

Article

Partnerships for Inclusive Practices in Data-Use Teacher Communities

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Abstract

This article examines inclusive practices through the implementation of a data-use model in a partnership between a university and schools in a Norwegian region. Although inclusion is a key educational policy goal, research shows that its realisation in practice remains uneven. National policy documents therefore emphasise that school improvement should be developed collaboratively between universities and district leaders to build local professional capacity. In this study, 290 teachers from 18 schools participated in a questionnaire assessing the quality of support, training, leadership and their work with the data-use model, as well as perceived outcomes for teachers' practice and students' learning. Quantitative and qualitative analyses were conducted. Results from the factor analysis identified two components, 'Quality' and 'Outcomes', with high internal consistency. Teachers rated the quality of implementation structures higher than the outcomes achieved so far, and a strong correlation ($r = 0.667$) indicated that higher perceived quality was associated with more positive outcomes. The qualitative results indicated perceived improvements in classroom management, feedback practices, adapted instruction, analytical competence, shared pedagogical practice, and reflective collaboration. Regarding student learning, teachers reported fewer changes but described some examples of improved learning environments, knowledge and skills. The study suggests that structured partnerships, leadership support and teacher communities may be important conditions for translating data-driven analysis into inclusive teaching practices.

Keywords: inclusion; partnership; data use; communities

1. Introduction

Over the past few decades, education systems in many parts of the world have adopted policy objectives emphasising equal opportunities for all, equity and inclusion (Ainscow et al., 2020; Haug, 2024). An important milestone for these objectives is the Salamanca Statement, which states that every child has unique characteristics, interests, abilities and learning needs, and that education systems and programmes should be designed to accommodate these needs (UNESCO, 1994). In Norway, this commitment is reflected both in the Education Act, which states that all students have the right to a safe and good school environment that promotes health, inclusion, well-being and learning (Norwegian Education Act, 2024), and in the overarching part of the curriculum (LK20), which promotes an inclusive environment and adapted instruction as fundamental principles guiding school practice (Norwegian Ministry of Education and Research, 2017). In this context, the professional understanding of inclusion in schools has shifted from



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focusing on students identified as having specific risk factors to encompassing all students and the broader school community (Ainscow, 2020, 2024; Nordahl, 2018). Nonetheless, Haug (2024) argues that while the idea of inclusive education has gained conceptual traction in schools, it has been implemented in practice to a limited and uneven extent.

Norwegian government initiatives aim to ensure that children and young people receive the support they require, representing the first significant public effort to advance inclusive education (Haug, 2024). To achieve these aims in practice, guidelines for funding school improvement require that initiatives be carried out through partnerships between universities and district-level leaders at the regional or municipal level. The partnerships aim to strengthen learning communities and build collective professional competence in response to local capacity-building needs (Norwegian Ministry of Education and Research, 2023). In these partnerships, researchers and practitioners jointly develop, implement and investigate strategies for improvement. Both district goals and the research agenda are shaped and evolve through continuous collaboration (Penuel et al., 2015). How well partnerships function depends on how they are structured, how responsibilities are defined, and how work is divided (Lillejord & Børte, 2016). Another condition is that university researchers provide expertise and practical support to school leaders, including guidance on the leadership of improvement processes and teacher learning, as well as support for structuring and implementing school improvement initiatives (Fossestøl et al., 2025). Existing research tends to focus on the challenges of partnerships and provides limited understanding of how participants' tools, strategies and routines address these challenges; consequently, Coburn and Penuel (2016) call for targeted studies of specific partnership strategies.

The current study focuses on a partnership between schools in one region and the Centre for Studies of Educational Practice (SePU) at the University of Inland Norway. The region's joint school improvement project, 'Inclusive Practices', aims to improve students' learning outcomes and the learning environment. In this work, schools have employed the data-use model Pedagogical Analysis (PA model) (Forfang et al., 2025; Nordahl & Gustavsen, 2026), and, through the partnership, teachers and school leaders have received support and training in inclusion and in the data-use model. Following two years of implementing the PA model in efforts to realise inclusion for all students, the status of the implementation was evaluated. The research questions that have guided this study are as follows:

1. How do the teachers in the partnership assess the quality of the support, training and use of the PA model?
2. From an inclusion perspective, what outcomes has the PA model work produced for teachers' practice and students' learning?

2. The Inclusive Practices Project

The Inclusive Practices project took place in a region of Central Norway in an area of small villages and dispersed settlements. The region comprises four municipalities of different sizes and numbers of schools (five, six, three and one school), plus three adult-education centres. This context is broadly representative of many Norwegian municipalities and schools.

The project was a district-level initiative adopted and supported by district leaders and implemented through a formal partnership between SePU and the participating municipalities. The partnership had a clear aim: to strengthen students' everyday learning environments and learning outcomes by improving teaching practice. District leaders set the strategic direction, supported academically by SePU. SePU provided research-informed guidance, targeted PA training and professional support through networks for district lead-

ers, school leaders and designated resource persons. These inter-municipal networks were explicitly used to provide access to support and professional learning across municipalities and schools and were noted as particularly important for the municipality that had only one school.

Participating schools implemented the PA model through teacher communities within professional learning groups¹ (Little et al., 2003), supported by school leaders, resource persons and the PPT². SePU facilitated coaching and supplied a digital analysis tool and assistance with data collection (including surveys). This multi-level operationalisation—combining training, coaching, tools and multi-level leadership—aimed to translate data-driven analysis into concrete classroom and school-level changes (see also Forfang et al., 2025; Gustavsen & Nordahl, 2024; Nordahl & Gustavsen, 2026).

