van plan om de meest recente onderzoeken bij te houden en deze te gebruiken in uw lessen?

Sociale invloeden.

16. Heeft u van anderen weleens positieve of negatieve ervaringen met informatie-gebaseerd lesgeven gehoord?

    a. Hebben die uw mening beïnvloed?

17. Zouden andere teamleden u beïnvloeden in het wel of niet gebruiken van informatie-gebaseerd lesgeven?

18. Beïnvloeden ouders of u informatie-gebaseerd lesgeven wel of niet implementeert?

Contextuele factoren

19. Wordt u vanuit de onderwijscultuur ondersteund of aangemoedigd om informatie-gebaseerd lesgeven te gebruiken?

        a. En vanuit uw eigen school?

20. Beïnvloedt uw positie als docent of u wel of niet informatie-gebaseerd lesgeven implementeert in uw klas of school?

21. Zijn er bepaalde andere factoren die beïnvloeden of informatie-gebaseerd lesgeven wordt geïmplementeerd?

        a. Bijvoorbeeld tijd, geld of iets anders.

Afsluiting

- Dit waren de vragen, heeft u nog iets wat u heeft gemist in het interview. Wat u nog toe zou willen voegen?

- Mocht u later nog iets willen toevoegen of terugtrekken kunt u mij altijd een mailtje sturen.

- Nogmaals bedankt voor uw deelname.

- Dan ga ik nu de opname stoppen.

Stop opname

Kent u wellicht nog anderen die mee zouden willen doen?

Table 6

Overview of themes related to personal factors

Domain according to TDF	Theme in current research	Question in Sullivan et al. (2017)	Question in current research in English	Question in current research in Dutch
Knowledge	Experience	What do you know about evidence-based practice?	What do you know about evidence-informed teaching?	Wat weet u over informatie-

				gebaseerd lesgeven?
	Self-efficacy beliefs	Do you believe you have a strong enough knowledge base to implement new best research evidence into your practice?	Do you believe you have a strong enough knowledge base to implement new best research evidence in your practice?	Denkt u dat uw kennisbasis groot genoeg is om de meeste recente en beste bewijzen te implementeren in uw lesgeven?
Skills	Self-efficacy beliefs	Do you feel you have the skills needed to implement research evidence in your practice? (e.g. do you have the skills needed to use a new method) (ensure they discuss what skills are needed to do this)	Do you think you have the skills needed to implement research evidence in your practice?	Denkt u dat u de vaardigheden heeft die nodig zijn om informatie-gebaseerd lesgeven te implementeren in de praktijk?
	Experience	Do you have experience searching for research evidence in pediatric surgery?	Do you have experience with using research evidence in teaching?	Heeft u ervaring met het baseren van uw lessen op wetenschappelijk informatie?
Beliefs about capabilities	Self-efficacy beliefs	How confident are you in your ability to implement research evidence in your practice?	How confident are you in your ability to implement research evidence in your teaching practices?	SHoe zeker bent u in uw vaardigheden om informatie-gebaseerd lesgeven te implementeren in uw lesgeven?
	Self-efficacy beliefs	How comfortable are you in changing your current practice to align with the best available research?	How comfortable are you in changing your current practice to align with the best available research?	Hoe comfortabel bent u in het algemeen in het veranderen van de manier waarop u nu werkt om het het

				beste aan te sluiten op meest recente onderzoeken over wat het beste werkt?
Optimism	Attitude	Do you believe that implementing current research evidence is essential to reach best practice in pediatric surgery?	Do you believe that implementing current research evidence is essential to reach best practice in teaching?	Denkt u dat het implementeren van huidige bewijzen essentieel is om de beste manier van lesgeven te bereiken in lesgeven?
Beliefs about consequences	Attitude	Do you believe the negative aspects of implementing evidence-based practice are worth the benefits? Why or why not? Note: "negative aspects" can be financial but also more subjective (ex. time it takes to learn and implement)	Do you believe the positive aspects of implementing evidence-informed teaching are worth the drawbacks? Why or why not?	Denkt u dat de voordelen van het implementeren van informatie-gebaseerd lesgeven opwegen tegen de nadelen? Waarom wel/niet?
Intentions	Attitude	Do you intend to use research evidence in your practice?	Do you intend to use research evidence in your practice?	Bent u van plan om onderzoeksbewijzen te gebruiken in uw lessen?
Behavioural Regulation	Attitude	Do you expect to implement evidence-based practice? IF YES: Why? What will help you following through with using research evidence?	Would you expect to implement evidence-informed teaching?	Zou u verwachten om informatie-gebaseerd lesgeven te implementeren?

