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Transforming Education Leadership through Multiple Approaches to Develop and Support School Leadership

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Abstract: This article elaborates on the multiple approaches to develop and support school leadership. In a 5-year quasi-experimental longitudinal mixed-methods study based on a sample of 122 schools in three regions in a German state, 75 school leaders and their teams participated in a 3-year program using multiple approaches; the rest served as the control group. The multiple approaches covered the school leaders' (a) professional development, comprising (i) a professional development program, (ii) individual coaching series, and (b) support for them, including (iii) school consultancy and (iv) additional financial resources. The quality of the interventions (regarding both the process and didactic qualities, as well as outcome qualities) and how the quality of both the school leadership and the schools changes over time as a consequence of these interventions are analyzed. The study's results show a highly positive assessment of the quality and advantages of the multiple approaches and their benefits for the quality of school leadership and further aspects of the school. The regression analyses demonstrate that positively perceived outcome qualities of the interventions are associated with improvements in numerous dimensions of school quality.

Keywords: leadership; school leader; principal; professional development; training; consultancy; coaching; school development; school improvement; school effectiveness

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1. Introduction

Leadership has been perceived as a key factor in the effectiveness of organizations [1] and schools [2], as well as in continuous reforms of education systems throughout the world [3–5] over the past decades.

In view of school leaders' responsibilities to ensure and enhance the quality of their schools, school leadership has become one of the central concerns in many countries' school systems [6,7]. Among scholars, policymakers, and practitioners in the field of education, there seems to be a broad international agreement about the need for high-quality leadership and thereby comprehensive professionalization of school leadership in all phases of a professional career.

This interest in school leadership has been accompanied by greater scholarly effort aimed at understanding how leadership contributes to school effectiveness and improvement, e.g., [2,5,6,8–10], and how school leaders are prepared, introduced, and continuously supported and developed.

Professional development (PD) plays an important role in the quality of aspiring, new, and established school leaders. Promoting high professional standards in school leadership and practices is the aim of many PD efforts. For this reason, extensive and comprehensive programs have been developed in many countries, e.g., [11,12]. On one hand, some initiatives accompany school leaders in different phases of their careers by offering preparation and induction programs and continuous PD. On the other hand, various short-term interventions address particular development needs identified by the leadership in specific school contexts.

So far, little research has focused on the continuous PD of school leaders. In this article, we contribute to bridging that gap by elaborating on multiple approaches to develop and support school leadership. In a 5-year quasi-experimental longitudinal mixed-methods study based on a sample of 122 schools in three regions in a German state, 75 of the school leaders and their teams (the intervention group) participated in a 3-year program using multiple approaches to develop and support school leadership; the rest served as the control group.

All schools and their leaders, comprising both the intervention and the control groups, shared the characteristic of being in the challenging circumstances of having a high percentage of students from low socioeconomic backgrounds.

The multiple approaches aimed at the school leaders' PD, including a comprehensive program consisting of nine modules, each lasting 2.5 days. This program featured presentations, exchanges of experiences, joint planning, networking opportunities, feedback sessions, and individual readings. Additionally, a personalized one-on-one coaching series comprising approximately 10 sessions was intended to address the specific challenges and individual problem(s) faced by the school leaders. The approaches that provided support for the school leaders included school consultancy for 12 h each in the 1st and the 2nd years and 9 h in the 3rd year. The school consultancy offered process support and guidance in structuring the pedagogical and organizational development processes of the school. Additional financial resources amounting to EUR 3000 were allocated to development projects and school development processes.

In this article, our analyses focus on the quality of the interventions (regarding the process, didactic, and outcome qualities) from the participants' perspective, as well as how the quality of school leadership quality and schools changes over time as a consequence of these interventions, from the perspectives of the school leaders and their staff members, and in comparison to the control group.

Our analyses are based on two different surveys (administered to the staff and the school leaders) about the work situation (school quality) and on the multiple approaches (interventions) assessed each year. In addition to a descriptive evaluation of the quality assessments of the staff and the school leaders, we conduct regression analyses to examine the impacts of specific components of the multiple approaches on selected school-quality characteristics during the program period.

Our study's results show highly positive assessments of the quality and advantages of the multiple approaches and their beneficial consequences for the quality of school leadership and further aspects of the school. Our regression analyses demonstrate that positively perceived outcome qualities of the interventions are associated with improvements in numerous dimensions of school quality (e.g., cooperative leadership). The multiple approaches result in reduced role ambiguity from the school leaders' perspective. Additionally, from their staff members' perceptions, these approaches foster improved coordination of actions of the school leaders and the middle management, as well as greater coherence of the leadership team, more cooperative leadership, better communication, and increased cooperation on behalf of common pedagogical goals and strategies.

Our overall findings provide evidence for the effectiveness of the multiple approaches to develop and support school leadership as interventions to transform education leadership. These initiatives can secure and enhance school quality when applied coherently and consistently, in accordance with each school's strategy and context, and as a combination of different interventions, with a persistent, clear, and comprehensive approach that includes congruent and complementary aspects.

2. Education Leadership

2.1. School Leadership and School Effectiveness

In recent decades, school leadership has become a central focus in school systems around the world due to the critical role that leaders play in ensuring and enhancing school quality [6,7]. Their pivotal role as a factor contributing to effective schools has been

corroborated by research findings. Extensive empirical efforts of quantitatively oriented school effectiveness research have shown that leadership is a central factor in school quality e.g., [13–27].

The research results show that schools classified as successful are characterized by competent and sound school leadership (with a highly significant correlation between these variables). The central importance of educational leadership is, therefore, one of the clearest messages of school effectiveness research [28]. In most of the lists of key factors (or correlates) that school effectiveness research has compiled, "leadership" plays such an important part that the argument starting with the message "schools matter, schools do make a difference" may legitimately be applied to school leadership: "school leaders matter, they are educationally significant, school leaders do make a difference" e.g., [9,29–32].

"Professional school leadership" is described as firm and purposeful, sharing leadership responsibilities, involvement in and knowledge about what happens in classrooms. It means that it is important to enabling staffs' decisive and goal-oriented participation in leadership tasks, there is real empowerment in the true delegation of leadership authority (distributed leadership), and school leaders demonstrate a dedicated interest in and knowledge about what transpires during lessons (effective and professional school leadership action focuses on teaching and learning and uses each school's set of goals as a benchmark) e.g., [31,32].

2.2. School Leadership and School Improvement

Studies on school development and improvement also emphasize the significance of school leaders, especially from the perspective of the continuous improvement process targeting individual schools, e.g., [8,33–43].

In many countries, the efforts made to improve schools have illustrated that neither top-down measures (e.g., reform measures from education ministries and authorities) alone, nor exclusively bottom-up approaches (e.g., changes initiated by individuals) produce the desired outcomes. Instead, the combination and systematic synchronization of both has proven most effective e.g., [44]. Moreover, improvement is viewed as a continuous process with different phases, which follow their individual rules e.g., [38,45,46]. Innovations also need to be institutionalized after their initiation and implementation at the individual school level so that they will become a permanent part of the school's culture, comprising its structures, atmosphere, and daily routines [47]. The goal is to develop problem-solving, creative, and self-renewing schools that have sometimes been described as learning organizations. Therefore, the emphasis is placed on the priorities to be chosen by each school since it is the center of the change process. Thereby, the core purposes of schools—education and instruction—are the focal points because the teaching and learning processes play a decisive role in student success [48]. Thus, both individual teachers and school leaders are of great importance. They are the essential change agents who will have significant influence on whether a school will develop into a learning organization or fail to do so, e.g., [5,32,49]. For all phases of the school development process, school leadership is considered vital and is held responsible for keeping in mind the school as a whole and adequately coordinating individual activities during the improvement processes (for the decisive function of leadership in the development of individual schools, see, e.g., studies conducted as early as the 1980s [50–52]). Leaders are also required to create the internal conditions necessary for the continuous development and increasing professionalization of teachers and are held accountable for developing a cooperative school culture. In this regard, research emphasizes the "modeling" function of school leaders e.g., [53–55].

