

**The Perceived Impact of the Covid-19 Recovery Funds on Primary School Leaders' Use of
Leadership for Learning Elements**

Helma Brouwer 6882447
Educational Sciences, University of Utrecht
Master Thesis
Words: 7988
L. Henrichs
A. Ben Shalom

July 10, 2022

Abstract

The Covid-19 lockdown closings raised concerns about possible learning disadvantages among students. As a result, Covid-19 recovery funds (CRF) were made available to remedy possible learning disadvantages. The purpose of these funds will be to enable schools to undertake interventions to support the students. Organizing this requires good leadership.

The current study was conducted within a school-university collaboration with SPO Utrecht, a board of public schools. It was investigated how Covid-19 recovery funds impacted primary school leaders' use of leadership for learning (Lfl) elements, including how diverse team expertise relates to collective efficacy.

A mixed-method study was conducted. Teachers filled out a survey to study how they perceived leadership, collective efficacy, and diverse team expertise. Also, school leaders were interviewed to investigate whether they use elements of leadership for learning in their leadership style before and after the Covid-19 recovery funds. Results displayed a positive effect of diverse team expertise on collective efficacy. And school leaders showed elements of Lfl after using CRF. It is recommended that further research be conducted into these effects. A practical recommendation has been made to help school leaders increase diverse team expertise.

Keywords: Covid-19 recovery funds, Leadership for Learning, collective efficacy, diverse team expertise

The Perceived Impact of the Covid-19 Recovery Funds on Primary School Leaders' Use of Leadership for Learning Elements

For the last 18 months, Covid-19 controlled our lives. Primary schools in the Netherlands were affected, when they had to close in the spring of the year 2020/2021 due to various lockdowns (Engzell et al., 2021; Harris, 2020). School leaders were overwhelmed with questions from parents and other stakeholders who came to them with their concerns. In addition to educational tasks of school leaders, i.e. to ensure that the teaching-learning processes kept going, care now also had to be taken for e.g. making air circulation available in the classrooms (Espinoza, 2021; Harris & Jones, 2020). Concerns for the learning outcomes soon followed (Engzell et al., 2021).

The National Educational Recovery Plan, a support program from the Ministry of Education, was created to prevent and hopefully remedy learning disadvantages. Primary schools in the Netherlands could claim these funds provided they use them within 2,5 years and provided they submit a plan on how to intervene to the ministry. Conditions for these funds were that the interventions would be set up fast, efficiently and sustainably and aimed at school development. What is remarkable here is that the planned intervention was required to be sustainable, but also to be set up within a short time. Under these circumstances, good leadership is needed to organize the Covid-19 Recovery funds in a right and effective way to improve school achievement.

Organizational conditions are important in enhancing teachers' motivations and learning, such as the need for persistence and collaboration in a school (Lee & Louis, 2019). Although teachers' individual capacities have a great influence on their own classroom environment, collaboration between teachers coupled with trust and shared responsibility will be more reflective of a strong positive school culture. So, school improvement will appear earlier. Team collaboration will have a greater impact on innovations than a top-down approximation (Lee & Louis, 2019).

Additionally, teachers learn more from each other in schools with collaborative structures (de Jong et al., 2020), as teachers have access to knowledge, skills and expertise of colleagues that they can benefit from for their own professional development (Sinnema et al., 2020). Therefore,

team expertise could impact their collective efficacy finally benefit students learning outcomes (Sinnema et al., 2020).

So, good leadership is integral to ensure that all this is managed well (Espinoza, 2021; Harris & Jones, 2020). This emphasizes the relevance of the present research, in which we study leadership to provide insight into its role in the achievement of collective efficacy and diverse team expertise in primary schools. This research has a high sense of urgency due to the Covid-19 recovery funds, which must be used as sustainably as possible to eliminate possible learning disadvantages. Therefore this research aims to investigate how the Covid-19 recovery funds have given an impulse to the relationship between leadership, collective efficacy, and diverse team expertise.

Theoretical Framework

Leadership in Times of Covid-19

Today, school leaders face constant change. School leaders are expected to innovate and reflect so that permanent development and improvement will take place to ensure educational proficiency (de Jong et al., 2020; Espinoza, 2021). Teachers must also show their expertise because children are affected differently by the school closures (Espinoza, 2021).

On the one hand, Harris (2020) stated that school leadership is in crisis. In the leadership seen today there is no predictability, no certainty. And the ever present question is: when does this situation end? On the other hand, school leaders respond appropriately to this crisis (Harris, 2020). Espinoza (2021) argued that school leaders now focus more on student learning performances than managing their educational institution. So a school leader remains a positive and necessary force to keep the school moving and to impact students' learning performances.

Leadership for Learning

Various studies over the years have shown that there are leadership patterns that influence students' learning outcomes (Hallinger, 2011). The umbrella term that encompasses this is *Leadership for learning* (LfL) and it contains characteristics of various leadership styles, namely

instructional leadership, transformational leadership, distributed leadership, and situational leadership (see Table 1) (Daniëls et al., 2019; Hallinger, 2011). Leadership for learning describes a process in which all those involved in a school actively participate in improving learning for students and for teachers (Daniëls et al., 2019).

Table 1

Foundation of Leadership for Learning

Leadership style	Definition	Research
Instructional leadership	Focus on coordinating tasks and checking instruction used in classrooms. Clear goals on student learning and curriculum development to enhance teaching and learning.	(Daniëls et al., 2019; Hallinger, 2007; Hallinger & Heck, 2010)
Transformational leadership	Increase student achievement through shared leadership and constructing collaborative structures. Based in a shared vision, individual attention and intellectually challenging employees by raising teachers consciousness of what is really important.	(Daniëls et al., 2019; Leithwood & Jantzi, 2005)
Distributed leadership	All actors in a school are responsible and are involved in purposeful interactions aimed at ameliorating learning. Using expertise, all members build capacity and cultivating high quality teaching.	(Daniëls et al., 2019; Harris, 2020; Hitt & Tucker, 2016; Leithwood et al., 2019)
Situational leadership	Every situation or context of the environment requires different leadership. Teachers with expertise and with confidence about it will need less guidance and support than teachers without expertise.	(Daniëls et al., 2019; Hallinger, 2011; Thompson & Glasø, 2015)

First, the school leader pays attention to the organization in the school associated with teaching, such as the development and implementation of the curriculum and giving instruction. After this, the focus is on the organization that belongs to administration and finances, to increase learning outcomes together with the first step (Daniëls et al., 2019). Leadership for learning strives for improving school performance and increasing student achievement by applying these different leadership styles in an integrated way (see Table 1) (de Jong et al., 2020; Hallinger, 2011; Hitt & Tucker, 2016; Leithwood et al., 2019). LfL contains no new aspects but is based entirely on existing leadership styles to improve the conditions for learning and generates a connection of actions in schools (Hallinger, 2011). In their review Daniëls et al. (2019) describe five features to conceptualize LfL: (1) *Collaboration*; (2) *Learning throughout the entire school*; (3) *Collective efficacy*; (4) *Result-oriented*; (5) *Organizational culture and the environment of the school*.

(1) LfL contains a great deal of *collaboration* to increase student achievement. Putting the team first and working together is in the collective nature of LfL reflecting that a school functions as an

engaged interacting community aiming to enhance learning (Daniëls et al., 2019; Hallinger & Heck, 2010). Collaboration leads to shared responsibility (i.e. leadership is not only retained by those at the top of an organization) so that all team members share leadership responsibilities, through tasks varying in size (Daniëls et al., 2019). Interactions with others result in shared participation and activity (Harris, 2020).

Therefore, sharing responsibilities is likely to reduce the burden on school leaders as they often have many tasks to do because they are seen as primarily responsible for learning outcomes (Daniëls et al., 2019). By this feature of distributed leadership (see Table 1) a school leader could focus more specifically on the challenges that Covid-19 created at this moment (Harris & Jones, 2020).

(2) With LfL, *learning takes place throughout the entire school* (e.g. organizational, teachers, students, and leadership learning)(Daniëls et al., 2019). This learning is possible by creating a culture of continuous improvement of learning which affects all actors in a school (e.g. professional development for teachers) (Hallinger, 2007; Townsend et al., 2013).

For sustainable results, principals might want to invest in their teachers professionalism to meet the needs of the different students (Avalos, 2011; Liu, 2021; Palmer et al., 2005). Especially during the Covid-19 pandemic this is necessary because schools may now be dealing with learning disadvantages of students (Engzell et al., 2021). This goal of learning for all is possible when a team shares their expectations and seeks to learn collectively and collaboratively through dialogue and sharing information (Liu, 2021).

