

Working With VIPP-School to Improve Teacher–Child Interaction: Two Case Studies

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ABSTRACT

The Video-Feedback Intervention to Promote Positive Pedagogy and Sensitive Discipline in School (VIPP-School) aims at enhancing teacher sensitivity and sensitive discipline in interactions with children showing behavior problems. Although the first evidence for effectiveness has been shown, the mechanisms of change that underly the learning process of teachers during the intervention are still unclear. This study presents two case studies of kindergarten teachers participating in VIPP-School. Drawing on the intervention manual, logbooks, intervener feedback, and independent observations, we describe how the intervention was carried out and how each teacher's personalized learning path related to changes in sensitivity and sensitive discipline. These cases highlight the importance of iterative cycles of reflection and application of new strategies for learning. The results provide further insight into mechanisms of change in video-feedback interventions and show how the protocolized VIPP-School intervention can be tailored to individual teacher–child dyads.

Education continually evolves to enhance quality and to address the multifaceted needs of children. This requires teachers to adopt new roles and tasks through professional development (e.g., in handling child behavior problems). Child behavior problems are associated with more conflictual and less supportive teacher–child relationships, and the risk of negative interaction cycles (Doumen et al., 2008; Hasty et al., 2023; McGrath & Van Bergen, 2015; Organisation for Economic Co-Operation and Development, 2019). From a relational perspective, strengthening positive teacher–child interactions is essential, as positive interactions buffer against maladaptive development (Hamre & Pianta, 2001; Lei et al., 2016; McGrath & Van Bergen, 2015). In the context of professional development, supportive interventions can help teachers in strengthening such positive teacher–child interactions. The Video-Feedback Intervention to Promote Positive Pedagogy and Sensitive Discipline in School (VIPP-School; Starreveld et al., 2024a) was developed to enhance teachers' interactions with young children displaying challenging behavior. Initial results from a randomized controlled trial indicate promising

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effects at the group level (Starreveld et al., 2024b). These findings provide, however, no insight into individual teachers' trajectories and implementation of the intervention. To address this gap in knowledge about the learning process during the intervention at the individual level, we report on two case studies of kindergarten teachers participating in VIPP-School.

Interventions are vital for providing teachers with effective behavioral strategies to manage behavior problems (Aldabbagh et al., 2022). Internationally, several interventions aiming to improve teacher–child interaction are available, including but not limited to Banking Time (Driscoll & Pianta, 2010; Pianta, 1999), Key2Teach (Hoogendijk, 2018), Teacher-Child Interaction Training (Lyon et al., 2009; McIntosh et al., 2000), Playing-2-Gether (Vancraeyveldt, 2015), and Leerkracht Leerling Interactie Coaching (Spilt et al., 2012). These intervention programs offer a form of coaching to foster behavioral change in teachers, sometimes in real life, or through video-feedback. Video-feedback in education involves using footage of the teacher's behavior as a basis for reflective discussion. The inclusion of video allows for a detailed analysis of teaching practices and captures situations that may be challenging to articulate verbally due to their complexity (Marsh & Mitchell, 2014). Research has shown that video-feedback can effectively promote positive changes in teachers' classroom practices, particularly in enhancing pedagogical behavior (Van der Linden et al., 2022).

One of the intervention programs that use video-feedback is VIPP-School, on which this article focuses in more detail. VIPP-School follows a protocol adapted from the widely studied parenting program Video-Feedback Intervention to Promote Positive Pedagogy and Sensitive Discipline (VIPP-SD; Juffer et al., 2008/2023) applied to the school context. VIPP-School aims to enhance teacher sensitivity and sensitive discipline by helping teachers to respond more effectively to child signals and manage challenging behavior. VIPP-School is based on principles from both attachment theory and coercion theory. According to attachment theory, caregiver sensitivity is a key factor in establishing secure child–caregiver attachment relationships (Ainsworth et al., 1978; Bakermans-Kranenburg et al., 2003; Bowlby, 1969). Caregiver sensitivity refers to the ability to perceive and interpret accurately the child's signals and provide a prompt and adequate response to these signals (Ainsworth et al., 1978). Coercion theory, derived from social learning principles, emphasizes how ineffective discipline strategies can escalate into coercive cycles that contribute to the development and persistence of behavior problems in school-aged children (e.g., Patterson, 1982; Prinzie et al., 2003).