2.3. Professional Development (PD) and Support

PD is essential for both aspiring and experienced school leaders, focusing on maintaining high standards of leadership. Many countries have implemented comprehensive programs that support leaders through various career stages and offer targeted short-term interventions for specific developmental needs [56].

The past decades have witnessed a growing knowledge base in the field of education leadership development. Distinct characteristics of leadership development programs are beginning to form, and there is a rising demand for studies on the associated effects and outcomes [57].

Several international trends in PD can be identified. We have followed up on an earlier study on the PD of leaders in 15 countries (see also [58,59]). We also draw on the project called Professional Learning through Reflection promoted by Feedback and Coaching (PROFLEC, see CPSM.EduLead.net (accessed on 1 July 2024)), funded by the European Union (2012–2014). PROFLEC reviewed international trends focusing on the training and development of school leaders in 10 countries: Australia, Cyprus, the Czech Republic, Denmark, England, the German-speaking countries (Austria, Germany, and Switzerland), Norway, and Sweden [56].

Key perspectives in PD curricula demonstrate increasing attention to the needs of participants and recommend that demands derived from school evaluations be considered and practices be improved by bridging theory and action. This orientation toward needs and application is expected to improve the impacts and sustainability of PD [60,61]. To become better aligned with the needs of participants, a few PD approaches integrate diagnostic means, audits, assessments of needs, and feedback opportunities as components of training and PD.

In general, the use of a wide range of strategies and methods will likely be the most-effective approach. Those responsible for planning and implementing professional training and development are strongly advised to use a variety of methods. This approach helps individual participants learn and be motivated to apply the lessons for performance improvement.

Despite differences in cultural and institutional traditions, a number of internationally shared trends in the PD of school leaders can be observed, including holistic approaches (not only content instruction but also promotion of motivation and reflection), personal development instead of training for a role, orientation toward each school's core purposes (from knowledge acquisition to its creation and development), experience and application orientation, and multiple methods of using different ways of learning (e.g., workshops, self-assessments, and feedback) [56].

A study on preparing school leaders [11] shows that "effective principal preparation and development programs could transform principals' practice and increase their success by proactively recruiting dynamic, instructionally focused educators; developing and applying strong knowledge of instructional leadership, organizational development, and change management practices; and offering coaching, feedback, and opportunities for reflection in purposeful communities of practice" [12] (p. v). Key factors include meaningful, authentic, and applied learning opportunities; curricula focused on developing people, instruction, and organization; expert mentoring or coaching; and collegial learning. Further studies demonstrate the importance of reflection and practice-oriented leadership approaches used for effective learning and for their impacts on the organizational level e.g., [11,12,62–67]. Even though PD differs in each career phase of a school leader, these mechanisms are shown to be general key factors.

A study suggests multiple learning approaches that integrate courses, self-study, problem-based learning, simulation or practices, and peer learning in communities and networks (see Figure 1) [61].

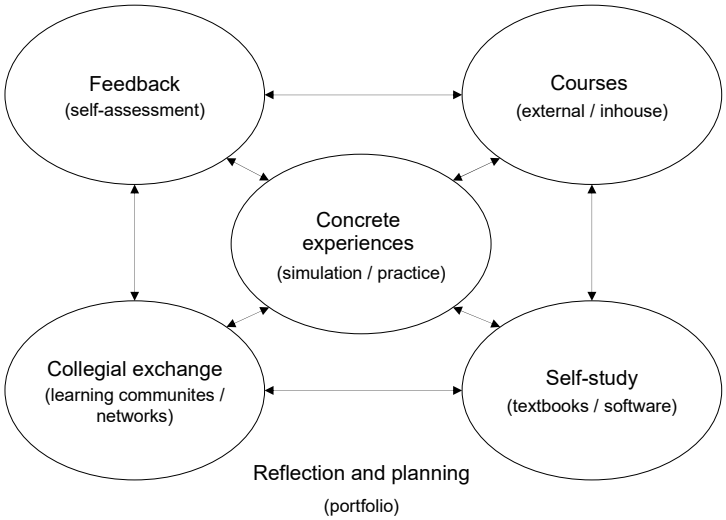


Figure 1. Approaches to learning in professional development [61] (p. 841). (Copyright © International Professional Development Association (IPDA), reprinted by permission of Taylor & Francis Ltd., http://www.tandfonline.com (accessed on 20 June 2024) on behalf of International Professional Development Association (IPDA)).

We conclude that it is not only the use of different learning approaches that matters in general but also, in particular, how they are conceptually linked and how this linkage is implemented and then experienced by participants.

Models of the effectiveness of other learning environments, such as those known from school and teaching research, can be used as starting points for a model of the effectiveness of PD. In teaching research, models of learning opportunities have become widely utilized, whose origins can be traced back to Fend's work [68,69]. One of the numerous modifications and further developments of such models is Helmke's utilization of that of teaching effectiveness e.g., [70–72]. Another model is presented by Ditton [73], who (in addition to the processual nature) focuses on the multilevel character of the school system.

In determining the different levels of impact, we assume that the perception of the program—in terms of its expected relevance for practices, usefulness, and participant satisfaction—should be considered as processes involving the participants themselves. The perception of the program thereby does not represent its impacts. Our definition of impact goes beyond the subjective views of participants; it includes an external perspective and measurable indicators.

Different levels in the evaluation of PD have been described. For instance, Kirkpatrick describes four levels of evaluation [74]:

- Level 1. Reaction (participant satisfaction based on setting, content, methods, etc.)
- Level 2. Learning (cognitive learning success and increase of knowledge)
- Level 3. Behavior (success in transferring content to action)
- Level 4. Results (positive organizational changes as results of the above)

Guskey [75,76], Mujjs and Lindsay [77], and Muijs et al. [78] each describe a model of evaluation comprising five levels:

- Level 1. Participants' reactions
- Level 2. Participants' learning
- Level 3. Organizational support and change
- Level 4. Participants' use of new knowledge and skills
- Level 5. Student learning outcomes

The issue of the impacts of multiple approaches to PD and support is closely connected to those of school leadership and school effectiveness. Regarding school leadership, Muijs and Huber [6] provide a literature review of studies and meta-studies of school

leader effectiveness showing indirect impacts on student achievement through various school qualities.

The framework for our empirical research differentiates between qualities of the intervention and qualities of the school (see Figure 2).