(3) LfL stimulates *collective efficacy* (Daniëls et al., 2019). Bandura's social cognitive theory sparked the idea of collective teacher efficacy as a reflection of teachers' expectations about the efforts of the joint capability of all members in a school that will positively influence student outcomes even those who are disengaged and unmotivated (Donohoo, 2018; Goddard et al., 2000, 2004; Guidetti et al., 2018). Various studies have found that collective efficacy strongly impacts learning outcomes (Derrington & Angelle, 2013; Goddard et al., 2000; Guidetti et al., 2018). This is

caused by the belief that when tasks can be accomplished well, people are more likely to do these tasks (Donohoo, 2018; Goddard et al., 2004; Oosthoek et al., 2017.).

Research shows that collective efficacy is often correlated with leadership support (Guidetti et al., 2018; Skaalvik & Skaalvik, 2010). A school leader will have to create collaborative structures where everyone trusts their colleagues are striving for good student results so that collective efficacy can flourish. Also important here is the shared responsibility in a team so that everyone has the same goal in mind (see Table 1 for transformational leadership) (Derrington & Angelle, 2013).

(4) LfL is *result-oriented*, in that it strives for strong learning outcomes and will affect school achievement (see Table 1 for instructional leadership) (Daniëls et al., 2019; Hallinger, 2011; Hallinger & Heck, 2010). Achievement will be accomplished when a team is pointed to the heart of schooling; teaching, giving instruction, and curriculum development. Also administration and finance are important to get desired results (Daniëls et al., 2019). By creating an ongoing school-wide focus on learning, individual skill development will be stimulated.

(5) *Organizational culture and the environment of the school* carry characteristics of situational leadership (see Table 1) and are enlisted at LfL because of the relationship between the school leader and the environment (Daniëls et al., 2019). A school leader will have to respond appropriately to every situation. With all the diverse expertise of the team the school leader will have to be able to meet the expectations of the environment. Therefore continuous professional development of teachers will have to be stimulated in order to maintain *diverse team expertise* (Daniëls et al., 2019; Hitt & Tucker, 2016). King (2014) defines teachers' professional learning as the growth of teacher expertise that results in a change in practice that increases student outcomes. Diverse team expertise arises when the team promotes knowledge sharing among each other.

To achieve diverse team expertise with LfL, the dialogue between the school leader and team members remains important. This shows that all actors are equal to each other and there is no hierarchy due to the joint responsibility (Townsend et al., 2013). Therefore, the school leader is important, but they can only succeed by collaborating with the team (Hallinger, 2011).

Present Study

Some literature can be found on leadership for learning, with a focus on diverse team expertise and collective efficacy. But as there is little literature available on diverse team expertise in combination with collective efficacy, this study attempts to start from the gap between these two areas – by focusing on leadership in these challenging post-pandemic times. With this knowledge, the school leader and the team of teachers can possibly work together efficiently in these times of recovery and sustainable use of funds. In the current study, leadership for learning, with a focus on collective efficacy, and diverse team expertise will be researched in Dutch primary schools of SPO Utrecht.

This study takes place in the context of the Covid-19 Recovery Funds and focuses on how the consequential implementation of interventions impacted collective efficacy and diverse team expertise through leadership. SPO Utrecht aims for increasing professionalism among their teachers through a shared responsibility and diverse team expertise. We focus on schools that are already working on diverse team expertise in the context of *professional development*. This leads to the following research question: In what ways did the Covid-19 Recovery Funds impact primary school leaders' use of leadership for learning (Lfl) elements?

We expect that shared concerns about learning disabilities and the availability of extra resources can contribute to a positive impulse regarding collective efficacy and diverse team expertise. We expect Lfl to have been strengthened by the funds, because there was a shared urgency. That is why it is investigated how Lfl was previously visible in these schools and how this can be seen after funding. In order to answer this main question appropriately the following two sub-questions will help to find the best possible answer to this subject:

Sub question 1: How does diverse team expertise relate to collective efficacy by teachers?

Sub question 2: To what extent did the Covid-19 Recovery Funds funding foster the utilization of diverse expertise within the team?

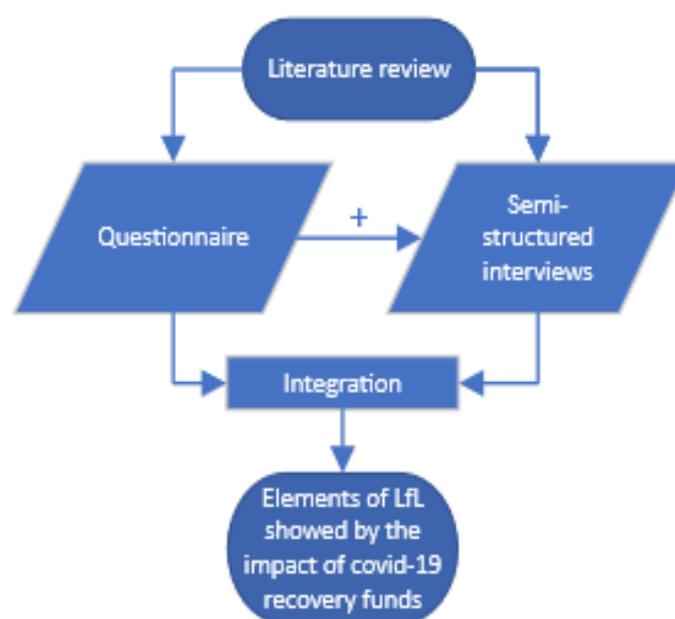
Method

Research Design

We designed a sequential explanatory mixed-method study within a constructivist research paradigm. Qualitative data were used to enrich and interpret the quantitative data (Rose et al., 2017). This mixed-method research involved the integration of different kinds of data. The aim of joining datasets was to build on previous datasets to form a holistic view (Johnson & Onwuegbuzie, 2004; Seppänen-Järvelä & Haapakoski, 2021). Methods triangulations were performed to enhance credibility (Patton, 1999) (see Figure 1). First, quantitative data were collected by conducting a questionnaire about how primary school teachers perceived leadership and collective efficacy. Second, in the qualitative part, semi-structured interviews were conducted among primary school leaders to investigate what school leaders themselves think to contribute to collective efficacy using Covid-19 Recovery Funds. Through interaction participants shared personal experiences and gave meaning to the collected data. Thus, to show new points of view we used constructed knowledge (Johnson & Onwuegbuzie, 2004).

Figure 1

Research Design – Integrating Evidence About the Impact of the Covid-19 Recovery Funds



Participants

In this study 34 teachers and five school leaders participated. We collaborated within a school-university partnership with SPO Utrecht. When recruiting participants, it was made clear in the informed consent that there was no evaluation and that participation was voluntary and withdrawal was possible at any time.

Sampling

Five schools chosen by a purposive sampling method to increase transferability to SPO Utrecht participated in this study. These schools already focused on working on diverse team expertise in the context of professional development. And to investigate a broader range of different schools, we looked for the location in the city and the school size.

Instruments

The questionnaire conducted for this study was also part of another study commissioned by SPO Utrecht. All instruments were administered in Dutch, the native language of the respondents, to provide a better representation of reality (Harzing et al., 2009). See Appendix B for purposes, data sets, and analysis of the used instruments.

Questionnaire

The online teacher questionnaire (see Appendix A) was based on the theoretical framework and taken from the Talis questionnaire (OECD, 2018) and Skaalvik and Skaalvik (2007). This study focused on Covid-19 Recovery Funds and LfL. Consequently, items related to the elements of LfL and Covid-19 Recovery Funds were included to study the perceived leadership of teachers. The relationship between LfL and collective efficacy and diverse team expertise was also examined. Therefore items about collective efficacy and diverse team expertise were added. All constructs were measured by different 4-point Likert scales to ensure that a choice has been made. Responses were given from *not at all* (1) to *good* (4), *strongly disagree* (1) to *strongly agree* (4), and *never* (1) to *very often* (4). To validate the Talis questionnaire, OECD used different methodological procedures. The

reliability of the scales was measured with Cronbach's Alpha and was generally acceptable or good (OECD, 2018). Skaalvik and Skaalvik reported acceptable reliability ($\alpha = .79$). Table 2 shows which items correspond to each construct.