		IF NO: Why? What usually prevents you from following through with using research?		
	Attitude	If you wanted to encourage the implementation of evidence-based practice at a team or practice level, what would be the necessary steps?	If you wanted to encourage the implementation of evidence-informed teaching at a team or practice level, what would be the necessary steps?	Als u de implementatie van informatie-gebaseerd lesgeven zou willen motiveren binnen een team of binnen het lesgeven, wat zijn dan volgens u de nodige stappen?
Goals	Attitude	Do you want to implement evidence-based practice?	Do you want to implement evidence-informed teaching?	Zou u informatie-gebaseerd lesgeven willen implementeren?
Memory, attention and decision processes	Attitude	Is it an easy decision to use research evidence in your practice or something that you struggle with and think about with every case? Can you provide more information or give an example of where this was the case?	Do you believe it is an easy decision to use research evidence in your practice?	Denkt u dat het een makkelijke beslissing is om wetenschappelijk bewijs te implementeren in de praktijk?
Emotion	Self-efficacy	When you think about implementing evidence-based practice, how do you feel (e.g. anxiety in having	When you think about implementing evidence-informed teaching, how do you feel?	Als u denkt aan het implementeren van informatie-gebaseerd lesgeven, hoe voelt u zich dan?

		to learn a new procedure, worried about the learning curve, frustrated with the amount of research to keep up with, worried about patient outcomes if you switch to a less familiar method, etc.)?		
	Attitude	Do your emotions ever influence implementing evidence-based practice? (e.g. you're tired and so you stick with the procedure you're comfortable with, that patient is in bad shape and so you want to stick with the method you know, etc.)	Do your emotions ever influence implementing evidence-informed teaching?	
Social influences	Context/Parents	Does the patient or their family influence whether or not you implement evidence-based practice? (e.g. do their expectations influence the implementation of EBP)	Do parents influence whether or not you implement evidence-informed teaching?	Beïnvloeden ouders of u informatie-gebaseerd lesgeven wel of niet implementeert?
	Attitude	Would any other team members influence whether	Would any other team members influence whether	Zouden andere teamleden u beïnvloeden in het

		or not you implement evidence-based practice?	or not you implement evidence-informed teaching?	wel of niet gebruiken van informatie-gebaseerd lesgeven?
Reinforcement	Experience	Have there been any experiences (either good or bad experience) in your past practice that influence whether you use new evidence now?	Have there been any experiences (either good or bad experience) in your past practice that influence whether you use new evidence now?	
	Experience/Colleagues	/	Have there been any experiences (either good or bad experience) you have heard that influenced your position on evidence based practice?	Heeft u weleens ervaringen gehad (goed of slecht) in uw lesgeven dat u beïnvloeden in het wel of niet gebruiken van bewijs op dit moment?

Table 7

Overview of themes related to contextual factors

Domain according to TDF	Theme in current research	Question in Sullivan et al. (2017)	Question in current research in English	Question in current research in Dutch
Social/Professional Role and Identity	Policy	Does the pediatric surgeon culture encourage or support the implementation of evidence-based practice?	Does the teaching culture encourage or support the implementation of evidence-informed teaching? In general and specifically at your school.	Ondersteunt of moedigt de cultuur van het onderwijzen de implementatie van informatie-gebaseerd lesgeven aan? In het

				algemeen en specifiek op uw school.
	Policy	Does your position as a pediatric surgeon influence whether you implement research evidence into your practice?	Does your position as a school teacher influence whether you implement research evidence in your practice/school?	Beïnvloedt uw positie als leerkracht of u wel of niet informatie-gebaseerd lesgeven implementeert in uw werkzaamheden of school?
Resources	Resources	Are there any resource factors in your clinical setting that influence whether you implement evidence-based practice? (e.g. journal subscription, institutional access to online journals, ability to attend conferences)	Are there any resource factors that influence whether you implement evidence-informed teaching? Such as time or money or something else.	Zijn er bepaalde factoren van hulpbronnen die beïnvloeden of informatie-gebaseerd lesgeven wordt geïmplementeerd? Bijvoorbeeld tijd, geld of iets anders.