Research on the effectiveness of VIPP-SD in families has shown positive effects on child attachment security, caregiving behavior, sensitivity, and sensitive discipline, with some evidence of long-term reductions in challenging child behavior (Juffer et al., 2017; O'Farrelly et al., 2021; van IJzendoorn et al., 2023). As children also develop attachment-like relationships with professional caregivers, VIPP-SD was adapted for home- and center-based childcare, where it improved overall care quality, caregiver sensitivity, and attitudes toward sensitive discipline (Bakermans-Kranenburg, 2021; Groeneveld et al., 2011; Verschueren & Koomen, 2012; Weisberger & Ziv, 2023; Werner et al., 2018). Building on these findings, VIPP-SD was recently adapted to VIPP-School for application in educational settings (Starreveld et al., 2024a). Initial results from a randomized controlled trial (RCT) show that participation in VIPP-School significantly improves teacher sensitivity and child-supportive interactions in the classroom

(Starreveld et al., 2024b). Yet intervention effects at the group level provide limited insight into the active intervention components and mechanisms of change through which individual teachers learn and change.

Teachers vary in the extent to which they engage with and benefit from interventions. Professional learning and the application of newly acquired capabilities are influenced by factors such as teachers' knowledge, experience (Xie et al., 2017), value beliefs (Cheng & Xie, 2018), and motivation (Gorges & Kandler, 2012). Accordingly, teachers who participate in professional development are viewed as active constructors of knowledge whose learning processes are influenced by both internal cognitive processes and social interaction with their professional context (Clarke & Hollingsworth, 2002; Vygotsky, 1978). The use of video-feedback in VIPP-School aligns with this perspective. Its iterative structure, with teachers alternating between teaching, being video recorded, and guided discussion of their interactions, actively involves them in repeated cycles of practice and reflection on their behavior. Such processes may be particularly effective when coaches help deepen reflective processes to support the consolidation of new pedagogical behaviors (Gaudin & Chaliès, 2015).

Current study

The results of the RCT testing the effectiveness of VIPP-School hold promise for practitioners supporting teachers' interaction with children showing challenging behavior in early elementary education. This makes questions about the intervention process relevant: How is VIPP-School implemented and how do the active components in intervener feedback explain changes in sensitivity and sensitive discipline in teachers dealing with different types of challenging child behavior? To address these issues, in this article we report on two case studies of kindergarten teachers participating in VIPP-School. By providing detailed descriptions of the video-feedback sessions, this study may help to understand how the protocolized VIPP-School intervention can be tailored to individual teacher-child dyads and provide further understanding in how video-feedback interventions support teacher's learning processes.

Method

Setting and participants

As part of a broader study on the effectiveness of VIPP-School (trial registration: ISRCTN12710516; Starreveld et al., 2024b), we use cases from the intervention condition (28 teachers) with the first author as intervener. Of the 25 teachers (89%) who completed the intervention, four had the first author as intervener. From these, we selected two cases (names and details changed for anonymity) that would represent diversity in teaching experience and intervention outcomes: an experienced teacher, Janice, who showed a modest increase in sensitivity and a large increase in sensitive discipline; and a less experienced teacher, Lindsey, who benefited from the intervention with a large increase in sensitivity but showed not much change in her sensitive discipline behavior.

Procedure

The study was approved by the Ethics Committee of the Faculty of Behavioral and Movement Sciences at the Vrije Universiteit Amsterdam (VCWE-2020-167R1). Teachers and the children's parents gave informed consent before participating.

Intervention: VIPP-School

VIPP-School consists of five 1.5-hour dyadic intervention sessions. With sessions scheduled every 2 weeks on average, the intervention extends over a period of 3 months. Each session, a VIPP-intervener visits the teacher and child at school and begins with filming two to three protocolized teacher–child interactions (e.g., making a puzzle, clearing up). In between sessions, the intervener prepares a feedback “script” based on the videos. After filming, the intervener and teacher discuss the videos from the previous session according to the themes of each session (see [Appendix A](#) for an overview and description of the themes).