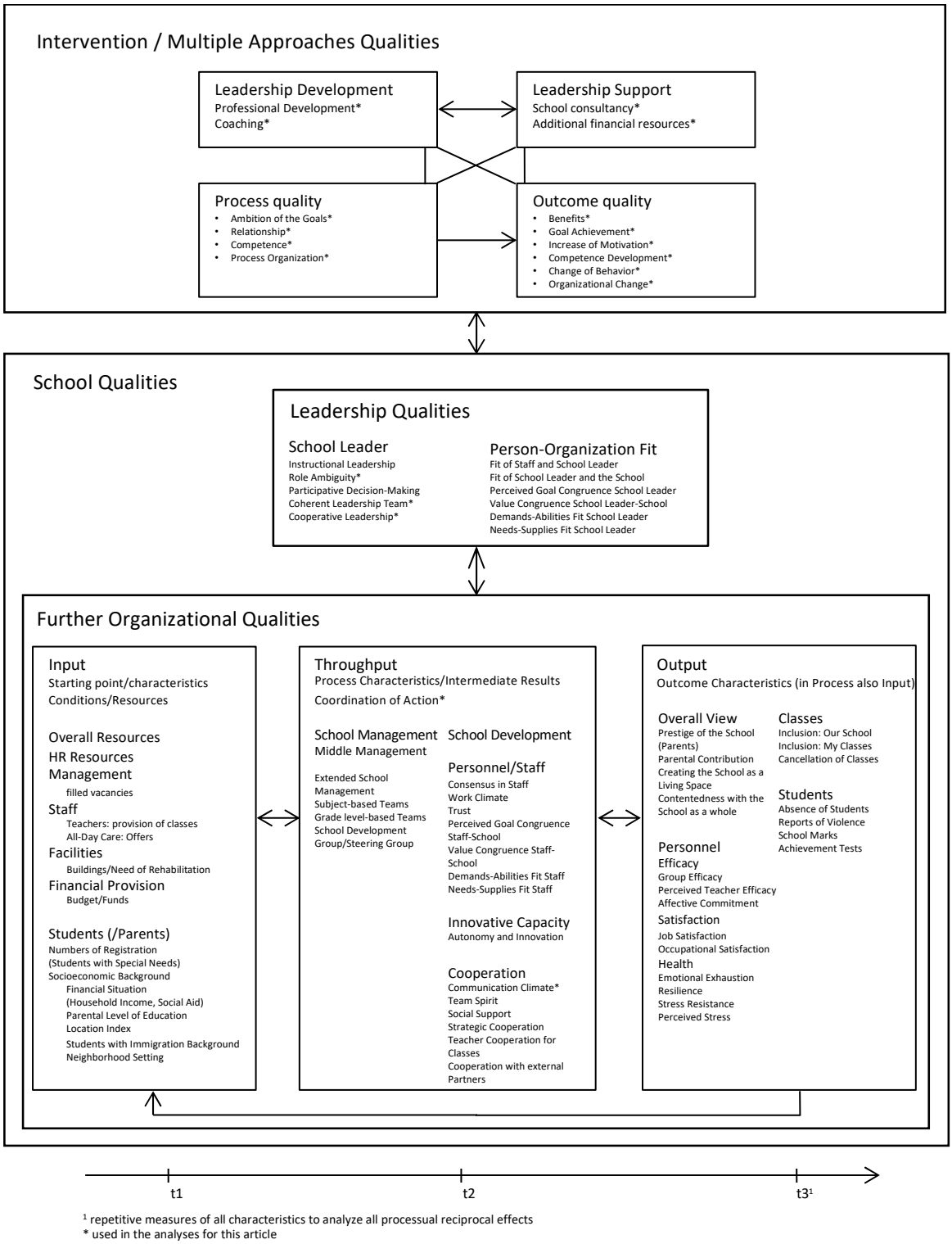


Figure 2. Theoretical model for empirical research of the quality of the multiple approaches to develop and support school leadership.

The quality of the interventions demonstrates different but complementary approaches to leadership development, on the one hand, and leadership support for school development on the other hand. Each approach is analyzed with a set of process qualities, as well as outcome qualities.

The model integrates the various forms of impact level, as stated above. Moreover, as a structural component model building on Cronbach's work [79] (see also [80] (p. 776)), school quality is organized into input, throughput, and output characteristics.

School quality is analyzed with various forms of leadership qualities, particularly focusing on the school leader. Further organizational qualities in the form of various input, throughput, and output characteristics are considered, too.

For the schools involved in the multiple approaches to develop and support school leadership, general conditions and resources can be described as input characteristics. These include personnel, material, and financial resources, as well as the characteristics of the student body. Examples of operationalization are provided in the visualization (see Figure 2) (e.g., whether the school management position is filled). The coordination of action can be regarded as throughput, which is shaped by school management and school development. Characteristics of school quality are modeled as output at the organizational level, while learner characteristics, especially student results (e.g., performance outcomes), are modeled as output at the student level.

Theoretically, in this study, we assume a moderation of effects, from process qualities to outcome qualities, that can be outlined as follows: The support of the school management by concerted action following the interventions promotes the school's coordination of action—that is, the promotion of strategic and tailor-made personnel management strengthens the school management—and thus, above all, new, strengthened, or further developed in its competence. This, in turn, expands middle management and the work of the school development steering group. This expansion increases the management capacity of the school as a whole, in turn promoting the work of school development. As a result, strategically oriented cooperation, geared toward learning processes, can be expanded, the coordination of actions can be increased, and the quality of the school can be further developed. This increase in quality can then have beneficial impacts on teaching–learning arrangements and student results. Good student results in turn lead to a higher prestige for the school and to an enhanced professional image and self-image for those working in the school.

Of course, quality characteristics at the student and organizational levels also influence the coordination of actions in terms of school management and school development. The visualization (see Figure 2) marks these interdependencies with arrows.

To strengthen schools in their overall coordination of action and to ensure their further development within the framework of traditional school development work, various stakeholders need their own scopes of actions and responsibilities, as well as resources. School improvement also requires the professionalization of school stakeholders, who increase their motivation, competence, legitimacy, and social acceptance through intensive school development support, further training, and coaching.

3. Description of the Multiple Approaches to Develop and Support School Leadership

The multiple approaches to develop and support school leadership aim to assist school leaders (used as a synonym for principal) in disadvantaged social environments, specifically:

- To professionalize and strengthen their central fields of activity, educational leadership, and school management;
- To support further development of their schools through a specific project focusing on instructional development; and
- To appreciate their work and to foster a network with their dedicated colleagues.

This initiative was implemented as a pilot project by a foundation in collaboration with a German federal state from 2015 to 2020. Three groups (G1, G2, and G3) were launched at

different times in three administrative districts, each with 25 school leaders. Thus, in total, 75 schools were the beneficiaries of the multiple approaches to develop and support school leadership, provided by the foundation. The schools voluntarily applied to participate in the project.

These multiple approaches were designed as a comprehensive 3-year support program, consisting of five components that can be used according to school-specific needs and the progress of the project. The interventions were coordinated in terms of content and followed the process architecture of a school development project over 3 years. They started at the levels of leadership development, school development, and networking, as described in the following subsections.

3.1. Leadership Development

3.1.1. PD

PD comprised nine modules over 3 years. Each module lasted 2.5 days. The modules offered keynotes and information input, cross-school networking, peer counseling, and process-oriented reflection. They supported leadership development by strengthening existing management and leadership skills. The nine modules supported school leaders in planning and implementing their individual school development projects with thematic input, keynote speeches, and practical reports. At the same time, the PD modules offered a protected space for personal development, readjustment, reassurance, and recharging, as well as the development of a professional learning community.

3.1.2. Coaching

Professional coaches were available to the school leaders to support their personal development in confidential one-on-one meetings. The coachees could choose the areas of focus and goals of the 10 sessions.

3.2. Leadership Support

3.2.1. Regular Reflection Time and Mutual Peer Exchange

Half-day events in the afternoon were conducted with the aim of promoting the exchange of experiences and networking among school leaders and various groups of people outside the PD module.

3.2.2. School Consultancy

School consultancy is the intervention that was explicitly intended to support the implementation of the school development project onsite. It was designed as process support and supportive structuring of the pedagogical and organizational development process at the school. It was aimed at the school management and the school committee, such as a steering or project group, responsible for the school development process. This team was supported in the definition of its goals, the planning of measures and resources, the involvement of the entire college, implementation, and much more. The constitution of the committee, the clarification of the members' roles, and their cooperation could also be considered. The school consultancy supported the impact-oriented planning of a specific school development project. The results were recorded in a project plan, which was also used as a management tool. Each school was allocated 12 h of school development support in the 1st and the 2nd years and 9 h in the 3rd year.

3.2.3. Additional Financial Resources

To (partially) finance development projects or school development processes, all school leaders could request additional financial resources amounting to EUR 3000. The distribution was based on the project plans that the schools drew up at the end of the 1st year. Each project plan also described the intended use of the resources.

3.3. Combining Multiple Approaches in a Coherent Way to Transform Education Leadership

The multiple approaches to develop and support school leadership targeted several levels. The interventions, such as coaching and the PD modules, were primarily aimed at school leaders. Measures such as school consultancy or additional financial resources were intended for the development of each school as a whole, (i.e., comprising the school leaders, as well as the steering group and the entire staff).

The interventions considered the school leaders and their schools at their respective stages of development and initiated further individual school development measures onsite. The schools set different priorities and took various measures due to their diversity and their distinct needs and requirements.

The connecting element at all levels and the common thread across the multiple approaches to develop and support school leadership was the school development project or plan that the school leaders guided and developed, prepared, implemented, and evaluated with their teams over 3 years.