Appendix B Pilot Adjustments to Interview Guide

After the interview guide was set up, a pilot was held to ensure the credibility of the research. The pilot was done with a primary school teacher with knowledge of EITP, the pilot was not recorded and saved to ensure anonymity. Thereby, the answers in the pilot were not used as data in this research.

Based on the pilot several changes were made, the changes were made both for the researchers' and the participants' accessibility. Firstly, an introduction and were added to the interview guide (Table 8). Secondly, to make sure the research and the participant had the same concept in mind, it was added that the concept of EITP was clarified. Therefore, it was added that before asking the first content question the definition of EITP was first asked. After which the researcher would reveal the definition of EITP as used in this research. Thirdly, the third question, under personal experiences, was removed as it did not seem relevant to answer the research questions in this research. Fourth, under self-efficacy beliefs, a sub-question was added to find out if their was a difference between making changes at work in general and related to EITP. The fifth changed was made to the eight question, also under self-efficacy beliefs. To know which skills participants saw as necessary to implement EITP they were asked what skills they thought were necessary. The next question focused on whether they felt like they had those skills. The sixth change was in line with the fifth, to let the participants gain a deeper understanding of the advantages and disadvantages of EITP this was first asked. It was then asked whether they felt one outweighed the other and why. The final change was made under social influences, the question was split into 1) whether participants had heard positive and/or negative experiences and if so 2) whether those had influenced them in their opinion.

Table 8

Added or Changed Text and/or Questions to Interview Guide

Previous	New Version	Removed
/	**Introduction** • Thank you again for your participation. • Do you have any questions in advance? • Was the consent form successful? • If you have no questions or other comments, I will start recording now. Start recording.	/
/	**Closing** • These were the questions, is there anything you missed in the interview? What else would you like to add? • If you want to add or withdraw something later, you can always send me an email. • Thank you again for your participation. • Then I'm going to stop the recording now. Stop recording Do you perhaps know others who would like to participate?	/
/	1. What do you think evidence-informed teaching is? State how I define information-based research: Evidence-informed teaching is the use of knowledge from practice in combination with knowledge from research in the classroom.	/
3. Would you expect to implement evidence-informed teaching?	/	Yes.
7. How comfortable are you in general in changing your current practice to align with the best available research?	7. How comfortable are you with changing the way you work in general? a. How comfortable are you with changing the way you work to best reflect the latest research on what works best?	/

8. Do you think you have the skills needed to implement research evidence in your practice?
   a. How confident are you in your ability to implement research evidence in your teaching practices?
	8. What do you think are the skills needed to implement information-based teaching into practice?
	   a. Do you think you have those skills?
	   b. How confident are you in using these skills?
		/

11. Do you believe the positive aspects of implementing evidence-informed teaching are worth the drawbacks? Why or why not?	11. What do you think are the advantages and disadvantages of implementing information-based teaching?
	   a. Do you think the benefits of implementing information-based teaching outweigh the disadvantages?
	     i. Why/why not?
		/

16. Have there been any experiences (either good or bad experience) you have heard that influenced your position on evidence based practice?	16. Have you heard positive or negative experiences from others with evidence-informed teaching? a. Have they influenced your opinion?	/

Appendix C Information Letter

<u>English</u>

Dear possible participant,

      I am Suzanne and I am currently studying the master's Educational Sciences at Utrecht University. Through this letter I would like to give you some more information about my research. First of all, thank you again for your interest.

      Since quite some years the role of evidence-based teaching has been emphasized for primary schools, the implementation of this is however not as successful. The aim of this to study to analyze the contextual and personal factors that impact this gap in implementation. If you are a primary school teacher working in the Dutch educational system, your contribution is highly valuable.