Using the videos, the intervener creates a profile of the teacher's interaction with the child by selecting two key areas for potential growth, referred to as profile points, from the VIPP-School manual's list of profile items (see [Appendix B](#)). These profile points serve as the focus for the personalized feedback provided during each session. An important principle of VIPP-School is transparency: all recorded material is reviewed together with the teacher. This approach promotes openness and ensures that teachers do not feel that any information is withheld.

During feedback discussions, successful interactions are highlighted, and (from session three onward) alternative approaches to insensitive interactions are introduced. Filming takes place outside the classroom to minimize distractions, except for the final session occurring in the classroom to encourage skill transfer. This last session consolidates the intervention by integrating previous feedback. Teachers receive a brochure summarizing the key points discussed. VIPP-School is both protocolized and individualized: it follows a detailed manual with themes, tips, and activities for each session (see [Appendix C](#) for the activities per session), but is tailored to the specific teacher–child interaction.

Measures

Following Yin's (2014) recommendations, we used multiple data sources to assess the VIPP-School intervention process: the VIPP-School manual, personalized feedback “scripts” (exact feedback discussed during the discussion of the videos), and intervener logbooks (filled out after each session, with information on session flow, teacher response, working relationship, and focus points for the next session). All data sources were used complementary to each other; no source was given more weight than others, and each contributed a distinct layer to the description of the intervention process.

Teacher sensitivity. Teacher sensitivity was assessed at pre- and posttest using a computerized version of the Etch-A-Sketch task (Euser et al., 2021; Vrijhof et al., 2020), and rated with the revised Erickson 7-point rating scale for supportive presence (1 = *completely failing to be supportive*, 7 = *skillfully providing support throughout the session*) and intrusiveness (1 = *nonintrusive*, 7 = *highly intrusive*) (Egeland et al., 1990). A

composite sensitivity score was calculated by averaging supportive presence and reversed intrusiveness scores.

Teacher sensitive discipline. Teacher sensitive discipline was assessed at pre- and posttest using an adapted version of the do–don’t task (e.g., Runze et al., 2022) and rated with an adapted version of the revised Erickson 7-point rating scale for supportive presence (Egeland et al., 1990) in discipline contexts (1 = *completely failing to be supportive*, 7 = *skillfully providing support throughout the session*) and a 5-point rating scale for laxness (1 = *no laxness*, 5 = *continuous laxness*).

Both teacher sensitivity and teacher sensitive discipline were coded by independent coders unfamiliar with both the teacher and the child.

Coding process

Coding the intervention sessions started with the first author identifying key activities per session. These included: (a) general key activities, standardized across all dyads as described in the *manual*; and (2) individualized key activities, tailored to the unique dynamics of each teacher–child, as found in the intervener’s *logbooks*. These individualized key activities included personal growth areas (profile points), unique session interactions, and the teacher’s responses. Hereafter, the first author selected examples of intervener feedback regarding the key activities from the feedback *scripts*. In line with our case study approach, the examples were selected for illustrative rather than representative purposes (e.g., Clarke & Hollingsworth, 2002; Elek et al., 2025; Justi & van Driel, 2006). Independent ratings of teacher sensitivity and sensitive discipline were used to quantify the observed changes during the sessions.

Results

The results are based on two independent cases of kindergarten teachers who each participated individually in VIPP-School.

Case 1: Janice and Max

Janice is a Dutch teacher with 24 years of experience working in elementary education. She currently faces management challenges with a 6-year-old boy named Max. Max struggles to adhere to rules and has difficulties managing his impulses, manifesting as disruptive sounds in the classroom and aggressive behavior toward other children. To ensure a safe environment for the other children, there are currently always two teachers present in the classroom.

Case 2: Lindsey and Olivia

Lindsey is a Dutch teacher with 2 years of experience working in elementary education. Lindsey struggles in the interaction with 5-year-old Olivia. Olivia finds it challenging to share Lindsey’s attention with her classmates and displays disruptive behaviors in the classroom to attract Lindsey’s attention.