Table 2
Item Correspondence to the Different Constructs

Construct	Number of Items	Example item	Research
Leadership for learning			
- Instructional leadership	6	My school leader sets clear goals	(Daniëls et al., 2019; Hallinger, 2007; Hallinger & Heck, 2010; OECD, 2018)
- Transformational leadership	5	He/she took steps to make sure I take responsibility for improving my teaching skills	(Daniëls et al., 2019; Leithwood & Jantzi, 2005; OECD, 2018)
- Distributed leadership	6	Each teacher assumes part of the responsibility for teaching in the school	(Daniëls et al., 2019; Harris, 2020; Hitt & Tucker, 2016; Leithwood et al., 2019; OECD, 2018)
- Situational leadership	4	He/she collaborated with principals of other schools on work tasks	(Daniëls et al., 2019; Hallinger, 2011; Thompson & Glasø, 2015 OECD, 2018)
Collective efficacy	13	This school has a culture of shared responsibility	(OECD, 2018; Skaalvik & Skaalvik, 2007)
Diverse expertise	7	Everyone's expertise is used at our school	(Avalos, 2011; OECD, 2018; Palmer et al., 2005)

Semi-structured interview

Semi-structured interviews were held with five primary school leaders to gain insight into their leadership choices as part of the qualitative research to study perceptions and opinions of the participants (Kallio et al., 2016). The interview guideline (see Appendix C) contained the same constructs as those surveyed in the questionnaire. In this way, the results of the questionnaire were used to allow school leaders to reflect on the funding utilized and the relation with their leadership.

Procedure

Prior to data collection a pilot questionnaire was held among five teachers to ensure the right wording and understanding. We did not use this data in the final analysis.

The online questionnaire was designed using Qualtrics software. We approached participants indirectly by inviting teachers to participate by email sent by their school leader. An informed consent ensured the participants that the questionnaire only used data to support the board of SPO

Utrecht in their request concerning professional development. It was emphasized that we did not ask for personal identification and that no evaluation of individuals or groups took place as a result of the collected data. We used all data anonymously.

Hereafter, five school leaders were interviewed separately. A contact person of the SPO invited them to participate in the interview. School leaders were asked to sign the informed consent and permission was also requested to record the conversation. It was emphasized that everything discussed would be confidential and was not used to evaluate individuals.

One school leader did not agree with questions about perceived leadership (part 1), so a questionnaire was distributed with only questions regarding collective efficacy and diverse team expertise (part 2).

All data will be anonymously stored for at least ten years in Yoda, according to the ethical guidelines of University Utrecht. Therefore the research is reproducible and can be found to be valid.

Analysis and Findings

Because we added new questions to an existing questionnaire, an exploratory factor analysis was executed in Rstudio to ensure construct validity. The findings from the EFA revealed the best models fit to show the measured factors (see Appendix D). A two-factor model was chosen as the best representation of the leadership constructs by removing item L1, L2, and L_17 ($X^2(134)=151.75$; $p = .31$, Cronbach's alpha .875). These two factors are Instructional leadership and Distributed leadership. Two leadership styles that encompass a large part of leadership for learning, namely all necessities concerning the teaching skills of the teachers and working together and being responsible for the student results. A three-factor model shows the constructs of collective efficacy and diverse team expertise by removing item CE_7 ($X^2(117)=129.74$; $p = .198$, Cronbach's alpha .892). The three-factor model consists of the focus on the needs of students, collective efficacy, and diverse team expertise. For both analyses a cut off score of 0.30 was performed (Field, 2018).

We conducted an analysis in SPSS Statistics (28) based on descriptive statistics to further explore the constructs of perceived leadership, collect efficacy, and team expertise. After a

significant result ($p \leq .05$) was established in the correlation between diverse team expertise and collective efficacy, a regression analysis was performed with collective efficacy as dependent variable and diverse team expertise as predictor.

After transcribing the recordings of the interviews, by means of a member check, the participants could indicate whether they agreed with the draft. This has not led to any changes. Hereafter the data were processed by coding text fragments in NVivo (version 20). To ensure quality an iterative process was used with three types of codes (i.e. open, axial, selective coding) until theoretical saturation was reached (Kaiser & Presmeg, 2019). To guarantee credibility, memos were made during coding (Kaiser & Presmeg, 2019; Patton, 1999).

First, the data were organized by coding in an inductive way and were displayed in a codebook. Next, these codes became themes through a deductive way using sensitizing concepts through analyzing which overarching elements of LfL occurred in these parts.

Hereafter links were sought between the elements of LfL and whether these were related to other themes like collective efficacy and team expertise to integrate the different themes (Kaiser & Presmeg, 2019).

To ensure the inter-rater reliability and to increase dependability, a second researcher also coded one interview according to the themes mentioned before, after which Cohen's kappa was calculated ($k = .98$, the coding varies from .35 - 1). According to Landis & Koch (1977) this can be interpreted as an excellent agreement.

The sub-questions were answered with quantitative analysis and qualitative analysis based on the themes arising from the data. During coding, themes emerged from the data similar to the theoretical framework. Namely: collaboration, learning throughout the entire school, collective efficacy, result-oriented, organizational culture and the environment, and diverse team expertise (see Table 3). One essential theme to enable answering one of the sub research questions was added as a-priori code, called *the impact of the Covid-19 funds*.

Table 3*Qualitative findings elements of Leadership for Learning*

Themes	Sub-theme
Collaboration	Promoting Hindering
Learning throughout the entire school	
Collective efficacy	Consultation moments Wat contributes to the good design of education Feedback
Result-oriented	
Organizational culture	Other tasks What does the SPO contribute to leadership
Diverse team expertise	Promoting Hindering
The impact of the Covid-19 funds	

Results

This section explores the elements of leadership for learning through the experiences of teachers and school leaders. The qualitative data is combined with the quantitative data to enrich the findings.

Quantitative Data

Due to the considerable spread within perceived leadership, we see that the variation ($s^2=67.61$) concerning to the average is large (see Table 4 for descriptive statistics). Contrary to collective efficacy ($s^2= 18.97$) and diverse team expertise ($s^2= 10.8$) where these values are smaller and show that teachers are more positive about these constructs.

Table 4*Means, Standard Deviations, Maximum Scores, and Numbers of the Measured Constructs*

	N	M	SD	Maximum Score
Perceived Leadership	26	62.62	8.22	76
Collective Efficacy	34	40.62	4.36	52
Diverse Team Expertise	31 (3missing)	21	3.29	28

Does Diverse Team Expertise Relate to Collective Efficacy?

To answer the question of how diverse team expertise is related to collective efficacy, a correlation was first performed. As the Pearson correlation showed that there was a possible positive

moderate relationship between diverse team expertise and collective efficacy ($r = .557$; $p < .001$; $N = 34$) it was investigated whether a causal relationship could also be found utilizing a regression analysis. A single regression with collective efficacy as dependent variable and diverse team expertise as predictor was significant ($R^2 = .31$, $F(1, 29) = 13.045$, $p < .001$). 31% of the variance in collective efficacy could be explained by diverse team expertise. The regression coefficient (β) of diverse team expertise was 0.769 and significant ($t(29) = 3.612$; $p < .001$).

Response from the questionnaire showed that the funds made a positive contribution to the culture of cooperation. All the teacher participants agreed that they had the opportunity to participate in school decisions. This is also reflected in the questionnaire where the majority of the participants said that the use of the funds had given them more opportunities to use their expertise. The different areas of expertise were distributed evenly across the various learning domains through the use of the funds.

In the next section, the qualitative data (see Tables 5 and 6) will be discussed and complement the findings of the quantitative analyses to further explore the finding of the predictive value of diverse team expertise.

Qualitative Data

What is the Funding Used for

In the interviews it was discussed what the funds were used for. The schools used the funding on interventions to eliminate possible learning disabilities and to think of sustainable solutions. The most commonly used interventions were hiring teacher assistants and reading achievement with a focus on professionalization to provide better education. Often these were things that people were already working on and because of the funding it was now possible to make good use of this. Attention was also paid to the behavior and social development of students. This study does not examine the social-emotional development of students.

Leadership for Learning to Foster Diverse Expertise

(1) *Collaboration*

The theme collaboration shows results that promotes or hinders collaboration between teachers. When school leaders were asked about collaboration, they often indicated that they were working within a horizontal organization where there was cooperation in school development. One leader verbalized it as follows: *"We're just a bit horizontally organized, as it's called. So we don't have a Management Team or anything like that."*

The team prepares for education together since the team is together responsible for the learning results, they automatically start to consult each other. Another leader adds:

"We consciously choose not to add another intermediate layer in construction coordinators. What you often see happen, of course, I was also a coordinator myself, is that teams leaning a bit more (on the coordinator)...it just doesn't work that way for us."