3. Theoretical Framework

3.1. Inclusion

Inclusion is a polysemous concept, applied to students' outcomes, to school practices and to broader conceptions of the purpose of schooling. It is also used in ideological and political terms (Nordahl, 2024). Ainscow (cited in Nordahl, 2024, p. 11) argues that without a shared understanding of the intended direction, progress will be difficult; consequently, there is a need for agreed definitions of the concept of inclusion. The use of the term inclusion in the Salamanca Statement was primarily based on the view that mainstream schooling was the best means of providing all children and young people with equal educational opportunities. The basic idea behind an inclusive school is not only a matter of physical presence but also of participation in various social communities, participation in teaching and learning, and crucially an experienced sense of inclusion for each student (Persson & Persson, 2012). This implies that schools must be adapted to meet diverse needs so that all students can learn from one another and be given the opportunity to build social capital (Nordahl, 2024, p. 11).

3.2. Inclusive Practices

According to Ainscow et al. (2020), there is no single template for an inclusive school. What unites schools that are strongly inclusive is their warm, supportive environment for all students, including those with disabilities and others who face challenges. Competence, decision-making and practices at the level of individual schools and classrooms play a key role in how the different dimensions of inclusion are realised (Ainscow et al., 2020). Linking these organisational and classroom factors to Goodlad's (1979) framework for curriculum inquiry (Figure 1) provides a theoretical lens for understanding whether inclusive ambitions at the policy level are enacted in classrooms, perceived by students and reflected in student learning outcomes.

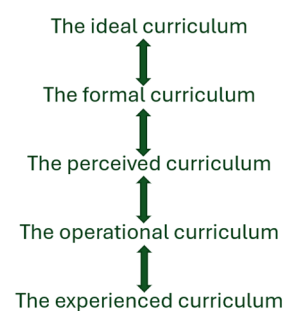


Figure 1. Goodlad's (1979) framework for curriculum inquiry.

At the broadest level is the ideological curriculum, followed by the formal curriculum, which is typically a written government document. The perceived curriculum relates to the interpretations of school leaders and teachers, where school culture as well as individuals' values and experiences play an important role. The operational curriculum is defined as the teaching and learning that occur in classrooms and refers specifically to actions and decisions carried out in the classroom context. The operational curriculum is crucial because it shapes what teachers enact and what students experience—the experienced curriculum (Goodlad, 1979). The experienced curriculum can be divided into two types of learning experiences: those related to the learning environment (well-being, bullying, and relationships with peers and teachers) and those related to knowledge and skills (academic skills and social skills). The experienced curriculum encompasses the academic, social and personal learning experiences students gain throughout their schooling. Thus, there is a relationship between the operational curriculum and the experienced curriculum and with academic, social and personal (experienced) inclusion (Nordahl & Overland, 2021). In this study, Goodlad's (1979) curriculum levels also serve as a theoretical lens for analysing teachers' descriptions of enacted practices and student experiences in the qualitative material.

Inclusion refers to ensuring that all students are welcomed as valued members of the school community and can participate and learn without facing barriers linked to identity, social position or contextual conditions (UNESCO, 1994). Understanding and addressing such barriers is therefore key to operationalising inclusion, and this provides the basis for how the PA model can function as a practical tool for inclusive education.

3.3. The PA Model as a Tool to Promote Inclusion

PA is a structured model that can be used to address inclusion-related challenges that impact student learning and well-being (Forfang et al., 2025; Gustavsen & Nordahl, 2024; Nordahl & Gustavsen, 2026). For instance, during the analysis phase, teachers can examine factors that impede participation in their classrooms. Subsequently, the strategic phase emphasises specific actions, including adapted instruction and adaptive teaching approaches, tailored to address identified barriers. Rooted in data-driven and reflective approaches, the PA model is designed to enhance teaching practices. Collaboration within teacher communities is key to this process, enabling shared problem-solving and effective implementation. Similar to other data-use models (e.g., Marsh, 2012; Poortman & Schildkamp, 2016), the PA model can help align classroom practices with equity-focused goals, ensuring that all students participate as valued members of the school community. The PA model operates through two primary components: an analytical part and a strategy part. Completing the analytical part fully before transitioning to the strategy part ensures a comprehensive understanding of the challenges and a holistic view of the maintaining factors, allowing for well-informed and targeted interventions to be designed and implemented.

The process consists of interconnected steps within each part, systematically guiding teachers in addressing educational challenges in their teaching and learning environments (see Figure 2).

1. Overall goal: A key point is to establish an overarching goal firmly rooted in the principles of inclusion. The overall goal addresses both academic and social inclusion, ensuring alignment with the vision of inclusive education.
2. Data foundation: Data related to inclusion can be collected from qualitative sources (e.g., observations, input from students and parents) and quantitative sources (e.g., assessments, surveys). Establishing a robust data foundation ensures evidence-driven decisions, moving beyond assumptions.