VIPP-School process

Session 1

Protocol

The intervener discusses two videos with the teacher: an activity where teacher and child collaborate to create a drawing on a computer, and a do–don't task where the teacher plays a fun game with music on a tablet while the child has to perform a tedious task of sorting beads by color and is not allowed to join the teacher in looking at the game. The video-feedback focuses on two main themes: (1) *Exploration versus attachment behavior* (sensitivity), and (2) *Inductive discipline and distraction* (sensitive discipline).

1. *Sensitivity: Exploration versus attachment behavior.* The intervener uses the video recordings to highlight moments of exploration and moments of attachment behaviors, explaining the distinct responses required for each. For example, children's attachment signals (e.g., seeking attention or asking questions) should be met with prompt and sensitive responses, while exploratory behaviors (e.g., focused play) should be supported without interference. Both exploratory play and interactions with the teacher are emphasized as important for learning.
2. *Sensitive discipline: Inductive discipline and distraction.* Teachers are encouraged to use inductive discipline by explaining the reasons for their instructions, helping children understand and internalize rules. Distraction (e.g., offering alternatives) is highlighted as a sensitive way to promote child compliance. The intervener explains, "It is hard for children to focus only on what they are not allowed to do; such restrictions leave them at a loss for alternatives. Providing an alternative can redirect their attention." At the end of the session, the intervener and teacher discuss ways to incorporate sensitive discipline into classroom rules.

Personalized: Janice

Profile points: Responding adequately to positive child signals and following the child's initiatives (items 3 and 15).

1. *Sensitivity: Exploration versus attachment behavior.* The intervener highlights moments of attachment behavior by pausing the video at a moment of a happy interaction between Janice and Max. The intervener underscores Max's positive signals: "Look at how proud Max is! He is sitting up straight with a wide smile on his face. He is radiating joy; he really enjoys drawing with you." Janice is pleasantly surprised by this observation and explains she had not realized how much her presence matters to him.
2. *Sensitive discipline: Inductive discipline and distraction.* The intervener shows Janice how her clear rule setting with explanation at the beginning of the do–don't task enables Max to start immediately with the task. The video prompts Janice to reflect on her everyday classroom practices. She realizes how she sometimes misses subtle signs of Max's misbehavior, leading to more challenging situations later. The information the intervener gives about ways to incorporate sensitive discipline into classroom rules is new for Janice and she says she needs more time to reflect on it before being able to bring it into practice.

Personalized: Lindsey

Profile points: Responding adequately to negative child signals and not interfering during the child's exploration (items 4 and 9).

1. *Sensitivity: Exploration versus attachment behavior.* The video is paused at points where Olivia was deeply focused on a task, emphasizing the importance of fostering her independence: "Olivia is very concentrated; look at how she speaks softly to herself, the way she leans forward, and how intently she looks at the screen." At other times, Olivia would seek the teacher's support, particularly when the task overwhelmed her. The intervener speaks for her: "No way I'm doing this! She slaps first her hands on the table and then her head while moving toward you," highlighting the child's support seeking. Watching the videos, Lindsey observes that their playful dynamic mirrors their classroom relationship.
2. *Sensitive discipline: Inductive discipline and distraction.* The intervener points out instances where Lindsey uses distraction to support Olivia effectively during the do-don't task: "Olivia has been sorting the beads for quite a while now, but by engaging her in conversation, she gets distracted from the monotonous task and time just flies!" Responding to the information about ways to incorporate sensitive discipline into classroom rules, Lindsey formulates plans right away to involve children in creating visual representations of rules.

Session 2**Protocol**

The themes for video-feedback in this session are (1) "*Speaking for the child*" (sensitivity) and (2) *Positive reinforcement* (sensitive discipline). Discussed videos include the child solving a puzzle independently, reading a book with the teacher, playing together, and cleaning up toys.