The school development project was intended to contribute to school and instructional development and, ultimately, improvements in student learning. The local stakeholders—school management, teachers, other educational staff, and external supporters—worked together to change teaching and learning to optimally support and promote the students at their locations. At the same time, the project served to develop examples of central routines for school and instructional development and to anchor them in the schools in the long term.

4. Study Design

4.1. Aims of the Study and Research Questions

In this article, we aim to elaborate on the multiple approaches to develop and support school leadership. In a 5-year quasi-experimental longitudinal mixed-methods study based on a sample of 122 schools in three regions in a German state, 75 school leaders and their teams participated in a 3-year program that implemented these multiple approaches; the rest served as the control group.

Therefore, we analyze the quality of the interventions from the participants' perspective (on the process, didactic, and outcome qualities), as well as how the quality of the school leadership and the schools changes over time as a consequence of these interventions, from the school leaders' and their staff members' perspectives, and in comparison to the control group.

In this article, we answer the following questions:

i. What is the quality of the multiple approaches to develop and support school leadership?
    a. What goals and contents are formulated for coaching and for school consultancy?
    b. What are the additional financial resources used for?
    c. What are the process qualities of these multiple approaches?
    d. What are the outcome qualities of these multiple approaches?
ii. What is the quality of the combination of these multiple approaches, assessed as a comprehensive 3-year support program?
iii. What are these multiple approaches' consequences for school leadership quality and organizational quality and the changes in quality over time?

4.2. Methods

4.2.1. Mixed-Methods Longitudinal Approach with a Quasi-Experimental Control Group Design

In this article, we report the findings of a larger research study that employs various methodological approaches, including both qualitative and quantitative methods of data collection and analysis, tailored to the study's objectives and the research questions. The

methodological phases and substeps build on each other. As the multiple approaches to develop and support school leadership are designed as a comprehensive support measure, a comprehensive research concept was created based on repeated, comparable data collection. For this explanatory and exploratory sequential research, the mixed-methods approach allows us to better explain and understand the studied field by enriching quantitative data with qualitative insights, providing contextual understanding. Additionally, it enables triangulation, thereby strengthening the credibility and validity of our findings by confirming the results based on multiple data sources.

This 3-year longitudinal mixed-methods study is based on a sample of 122 schools. In our qualitative analyses, we use school documents (e.g., inspection reports, school strategy documents, other reports), semi-structured interviews with different actors in the schools (e.g., school leaders on various levels, teachers, and educators) held twice (at the beginning and at the end of the 3-year period), and logs of the coaches and of the school consultants, each 10 times over the 3-year period.

For the quantitative analyses, we conducted six surveys among the staff and school leaders—three regarding the work situation (school quality) and three regarding the various interventions over the 3-year period. Furthermore, we analyze statistical data from the government and education authorities and student achievement data. In this article, we refer exclusively to quantitative data.

4.2.2. Sample

The sample consists of 122 schools, of which 75 applied to participate in the interventions combining multiple approaches to develop and support school leadership.

All schools are defined by a high percentage of students with low socioeconomic status. However, the first set of analyses of all school quality factors shows a high variation.

A control group design was used for the quantitative questionnaire surveys. The control group and the schools that participated in the multiple approaches (the intervention group) should be similar (i.e., the control group should be comparable to the participating schools in terms of location, social index, student performance data, and the diversity of the intervention group). The control group consisted of 11 schools in G1, 26 schools in G2, and 10 schools in G3, which covered both similar and different characteristics of the intervention group. In the control group, a total of 29 schools participated at the first and the third survey measurement points (T1 and T3, respectively).

The schools belonging to the control group were approached by the research team in cooperation with the respective education authorities. The surveys were administered to the control group to a reduced extent (i.e., the control group only participated in surveys on school quality).

Before each survey on the work situation (school quality), each school's current staff members were identified. Table 1 provides an overview of the sample sizes and the participation per group for each measurement point in absolute and relative numbers, divided into intervention and control groups for the survey on the work situation (school quality). The absolute values for the school leaders and staff, as well as the number of schools that participated in the survey, are shown in each case.

The column heading "in all MP" indicates how many people from the schools participated in the survey at all measurement points (T1, T2, and T3). The comparatively low consistency of the participants can be attributed, for example, to difficulties in allocating the data from different measurement points. The primary reason for the low overlap between the samples from different measurement times is the sometimes-high fluctuation in the schools.

The response rate of the staff across the intervention group is over 50% for T1, T2, and T3. The response rate of the staff across the control group is over 50% for T1 and T2 in G1 and G2 and over 40% for T3. In G3, there is a downward outlier among the schools of the control group at T2, with 32%.

Table 1. Survey on the work situation and school quality—Sample and Participation.

		T1			T2			T3			In All MP		
		SL	Staff	Schools	SL	Staff	Schools	SL	Staff	Schools	SL	Staff	Schools
G1	**IG**	25 (100%)	685 (73%)	25	24 (100%)	609 (64%)	25	24 (100%)	545 (63%)	24	22	258	24
	CG	11 (100%)	369 (52%)	11	7 (70%)	342 (50%)	9	5 (100%)	97 (41%)	5	4	44	5
G2	**IG**	25 (100%)	625 (78%)	25	24 (96%)	504 (66%)	25	18 (74%)	478 (64%)	25	18	247	25
	CG	24 (100%)	448 (64%)	26	24 (92%)	339 (63%)	25	18 (67%)	238 (44%)	20	11	110	18
G3	**IG**	23 (92%)	499 (71%)	25	21 (95%)	388 (72%)	21	18 (82%)	343 (58%)	20	16	154	19
	CG	10 (91%)	147 (60%)	10	7 (88%)	60 (32%)	7	9 (90%)	152 (49%)	9	5	18	7
Total		**118 (97%)**	**2773 (66%)**	**122**	**107 (90%)**	**2242 (58%)**	**112**	**92 (86%)**	**1853 (53%)**	**103**	**58**	**831**	**98**

Notes. IG = intervention group; CG = control group; SL = school leaders who responded to the survey, Staff = staff members who responded to the survey, Schools = number of schools that took part in the survey; G1 = group 1, G2 = group 2, G3 = group 3; T1 = first measurement point; T2 = second measurement point; T3 = third measurement point; MP = measurement point.

Before each survey on the multiple approaches, the current staff members who experienced the interventions (in particular, school consultancy) were identified. Table 2 provides an overview of the sample sizes and the absolute and relative participation per group for each measurement point of the intervention group for the survey on the multiple approaches (interventions). In each case, the absolute and relative values of the school leaders and staff, as well as the number of schools that participated in the survey, are shown.

Table 2. Survey on the multiple approaches (interventions)—Sample and Participation.

	T1			T2			T3			In All MP		
	SL	Staff	Schools	SL	Staff	Schools	SL	Staff	Schools	SL	Staff	Schools
G1	25 (100%)	154 (-) **	25	23 (96%)	97 (74%)	24	24 (100%)	96 (68%)	24	22	63 *	23
G2	25 (100%)	151 (79%)	25	23 (96%)	103 (78%)	24	21 (91%)	90 (71%)	23	21	55	23
G3	23 (88%)	75 (77%)	23	21 (100%)	71 (76%)	21	16 (76%)	37 (61%)	19	15	24	18
Total	**73 (96%)**	**380 (78%)**	**73**	**67 (97%)**	**271 (76%)**	**69**	**68 (89%)**	**329 (67%)**	**69**	**58**	**142**	**64**

Notes. SL = school leaders who responded to the survey, Staff = staff members who responded to the survey, Sch = number of schools that took part in the survey; G1 = group 1, G2 = group 2, G3 = group 3; T1 = first measurement point; T2 = second measurement point; T3 = third measurement point; MP = measurement point; * = only in T2 and T3, as no personal invitation links were sent out at T1, ** = information on G1 T1 Staff cannot be provided as the survey was not conducted on a personalized basis.

The column heading "in all MP" indicates how many people from the schools participated in the survey at T1, T2, and T3.