3. Problem formulation: Based on the data foundation and overall goal, teacher communities formulate challenges such as problems related to academic or social exclusion.
4. Specific goal definition: Specific goals are related to the problem formulation. These goals must be realistic, achievable and measurable, clearly articulating intended outcomes. From an inclusion perspective, the specific goals often focus on fostering belonging and equity and improving academic and social achievement.
5. Analyse maintaining factors: Identifying and analysing factors that maintain existing challenges is crucial for addressing systemic barriers. These factors often exist within the context, such as class dynamics, teaching methods, or peer relationships that sustain barriers to inclusion. This step ends with teachers selecting the most important maintaining factors.
6. Strategy identification and knowledge base: Effective strategies should address the selected maintaining factors and rely on research-based knowledge. Examples related to inclusive strategies include adapted instruction or stronger peer relationships.
7. Strategy planning and implementation: This step includes planning who is responsible, when, and how strategies will be implemented and evaluated.
8. Evaluation: This step consists of regular evaluation of both the implementation process and specific goal attainment. The teacher communities reflect on what works and what does not work and focus on strategies that promote inclusive practices.

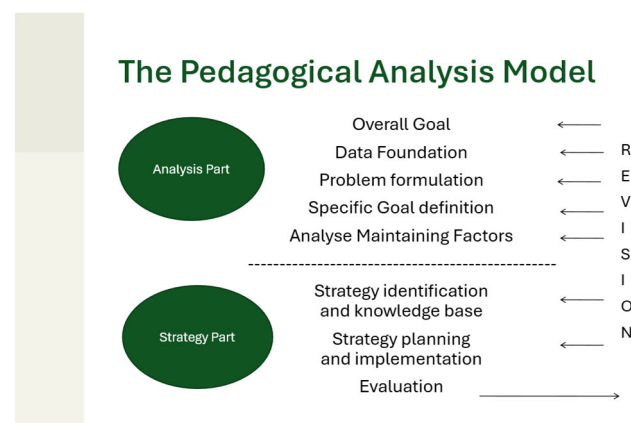


Figure 2. The PA model (Forfang et al., 2025; Gustavsen & Nordahl, 2024; Nordahl & Gustavsen, 2026).

3.4. Conditions for Implementing the PA Model

Implementing the PA model does not necessarily lead to inclusive teaching practices. Several conditions must be in place, and these conditions are likely the primary factors explaining the observed outcomes (Forfang & Nordahl, 2026; Forfang et al., 2025; Nordahl & Gustavsen, 2026). To succeed, it is essential that teachers and school leaders develop the competence to apply the PA model. This means they must acquire knowledge of both its theoretical foundations and the skills required to work through the steps of the analysis and strategy parts (Nordahl & Gustavsen, 2026). Another condition is that the steps of the model are followed. One of the main reasons why various data-use models fail to produce the desired results is that implementation does not follow the prescribed procedures (Forfang & Nordahl, 2026).

Furthermore, collaboration in teacher communities is key when working with the PA model, as it supports collective analysis, shared decision-making and coordinated follow-up. When multiple professionals participate, the likelihood of producing high-quality work increases, provided that all participants have sufficient competence in applying the PA model (Nordahl & Gustavsen, 2026). The collaborative condition for successfully implementing the PA model aligns with Goodlad's curriculum model (Goodlad, 1979), which

emphasises the interconnected nature of the formal, perceived, operational and experienced curriculum levels. Work in teacher communities typically moves across several of these levels. When teachers discuss the goals they aim to achieve for specific student groups, they operate at the perceived curriculum level. When they analyse maintaining factors and decide on concrete instructional strategies, they engage with the operational curriculum. As they review students' responses and learning experiences, they draw on the experienced curriculum, using these data to refine both goals and practices. In this way, the PA model provides a structured process that helps teachers navigate between curriculum intentions, enacted practices and student experiences. Rather than collapsing these levels, the collaborative analytical work makes their interdependence visible and supports more coherent professional judgement. This alignment of perspectives is consistent with Goodlad's (1979) theoretical assumptions and contributes to conditions that may foster more inclusive educational practices.

Lastly, leadership plays a crucial role in ensuring that such collaboration and alignment efforts are sustained within schools. The final condition for successful implementation of the PA model is the role of school leaders in communicating a clear vision, goals and expectations for the work; facilitating regular teacher community meetings; providing individualised support; modelling desired practices; and being available and accessible (Forfang et al., 2025).

4. Materials and Methods

To address the research questions, we conducted a cross-sectional survey among teachers from the four municipalities participating in the partnership. The design consisted of eight quantitative Likert-scale items and two open-ended qualitative questions, capturing teachers' perceptions of the quality of support, training, leadership and their use of the PA model. Employing a cross-sectional and perception-based design, the study does not allow for causal inference or measurement of school-level effects. Questionnaires are commonly used in educational research to enable efficient and standardised data collection from a large number of respondents (Heath et al., 2009).

4.1. Participants and Procedures

Data were collected online through the University of Oslo's Nettskjema³ platform between 30 May 2025 and 7 September 2025 using a cross-sectional sample. A total of 390 teachers across 18 schools were invited to participate, and 290 responded (74.4%). This sample reflects teachers working in a range of school contexts within one regional partnership. Since the data reflect individual teachers' perceptions, the results should be interpreted as specific to this context rather than representative of Norwegian schools in general.

4.2. Ethical Considerations

The questionnaire used in this study is part of a larger study approved by the Norwegian Agency for Shared Services in Education and Research (SIKT), under reference number 115708, on 3 July 2024. All participants received information about the purpose of the questionnaire, including details regarding voluntary and anonymous participation.

4.3. The Questionnaire

The authors are not aware of any existing questionnaire designed to assess teachers' perceptions of PA model work. For this reason, researchers at SePU developed a questionnaire based on theory and conditions for implementing the PA model (Forfang & Nordahl, 2026; Nordahl & Gustavsen, 2026). The questionnaire consists of eight quantitative items (Items 1–8), where teachers rate each item on a scale from 1 (very low) to 6 (very high),

and two qualitative items (Items 9–10), in which teachers are asked to provide examples of outcomes or improvements observed among students and among teachers. The items in the teacher questionnaire are presented in Table 1.