1. *Sensitivity: "Speaking for the child."* Speaking for the child (Carter et al., 1991) refers to the intervener verbalizing and carefully interpreting the child's emotions, facial expressions, and (nonverbal) behaviors. The intervener applies this technique while pausing the videos at moments where the child displays attachment behavior, such as seeking proximity or enjoying time with their teacher. The technique is also used during moments of independent exploration, explaining that children need time to discover new things in their own way before they can listen to and follow instructions. The intervener encourages teachers to engage with the child during exploration by naming objects or actions, thereby providing support without interrupting the child. The intervener also introduces the metaphor of a suitcase filled with beliefs that children carry with them, shaped by their experiences. This suitcase is sometimes packed with negative beliefs about themselves and the world, influencing their behavior. Teachers are encouraged to help repack this suitcase with more helpful beliefs.
2. *Sensitive discipline: Positive reinforcement.* The concept of induction is revisited and supplemented with other effective disciplinary strategies. These strategies emphasize positive reinforcement, by giving compliments for compliant behavior and ignoring minor misbehaviors. At the session's conclusion, the intervener encourages teachers to count how many times a day they praise the child and try to double the number of compliments the next day.

Personalized: Janice

Profile points: Noticing child signals and following the child's initiatives (items 1 and 15).

1. *Sensitivity: "Speaking for the child."* While discussing attachment behavior using the "speaking for the child" technique, Janice gains a better understanding of Max's attachment behavior. In hindsight, she is now able to interpret his spontaneous hug last week as an expression of attachment behavior. Observing the effects of one-on-one moments with Max on their relationship, she also expresses her intention to create more often such moments in daily classroom practice. Using the suitcase metaphor, Max's challenging behaviors are discussed with Janice. It is considered that Max's behavior may stem from a need for control following the recent birth of his sister, which disrupted his home routines. This explanation helps Janice better understand and empathize with Max's behavior.
2. *Sensitive discipline: Positive reinforcement.* Janice shares that she typically corrects Max immediately for making silly noises but expresses eagerness to try ignoring such behaviors and instead acknowledging his compliant behavior. In the videos, she sometimes already uses praise for compliant behavior. The intervener highlights these moments to encourage more positive reinforcement, showing its beneficial impact: "Look there! Max is jubilant. It's great that he gets praised for his discovery."

Personalized: Lindsey

Profile points: Giving directions to the child in a sensitive way, using induction, and not interfering during the child's exploration (items 7, 8, and 9).

1. *Sensitivity: "Speaking for the child."* Using the "speaking for the child" technique, the intervener verbalizes Olivia's exploratory behaviors to explain there are moments where she is comfortable without direct attention of the teacher: "Olivia does not respond to your question because she is deeply engaged with the Lego pieces. You are currently out of scope because she is fully immersed in her own path of discovery." The intervener explains that allowing children the lead can be beneficial: "Joining the conversation is also playing along. Children enjoy when the teacher participates but also appreciate taking the lead themselves." Observing how the intervener uses "speaking for the child," Lindsey quickly adopts this practice, "speaking for Olivia" at multiple times during reviewing of the video. Olivia's challenging behavior is discussed with Lindsey, and it is suggested that competition for attention among siblings at home might be a pattern she replicates at school, and that it takes time for her trust in the availability of Lindsey after moments of disconnection to grow. Lindsey is not fully convinced by this explanation and indicates that she needs to reflect on it. She does note that since participating together in the interaction tasks during VIPP-School, Olivia is demanding less attention in the classroom.
2. *Sensitive discipline: Positive reinforcement.* The intervener highlights moments when Lindsey praised Olivia during hard times, showing their positive impact: "When Olivia lacks self-confidence, it's important to magnify her efforts and successes with a compliment: see, you can do it!"

Session 3

Protocol

This session focuses on (1) *Sensitivity chains* (sensitivity) and *Sensitive pauses* (sensitive discipline) while discussing the videos of a task where children were not allowed to open a mystery box filled with toys, and playful interaction. From the third session onward, the focus of the intervention is not only on the child's behavior, but also more explicitly on the teacher's behavior. Corrective messages are given to support more sensitive teacher behavior. In a corrective message, alternative behaviors are discussed for moments of insensitive teacher behaviors, referring to a recorded fragment in the same session where the teacher did respond in a sensitive way, to boost the teacher's feelings of competence while reflecting on alternatives.