In addition to these promoting aspects, it is also mentioned that a hindering aspect is that teachers are not given the opportunity or do not seize the opportunity to work together. This was said in response to a result of the questionnaire which showed that there are varying views on actions to stimulate cooperation.

Collaboration Impacted by the Funding

The funding made a positive contribution to the collaborative culture, which is also stimulated more by the school leader. One leader shared the following: *"So you notice that what was very normal before corona to tackle things together, that we have to stimulate that again to do much more again. Everyone has become much more self-centered in the past two years."* The collaboration has to be rebuilt, so this also can be seen as a hindering effect. People still experienced too little of the benefits of working together.

(2) Learning Throughout the Entire School

This theme highlights which elements contribute to the leadership of the school leader. Important here is that autonomy is given to teaching. We see here that shared responsibility and autonomy are closely related, which refers to the section about collaboration. Trust and responsibility also contribute to a good relationship between school leaders and teachers. Leadership

focuses on the development of the team and therefore the school leader is often in conversation with the team which refers back to what has been said above about the horizontal organization. This manifest from the involvement with each other, where people know that they are there for each other. One leader states: *“That you also see in people what they need and that as a person you are just there and present.”* To stimulate the autonomy of the teacher it is important to facilitate distributed leadership and let everyone be responsible for the student results together.

Learning Throughout the Entire School Impacted by the Funding

The understanding of urgency resulted in distributed leadership. The team had to move on and now they did it together. There was another school leader who dared to let go more in the past year because of the constructive atmosphere mentioned a previous section. Another would like to enhance distributed leadership but sometimes also make the choice that the decision lies with the school leader:

But that you also persevere and that sometimes you also want distributed leadership so badly, which works positively in my opinion, but that you also sometimes have to make choices that the decision lies with me and that I take that responsibility and say okay it's a matter of deliberation. We have to make a choice and I'm choosing this now, but I think because you're constantly taking the team with you in your transparency, it shouldn't come as a surprise that they understand why I made that choice.

Table 5
Qualitative findings elements of Leadership for learning

Themes	Sub-theme	Frequency
Collaboration	Promoting	26
	Hindering	4
Learning throughout the entire school	Elements that contribute to leadership	64
Collective efficacy	Consultation moments	10
	Wat contributes to the good design of education	34
	Feedback	13

Result-oriented	How do the needs of the students come to be central	10
Organizational culture	Other tasks	20
	What does the SPO contribute to leadership	9
Diverse team expertise	Promoting	54
	Hindering	17

(3) Collective Efficacy

The data shows an interesting point toward collective efficacy. Where school leaders spoke about working together, there was a weekly moment where the team participates in cases to learn from each other (more about this in the section about diverse team expertise). The school leader facilitates a pleasant working climate where it is safe to ask questions about student results and to look for solutions together. Taking responsibility for the group's results, i.e. helping each other and seeking help to improve teaching skills. All this contributes to the good design of education. One leader illustrates this: *"And that way it's very, very open and relaxed. There is room for fun. Yes, it is simply a very pleasant, pleasant working climate. People also indicate that they are having a great time."*

An aspect that also emerged was feedback. In order to shape collective efficacy, it is important that feedback can be given. It is valuable that people feel safe to talk to another colleague. When there is real collaboration to improve a lesson, people dare to do a collegiate consultation and feedback is also given in a positive way. The interviews show that someone who is more advanced in professional development is more inclined to give feedback. It is beneficial for feedback if it is substantive and focused and happens immediately after an observation. Either by the school leader or by a collegiate consultation. A school principal tells about this that she would like it if this happened:

Which I really think would be nice, but that's why we do those peer consultations. Is that we go a little more in-depth, very subject specific to say, yes okay our spelling education and how

do you do that? How do I do that then? And what does that say about our skills? What does that say? We haven't had that conversation yet.

Collective Efficacy Impacted by the Funding

The culture of shared responsibility is encouraged by discussing goals and also deploying funds. Teachers have jointly learned lessons from the school closure for future action. So the recovery funds strengthen the common set of beliefs about teaching which is also great for collaborative development. A school leader reflects to this:

Well I think that goes hand in hand with the way we've captured that consultation cycle. Because you speak to each other so regularly and together, previously if you had a meeting on Tuesday and half of your team is present, then the decision-making is only done with half of your team. And because we are all there, there is room to make a decision together. It is not applied by the NPO and at the same time that way of working is very much a kickstart on the possibilities that it gave.

Table 6

Qualitative themes Impact of the Covid-19 Recovery Funds

Themes	Sub-themes	Codes	Frequency
Collaboration	Promoting	Cooperation is stimulated by the school leader	1
		NPO positively influences cooperation culture	1
		Positive collaboration culture	2
		A good annual plan with clear spearheads	1
	Hindering	Over the past two years, everyone is still too much on their own	2
		Colleagues experience too little of what working together yields	1
Learning throughout the entire school	Promoting	Constructive atmosphere means that more can be released	5
		Distributed leadership was created by an image of urgency	1
		Would like to spread leadership but sometimes also make the choice that the decision lies with the school leader	1
	Hindering	Not enough experience yet to change leadership after NPO	1
		No changed leadership, continuation of what was already there	2
Collective efficacy		Positivity in the team	9
		Strengthening common set of beliefs about teaching	2
		Culture of shared responsibility by consulting with each other about goals and also the commitment of the funds	2

Result-oriented		More resources to purchase instruments to focus on the child	7
		Teacher assistants could be hired and teachers could work extra hours	6
		Class reduction and instruction in small groups throughout the school	5
		Money can now be used longer than the first time, now it can be used more sustainably	4
		Organize education in such a way that students can achieve instruction at their level	1
		Became more aware of the learning lines	1
		Impulse to the development of a pedagogical climate	1
	Organizational culture		Consultation with the board
Diverse team expertise	Promoting	Through more ambulatory time, the expertise developed through experience	5
		The team became enthusiastic about developing their craftsmanship and expertise	3
	Hindering	Due to the illness of teachers, collegial consultation often did not take place	7

(4) Result-oriented

This section describes how to focus on the needs of students. *“Lifelong learning, learning to live together, learning to do, learning to be, learning to know. Let children grow and develop into the person they are.”* A leader describes this based on the formulated school vision. Another one emphasizes this with the following: *“We try to achieve that by using somewhat smaller groups and employing teachers who can differentiate well and also like to work with multiple levels. And our vision is very much focused on letting every child learn.”* This is done by starting from existing talents and the development of talents. We also see references to various team expertise here and this is further described in the section on various team expertise.

Result-oriented Impacted by the Funding

The funds have made teachers more aware of the learning pathways, by diving deeper into the goals and seeing which students can achieve them and who cannot. The teachers also indicated that they can successfully address the needs of individual students regarding the Covid-19 situation. There were also more resources available through the funds to purchase instruments to put the child at the center, such as study books for teachers. There was more money, so teacher assistants could be hired and teachers could work extra hours. As a result, group size of the classes was reduced in

many schools, and instruction in small groups became possible throughout the school. A response to this comes from a leader: *“If you give good lessons, you don't necessarily have to go into small groups, everyone will come along automatically.”*

(5) Organizational Culture and the Environment of the School

The interviewed school leaders all belong to the SPO foundation. The participants' descriptions are as follows. *“SPO draws up a general course plan that guides the school's four-year plan. Telling SPO why and how you do things, then SPO has confidence in your working method.”* What often emerges is that a school leader can shape the organization of the school according to their own wishes. Diverse team expertise could be fostered in this way. SPO Utrecht also encourages this by offering courses through the SPO academy, for example to become a math or language specialist. There is cooperation within the SPO, the school leaders participate in learning teams to further enhance their professional development.

There is also cooperation within the school as described earlier. A collaborative culture is created by distributed leadership. By working together, they learn from each other.

Organizational Culture and the Environment of the School Impacted by the Funding

By using the funds it was possible to purchase external expertise, i.e. outside the SPO, to work on the behavior of the students or reading achievement for example. The school leader is always accountable to the environment of the school by being open and transparent and also involving parents in the plans for funding. It is therefore important that parents see how the expertise is used to give their child better education.

Diverse Team Expertise

The data shows what factors are facilitating and hindering professional development. A common view is encouraging to discuss personal learning goals with each other and foster professional development. It is stated several times that ownership also belongs to one's development. Several leaders declare: *“If you want to develop yourself, you look for where you can find it.”* School leaders added that teachers are free to develop as a teacher, especially if it is positive

for the school. Conversations are being held to stimulate development by broadening or narrowing professional space to achieve quality education.