Table 1. PA model: teacher questionnaire.

Items
1. How would you assess the support you have received from the resource persons in your school in implementing the PA model?
2. How would you assess the PA model training you have received?
3. How would you assess the quality of your own participation in your teacher community?
4. How would you assess the quality of the school leadership related to the use of the PA model?
5. How would you assess your own competence in using the PA model?
6. How would you assess the quality of your teacher community's use of the PA model?
7. To what extent has the use of the PA model produced outcomes so far for the teachers' practice?
8. To what extent has the use of the PA model produced outcomes so far for the students?
9. Please provide examples of student outcomes or improvements.
10. Please provide examples of teacher outcomes or improvements.

4.4. Statistical Analysis

The data analysis of the eight quantitative items was conducted using IBM SPSS 26 and consisted of three types of statistical tests.

Firstly, a principal component analysis (PCA) with oblimin rotation and a reliability analysis were conducted to identify the underlying factor structure of the questionnaire and to assess the internal consistency of each scale (Cohen et al., 2018). We initially applied the standard criterion of retaining components with eigenvalues greater than one. This analysis resulted in a single-component solution with an eigenvalue of 5.11, accounting for 63.87% of the variance. No additional components met the eigenvalue threshold of 1.0, as the second component's eigenvalue was 0.87. Although this one-component solution is statistically acceptable, it does not correspond to the theoretical distinction between items related to quality and those related to outcomes.

To examine the theoretically expected two-component structure, a second PCA was conducted by specifying two components. This model produced a clear and interpretable solution. Table 2 shows the results of the second factor analysis.

Table 2. Principal component analysis (oblimin rotation) N = 290.

Item Number	Component 1	Component 2	Alpha
1	0.904		0.906
2	0.868		
3	0.824		
4	0.811		
5	0.785		
6	0.578		
7		0.981	0.911
8		0.897	

The first component had an eigenvalue of 5.11 and explained 63.87% of the variance, while the second component had an eigenvalue of 0.87 and explained an additional 10.85%,

resulting in a cumulative explained variance of 74.72%. After oblimin rotation, the six quality-related items loaded strongly on the first component (loadings 0.578–0.904), whereas the two outcome-related items loaded strongly on the second component (loadings 0.897 and 0.981). The Kaiser–Meyer–Olkin (KMO) value was 0.863, and Bartlett’s test of sphericity reached statistical significance, indicating excellent suitability for PCA.

The Cronbach’s alpha values for the two components were 0.906 and 0.911, respectively. Alpha values above 0.80 are regarded as high, indicating that the items are closely related and measure the same construct (Cohen et al., 2018). Although showing very high loadings, the second component consists of only two items, raising concerns regarding scale reliability. The potential implications of this limitation are further discussed in the Section 7.2.

The PCA thus identified two components. The first component, ‘Quality’, consisted of six items capturing teachers’ experiences of training in, use of and support for implementing the PA model. The second component, ‘Outcomes’, comprised two items measuring the extent to which the PA model work had produced results for teachers’ practice and students’ learning and learning environment.

Secondly, descriptive statistics were calculated to examine the distribution of responses for each item, including mean scores and standard deviations. This analysis provided an overview of teachers’ agreement with the statements and the degree of variation within the total sample. Due to the small size of several participating schools, the descriptive analysis was conducted at the aggregated level rather than at the school level, as school-level comparisons would have produced unstable estimates and limited interpretability. The aim of the study was therefore to capture teachers’ perceptions across the participating schools as a whole, rather than to compare schools.

Thirdly, correlation analyses were performed to determine the strength and direction of the relationships between the two identified scales (‘Quality’ and ‘Outcomes’). Pearson’s r was employed, and the following guidelines were used to interpret the strength of the correlations (Cohen et al., 2018): 0–0.20 (very weak), 0.20–0.40 (weak), 0.40–0.60 (moderate), 0.60–0.80 (strong) and 0.80–1.00 (very strong).

4.5. Analysis of the Qualitative Items in the Questionnaire

The qualitative material consisted of written examples provided by teachers in items 9 and 10. Goodlad’s (1979) curriculum levels were used as an analytical perspective to categorise teachers’ descriptions of changes in practice and student experiences, thereby providing a theoretically grounded way to organise the qualitative examples showing the results teachers perceive from the use of the PA model.

The analysis followed a two-step procedure combining deductive and inductive approaches, inspired by Braun and Clarke (2006). Firstly, all examples were coded deductively according to Goodlad’s (1979) curriculum theory, using the same terminology as presented in Figure 1. One researcher carried out the initial categorisation, sorting the examples into the operational curriculum and experienced curriculum levels, as these two levels correspond most closely to teachers’ descriptions of enacted practice and perceived outcomes. The preliminary coding was then reviewed and discussed within the research team, and consensus was reached on both the categorisation and the terminology used for the main categories. Negative or contradictory examples were retained and coded according to the same procedure.

In the second step, an inductive thematic analysis approach was carried out within each of Goodlad’s (1979) curriculum levels to identify recurring patterns in the teachers’ descriptions. This process resulted in four categories. Within the operational curriculum level, examples clustered around ‘Classroom practices’, and within the experienced curriculum level, two categories emerged: ‘Knowledge and skills’ and ‘Learning environment’.