Study background

      Your participation will consists of an interview in which I will ask about personal data such as age and gender, and some other questions. The questions about personal data are necessary to properly describe the participants. The interview will either take place online, for example via Google Meet, or in person. I would like to record the audio of the interview to appropriately transcribe the data. The interview will have a maximum duration of 45 minutes. Note that involvement in this study is voluntary. Thereby, you can end participation at any moment, without consequences. If you choose to withdraw your participation, your data up to that point will be deleted. There is no financial compensation available. Before we start the interview, I will ask you to sign the informed consent either online or on paper.

The collected data, the recorded interviews and the questionnaire, will be anonymously stored at a secured website of Utrecht University called YODA. Only the researchers involved in the study will have access to this data. The data will be stored for 10 years, personal data will however be stored as long as needed for this research.

If you have any questions or suggestions please contact me through the contact information below.

Kind regards,

Suzanne Batenburg

Contact details researcher

Name: Suzanne Batenburg

E-mail address: s.l.batenburg@uu.nl

Telephone number: +31 6 25193728

If you have any questions or remarks about the study, you can contact my thesis supervisor.

Name: Despoina Georgiou

E-mail address: d.georgiou@uu.nl

If you have any formal complaints, please contact the e-mail address listed below.

E-mail address: klachtenfunctionaris-fetcsocwet@uu.nl

Nederlands

Beste geïnteresseerde,

Ik ben Suzanne en ik studeer momenteel de master Onderwijswetenschappen aan de Universiteit Utrecht. Met behulp van deze brief zou ik u graag wat meer informatie geven over mijn onderzoek. Ten eerste, bedankt voor uw interesse.

Sinds een aantal jaar wordt de rol van onderzoek-gebaseerd lesgeven benadrukt voor basisschool, de implementatie hiervan is daarentegen niet zo succesvol. Het doel van dit onderzoek is om de impact van contextuele en persoonlijke factoren hierop te analyseren. Als u een basisschool docent of een schoolleider op de basisschool bent in het Nederlandse onderwijssysteem, is uw bijdrage zeer waardevol.

Achtergrond van het onderzoek

Uw deelname zal bestaan uit een interview waarin ik uw om persoonlijke data vraag zoals uw leeftijd en geslacht, daarnaast zal ik u een aantal andere vragen stellen. De vragen over persoonlijke data zijn nodig om de participanten adequaat te beschrijven. Het interview zal of online, bijvoorbeeld via Google Meet, of offline plaatsvinden. Ik zou graag de audio van het interview opnemen om het gesprek adequaat te transcriberen. Het interview zal maximal 45 minuten duren. Let op, deelname aan het onderzoek is complete vrijwillig. Dit betekent dat u de deelname zonder gevolgen op elk moment kunt stoppen. Als u ervoor kiest om uw deelname te stoppen, zal uw data tot dat punt worden verwijderd. Er is geen financiële tegemoetkoming beschikbaar. Voordat we met het interview starten zal ik u vragen om een 'informed consent' te ondertekenen, online of op papier.

De verzamelde data, het opgenomen interview en de persoonlijke data, zullen anoniem worden opgeslagen op een beveiligde website van de Universiteit Utrecht, genaamd YODA. Allen de onderzoekers betrokken bij dit onderzoek zullen toegang hebben tot deze

data. De data zal tot 10 jaar worden bewaard, persoonlijke data zal worden bewaard zo lang deze nodig is voor dit onderzoek.

Als u vragen of suggesties heeft, kunt u contact opnemen door middel van onderstaande informatie.

Met vriendelijke groet,

Suzanne Batenburg

Contact informatie onderzoeker

Naam: Suzanne Batenburg

E-mail: s.l.batenburg@uu.nl

Telefoonnummer: +31 6 25193728

Indien u vragen of opmerkingen heeft over het onderzoek, kunt u contact opnemen met mijn thesisbegeleider.

Naam: Despoina Georgiou

E-mail: d.georgiou@uu.nl

Indien u formele klachten heeft, kunt u contact opnemen met onderstaand mailadres.