Teacher skills are developed based on external expertise and are thus acquired. It is usually indicated that the expertise is known to the team and that it is also used in a targeted manner. As stated before, knowledge is shared to learn from each other: *“The teachers adjust the education very close to each other, so we also work on the same theme, teachers also exchange there.”*

A hindering aspect that arises in some schools was that the exchange between teachers concerning their professional development was not sufficiently deepened everywhere. As a result, a number of colleagues have developed enormously, but others remains on the current developing level. This given may explain why teachers indicate in the questionnaire that not everyone's expertise is always used. Correspondingly the development of expertise varies, because school leaders display that they does not force anyone, only accepts a request if someone indicates this themselves.

Diverse Team Expertise Impacted by the Funding

School leaders experienced that through the use of the Covid-19 recovery funds teachers became enthusiastic, by faster developing their craftsmanship and professional space. This development resulted in job satisfaction and competence because the student results are high. One school leader declares:

It has often been a negative period for educational staff with a lot of hassle and many things that went differently than usual and you did not always achieve the results you wanted and therefore the whole fact that you have now gone through such a development that you having your craftsmanship and professional space is, of course, a very great asset.

As described earlier, more teacher support staff were hired, so more ambulatory time was also available to develop the expertise. One leader explains this:

Well, I have a specialist who has giftedness in her portfolio and because we have that working group on enriching education since this year, she is much more addressed on her specialism, so to speak. She now also has some ambulatory hours, which means she has to

use that much more. She is now developing not through training, but because she has to address and deploy her specialism again.

A much-heard hindering effect was that due to Covid measures there were a lot of dropouts so collegial consultation was often not possible. It can be added to this that the funding has made an insufficient contribution to quality because the illness of teachers and other measures jeopardized continuity. As reflected in the following response: *"I think it didn't contribute enough to the quality, because the continuity was still compromised by illness. So, say the extra hands are not always right per se to more quality, but more to being able to offer continuity."* That is why the participants also indicate that it is beneficial that the use of the funds is extended so that it can be used in a truly sustainable manner.

Discussion and Conclusion

The research question in this study was: In what ways did the Covid-19 Recovery Funds impact primary school leaders' use of leadership for learning (LfL) elements? This question was divided in two sub-questions. To answer these questions quantitative and qualitative research consisting of a questionnaire and five semi-structured interviews was conducted. First the sub-questions are discussed.

Sq 1: How Does Diverse Team Expertise Relate to Collective Efficacy by Teachers?

The quantitative analysis showed that diverse team expertise has a positive effect on collective efficacy. According to Daniëls et al. (2019) and Hallinger & Heck (2010), improving yourself is part of interacting with your environment i.e. all the team members. While enriching these findings with qualitative data, we detected that school leaders declare that when people learn from each other and share their knowledge, the team members tend more to collaboration. Also, a finding to support this enhanced collaboration statement we discovered that when the team had a shared responsibility for the student results, they were more inclined to consult each other. Likewise they shared their knowledge and this clarifies the positive effect of diverse team expertise on collective efficacy. This is in line with literature that shows that expertise is related to collective efficacy, for

example, by means of a group process (Marks et al., 2001).

Sq 2: To What Extent did the Covid-19 Recovery Funding Foster the Utilization of Diverse Expertise

Within the Team?

The teacher participants indicate that at their schools, everyone's expertise is developed in such a way that at school level an entire palette of expertise needed (e.g. a math or language specialist) is covered. In this way the overall quality of teaching is improved. And it is precisely because of the Covid recovery funding that there are more opportunities to develop their expertise. During the Covid-19 period, the teachers managed to respond successfully to the needs of individual students. To strengthen this finding with data from the interviews we could argue that an important factor was to focus on the pupils' need to eliminate learning disadvantages and to focus on sustainable education. The expertise of the teachers made this possible; they worked together to address issues that arose during the pandemic. This became visible in the plans they wrote thus jointly shaping education in the process.

Relating With Extant Literature

In line with previous findings, this study discovered that when teachers have shared responsibilities, they also start working together. When stimulated by the school leader, this will influence the collaborative culture at school positively (Daniëls et al., 2019; Harris, 2020).

The collaborative culture that emerged from the findings also resulted in collective efficacy. Our findings align with the findings of Derrington and Angelle (2013), Guidetti et al. (2018), and Skaalvik and Skaalvik (2010). Like these researchers, we found that when a team trusted each other and had the same goal in mind, which was to help students overcome their learning disadvantages, collective efficacy arises. Learning results were achieved as teachers seized the opportunity offered by the availability of the funding. This is in line with Daniëls et al. (2019) who found that financial resources are also needed to achieve learning outcomes.

Like Daniëls et al. (2019), King (2014), and Liu (2021), we found that when teachers share personal learning goals and knowledge, they will grow in their personal development. We also see

that school leaders have used the diverse expertise of their teachers to overcome the learning disadvantages of the students. This is in line with Avalos, (2011), Liu (2021), and Palmer et al. (2005), who found that school leaders should invest in teacher development to meet student needs.

The overall picture is that distributed leadership was stimulated during the deployment of the funding. Therefore, people were more and more aware of the joint responsibility for the results of the students. Knowledge was shared and expertise has also increased through experience.

To answer the research question after what is mentioned above, we can conclude that current leadership is influenced by Leadership for Learning. The following elements are affected by the Covid-19 recovery funds: collaboration, collective efficacy, result-oriented, and diverse team expertise. *Distributed* leadership in particular has emerged through collaboration. Literature stated that distributed leadership is now the guiding principle of many school leaders to meet all challenges (Harris & Jones, 2022). Collaboration is given a boost by more targeted consultations and collaboration. Aspects of *transformational* leadership became visible through collective efficacy. *Instructional* leadership also emerged in the result-oriented approach. Funding on expertise was also used in order to put the needs of the student at the center in a sustainable way. *Situational* leadership was difficult to define and did not clearly emerge from the results. When these findings are combined the various elements of leadership for learning come together.

The current research shows a positive result of diverse team expertise on collective efficacy. Other research shows that when there is a shared sense of efficacy in the team, the teachers are more inclined towards a positive attitude towards professional development to achieve good student results (Donohoo & Katz, 2017; Vangrieken et al., 2015). This probably means that diverse team expertise and collective expertise are closely related and mutually reinforcing. Further research is needed to explore this.

Diverse team expertise can be used to increase collective efficacy. It is recommended to conduct further research on how a school leader can increase diverse team expertise. There must be a shared goal and a sense of urgency. For example, a school leader can set up a lesson study to foster

expertise. A lesson study is defined as a way of gaining and deepening new insights into areas related to teaching. The team does this by working together, observing, and giving feedback (Lee, 2008; Slingerland et al., 2021). This also applies to Case-Based Modeling. Research shows that repeated training in problem-focused situations may contribute to the development of expertise for all participants (Lyons & Bandura, 2019).

An advice for practice is that when it comes to professional development, school leaders might consider seeking the right balance between individual development and a suitable distribution of expertise within their team. It is then important to estimate what kind of expertise is needed to grow the entire team instead of just one member. If more will be invested in diverse team expertise, LfL will become more visible in elements such as collective efficacy and in a result-oriented attitude because people work towards a common goal.

Limitations

Due to the small sample size, it is unlikely that an accurate representation of the population has been achieved. The external validity of this study may therefore not be sufficient. To prevent this in the future, a broader sample can be chosen by, for example, having all schools within a certain region participate. Due to the lack of continuity (i.e. illness of teachers) in many schools, the intervention intended with Covid-19 recovery funds has been delayed in many cases. We recommend future research to measure the influence of the Covid-19 recovery funds on collective efficacy and diverse team expertise again in one or two year time.

Nonetheless, the present findings provide a nice start to show the impact of the Covid-19 recovery funds on the elements of leadership for learning. The deployment of the Covid-19 recovery funds has promoted specific elements of LfL, namely collective efficacy, collaboration, result-oriented attitude, and expertise.

This research provides more insight into LfL in times of crisis which is of value for the appreciating of LfL in general. When a school leader provides good leadership, fostering a culture of collaboration, this will result in diverse team expertise with the positive consequence of collective

efficacy in the team. By setting clear goals with the team, a shared sense of urgency is created by the school leader. Future research may be conducted to show whether the elements of LfL also work under normal circumstances.

Little attention had been paid in previous studies to diverse team expertise and collective efficacy. It is recommended to further investigate the synergy between these two concepts.