A fourth category, ‘Teacher collaboration’, emerged across the perceived and operational curriculum levels. Although not directly tied to a single curriculum level in Goodlad’s framework, this category reflected teachers’ descriptions of shared professional work and collective pedagogical development.

The qualitative dataset consisted of 110 examples related to teacher practice and 49 examples related to student outcomes. These numbers refer to the number of examples provided, not the number of individual teachers reporting improvement, as many participants did not provide qualitative responses.

5. Results

This study examines how teachers in the partnership assess the quality of the support, training and use of the PA model, and to what extent the work with the PA model has produced outcomes so far for students and teachers’ practice. Results from factor, frequency and correlation analyses will be presented, as well as results from the qualitative data.

Table 3 presents the descriptive statistics for each item, including mean scores and standard deviations.

Table 3. Descriptive statistics (means and standard deviations) for the eight questionnaire items.

Items	Mean	St.dev.
1. How would you assess the support you have received from the resource persons in your school in implementing the PA model?	4.3	1.22
2. How would you assess the PA model training you have received?	3.96	1.16
3. How would you assess the quality of your own participation in your teacher community?	3.91	1.03
4. How would you assess the quality of the school leadership related to the work with the PA model?	4.23	1.11
5. How would you assess your own competence in using the PA model?	3.82	0.96
6. How would you assess the quality of your teacher community’s work with the PA model?	4.03	1.01
SUM Quality	4.03	0.92
7. To what extent has the work with the PA model produced outcomes so far for the students?	3.69	1.05
8. To what extent has the work with the PA model produced outcomes so far for the teachers’ practice?	3.59	0.98
SUM Outcomes	3.64	0.98

The descriptive statistics show that teachers rate the overall quality of the PA model work higher than the outcomes it has produced so far. On a scale from 1 (‘very low’) to 6 (‘very high’), the highest mean scores within the ‘Quality’ component concern school leaders’ facilitation of the PA work and the support provided by resource persons. In contrast, teachers’ self-assessed competence in using the PA model and the quality of their own participation in teacher communities receive comparatively lower scores. The two items in the ‘Outcomes’ component have the lowest mean scores of all items, indicating that teachers perceive the implementation structures as stronger than the results the PA model has produced so far. The consistently high standard deviations across all items indicate substantial variation within the total sample of teachers.

The factor analysis confirmed that the questionnaire items clustered into two components, ‘Quality’ and ‘Outcomes’. To examine the relationship between these components, a correlation analysis was conducted. The results are presented in Table 4.

Table 4. Correlation analysis.

	Outcomes
Quality	0.667

A strong correlation was found between the ‘Quality’ and ‘Outcomes’ components ($r = 0.667$). Teachers who report higher quality in training, support and use of the PA model also report more positive outcomes for students and for their own practice. Conversely, lower perceived quality is associated with lower reported outcomes. Although the analysis does not establish a causal direction, the strength of the association indicates that implementation quality and perceived outcomes are closely intertwined.

Teachers were asked to provide examples of outcomes from the use of the PA model related to teachers’ practices and students’ learning. Tables 5 and 6 present these qualitative results according to category, topic, number of examples (N) and representative verbatim quotes from the questionnaire. All examples are direct quotes selected to illustrate typical examples within each category. The numbers refer to examples submitted, not the number of individual teachers reporting improvement.

Table 5. Categories, topics, number of examples (N) and representative verbatim quotes related to teacher practice.

Category	Topics	N	Representative Verbatim Quotes
Classroom practices	Classroom management	19	Improvements in lesson implementation. Clear and consistent procedures for starting and ending the lesson. Clear expectations for language use and defined strategies to be taken if these expectations are not met.
	Feedback	7	I am more aware of when and how I give feedback to students. We have set aside time for students to review their assignments and the feedback they receive without focusing on grades or achievement levels.
	Adapted instruction	11	Better adaptation of instruction in certain subjects. The students have also been given tasks that are more closely aligned with their level.
Teacher collaboration	Competence in analysis and follow-up actions	19	We no longer move straight to strategies. We look more closely at the maintaining factors. I feel that I have become better at identifying students’ challenges and at using PA to understand how I can work with these challenges. I am better at noticing and addressing difficulties among individual students. I have also improved my ability to evaluate.
	Shared pedagogical	23	We collaborate on students’ learning and on well-being. We have had the opportunity to discuss and agree on more consistent practice. Students experience that teachers are more aligned, and that they are met in the same way regardless of whom they talk to.
	Practice	31	We are more aware of our own practice and work actively to vary our teaching methods. We have a better understanding of the effects of the strategies and adaptations we use. We are more conscious of which factors we can influence and not.
	Reflective practice		

Table 6. Categories, topics, number of examples (N), and representative verbatim quotes related to student learning.

Category	Topics	N	Representative Verbatim Quotes
Knowledge and skills	Academic mastery	8	The students have shown somewhat greater mastery as a result of the strategies, but not very large improvements. The students are more interested in improving their learning potential.
	Learning outcomes	8	Students have improved in the subject Norwegian as a result of frequent repetition of key content. At the lower secondary level, both reading comprehension and reading fluency have increased.
Learning environment	Relationships	21	As a result of the strategies implemented, we have observed that students have developed a social network. Students have improved their ability to collaborate, and they appear to feel more secure in their interactions with one another.
	Involvement and motivation	12	More students dare to speak up and participate. The students show increased motivation, ask more questions and reflect on their own learning.