The response rate for the staff across the intervention group is over 60% for T1, T2, and T3, while the response rate for school leaders is over 75% in each case. The downward outlier at T3 for G3 can be explained by the timing of the survey (during the coronavirus pandemic). The survey was, therefore, conducted later, meaning that some school leaders had already stopped the multiple approaches to develop and support school leadership for some time, and others had left their schools. In addition to the generally high workload in the schools, this led to a lack of willingness to participate in the survey.

The number of school leaders who participated in the PD module surveys comprised the initial number of school leaders from the 75 schools in the intervention group, plus two

additional school leaders who assumed this position during the course of the continuous PD program.

4.2.3. Instruments: Questionnaire Surveys

In this article, we primarily present our analyses using the data from the questionnaires: The questionnaire data are mainly based on two questionnaires, which were used repeatedly in a partially adapted form. Instrument items and scales are available through EduLead.net/impakt (accessed on 26 August 2024). Over the 3-year period, each questionnaire was conducted yearly among the staff and school leaders.

The first questionnaire relates to the school and the work situation. These data are used to analyze whether and in what ways the process and result characteristics of the schools were developing. The subjects of the survey were the school situation and the professional stress experienced by those working at the schools. The school leaders and staff were asked to provide their assessments of topics such as job satisfaction, work conditions, school management, school development, and cooperation among different stakeholders, as well as organization and leadership.

The second questionnaire deals with the assessments of the quality and benefits of the interventions. These data are used to derive the overall assessment of the multiple approaches to develop and support school leadership. The subjects of the survey were the assessments of the quality and benefits of the interventions, as perceived by the school leaders and selected staff. On one hand, the respondents were asked to assess the respective interventions in terms of process qualities such as the ambitiousness of the goals, their relationship with and competence of the coach and the school consultants, and the process organization. On the other hand, the outcome qualities were surveyed, including aspects of the effects experienced in goal achievement, increased motivation, competence development, behavioral changes, and organizational changes. At T3, questions on the overall evaluation of the multiple approaches were included in the form of a final survey, which, for example, depicted the perceived learning gain and personal development. After each PD module, the school leaders (in the intervention group) who attended the respective event of the PD program were invited to participate in a survey in which they evaluated the PD module in terms of its didactic features, the relevance of the content, and the benefits of the program, as well as their own competence development. These assessments were averaged across all groups and PD modules.

4.2.4. Regression Analyses with Longitudinal Data

The intervention survey serves as an implementation check, with the aim of verifying whether the multiple approaches have been implemented effectively. At the same time, variations in intervention quality provide an opportunity to examine whether certain dimensions of intervention quality predict school quality. In the following autoregressive regression analyses, we consider the impacts of specific interventions on selected school quality characteristics over the duration of the multiple approaches. Although the multiple approaches primarily focused on school leaders, the aim was school improvement. Therefore, these analyses are conducted at the school level.

We examine different indicators of the quality of the outcomes of the three interventions (PD modules, coaching, and school consultancy for school development): achievement of the set goals, assessed benefits, increased motivation, competence development (in relation to personal and school goals), behavioral change, and organizational change.

Due to the reduced sample size at the school level, the regression analyses are estimated in separate models for each explanatory variable. In each case, a characteristic of school quality at T3 (dependent variable) is regressed while controlling for the same variable at T1 (control variable t1), as well as a characteristic of the outcome quality (influencing factor, effect variable) of an intervention. This reveals whether the quality of the outcomes is related to the school-quality characteristic after the multiple approaches, regardless of the initial value of the school-quality characteristic before the interventions. The control

or dependent variables are based on the school mean values of the staff's assessments of school quality at T1 and T2, respectively. The influencing factors are based on the mean values of the assessments of the outcome qualities from the surveys at T1, T2, and T3.

4.3. Limitations

This study is partly limited by the use of self-reported data from the questionnaires. Since it is a longitudinal study, we also need to control for intra-individual differences over time, which will be demonstrated in future papers.

5. Findings

5.1. What Is the Quality of the Multiple Approaches to Develop and Support School Leadership?

5.1.1. What Goals and Contents Are Formulated for Coaching and for School Consultancy?

Goals and Content of Coaching

In the surveys on the interventions, school leaders were asked to indicate the (up to) three most important goals of the coaching. In terms of content, this was related to the topics of self-management, personnel management, organizational development, and instructional development. The categorization and operationalization were based on the school design model, the final report of the evaluation of the state pilot project called "School Management Coaching" in North Rhine–Westphalia [81], and an article by Buhl et al. [82]. The objectives were each coded twice and then discussed in a joint meeting. Some of the objectives mentioned by the school leaders may be assigned to different categories as they overlap in terms of content. The fact that they are coaching objectives was, therefore, considered for the assignment.

Figure 3 shows the distribution of coaching goals across all groups and all measurement points, indicating self-management (317 statements, 69.06%) as a central topic for school leaders when formulating goals with their coaches, followed by personnel management (100 statements, 21.79%) and organizational development (39 statements, 8.50%). The fewest goals were formulated on the topic of instructional development (three statements, 0.65%).

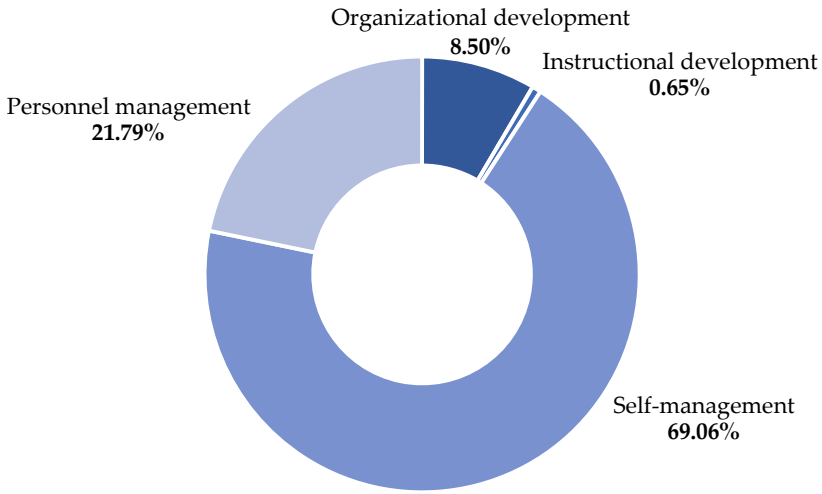


Figure 3. Coaching—Goals and Contents.

The analyses show that the coaching sessions primarily addressed aspects of self-management, personnel management, and organizational development. For example, the focus was on shaping one's professional biography and role and appearance as a school leader or conducting personnel and mediation discussions.

Together with the coaches, the school leaders developed goals and possible solutions to the challenges they faced. Notably, the core of this work lies in one's own attitudes (i.e., the values and the resulting understanding of one's role as a school leader). This focus

was also reflected in the distribution of objectives. However, the challenges that school leaders encountered in coaching primarily involved personnel management. In coaching, challenges with the staff, therefore, provide an opportunity to become aware of one's own values and understanding of one's role.

Goals and Content of School Consultancy

In the intervention surveys, school leaders were also asked to indicate the (up to) three most important objectives of school consultancy. In terms of content, these were personnel management, organizational development, and instructional development. The categorization is analogous to the objectives of coaching (see the preceding subsection). Some of the objectives mentioned by the school leaders may be assigned to different categories as they overlap in terms of content. It was, therefore, considered in the assignment that these were objectives of school consultancy.

The distribution of the objectives of school consultancy across all groups and all measurement points (illustrated in Figure 4) shows organizational development (296 statements, 60.53%) as a central topic in the formulation of objectives with the school consultant, followed by the topic of personnel management (144 statements, 29.45%). Objectives relating to instructional development were formulated the least frequently (49 responses, 10.02%).