References

- Avalos, B. (2011). Teacher professional development in Teaching and Teacher Education over ten years. *Teaching and Teacher Education*, 27(1), 10–20. <https://doi.org/10.1016/J.TATE.2010.08.007>
- Daniëls, E., Hondeghem, A., & Dochy, F. (2019). A review on leadership and leadership development in educational settings. *Educational Research Review*, 27, 110–125. <https://doi.org/10.1016/J.EDUREV.2019.02.003>
- de Jong, W., Lockhorst, D., de Kleijn, R., Noordegraaf, M., & van Tartwijk, J. (2020). *Leadership practices in collaborative innovation: A study among Dutch school principals*. <https://doi.org/10.1177/1741143220962098>
- Derrington, M. L., & Angelle, P. S. (2013). Teacher Leadership and Collective Efficacy: Connections and Links. *International Journal of Teacher Leadership*, 4(1). <http://www.csupomona.edu/~education/ijtl/index.shtml>
- Donohoo, J. (2018). Collective teacher efficacy research: Productive patterns of behaviour and other positive consequences. In *Journal of Educational Change* (Vol. 19, Issue 3, pp. 323–345). Springer Netherlands. <https://doi.org/10.1007/s10833-018-9319-2>
- Engzell, P., Frey, A., & Verhagen, M. D. (2021). Learning loss due to school closures during the COVID-19 pandemic. *Proceedings of the National Academy of Sciences of the United States of America*, 118(17). <https://doi.org/10.1073/PNAS.2022376118/-/DCSUPPLEMENTAL>
- Espinoza. (2021). *Management and leadership for school transformation in times of COVID-19*. https://redib.org/Record/oai_articulo3326798-management-leadership-school-transformation-times-Covid-19
- Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2004). Collective Efficacy Beliefs: Theoretical Developments, Empirical Evidence, and Future Directions. *Educational Researcher*, 33(3), 3–13. <https://doi.org/10.3102/0013189X033003003>
- Goddard, R. D., Hoy, W. K., & Woolfolk Hoy, A. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal*, 37(2), 479–507. <https://doi.org/10.3102/00028312037002479>
- Guidetti, G., Viotti, S., Bruno, A., & Converso, D. (2018). Teachers' work ability: a study of relationships between collective efficacy and self-efficacy beliefs. *Psychology Research and Behavior Management*, 11, 197. <https://doi.org/10.2147/PRBM.S157850>
- Hallinger, P. (2007). Instructional Leadership and the School Principal: A Passing Fancy that Refuses to Fade Away. <http://Dx.Doi.Org.Proxy.Library.Uu.Nl/10.1080/15700760500244793>, 4(3), 221–239. <https://doi.org/10.1080/15700760500244793>
- Hallinger, P. (2011). Leadership for learning: lessons from 40 years of empirical research. *Journal of Educational Administration*, 49(2), 125–142. <https://doi.org/10.1108/09578231111116699/FULL/PDF>
- Hallinger, P., & Heck, R. H. (2010). Leadership for Learning: Does Collaborative Leadership Make a Difference in School Improvement?: <http://Dx.Doi.Org.Proxy.Library.Uu.Nl/10.1177/1741143210379060>, 38(6), 654–678. <https://doi.org/10.1177/1741143210379060>

- Harris, A. (2020). COVID-19 – school leadership in crisis? *Journal of Professional Capital and Community*, 5(3–4), 321–326. <https://doi.org/10.1108/JPC-06-2020-0045/FULL/PDF>
- Harris, A., & Jones, M. (2020). COVID 19 – school leadership in disruptive times. *https://Doi-Org.Proxy.Library.Uu.Nl/10.1080/13632434.2020.1811479*, 40(4), 243–247. <https://doi.org/10.1080/13632434.2020.1811479>
- Harris, A., & Jones, M. (2022). *School Leadership & Management Leading during a pandemic-what the evidence tells us* *Leading during a pandemic-what the evidence tells us*. <https://doi.org/10.1080/13632434.2022.2064626>
- Harzing, A.-W., Baldueza, J., Barner-Rasmussen, W., Barzantny, C., Canabal, A., Davila, A., Espejo, A., Ferreira, R., Giroud, A., Koester, K., Liang, Y.-K., Mockaitis, A., Morley, M. J., Myloni, B., Odusanya, J. O. T., O’Sullivan, S. L., Palaniappan, A. K., Prochno, P., Choudhury, S. R., ... Zander, L. (2009). Rating versus ranking: What is the best way to reduce response and language bias in cross-national research? *International Business Review*, 18(4), 417–432. <https://doi.org/10.1016/j.ibusrev.2009.03.001>
- Hitt, D. H., & Tucker, P. D. (2016). *Systematic Review of Key Leader Practices Found to Influence Student Achievement: A Unified Framework*. 86(2), 531–569. <https://doi.org/10.3102/0034654315614911>
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). *Mixed Methods Research: A Research Paradigm Whose Time Has Come on JSTOR*. Vol. 33, No. 7. https://www-jstor-org.proxy.library.uu.nl/stable/3700093?seq=1#metadata_info_tab_contents
- Kaiser, G., & Presmeg, N. (2019). *ICME-13 Monographs Compendium for Early Career Researchers in Mathematics Education*. <http://www.springer.com/series/15585>
- Kallio, H., Pietilä, A. M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. In *Journal of Advanced Nursing* (Vol. 72, Issue 12, pp. 2954–2965). Blackwell Publishing Ltd. <https://doi.org/10.1111/jan.13031>
- King, F. (2014). Evaluating the impact of teacher professional development: an evidence-based framework. *Professional Development in Education*, 40(1), 89–111. <https://doi.org/10.1080/19415257.2013.823099>
- Landis, J. R., & Koch, G. G. (1977). *The Measurement of Observer Agreement for Categorical Data* (Vol. 33, Issue 1). <https://about.jstor.org/terms>
- Lee, J. F. K. (2008). A Hong Kong case of lesson study-Benefits and concerns. *Teaching and Teacher Education*, 24(5), 1115–1124. <https://doi.org/10.1016/j.tate.2007.10.007>
- Lee, M., & Louis, K. S. (2019). Mapping a strong school culture and linking it to sustainable school improvement. *Teaching and Teacher Education*, 81, 84–96. <https://doi.org/10.1016/J.TATE.2019.02.001>
- Leithwood, K., Harris, A., & Hopkins, D. (2019). *School Leadership & Management Formerly School Organisation Seven strong claims about successful school leadership revisited*. <https://doi.org/10.1080/13632434.2019.1596077>
- Leithwood, K., & Jantzi, D. (2005). Leadership and Policy in Schools A Review of Transformational School Leadership Research 1996-2005. *A Review of Transformational School Leadership Research*, 4(3), 177–199. <https://doi.org/10.1080/15700760500244769>