The analysis resulted in two main categories. The first category, classroom practices, corresponds to Goodlad's (1979) operational curriculum level. Teachers provided 37 examples describing changes in enacted practice. The representative verbatim quotes in Table 5 illustrate improvements in classroom management, feedback practices, and adapted instruction. Collectively, these examples point to clearer lesson structures, more consistent routines, deliberate use of feedback, and better alignment of tasks with students' levels.

The second category, teacher collaboration, spans Goodlad's perceived and operational curriculum levels. Teachers provided 73 examples in this category, grouped into three topics: competence in analysis and follow-up actions, shared pedagogical practice, and reflective practice. The verbatim quotes selected for Table 5 illustrate increased competence in analysing maintaining factors, an expanded shared understanding of pedagogical approaches, and more consistent practices across classrooms. Several teachers reported increased awareness of their own practice and evaluated the effects of strategies more systematically.

The results related to students' learning, corresponding to Goodlad's experienced curriculum level, are clustered into two categories. The first category, knowledge and skills, comprises 16 examples across the topics of academic mastery and learning outcomes. The representative verbatim quotes in Table 6 illustrate modest but noticeable improvements in students' academic development, including somewhat greater mastery and increased motivation to improve their learning. One teacher of Norwegian language reported clear gains: frequent repetition of key content strengthened basic skills. At the lower secondary level, both reading comprehension and reading fluency have improved.

The second category, learning environment, consists of 33 examples across the topics of relationships and involvement and motivation. The verbatim quotes selected for Table 6 describe improvements in students' social connectedness, collaboration and sense of security in peer interactions. Increased participation is also highlighted, with more students speaking up, asking questions and reflecting on their learning. These developments are key indicators of inclusive education, as they reflect increased belonging and participation.

Although teachers provided a total of 159 examples of positive outcomes—110 related to teachers' practice and 49 to students' learning—some responses also pointed to limited or absent results from the PA model work. Negative or contradictory examples were

retained and analysed using the same procedure as the other data. A few teachers reported challenges such as a lack of engagement among colleagues (“not all teachers are engaged or willing to change their own practice”), and insufficient time and structure (“we need to allocate more time to this work, and the leadership must be more structured”). Furthermore, some expressed concerns about the balance between effort and impact (“considering how much development time has been used, the results are low”). One teacher also emphasised that the strategies implemented had produced results but argued that these were strategies the school would have carried out regardless of the PA model work. PA was perceived as an additional workload, and the time spent could have been used more effectively.

6. Discussion

The purpose of this study was to examine how teachers in a regional partnership focusing on inclusive practices assessed the quality of the support and training they received, their use of the PA model, and—viewed from an inclusion perspective—the outcomes this work has produced for teachers’ practice and students’ learning. The descriptive results show that teachers, on average, rate the support from school leaders and resource persons as the strongest component of the implementation, while their own competence, training and participation are rated lower.

The correlation analysis indicates a clear association between teachers’ perceptions of implementation quality and their perceptions of the outcomes of the use of the PA model. The qualitative descriptions deepen this picture, revealing more perceived changes at the teacher level than at the student level. In the analysis, these experiences are interpreted in light of Goodlad’s curriculum levels and research on inclusion, where participation, belonging and relational quality are understood as key dimensions of inclusive education.

6.1. The Quality of Implementation of the PA Model

Addressing the first research question—How do teachers in the partnership assess the quality of the support, training, and use of the PA model?—the results show that teachers generally assess the implementation quality as moderately high, particularly regarding school leaders’ facilitation and the support provided by resource persons. This is consistent with research demonstrating that high-quality leadership and structural support are essential for enabling teachers to work systematically with data-use models such as PA (Forfang et al., 2025; Nordahl & Gustavsen, 2026).

Several schools practise distributed leadership in their school improvement initiatives through the use of resource persons (Nordseth et al., 2025). Teachers in this study generally reported positive experiences with this form of distributed leadership. At the same time, an important finding is the perceived value of the partnership between the municipalities and the university. Teachers’ assessments suggest that the partnership may have contributed to strengthening school leaders’ capacity to organise and facilitate the use of the PA model by providing access to targeted training, shared arenas for data interpretation and professional expertise. Such external partnerships have been shown to support school leaders by offering tools, knowledge and networks that are not always available locally (Farrell et al., 2019). These perceived benefits, however, should not be interpreted as evidence of causal effects.

The large variation in standard deviations indicates considerable differences in teachers’ experiences of school leadership and support from resource persons. This suggests that while the partnership may have supported leadership capacity at a structural level, the enactment of leadership practices still varied. This finding aligns with research showing that distributed leadership is highly dependent on local capacity and relational trust (Harris, 2013).

Furthermore, teachers report lower scores on their own competence in using the PA model and on the quality of their participation in teacher communities. This aligns with

research indicating that data-use models depend not only on leadership and structural support but also on teachers' analytical competencies, active engagement and the ability to collaborate effectively in professional learning communities (Marsh, 2012; Poortman & Schildkamp, 2016). In this partnership, only the resource persons received training in the PA model, and the intention was that they would support teachers in applying the model. Teachers' assessments suggest that this strategy may not have been sufficient to develop perceived competence at the teacher level, which is a key condition for successful use of the PA model (Nordahl & Gustavsen, 2026). The results therefore suggest that although the structural support systems are perceived as strong, the implementation appeared less robust in areas that rely on teachers' individual competence and active engagement.