E-mail: klachtenfunctionaris-fetcsocwet@uu.nl

Appendix D Informed Consent

<u>**English**</u>

Dear participant,

      Thank you again for participating in this research. By signing this document you will agree with your participation. The goal of this research is to examine the influences of personal and contextual factors on the implementation of evidence-informed teaching practices according to primary school teachers.

      The interview will at most take 45 minutes and will be recorded. The participation is completely voluntarily. You can decide to determinate your participation before, during and after the interview. Your data will be handled with care, they will only be used by the researchers involved. The data will be saved in a highly secured environment. There is always room for questions and answers that have been given can also be taken back. I would like to emphasize one more time that all information will be processed anonymously. If you would like to determinate your participation or change your answers, you can contact s.l.batenburg@uu.nl.

      By signing this document you will agree with your data being used for research and you will consent with the processing of your personal information.

Date: Name:

                                                          Signature:

<u>Nederlands</u>

Beste participant,

      Nogmaals bedankt voor uw deelname aan dit onderzoek. Met het tekenen van dit document gaat u akkoord met uw deelname. Het doel van dit onderzoek is het onderzoeken van de invloeden van persoonlijke en contextuele factoren op de implementatie van onderzoek-gebaseerd lesgeven volgens basisschool docenten en schoolleiders.

      Het interview zal maximaal 45 minuten duren en zal worden opgenomen. De deelname is compleet vrijwillig. U kunt zowel voor, tijdens als na uw interview besluiten om uw terug te trekken. Er zal met zorg met uw data worden omgegaan, dit zal alleen gebruikt worden door de betrokken onderzoekers. De data zal opgeslagen worden in een beveiligde omgeving. Er is altijd ruimte voor vragen, en antwoorden die al zijn gegeven kunnen ook teruggenomen worden. Ik benadruk graag nogmaals dat alle data anoniem zal worden verwerkt. Als u zich wilt terug trekken uit het onderzoek of uw antwoorden wilt wijzigen kunt u contact opnemen met s.l.batenburg@uu.nl.

      Door het tekenen van dit document gaat u akkoord met dat uw data gebruikt zal worden voor onderzoek en dat u toestemming geeft voor het verwerken van uw persoonlijke informatie.

Datum: Naam:

                                           Handtekening:

Appendix E Coding Scheme Version 4

Theme	Subtheme	Code	Description
Personal factors	Personal experiences	Teaching expertise	Influence of having expertise in teaching evidence-informed.
		Teaching methods	Experience with teaching methods being evidence-informed
		Build upon research	Advantage of using research is that you can build upon research that has been done
	Self-Efficacy beliefs	Confidence	Confidence in teaching evidence-informed.
		Adaptation	Dealing with change in ways of doing
		Mastery experience	Bandura; own experiences of working with evidence-informed teaching
		Vicarious experiences	Bandura; the experiences of others with evidence-informed teaching that may or may not influence you
		Physiological and affective states	Bandura; the possible influence of emotions and feelings on the self-efficacy beliefs of the participant.
	Attitude	Readiness	Whether someone is open towards implementing evidence-informed teaching
		Stance towards research	Participants view towards (academic) research
		Goal of education	How participant perceives primary education and thereby evidence-informed teaching.
		Knowing why	Knowledge on why teach what you teach
		Taking initiative	Whether the participant feels responsible to take initiative
		Interest	The impact of one's interest on implementing a certain model
		Responsibility	When a participant feels responsible to take action
		Lack of patience	Having the patience to wait for an adjustment to work in practice
	Social Influences	Colleague support	Support as experienced from colleagues/team members
		Trust	Influence of trust among colleagues
		Share insights	Whether teachers discuss their insights with each other.
Contextual factors	Policy	Development	Whether participants experience if they or their students get the opportunity to develop.
		Societal support	Whether a participants feels supported by society to use evidence-informed teaching.
		Start small	Where to start when implementing something new.
		Follow organizational course	Following the decisions made for the school versus your individual wishes
		Communicative skills	Skills necessary to implement evidence-informed teaching
	Resources	Administration	Impact of finances and time as administration factors on implementing evidence-informed teaching
		Staff	The amount of people available to foster the implementation of evidence-informed teaching.
		Population modification	Relevance of population when deciding whether to implementing something that is evidence-informed
Challenges	-	Research skills	Having the skills necessary to implement evidence-informed teaching
		Amount of research	The amount of research as an obstructive factor in implementing evidence-informed teaching