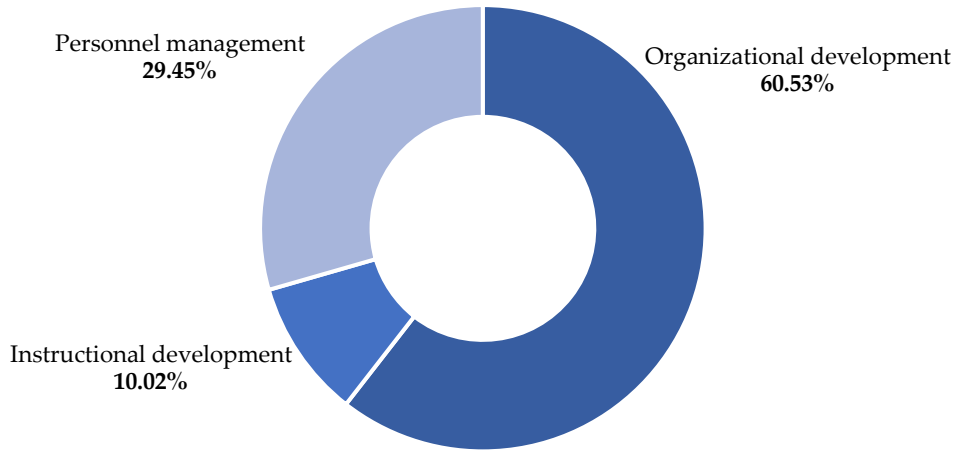


Figure 4. School consultancy—Goals and Contents.

The analyses show that the school consultancy mainly addressed organizational and structural aspects of school development. Cross-project contents of the school consultancy included the formulation, clarification, and specification of a topic or a project goal; the clarification of organizational and financial framework conditions; the analysis of the status of the project topic/goal; the creation of the project and milestone plan; and the reflection of the school development processes. However, aspects of cooperation, structural and process optimization, health-related topics, issues dealing with conflicts and violence, and the concrete implementation of the school development project also formed part of the school consultancy.

5.1.2. What Are the Additional Financial Resources Used for?

Of the possible EUR 213,000, a total of EUR 198,100 was withdrawn, corresponding to 93.00%. An average of around EUR 2790 was withdrawn per school. A more differentiated view shows the following picture:

- Sixty-three schools (approximately 88%) requested the maximum sum of EUR 3000.
- Four schools (approximately 6%) did not withdraw the maximum amount.
- Four schools (approximately 6%) did not withdraw any of the financial resources.

The evaluations of the schools' use of the resources (illustrated in Figure 5) show that the money was spent in a variety of ways. To a similar extent (approximately 37%), the

schools used the additional financial resources to fund further training and to purchase teaching materials. Other materials, such as presentation materials for the school, accounted for around one-fifth of the total expenditure. Around 5% of the resources was spent on literature.

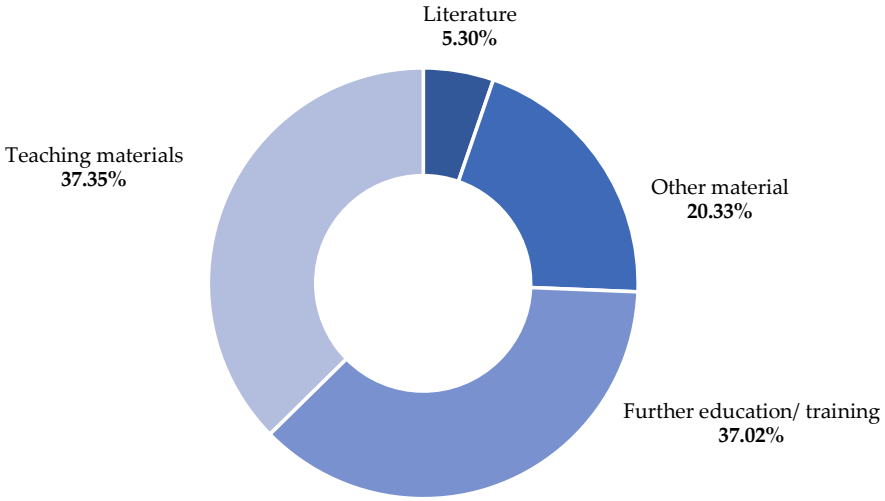


Figure 5. Additional Financial Resources—Evaluation of Expenses.

5.1.3. What Are the Process Qualities of the Multiple Approaches?

To determine the process qualities of the interventions, the averaged values of T1—T3 from the survey on the multiple approaches and the averaged values across the PD module surveys were used. The answers were provided on a five-point Likert scale. Overall, the process qualities of the interventions were rated positively.

Table 3 shows the assessment of the process quality of PD. The school leaders highly rated the relationship among the PD module participants (relationship: professional learning community: M = 4.52), as well as the process organization of PD (M = 4.52); that is, the opportunity to engage in the topic and contribute by speaking. The appropriateness of the range of topics and the level of challenge, as well as the relevance of the PD module objectives to the participants' own challenges, were rated rather highly (content quality: M = 4.41), as was the implementation of the didactic arrangement (M = 4.46).

Table 3. Process quality—Professional development.

Scale	Mean	SD	*n*
Relationship PLC	4.52	0.40	77
Process organization	4.52	0.35	77
Content quality	4.41	0.62	74
Didactic arrangement	4.46	0.40	77

The process quality of the coaching was measured using the four indicators: the ambitiousness of the goals, the relationship between coach and coachee, the competence of the coaches, and the process organization of the coaching. Table 4 shows the assessments. Relationship (M = 4.68), competence (M = 4.73), and process organization (M = 4.48) were rated very highly overall across all measurement points. The ambitiousness of the goals was rated slightly lower (M = 3.85).

Table 5 shows the assessment of the process quality of school consultancy. The relationship between consultant and consultee (M = 4.22) and the competence of the consultant (M = 4.26) received the highest average ratings, although the process organization (M = 4.07) and the ambitiousness of the goals (M = 3.97) were also rated rather highly. Overall, the indicators of the process quality of school consultancy were rated slightly lower than those of coaching.

Table 4. Process quality—Coaching.

Scale	Mean	SD	*n*
Ambition of the goals	3.85	0.87	72
Relationship	4.68	0.41	72
Competence	4.73	0.59	72
Process organization	4.48	0.59	72

Table 5. Process quality—School consultancy.

Scale	Mean	SD	*n*
Ambition of the goals	3.97	0.61	450
Relationship	4.22	0.45	463
Competence	4.26	0.62	447
Process organization	4.07	0.55	459

5.1.4. What Are the Outcome Qualities of the Multiple Approaches?

To determine the outcome qualities of the multiple approaches, the values from T3 from the survey on the interventions and averaged values across the PD module surveys were used. The answers were provided on a five-point Likert scale. Overall, the outcome qualities of the multiple approaches were assessed as positive.

The benefits of the interventions were rated positively. In principle, the participants would recommend the interventions and continue to make use of them. They considered the efforts involved to be justified and highly rated the benefits of the interventions for themselves and for the school.

Table 6 shows the assessment of the outcome quality of PD. The competence development through the PD modules reflects the school leaders' assessments, which were high (M = 4.22). The participants stated that the quality of their work had improved and that they had undergone further personal training. They also gained an idea of how they could improve their ability to act and where there remained a need for professionalization.

Table 6. Outcome quality—Professional development.

Scale	Mean	SD	*n*
Benefits	4.69	0.63	55
Competence development	4.22 *	0.56	77
Change of behavior	4.27	0.51	56
Organizational change	4.65	0.59	53

Note. * = Average value across the professional development modules

The change in behavior as a result of the PD modules reflects the school leaders' assessments, with high ratings (M = 4.27). The participants stated that they implemented the content of the PD modules in their day-to-day work and improved their work performance and occupational health.

The organizational change brought about by the PD modules was rated from high to very high by the school leaders (M = 4.65). This means that the PD modules helped the participants to network with other school leaders, support their own professionalization, and further develop the quality of their schools.

Table 7 shows the assessment of the outcome quality of coaching. The competence development through coaching reflects the school leaders' assessments in two areas. These related to personal goals and leadership behavior (M = 4.33), on the one hand, and to school goals and the leadership role (M = 4.05), on the other hand. The participants, therefore, tended to agree that they perceived their leadership behavior as more effective due to coaching and that they had a better understanding of the challenges faced by school leaders.