- Liu, P. (2021). *Understanding the relationship between teacher leadership and collective teacher efficacy in Chinese urban primary schools*. <https://doi.org/10.1080/13603124.2021.1884748>
- Lyons, P., & Bandura, R. P. (2019). Case-based modeling: fostering expertise development and small group learning. *European Journal of Training and Development*, 43(7–8), 767–782. <https://doi.org/10.1108/EJTD-01-2019-0009>
- Marks, M. A., Mathieu, J. E., & Zaccaro, S. J. (2001). A Temporally Based Framework and Taxonomy of Team Processes. In *Source: The Academy of Management Review* (Vol. 26, Issue 3). <https://www.jstor.org/stable/259182?seq=1&cid=pdf->
- Minkos, M. L., & Gelbar, N. W. (2021). Considerations for educators in supporting student learning in the midst of COVID-19. *Psychology in the Schools*, 58(2), 416–426. <https://doi.org/10.1002/PITS.22454>
- Oosthoek, B. W., Braster, J. F. A., & Koster, F. (2017). *De invloed van interne feedback op de mate van self-efficacy van leerkrachten*.
- Palmer, D. J., Stough, L. M., Burdenski, T. K., & Gonzales, M. (2005). Identifying Teacher Expertise: An Examination of Researchers' Decision Making. *Educational Psychologist*, 40(1), 13–25. https://doi.org/10.1207/s15326985ep4001_2
- Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health Services Research*, 34(5 Pt 2), 1189. [/pmc/articles/PMC1089059/?report=abstract](https://pubmed.ncbi.nlm.nih.gov/1089059/)
- Rose, R., Bowen, P., & Pilkington, A. (2017). Mixed methods-theory and practice. *International Journal of Quantitative and Qualitative Research Methods*, 5(2), 10-27. www.eajournals.org
- Seppänen-Järvelä, R., & Haapakoski, K. (2021). Integrative Strategies in Mixed Methods Research. *Article Journal of Mixed Methods Research*, 15(2), 2020. <https://doi.org/10.1177/1558689820957125>
- Sinnema, C., Daly, A. J., Liou, Y. H., & Rodway, J. (2020). Exploring the communities of learning policy in New Zealand using social network analysis: A case study of leadership, expertise, and networks. *International Journal of Educational Research*, 99, 101492. <https://doi.org/10.1016/J.IJER.2019.10.002>
- Skaalvik, E. M., & Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy, and teacher burnout. *Journal of Educational Psychology*, 99(3), 611–625. <https://doi.org/10.1037/0022-0663.99.3.611>
- Skaalvik, E. M., & Skaalvik, S. (2010). Teacher self-efficacy and teacher burnout: A study of relations. *Teaching and Teacher Education*, 26(4), 1059–1069. <https://doi.org/10.1016/J.TATE.2009.11.001>
- Slingerland, M., Borghouts, L., Laurijssens, S., Eijck, B. van D. van, Remmers, T., & Weeldenburg, G. (2021). Teachers' perceptions of a lesson study intervention as professional development in physical education: <https://doi-org.proxy.library.uu.nl/10.1177/1356336X21997858>, 27(4), 817–836. <https://doi.org/10.1177/1356336X21997858>
- The Learning Professional* | [www.FOCUS CREATE A VIBRANT LEARNING CULTURE ACHIEVE COLLABORATIVE INQUIRY BUILDS TEACHER EFFICACY FOR BETTER STUDENT OUTCOMES](http://www.learningforward.org). (n.d.). www.learningforward.org
- Thompson, G., & Glasø, L. (2015). Situational leadership theory: A test from three perspectives. *Leadership and Organization Development Journal*, 36(5), 527–544. <https://doi.org/10.1108/LODJ-10-2013-0130>

- Townsend, T., Acker-Hocevar, M., Ballenger, J., & Place, A. W. (2013). *Leadership and Policy in Schools* (Voices From the Field: What Have We Learned About Instructional Leadership?) *Voices From the Field: What Have We Learned About Instructional Leadership?*, *Leadership and Policy in Schools*, 12(1), 12–40. <https://doi.org/10.1080/15700763.2013.766349>
- Vangrieken, K., Dochy, F., Raes, E., & Kyndt, E. (2015). Teacher collaboration: A systematic review. In *Educational Research Review* (Vol. 15, pp. 17–40). Elsevier Ltd. <https://doi.org/10.1016/j.edurev.2015.04.002>

Appendix A

Vragenlijst

Achtergrondinformatie

Op welke school geef je les?

Hoeveel jaar onderwijservaring heb je?

Leiderschap:

In hoeverre is op jullie school gezamenlijke verantwoordelijkheid voor de volgende taken:

Antwoord opties: 1. Helemaal niet 2. Tot op zekere hoogte 3. Een beetje 4. Goed

- L_1. Het aannemen van docenten
- L_2. Het toewijzen van budget in de school
- L_3. Het bepalen welke leermaterialen er gebruikt worden
- L_4. Het bepalen van de cursusinhoud, inclusief curriculum
- L_5. Een besluit nemen over welke cursussen voor leraren er aangeboden worden

Wat was jouw ervaring aangaande de samenwerking met de directeur bij de volgende activiteiten in de school de afgelopen twaalf maanden? (keuze uit: *nooit of zelden/soms/vaak/heel vaak*)

- L_6. Hij/zij werkte samen met leerkrachten om orde problemen in de klas op te lossen.
- L_7. Hij/zij kwam in de klas om de instructie te observeren
- L_8. Hij/zij gaf mij feedback gebaseerd op de klassen observatie
- L_9. Hij/zij nam actie om onder leerkrachten samenwerking te stimuleren om nieuwe onderwijsmethoden te ontwikkelen
- L_10. Hij/zij nam maatregelen om te zorgen dat ik mijn verantwoordelijkheid neem voor het verbeteren van mijn onderwijsvaardigheden
- L_11. Hij/zij nam actie om ervoor te zorgen dat ik me verantwoordelijk voel voor de resultaten van mijn leerlingen
- L_12. Hij/zij werkte samen met directeuren van andere scholen aan werktaken
- L_13. Hij/zij kan zich goed aanpassen aan verschillende situaties
- L_14. Hij/zij kan situaties van verschillende perspectieven bekijken
- L_15. Hij/zij werkte aan een professioneel ontwikkelingsplan voor deze school

Geef aan of dit van toepassing is in jouw school:

1. Helemaal niet 2. Tot op zekere hoogte 3. Een beetje 4. Goed

- L_16. Collega's moedigen elkaar aan om hun doelen voor hun professionele ontwikkeling na te streven
- L_17. Wij nemen gezamenlijk besluiten aangaande de verbetering van ons onderwijs, dus in overleg met schoolleiding en het leerkrachtenteam
- L_18. Mijn schoolleider biedt nieuwe inzichten in het oplossen van probleemsituaties
- L_19. Mijn schoolleider staat open voor initiatieven vanuit het team
- L_20. Mijn schoolleider stelt duidelijke/heldere doelen
- L_21. Elke leerkracht neemt een deel van de verantwoordelijkheid voor het onderwijs in de school voor zijn/haar rekening

Collective efficacy

Geef bij de volgende stellingen aan in hoeverre jij het eens of oneens bent met de stelling, met betrekking op jouw school. Antwoordoptyes: 1. Zeer oneens 2. Oneens 3. Eens 4. Zeer eens

- CE_1. Als leraren van deze school kunnen we zelfs de moeilijkste leerlingen bij hun schoolwerk betrekken
- CE_2. Op deze school hebben we een gemeenschappelijke set aan regels en voorschriften die ons in staat stelt om problemen met de werksfeer in de klas met succes aan te pakken
- CE_3. Leraren op deze school spelen met succes in op de behoeften van individuele leerlingen in het algemeen
- CE_4. Leraren op deze school spelen met succes in op de behoeften van individuele leerlingen met betrekking tot de Covid-19 situatie
- CE_5. Leraren op deze school hebben gezamenlijk lessen getrokken uit de schoolsluiting voor toekomstig handelen
- CE_6. Op deze school zijn we in staat een veilige en inclusieve sfeer te creëren, zelfs in de moeilijkste klassen
- CE_7. Op deze school slagen de leerkrachten erin om reken- en taalvaardigheden bij te brengen, ook bij de leerlingen met een laag niveau
- CE_8. Deze school biedt het personeel mogelijkheden om actief deel te nemen aan schoolbesluiten
- CE_9. Deze school heeft een cultuur van gedeelde verantwoordelijkheid
- CE_10. Op deze school heerst een samenwerkingscultuur die wordt gekenmerkt door wederzijdse ondersteuning
- CE_11. De samenwerkingscultuur bij ons op school heeft een positieve impuls gekregen naar aanleiding van de inzet van de NPO-middelen
- CE_12. Het schoolpersoneel heeft een gemeenschappelijke set overtuigingen over lesgeven en leren.
- CE_13. De keuze voor de inzet van de NPO-middelen heeft onze gemeenschappelijke set overtuigingen over lesgeven en leren in deze tijd versterkt

Diverse expertise

Geef bij de volgende stellingen aan in hoeverre jij het eens of oneens bent met de stelling, met betrekking op jouw school. Antwoordopties: 1. Zeer oneens 2. Oneens 3. Mee eens 4. Zeer mee eens

- DTE_1. Op onze school zijn ieders expertises bekend
- DTE_2. Op onze school wordt ieders expertise ingezet
- DTE_3. Op onze school wordt nagestreefd dat ieders expertise wordt verhoogd
- DTE_4. Op onze school wordt een ieders expertise zo ontwikkeld dat er een dekkend geheel ontstaat om passend les te geven
- DTE_5. Op onze school heeft iedereen toegang tot opleidingsmogelijkheden
- DTE_6. Door de inzet van de NPO-middelen hebben wij op onze school meer mogelijkheden gekregen om de eigen expertise te ontwikkelen
- DTE_7. Door de inzet van de NPO-middelen, wordt de expertise-ontwikkeling van ons op school goed verdeeld over verschillende domeinen

Appendix B

Purposes, data sets, and analyses in this study

Purpose	Data set	Methods of analysis
Teachers's view on: - elements of LfL of their school leader, how they perceive their school leader to support collective efficacy, how they perceive collective efficacy and diverse expertise themselves	<i>Questionnaire data</i> (57 items)	Quantitative data: Descriptive measurements
How do the five elements of leadership for learning become visible in the leadership of the school leader as a result of the Covid-19 Recovery Funds intervention. The school leaders' view toward the use of diverse team expertise will be discussed and attention will be given of how the use of teachers' expertise influences collective efficacy	<i>Semi-structured interviews</i> (Interview guide)	Qualitative data: The collected data will first be processed in a deductive manner using the constructs of the theory to form labels. Then these labels will be augmented in an inductive process by new themes emerging from the data.