Appendix F Original Dutch Quotes

Theme	Subtheme	English Examples from interviews	Dutch Examples from interviews
Personal Factors	Personal Experiences	*"Because I'm still a starting teacher, I am still somewhat open to it. If something does not work right away, I think Okay, well, maybe I should just try and test things out again."* – Benjamin	*"Omdat ik nog startend leerkracht ben, zo lang doe ik het ook weer nog niet, dus je bent staat ook nog wat open voor. Oké, nou ja, Misschien moet ik gewoon dingen nog een keer proberen en uittesten."* – Benjamin
		"I think that that [implementing EITP] will not work from day one if you have just graduated from teacher training college." … "Yes, I really think that you have to build up some experience for that." – Julie	*"Ik denk dat je wel dat het [EITP implementeren] niet vanaf dag één gaat lukken als jij net van de pabo komt."* … *"Ja, ik denk echt wel dat dat je dat je daar echt een stukje ervaring voor moet opbouwen ook."* – Julie
		"I have to say that it may have taken me a lot of years, if you see me teaching now compared to ten years, fifteen years ago. It's very different." – Julie	*"Ik moet zeggen daar heb ik misschien wel een jaar of wat over gedaan ik als je mij nu ziet lesgeven in vergelijking met tien jaar, vijftien jaar geleden. Het is heel anders."* – Julie
	Self-efficacy beliefs	*"I don't really like change at the moment, because I'm still trying to get into a rhythm."* – Helga	*"Ik vind op dit moment verandering niet zo fijn, omdat ik nog in een ritme probeer te komen."* – Helga
		"You need someone who has knowledge of that [EITP method] who will guide you and actually provide training in it. I think that works better than … here you have a book." – Felix	*"Je moet Iemand hebben die kennis van zaken heeft … die jou gaat begeleiden en daarin ook echt een training geeft. Ik denk dat dat beter werkt dan … hier heb je een boek."* – Felix
		"That frustrated me a lot, because I think: yes, they impose it and someone who actually has no understanding of it will then tell me what I am or am not doing right." – Katy	*"Dat frustreerde mij heel erg, omdat ik denk: ja, ze leggen het op en iemand die er eigenlijk ook geen verstand van*

		heeft, die gaat dan aan mij vertellen wat ik dan wel of niet goed doe." – Katy
	"Maybe not the right thing to do, but I have sometimes done it in my own way, until I was properly supervised and I really knew: okay, this is [teaching method]." – Katy	*"Misschien niet netjes maar ik heb het wel gewoon ook wel eens op mijn eigen manier nog gedaan, totdat het goed begeleid werd en echt wist van: oké, dit is [lesmethode]." – Katy*
Attitude	*"It gives a certain satisfaction if it works. ... But it is also your job ... and of course that has to do with emotion, but it is not that I become very sad or very happy when something works." – Benjamin*	*"Het geeft een bepaalde voldoening als het werkt. ... Maar het is ook je werk ... en natuurlijk heeft dat wel met emotie te maken, Maar het is niet dat ik heel verdrietig word of heel blij op het moment dat iets werkt." – Benjamin*
	"Well ... if you apply [EITP teaching method] you can simply help children better." – Charlotte	*"Als je [EITP lesmethode] toepast kan je kinderen gewoon beter bedienen." – Charlotte*
	"If you do not organize your education based on those scientific insights. Then you keep the status quo and you won't get any further, so you will have to try and test some things." - Benjamin	*"Als je niet op basis van die wetenschappelijke inzichten je onderwijs inricht. Dan behoud je de status quo en kom je niet verder, dus je je zult wat dingen moeten proberen en uittesten." – Benjamin*
	"In principle, a study must be completely independent, but in practice it is sometimes an urge among researchers to have as many studies as possible .... And a study that has no results, doesn't really appeal. So [I think] sometimes data is changed to seek results.". – Felix	*"In principe moet een onderzoek compleet onafhankelijk zijn, maar in de praktijk is het soms ook een drang bij onderzoekers om zoveel mogelijk onderzoeken te hebben. ... En een onderzoek wat geen resultaat heeft dat spreekt niet echt aan. Nee, dus [ik denk] dat er soms gezocht wordt naar resultaten." – Felix*
	"They did another study with two children in a small classroom and they discovered a nice theory and they now think that we should apply it again in our class with 30 children." – Liam	*"Ze hebben weer een onderzoekje gedaan met twee kinderen in een klein lokaaltje en daar zijn ze achter een leuk theorietje gekomen en dat vinden ze nu dat wij dat in*