Table 7. Outcome quality—Coaching.

Scale	Mean	SD	*n*
Benefits	4.66	0.74	50
Goal achievement	4.57	0.43	42
Increase of motivation	4.40	0.81	48
Competence development in relation to personal goals and leadership behavior	4.33	0.81	48
Competence development in relation to school goals and the leadership role	4.05	0.81	48
Change in behavior	3.73	0.77	48

The change in behavior as a result of coaching reflects the school leaders' assessment, which is in the high–medium range (M = 3.73). They partially-to-somewhat agree with the statements according to which they understood their staff better and could motivate them to actively participate in school development and receive feedback from their staff or friends that they had changed their behavior.

Table 8 shows the assessment of the outcome quality of school consultancy. The competence development through school consultancy reflects the assessments of the school leaders and staff involved in school development, which were within a high range (M = 4.01). They, therefore, tended to agree that they received concrete suggestions for further development of the school and could better define priorities for the school.

Table 8. Outcome quality—School consultancy.

Scale	Mean	SD	*n*
Benefits	4.19	0.70	218
Goal achievement	4.10	0.86	146
Competence development	4.01	0.87	217
Change of behavior	3.77	0.90	217
Organizational change	4.00	0.82	186

The change in behavior indicates, among other things, whether they are better able to cope with school challenges, have conducted an assessment, and regularly review measures and milestones. The school leaders and staff involved placed this item in the high–medium range (M = 3.77).

The organizational change brought about by the school consultancy was also rated highly (M = 4.00). According to the school leaders and staff involved, the school consultancy tended to contribute to supporting them and the school committees in the school development processes, as well as in sustainably anchoring and expanding the process knowledge of school development and improving the role, mission, and work of the school committees.

5.2. What Is the Quality of the Combination of Multiple Approaches, Assessed as a Comprehensive 3-Year Support Program?

The assessment of the combination of multiple approaches to develop and support school leadership as a comprehensive program was based on the process organization indicator, which represented the process quality, as well as the four indicators (increase in motivation, competence development, change of behavior, and organizational change), which were assigned to the outcome qualities. The overall assessment of the combination of multiple approaches as a comprehensive program is part of the final survey, which occurred at T3. Table 9 shows the results.

Table 9. Quality of the combination of multiple approaches to develop and support school leadership assessed as a comprehensive 3-year support program.

Scale	Mean	SD	*n*
Process organization [1]	3.99	0.64	229
Increase of motivation [2]	4.17	0.82	57
Competence development [2]	4.05	0.70	57
Change of behavior [2]	4.12	0.64	57
Organizational change [2]	4.14	0.65	55

Notes: [1] Data from staff and school leaders, [2] Data from school leaders.

The average rating was high for all indicators. The process quality in the form of process organization was based on the assessments of the school leaders and staff involved. The participants partially-to-somewhat agreed with the statements (M = 3.99), for example, that the information about the program was sufficient, the goals were clear to them, and the creation of the project plan for the school development project was helpful.

The school leaders assessed the increase in motivation by combining the multiple approaches in terms of whether they were more motivated to perform a leadership function and to put what they had learned into practice. They tended to agree with these statements (M = 4.17).

Competence development by combining multiple approaches reflects the assessments of the school leaders and is in the high range (M = 4.05). The participants, therefore, tended to agree that they reflected more self-critically on their own activities, for example, and recognized their own strengths and weaknesses better. They were also more likely to develop their communication and professional skills.

Regarding the change of behavior by combining the multiple approaches, school leaders assessed, for example, whether they had a better ability to perceive complex situations and respond to them more appropriately and whether they proceeded effectively and purposefully in further development of the school. They tended to agree with these statements (M = 4.12).

Organizational change by combining multiple approaches was based on the school leaders' assessments, which were high (M = 4.14). According to this finding, cooperation and the learning climate at the school were improved, and the staff showed greater openness toward development projects as a result of their participation and assessed the resulting changes positively.

To sum up, both the process quality and the outcome quality (benefits, competence development, and behavioral and organizational change) of the combination of multiple approaches to develop and support school leadership were rated positively by the participants. This comprehensive 3-year support program provides significant benefits. From the perspective of those involved, positive changes can be observed through combining multiple approaches in terms of increased motivation, competence development, and behavioral and organizational changes.

5.3. What Are the Multiple Approaches' Consequences for School Leadership Quality and Organizational Quality and Their Changes over Time?

The results of the regression analyses are shown in Table 10. They indicate that the school leaders' positive perceptions of the benefits of their coaching (β = 0.20 **), as well as an increase in motivation (β = 0.15 **) and competence development in relation to their personal goals (β = 0.13 *), through their participation in coaching, and behavioral change, through their participation in the PD modules (β = 0.25 *), are associated with more clearly defined roles in making decisions and taking responsibility, the areas of responsibility, as well as goals and objectives.

Table 10. Results of the regression analyses.

	Effect on DV	Control T1	*N* Schools	R^2
DV: Role Ambiguity				
Benefits	0.20 ** (0.06)	0.25 ** (0.09)	52	0.35
Increase of motivation	0.15 ** (0.05)	0.33 ** (0.09)	52	0.30
Competence development regarding personal goals	0.13 * (0.06)	0.30 ** (0.10)	52	0.27
Change of behavior	0.25 * (0.11)	0.33 ** (0.10)	49	0.27
DV: Coordination of Action (School Leader)				
Increase of motivation	0.13 * (0.05)	0.80 ** (0.08)	67	0.63
Competence development regarding personal goals	0.13 * (0.06)	0.79 ** (0.08)	67	0.63
Competence development regarding school goals	0.11 * (0.06)	0.80 ** (0.08)	67	0.63
Change of behavior	0.21 ** (0.06)	0.83 ** (0.07)	67	0.66
Competence development regarding participation in the PD program	0.25 ** (0.09)	0.77 ** (0.07)	69	0.65
DV: Coordination of Action (Steering Group)				
Benefits	0.32 ** (0.09)	0.51 ** (0.10)	67	0.44
Goal achievement	0.29 ** (0.07)	0.47 ** (0.10)	67	0.47
Competence development	0.27 ** (0.07)	0.50 ** (0.10)	67	0.47
Change of behavior	0.31 ** (0.07)	0.44 ** (0.10)	67	0.51
Organizational change	0.16 * (0.07)	0.57 ** (0.10)	60	0.40
DV: Coherent Leadership Team				
Change of behavior	0.14 * (0.05)	0.77 ** (0.07)	67	0.64
Competence development	0.17 * (0.08)	0.73 ** (0.07)	69	0.63
DV: Cooperative Leadership				
Change of behavior	0.13 * (0.05)	0.73 ** (0.08)	67	0.54
DV: Communication Climate				
Competence development	0.11 * (0.05)	0.52 ** (0.08)	69	0.45
Change of behavior	0.12 * (0.05)	0.49 ** (0.09)	69	0.45

Note. DV = dependent variable at T3. Standard error in parentheses. Significance * = 5% significance level, ** = 1% significance level.

The school leaders' perceptions of an increase in motivation (β = 0.13 *) and competence development in relation to their personal (β = 0.13 *) and school goals (β = 0.11 *), their behavioral change (β = 0.21 **) through their participation in coaching, and their competence development through their participation in the PD modules (β = 0.25 **) are associated with improved coordination of their actions, as perceived by the staff.

The staff members' positive perceptions of the benefits (β = 0.32 **) and goal achievement (β = 0.29 **), as well as their perceptions of an increase in competence development (β = 0.27 **) and behavioral (β = 0.31 **) and organizational (β = 0.16 *) changes through the school's work with a consultant, are associated with improved coordination of the steering group's actions, as perceived by the staff.

The school leaders' perceptions of a behavioral change (β = 0.14 *) through their participation in coaching and competence development through their participation in the PD modules (β = 0.17 *), are associated with an improved coherence of the leadership team.