A key result in this article is the strong correlation between 'Quality' and 'Outcomes' ($r = 0.667$). This association is consistent with previous research showing that higher implementation quality tends to be linked to more positive outcomes (Dowling & Barry, 2020; Outhwaite et al., 2020), although these studies examine implementation quality through structural indicators rather than teachers' perceptions. In addition, the association may partly reflect broader perceptual tendencies such as general satisfaction, school climate, prior motivation, or common method bias, which is well-documented in survey research (Podsakoff et al., 2003). These alternative explanations should be considered when interpreting the relationship. Such factors may lead teachers who generally experience their school climate or implementation conditions positively to rate both 'Quality' and 'Outcomes' more favourably, thereby inflating the observed association. Given the perceptual nature of the measures and the restricted outcome indicator, the correlation should be interpreted with caution and not taken as evidence of a causal relationship.

6.2. Outcomes Related to Teachers' Practice and Students' Learning

The second research question was as follows: From an inclusion perspective, what outcomes has the PA model produced for teachers' practice and students' learning? The results show that teachers report stronger implementation structures ('Quality') than actual outcomes ('Outcomes'). This aligns with research demonstrating that high implementation quality is necessary, but not sufficient, for measurable improvements in teaching and learning (Ainscow, 2020, 2024; Fullan, 2007). The variation in teachers' responses also suggests that not all teachers have progressed equally in applying the PA model. This highlights the need for sustained support, clear leadership and further development of teachers' analytical competence—factors that are particularly important in inclusion work, which requires systematic and long-term effort (Ainscow et al., 2020; Vescio et al., 2008).

When interpreting the difference between 'Quality' and 'Outcomes', it is also important to consider that the outcomes scale is based on only two items. This limits the precision with which perceived outcomes can be captured and may partly explain why teachers' ratings of outcomes appear lower and more variable (DeVellis, 2017; Clark & Watson, 1995). The strong correlation between the two components therefore indicates an association, but the restricted measurement of outcomes means that this relationship should be interpreted with caution.

Collectively, the quantitative pattern and the structure of the outcomes scale underline the importance of examining teachers' perceived developments in practice through the qualitative material.

The qualitative analyses show that teachers perceive the greatest improvements in teachers' practices (110 examples of outcomes), both in classroom practice and in teacher collaboration. In classroom practice (37 examples), teachers report improved skills in classroom management, feedback practices and adapted instruction. This is consistent with research showing that relationships, structure and feedback are among the most influential

factors for student learning (Hattie, 2009). The examples suggest that teachers are beginning to translate the analytical work of the PA model into concrete pedagogical strategies. In accordance with Goodlad's (1979) framework, what teachers actually do in the classroom shapes students' learning experiences (Nordahl & Overland, 2021).

Furthermore, it is important to emphasise that the qualitative findings represent teachers' perceived outcomes of their use of the PA model, rather than documented effects. The examples describe how teachers themselves experience changes in practice and in students' learning environments and should therefore be understood as subjective perceptions within an ongoing implementation process. Such descriptions provide valuable insight into how teachers interpret and apply the model, but they cannot be taken as evidence that the PA model has caused specific changes. From an inclusion perspective, however, these perceived developments remain relevant, as they indicate which aspects of practice teachers view as evolving and which areas may form a basis for further professional learning and more systematic investigations of effects over time.

Even more pronounced is the development in teacher collaboration, which constitutes the largest category of examples (73 examples). In the analysis, these descriptions are interpreted as increased competence in analysing the maintaining factors, more coherent pedagogical approaches and deeper reflection on their own practice. Such collective work is key to inclusive education because it enables teachers to identify and address barriers to participation. This aligns with research showing that inquiry-based professional learning communities are essential for building collective capacity for inclusion (Little et al., 2003; Vescio et al., 2008). It is also consistent with research showing that data use is most effective when teachers have support, structure and collective competence (Poortman & Schildkamp, 2016).

Compared to teacher-level outcomes, teachers report more modest improvements for students (49 examples), particularly in academic learning (16 examples). This is consistent with research showing that changes in student outcomes often occur later than changes in teacher practice (Ainscow, 2024; Fullan, 2007; Timperley, 2011). Nevertheless, teachers describe meaningful developments such as increased academic mastery, improved reading skills and greater engagement in learning processes. More substantial improvements were reported in the learning environment (33 examples), including better relationships, increased motivation and stronger student involvement. This aligns with research showing that participation, belonging and relationships are key dimensions of inclusive practices (Persson & Persson, 2012; Nordahl & Overland, 2021). Such improvements may be early indicators of inclusive development and may form a foundation for later academic gains. Such developments are often described in the literature as early precursors of inclusive learning environments (Persson & Persson, 2012; Nordahl & Overland, 2021).

Overall, teachers provided 110 examples regarding their practices and 49 concerning student outcomes. Of the 290 teachers who participated in the survey, 180 did not provide examples of teacher outcomes, and 241 did not provide examples of student outcomes. This may indicate a lack of observable results or that the questionnaire wording ("Please feel free to provide examples") was not sufficiently directive. A more explicit formulation ("Please provide examples") might have elicited more responses. The variation in reported outcomes reflects differences in individual teachers' perceptions of inclusive practices, rather than variation between schools.

7. Conclusions

While inclusive education has gained conceptual traction in schools, it has been implemented unevenly in practice (Haug, 2024). The findings from the current study indicate that the work with the PA data-use model is associated with strengthened teacher

collaboration and some perceived improvements in classroom practice, although overall outcomes remain modest and uneven, particularly regarding students' learning. Teachers report higher implementation quality than actual outcomes, suggesting that the analytical structures of the model are more firmly established than its concrete impact on practice and learning. Viewed through the theoretical lens of Goodlad's (1979) curriculum framework, this indicates that while the operational curriculum, representing enacted teaching practices, shows progress, the full alignment with the experienced curriculum, particularly regarding consistent improvements in student outcomes, remains a challenge.