			onze klas met 30 kinderen weer moeten gaan toepassen." - Liam
	Social influences	*"If I had to do it on my own, I would feel less confident. But if I had to do it with the whole team, … Yes, that's where I feel more confident."* – Adam	*"Als ik het in mijn eentje zou moeten doen, zou ik me er minder zeker bij voelen. Maar als ik het met het hele team zou moeten doen, … Ja, dan voel ik me daar zekerder in."* – Adam
		"Luckily I have a lot of other colleagues who have done that too, I say, … tell me how. Yes, we usually figure it out together." – Charlotte	*"Ik heb gelukkig ook een hoop andere collega's die dat ook hebben gedaan, zeg ik, nou vertel hoe. Ja, dan komen we meestal wel uit samen."* – Charlotte
		"You always talk about it [teaching experiences] with colleagues, but not necessarily about research." – Katy	*"Je praat altijd wel met collega's erover, maar niet per se over allemaal onderzoeken."* – Katy
Contextual Factors	Policy	"I'm just very practical, but if there is something … that has been researched for me, then fine." "For example, we now have… [online environment] which are courses that you can take online." "I really like that because then it is already sort of collected for me somewhere." – Helga	*"Ik ben gewoon erg praktisch, maar als er een kant en klaar iets ligt dat al voor mij onderzocht is, dan prima."* *"We hebben nu bijvoorbeeld … [online omgeving] dat zijn cursussen die je online kan volgen." "Dat vind ik echt heel fijn, want dan is het al voor mij een soort van verzameld ergens."* – Helga
		"At least we [the organization] also offer workshop rounds within the foundation …. So then we … offer, … professionalization, for example for a new way of working." – Iris	*"Althans wij bieden binnen de stichting ook workshoprondes …. Dus dan hebben wij een aanbod, … voor professionalisering dus als dan weer een nieuwe manier van werken wordt aangeboden."* – Iris
		"Society thinks it is important that we do this [EITP], … and you also hear ministers say this, but in practice …. There is no time available to do that …. It is mainly more words than actions." – Benjamin	*"De samenleving vindt het wel belangrijk dat we dit [EITP] doen en dit hoor je ook ministers wel zeggen, maar in de praktijk … Er komt geen tijd vrij om dat te doen … Het zijn vooral meer woorden dan daden."* – Benjamin

	"The ... management team must be convinced. ... and then step two is for the management team to give teachers a good presentation to show them, hey, this is it. We got excited. How do you see this and if ... the team becomes enthusiastic ... then you ... have a basis to start." – Felix	*"Het managementteam moet ...overtuigd zijn ... en daarna stap twee is dat het managementteam de leerkrachten een goede presentatie voorhoudt om te laten kijken van hé, dit is het. We zijn enthousiast geraakt. Hoe zien jullie dit en als ... het team dan ook enthousiast wordt, dan ... heb je een basis om te beginnen."* – Felix
	"You have to carry that [EITP] within your team" "Because if you don't have support within the team, it won't get off the ground." – Benjamin	*"Je moet dat [EITP] dragen binnen je team." "Want als het geen draagvlak heeft binnen het team, komt het niet van de grond."* - Benjamin
	"There is much more to it than [teaching] and I sometimes have days when I am busy with all kinds of administration things and ... I haven't ... been able to prepare my lesson well for tomorrow." – Katy	*"Er komt natuurlijk veel meer bij kijken [dan lesgeven] en ik heb soms echt dagen dat ik druk ben met allemaal administratiedingen en dat ... ik heb mijn les niet voor morgen goed kunnen voorbereiden."* – Katy
Resources	*"[Research] is not something that is financed or that as a school you have a certain standard subscription."* – Iris	*"[Onderzoek] dat is niet iets dat gefinancierd wordt of dat je daar standaard als school een bepaald abonnement op hebt."* – Iris
	"Well, in a positive way, because I can simply give extra explanations to children who need it .... It helps and you notice that the children are better able to work independently afterwards." – Charlotte	*"Nou wel op een positieve manier, omdat ik zo gewoon nog extra kan uitleggen kan geven aan kinderen die dat nodig hebben ... Het helpt en je merkt daardoor wel dat die kinderen beter daarna zelfstandig aan de slag kunnen."* – Charlotte
	"We [the school] are not in a good position at the moment and the inspectorate will come soon. They ... just want to see higher results and then we choose to do things that we already know work. ... Now is not the time to be precise." – Diana	*"Wij [de school] staan op dit moment er niet goed voor en de inspectie komt straks. De inspectie wil gewoon hogere resultaten zien en dan kiezen we het om dingen te doen, waarvan we weten al dat ze werken ... Nu is niet het moment om precies te zijn."* – Diana