The school leaders' perception of a behavioral change (β = 0.13 *) through their participation in coaching is also associated with improved distribution of management responsibility and the staff's involvement in decision-making (cooperative leadership).

The school staff's perceptions of an increase in competence development (β = 0.11 *) and behavioral change (β = 0.12 *) through the school's work with a consultant are associated with improved communication.

6. Discussion, Conclusions, and Recommendations

Our analyses of the quality of multiple approaches and their consequences for school qualities show that each intervention—whether it is the set of PD modules, coaching, or school consultancy—targeting the school leaders' PD is positively evaluated in terms of the

process quality and the outcome quality. We also investigated the effects of the interventions on school leadership, school development, and school quality. We now briefly summarize our answers to the research questions.

To answer the first research question—regarding the quality of the multiple approaches to develop and support school leadership—we first examined the goals and content of coaching and school consultancy. Those of coaching relate more to each school leader's own role and person and less to strategy and school development (see Figure 3). The objectives and content of school consultancy are linked most to strategy and school development and techniques of coordination of actions and cooperation and least to instructional development (see Figure 4). The development projects initiated by the schools are mainly concerned with the target perspective of teaching and education. They also cover areas ranging from personnel management to structural changes in the organization.

Furthermore, we explored the use of additional financial resources. Our findings show that the additional EUR 3000 funding is used in full by almost all schools and primarily spent on further training and the purchase of teaching materials (see Figure 5).

We also assessed the process quality and the outcome quality of the multiple approaches. Both the process and the outcome qualities of the individual interventions are rated positively by those involved (see Tables 3–8).

As for the second research question—on the quality of the combination of multiple approaches assessed as a comprehensive 3-year support program—our findings suggest that both the process and the outcome qualities (benefits, competence development, and behavioral and organizational changes) are rated positively by the participants (see Table 9). The benefits are perceived as high. From the perspective of the parties involved, positive changes, in terms of increased motivation, competence development, and behavioral and organizational changes, can be observed as results of the combined interventions.

To address the third research question—regarding the multiple approaches' consequences for school leadership quality and organizational quality and their changes over time—we applied autoregressive regression analyses. Our analyses show that positively perceived interventions and the quality of their outcomes are related to the improvement of school-quality characteristics, such as the coordination of actions by the school leaders and the steering group, the clarity of the school leaders' role, cooperative leadership, the coherence of the leadership team, and communication (see Table 10).

To sum up, our study's results show highly positive assessments of the quality and benefits of the multiple approaches to develop and support school leadership and their favorable consequences for school leadership and enhanced quality of the organization. The regression analyses demonstrate that positively perceived outcome qualities of the interventions are associated with improvements in numerous dimensions of school quality (e.g., cooperative leadership). The interventions result in reduced role ambiguity from the school leaders' perspective. Additionally, from their staff members' perceptions, these approaches foster improved coordination of actions of the school leaders and the middle management, as well as greater coherence of the leadership team, more cooperative leadership, better communication, and increased collaboration toward common pedagogical goals and strategies.

The overall findings provide evidence of the effectiveness of the multiple approaches as interventions to transform education leadership. These initiatives can secure and enhance school quality when applied coherently and consistently, in accordance with each school's strategy and context, and as a combination of different interventions with a persistent, clear, and comprehensive approach that includes congruent and complementary aspects.

In this PD program, transforming school leadership works through a multiple approach strategy. We assume that the process and the outcome qualities of the individual interventions and their consequences have positive cumulative effects on personal (motivation, learning, and behavior) and organizational (different scales of organizational change) levels, as described by some researchers [74–78]. Thus, interventions in themselves have impacts, and each is important, but their combination (in terms of a coherent, complemen-

tary but congruent concept) and implementation have positive consequences and create a stronger impact on the changes in school quality.

Applying the knowledge acquired from the multiple approaches onto the school development project follows Gruber's [83] proposition that gaining experience in professional competence means learning in complex application-relevant and practice-relevant situations. New competence is developed by practice, followed by feedback and reflection. Therefore, transforming school leadership and improving school quality requires concerted action.

To transform education leadership for the sake of securing and improving the quality of education and of the school, a professional, profound, and persistent combination of multiple approaches to develop and support school leadership is necessary.

Particularly challenged schools and school leaders need a special and extended form of support. The threshold for participating in additional measures may be high due to the stakeholders' own perceptions of stress. Combining professionalization and school quality management, particularly quality development, seems to create a particular coherence for school leaders concerning their roles and actions. This systematic expansion of school-quality management—pursuing a strategy that fits the organizational context, reinforcing strengths, rapidly intervening with directly tangible success, identifying and tackling quick fixes (low effort and cost and high impact) and "hot topics" (controversial or sensitive issues), expanding personnel and knowledge management and establishing middle management, and using all structures and resources, including different forms of the school environment—makes a difference.

A major strength of school leaders' PD arises when different approaches are combined coherently, yielding a cumulative effect. It is particularly important that leadership learning experiences draw on a professional knowledge base, individual experiences, views, and perspectives, as well as collegial learning from and for the practice in their specific school situations. As school context matters, it also entails the context-specific application of professional knowledge and understanding. As reflection and practice-oriented strategies form a substantial part of the multiple approaches to develop and support school leadership, the context of the individual school leaders is particularly considered.

We recommend focusing on school leaders' needs and requirements and their variations since the context differs from school to school. An innovative aspect of the studied approaches is their persistent approach to process in the combination of interventions and their application to a school development project over a certain period. Research confirms that principal learning programs reflecting these practices (e.g., authentic learning opportunities; critical content focused on developing instruction, people, and the organization, as well as managing change; collegial support; and proactive recruitment) contribute to the development of education leadership, PD, and professionality [11,12,62–67]. In particular, coaching helps school leaders to overcome the missing link from theory to practice as it allows them to reflect on the complex knowledge application in specific contexts. Meta strategies (e.g., problem-solving, communication and collaboration, transfer of knowledge to new contexts, and critical thinking) are also promoted by the multiple approaches to develop and support school leadership.

7. Looking Ahead

The initial analyses of the effect sizes (Cohen's d) in the control group design, that is, between the school leaders and their schools that participated in the multiple approaches to develop and support school leadership (the intervention group) and the school leaders and their schools that were selected as twins in a controlled manner (the control group), suggest that the schools in the intervention group have developed better over the term than the comparison schools, which in some cases have even developed negatively based on the assessments of both the school leaders and the staff. This finding particularly applies to the quality of school management, school development, dealing with heterogeneity, the school as a whole, and professional satisfaction.

Although the effect sizes between the schools belonging to the intervention group and those assigned to the control group indicate positive effects of the multiple approaches on school quality in this quasi-experimental design, we observe some variations within and between these groups. Thus, further research is needed to determine what factors, in addition to the interventions and positive perceptions of their quality, create stronger impacts on the changes in school quality.

Irrespective of this result, there is also a pattern that school leaders in the intervention group are generally more positive about the developments than the staff in the intervention group.

These two findings will be examined in more detail in further studies.

Further papers will elaborate on the qualitative analyses of the interventions (e.g., on coaching or school consultancy), the case studies on leadership and school improvement, the influence of the coronavirus pandemic on the development of the schools, the conditions for the success of the interventions and the mechanisms of school-quality development, the quality and role of school leadership in school quality and quality development, particularly for taking inclusive action and dealing with heterogeneity at the school site, different assessments of school leaders and staff, the role and quality of cooperation among colleagues, and emotional attachment to the school and its consequences for school quality and development, as well as the central role of fit, particularly the school leaders' fit in the school context and culture. Additionally, analyses will be conducted with further information, such as schools' statistical data and students' learning performance data.

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Institutional Review Board Statement: In Germany, approval from the ethics committee is not necessary for studies such as the one we have conducted. A research project involving participants and affected persons, where no risks or harm to the participants are expected and which does not violate basic ethical principles, does not require ethics approval. The surveys in this study do not pose any particular risk or burden to these individuals compared to their everyday lives. All participants gave their informed consent for inclusion before participating in the study. All of them were of age.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author due to restrictions in accordance with the data protection laws in Germany.

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