Appendix C

Interviewleidraad:

In what ways did the Covid-19 Recovery Funds impact primary school leaders' use of leadership for learning (Lfl) elements?

- To what extent did the intervention foster the utilization of diverse expertise within the team?
- How does diverse team expertise influence collective efficacy?

De gespreksleidraad bestaat uit het hoofdonderwerp leadership for learning en deelonderwerpen: collective efficacy en diverse team expertise. Tijdens de gesprekken wordt er ingegaan op de feitelijke gegevens (bv hoe wordt samenwerken gestimuleerd?) en wordt er doorgevraagd naar de ervaringen van de schoolleiders.

Algemeen:

- Hoe lang werkt u nu als school directeur?
- Bent u vanuit het leraarschap directeur geworden? Wat is hier voor-/nadeel van?
- Welke keuze voor uw school heeft u gemaakt nav de NPO gelden?

Leadership for learning

Visie

- Hoe zou u uw leiderschapsstijl omschrijven?
 - Op welke manier probeert u dit te doen?
- Wat verstaat u onder leiding geven?
- Kunt u aspecten van leiderschap benoemen die belangrijk voor u zijn?
- Wat voor een schoolklimaat probeert u te creëren?
- Hoe zou u de visie van de school omschrijven?
 - Wat is belangrijk voor mij om te weten?

NPO gelden

Is uw leiderschap nu anders dan voor de corona pandemie?

- Kunt u hier een voorbeeld van geven?
- Wat was voor u het belangrijkste aspect in deze situatie?
- Wat heeft deze situatie u en de school gebracht? (meer samenwerking, gebruik van expertise)

Samenwerking - professionalisering

SPO Utrecht heeft als doel competenties en expertise te verhogen, kennis te delen en samen te leren om ieders persoonlijke ontwikkeling te verhogen.

- Op welke wijze staat u in contact met het team?
- Op welke manier probeert u de motivatie van het team van leerkrachten te stimuleren?
- Kunt u vertellen hoe de kennis wordt gedeeld

- Hoe er gezamenlijk geleerd wordt?
- Worde de lessen samen voorbereid?
 - Hoe wordt het samen voorbereiden, observeren van elkaars lessen vormgegeven?
- In welke mate wordt het geven van feedback ingezet tijdens het samen voorbereiden en observeren van elkaars lessen?
 - Feedback leerkracht en directeur
- Hoe beleeft u de contacten tussen de leerkrachten onderling als het gaat om het bespreken van persoonlijke leerdoelen?
- Moedigt men elkaar aan om dit met elkaar te bespreken en de professionele ontwikkeling na te streven?
- Op welke wijze staat u in contact met de leerlingen?
- Kunt u vertellen hoe u zorgt dat de behoefte van de leerlingen centraal staat?
- Maakt u hier gebruik van de verschillende expertises die u met het leerkrachten team binnen de school heeft?
 -

Besluitvorming en verantwoordelijkheid

- Hoe en door wie worden de school eigen doelen bepaald?
- Op welke manier wordt de onderwijsvisie en worden de schooldoelen besproken met het team?
 - Hoe vaak?
- In hoeverre kunt u uw eigen belangen nastreven binnen de school?
- In hoeverre worden de belangen van de leerkrachten nagestreefd binnen de school?
- Welke acties neemt u om leerkrachten verantwoordelijk te laten nemen voor de resultaten van de leerlingen?
- In hoeverre neemt u maatregelen om te zorgen dat de leerkrachten hun verantwoordelijkheid nemen voor het verbeteren van hun onderwijsvaardigheden?
- In welke mate werkt u samen met andere scholen, besturen, gemeente?
- In hoeverre heeft het beleid van de stichting/overheid invloed op uw beleid voor de school?

NPO gelden

- Hoe heeft u de NPO gelden ingezet?
 - Waar heeft u daarbij op gelet?
 - Hoe heeft u uw leerkrachten ingezet?
- Hoe ervaart u de inzet van de interventie? Wat doet dit met het team?
- Hoe zou u handelen of handelde u in de volgende situatie:
 -

Afronding

- Zijn er nog belangrijke ervaringen die niet besproken zijn, maar die u wel graag wilt delen?

Appendix D

Exploratory Factor Analysis of the Items of Perceived Leadership and Collective Efficacy and Diverse Team Expertise

Items	Factor		Dimension	Items	Factor			Dimension
	1	2			1	2	3	
L_3	.351			CE_1			.878	
L_4	.546			CE_2			.726	Focus on student needs
L_5	.451			CE_3			.629	
L_7	.742			CE_4			.396	
L_8	.628		Instructional Leadership	CE_13			.456	
L_10	.435			CE_5		.411		
L_16	.441			CE_6		.421		
L_18	.624			CE_8		.402		Collective efficacy
L_20	.916			CE_9		.937		
L_21	.548			CE_10		.745		
L_6		.530		CE_11		.347		
L_9		.394		CE_12	.381			
L_11		.466		DE_1	.667			
L_12		.474		DE_2	.809			
L_13		.906	Distributed Leadership	DE_3	.545			Diverse Team Expertise
L_14		.837		DE_4	.701			
L_15		.381		DE_5	.432			
L_19		.358		DE_6	.669			
				DE_7	.823			

Notes: Extraction method; maximum likelihood; Rotation method; Oblimin. Loadings larger than .30 are in bold. Items L_1, L_2, L_17, and CE_7 have been removed by a low loading <.30 or nearly equal value.

Appendix E

Ethical considerations

Sample characteristics and consent procedures:

Five schools were already selected by the contact person to participate in the questionnaire.

The criteria that the schools had to meet were:

- At the school, the aim of the intervention employed with the Covid-19 Recovery Funds was aimed to increase professionalism and additional deployment.
- To provide a representative of schools in the region taking into account, among other things, the location in the city, the size of the school, ...

Possible issues that can occur are another lockdown where all schools would close again. Teachers and school leaders will then focus their attention on the progress of education rather than on research. It also becomes difficult to conduct research if many teachers in a school have tested positive and therefore are at home. Although it may be possible to do a questionnaire and interview at home. There could be a dilemma if there were schools that did not want to cooperate. Or that the majority of teachers in a school do not want to participate in the questionnaire. But because schools have already been called in by the contact person and agreed to participate, I do not foresee any problems with this.

Prior to the questionnaire, the participants are asked to sign an informed consent to give permission for the data collection. The informed consent consists of an information letter in which the research is described and how long it takes to complete the questions of the questionnaire.

Choice of instruments and possibly sensitive questions

This mixed-method research involves the integration of different kinds of data (i.e one questionnaire, five semi-structured interviews, and one focus group). The qualitative data will be used to enrich and interpret the quantitative data. The aim of joining the datasets is to build on the previous dataset to form a holistic view.

Questionnaire:

Teachers are asked at which school they work and how much work experience a teacher has. This can be sensitive if a teacher is unsure of his own abilities and fears that this will be made public due to a possible link between school and work experience. This may be prevented by clearly stating in the informed consent that the data will be processed anonymously.

Semi-structured interview

When a problem may arise from a school leader's experience, probing it may cause tension. I would ask the person why this is difficult and possibly suggest that this data is not further processed.

Focus-group:

Teachers may not feel completely free to answer in the presence of the principal. Hopefully, this can be overcome by discussing beforehand whether everyone feels free to discuss issues.

Effort required from participants and how this weighs against the relevance of the study

All instruments were administered in Dutch, the native language of the participants, so the participants can answer in their own language.

The teacher participants will have 14 days to complete the questionnaire. Completing the questionnaire takes a maximum of 20 minutes.

The school leaders are asked about 45 minutes effort to conduct the interview.

The focus group requires approximately 45 minutes from the teachers and principal of one school.

The outcome will be communicated to the participants at the end of the study. So that they can see the results of how the NPO funds have had an influence

Data handling and storage

The data will be stored on YODA, an online secured data storage, for ten years.

Any other issues concerning the academic integrity of your study

Not at this time