| Challenges | Critical Skills | Appraisal | *"Because I think yes, very honestly, looking for articles yourself that fit very well, that's quite a job."* – Charlotte

"Education websites that claim all kinds of things and that is all a bit more favorable than often the research itself actually indicates. ... We must have a critical attitude towards what you read or hear." – Benjamin

"I think there is a lot nowadays, even at teacher training college you get so much, you get a model or a theory or something for everything and I find that really overwhelming." – Helga

"We have been working with [teaching method] only for a few years. So I don't know how you can really draw a conclusion from that, but we often have methods that you change again after a year .... those children have had three, I think, different methods in three years, but then you cannot really see whether it is changing quickly and why. You have to make a conscious choice." – Katy | *"Ja, heel eerlijk, zelf artikelen zoeken die dan heel goed passen, dat is best een klus."* – Charlotte

"Onderwijs websites die ... dingen mooier schetsen dan dat het onderzoek zelf echt aangeeft. ... We moeten kritische houding hebben naar wat je wat je leest of hoort." – Benjamin

"Ik vind dat er tegenwoordig heel veel is, ook op de pabo je krijgt zoveel mee, je krijgt voor alles is wel model of een theorie of iets en dat vind ik echt heel overweldigend." – Helga

"Met [lesmethode] zijn we ook nog maar een paar jaartjes bezig. Dus kan je echt daar al een conclusie uittrekken weet ik niet, maar wij hebben ook wel vaak met methodes dat je dan toch na een jaartje alweer wisselt ... die kinderen hebben, denk ik, in drie jaar tijd drie verschillende methodes, maar dan kan je ook niet echt kijken of het snel wisselt en waarom. Je moet wel bewust een keuze maken." – Katy |
| | Scientific Translation | Language | *"I think it is also a bit of ... language skills. Scientific articles are simply quite difficultly written and difficult to get through. ... what I see for a lot of my colleagues is that this is where they get stuck." "there really is a big barrier before they [teachers] start reading such a study themselves." "But yeah, those are all skills I learned in college."* – Liam | *"Het is denk ik ook een stukje ... taalvaardigheid. Wetenschappelijke artikelen zijn nou eenmaal lastig geschreven en moeilijk om door te komen. ... wat ik voor een hoop van mijn collega's is dat dit is waar zij op stuk gaan." ... "er is echt een grote drempel voordat ze zelf zo'n onderzoekje gaan lezen." "Maar ja, dat zijn allemaal vaardigheden die ik op de universiteit heb geleerd."* – Liam |

| Scientific Literacy | *"Well, I think mainly the fact that there may or may not be practical examples included ... Was it pure? Only scientific? Without practical examples, without any tricks, I don't think that makes me very enthusiastic."* – Eve | *"Nou, ik denk vooral het feit dat er wel of geen praktijkvoorbeelden bij zullen zitten. ... Was het puur? Alleen maar wetenschappelijk? Zonder praktijkvoorbeelden, zonder ook maar enige sjeu dan denk ik niet dat ik daar heel enthousiast van word."* – Eve |