A key result concerns the importance of the partnership between the municipalities and the university. The partnership provided school leaders with structured support systems, shared arenas for interpreting data and access to professional expertise. Teachers' descriptions suggest that the partnership may have supported school leaders' capacity to guide the use of the PA model in their own schools—by clarifying expectations, facilitating teacher collaboration, and maintaining a focus on analysing maintaining factors and developing strategies. Such descriptions indicate that, without this partnership structure, school leaders—particularly in small municipalities with limited internal capacity—may have faced less favourable conditions for sustaining the work.

However, the modest and uneven student outcomes suggest that partnership support, as currently implemented, may not be sufficient. The results indicate that teachers perceive the PA model as placing high demands on school leaders' ability to sustain momentum, ensure analytical depth and translate insights into lasting instructional change. This raises important questions about whether the PA model, as currently implemented, is perceived as capable of supporting substantial improvements in student learning without additional support or adaptations.

Overall, the results indicate that the PA model has the potential to support inclusive practices but that its perceived impact is closely linked to the strength of the partnership, the capacity of school leaders and the ability to translate analysis into powerful pedagogical actions. Further research should examine the conditions under which the model is perceived to contribute to meaningful and lasting development.

7.1. Implications

The results highlight critical implications for fostering inclusion, particularly through structured implementation of the PA model. Inclusive education prioritises developing learning environments that address students' varied needs regardless of identity, social position, or contextual barriers. The PA model embodies this principle by fostering data-driven approaches that align teaching practices with equity-focused goals. Teachers' descriptions suggest that the model may have supported the development of a stronger professional foundation for inclusive practices by facilitating more coherent pedagogical approaches and cultivating reflective teaching. These developments are important preconditions for long-term improvements in student learning (Ainscow et al., 2020; Vescio et al., 2008). To strengthen these perceived developments, PA processes may need to be embedded more systematically in regular meeting structures and leadership routines.

The modestly reported student outcomes point to the need for an ongoing focus on implementation quality, sustained leadership involvement and the development of teachers' analytical competence. The strong correlation between the quality of implementation and perceived outcomes emphasises a key implication: inclusive practices cannot thrive in the absence of clear structures, shared goals and collective professional responsibility (Fullan, 2007; Poortman & Schildkamp, 2016). Prioritising broader access to teacher training, involving all staff in PA processes (not just resource persons) and allocating time and resources for formative evaluations may help strengthen these conditions.

The results also reveal that the effectiveness of the PA model is closely linked to contextual factors such as local capacity, the maturity of teacher communities and the extent to which analytical insights are translated into instructional strategies. A more nuanced understanding of these conditions may support efforts to ensure that the PA model contributes to meaningful and sustainable development (Poortman & Schildkamp, 2016).

To operationalise these insights, schools may benefit from embedding PA routines into everyday practices. Training opportunities could be expanded to ensure that all teachers, not just resource persons, have access to professional learning opportunities that support inclusive education. Systematic monitoring, observations and follow-ups may help strengthen implementation fidelity and document progression. Schools may also draw on external expertise, including partnerships with PPT and universities, to provide tailored guidance and specialised resources (Penuel et al., 2015).

While measurable changes in teacher practices were more apparent, the reported improvements in students' relational dynamics, engagement and academic mastery are encouraging steps toward inclusivity (Persson & Persson, 2012). These descriptions suggest that fostering belonging and student participation remains an important focus in ongoing implementation efforts, as they create strong foundations for future academic growth. Inclusive development requires long-term attention to strengthening structures, supporting teacher competence and maintaining consistency in leadership engagement.

In conclusion, progress toward inclusive practices appears to require coordinated efforts that align leadership priorities, build teacher collaboration and support systematic processes for analysis and professional development. Through sustained commitment to these areas, the PA model may serve as a useful framework for supporting equitable outcomes in diverse educational settings.

7.2. Strengths and Limitations

A key strength of this study is the relatively high response rate, with nearly all schools in the region represented, combined with the use of qualitative items that add depth to the quantitative results. The factor structure was theoretically consistent, and all analyses were conducted collaboratively by the authors, strengthening reliability. In addition, the survey design provided a high degree of structure and anonymity, which enhances reliability and comparability (Nardi, 2018). However, the study has several limitations. The outcome construct was measured with only two items, and we lack detailed information about how the PA model was implemented in practice. The study relies solely on teachers' self-reports and includes only one informant group, and a large proportion of teachers did not provide qualitative examples. Because the data are based on individual teachers' perceptions, the findings cannot be interpreted as school-level effects, nor do they allow conclusions about variation between schools. The results should therefore be understood as context-specific rather than statistically generalisable to all Norwegian schools. These strengths and limitations should be considered when interpreting the results and assessing the transferability of the findings.

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Notes

- ¹ Judith W. Little and colleagues describe teacher communities as structured, inquiry-focused teacher collaborations centered on joint analysis of practice and student work that foster shared responsibility for student learning.
- ² PPT is the municipal multidisciplinary support service that provides schools and early-years settings with specialist advice, assessment and guidance. PPT combines psychological expertise with pedagogical knowledge and works together with teachers, school leaders, parents and other professionals to support inclusive practices and problem-solving in everyday educational settings.
- ³ Nettskjema is a tool for designing and administering online surveys.

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