1. *Sensitivity: Sensitivity chain.* A sensitivity chain starts with a child signal, followed by the teacher's adequate response, and the child's subsequent reaction. The intervener points out the significance of such interactions, as they foster children's trust in their teacher's support and assistance when needed. The continued use of "speaking for the child" further supports teachers to understand the child's emotions, facial expressions, and (nonverbal) behaviors.
2. *Sensitive discipline: Sensitive pause.* This session introduces the "sensitive pause" strategy to manage difficult child behavior. The intervener explains that taking a sensitive pause should be a last resort and used sensitively, in order to repair the interaction. Additionally, the intervener inquires whether teachers have already counted and then doubled the number of compliments they offered to the children since the last session. During the review and discussion of the videos where children were not allowed to open a mystery box filled with toys, the intervener repeats strategies for sensitive discipline (e.g., offering alternatives, acknowledging feelings, and postponing gratification).

Personalized: Janice

Profile points: Giving directions to the child in a sensitive way and encouraging eye contact (items 7 and 12).

1. *Sensitivity: Sensitivity chain.* The intervener shows a sensitivity chain where Max expresses doubt about being able to complete a challenging task. Janice recognizes his need for support and reassures him they will tackle it together, prompting Max with "If you do not try..." to which Max enthusiastically responds, "... then it will never work!" and he starts working on it. The intervener replays this segment, highlighting the sensitivity chain: Max's initial signal, Janice's adequate response, and Max's enthusiastic reaction.
While the intervener highlights moments of eye contact between Janice and Max on video, Janice shares that she and Max now share more brief moments of eye contact throughout the day, often just exchanging smiles, illustrating how Janice's increasingly sensitive behavior positively influences her interaction with Max. However, there are still moments where Janice's behavior could be more attuned to Max's needs. The intervener points out one of these moments with a corrective message: The video of

playtime with a dollhouse shows a moment when Janice disrupts Max's play: As he is tucking a doll into bed, she keeps inquiring about unused toys. Later, a contrasting example shows Janice aligning her questions with Max's current interest. In the corrective message, the intervener uses Janice's own behavior as a model for change, thus stressing her competence by making explicit that Janice at other times did very well at following Max's lead.

2. *Sensitive discipline: Sensitive pause.* Using "speaking for the child," the intervener shows the effectiveness of offering alternatives as a technique to manage difficult child behavior. "It is great for Max that he is presented with an alternative here. He's not allowed to open the box, but he can still enjoy looking at the beautiful pictures on the side." The intervener asks Janice about giving compliments, which was discussed during the previous visit. Janice responds that counting the number of compliments made her more aware of how she uses compliments and that she is making an effort to use them more frequently.

Personalized: Lindsey

Profile points: Not interfering during the child's exploration and following the child's initiatives (items 9 and 15).

1. *Sensitivity: Sensitivity chain.* The intervener shows a sensitivity chain starting with Olivia's discovery that light shines through holes in the mystery box. Lindsey excitedly acknowledges this discovery by saying "ooh" and leaning forward for a closer look. Together, they peer through the holes, and Olivia begins to describe excitedly how she sees a rocket. The intervener replays this segment, emphasizing Olivia's discovery, Lindsey's appropriate response, and the positive impact this has on Olivia's enthusiasm. Lindsey describes these one-on-one moments where she allows children to take the lead as "special moments." She shares how she actively implements such moments also with other children, as the positive effects she observes with Olivia made her aware of the importance of those moments. During reviewing of the video, it becomes apparent that feedback from the intervener using "speaking for the child" prompts Lindsey to more often articulate the reasoning behind her responses to Olivia, explicitly linking her actions to Olivia's needs.
The corrective message focused on following the child's pace and not interrupting. One video segment shows how Lindsey aligns perfectly with Olivia's pace without interrupting her exploration, supporting her with verbal encouragement and matching her excitement with enthusiastic clapping. However, another segment shows Lindsey moving at a faster pace than Olivia, interrupting Olivia's play. This contrast is used to stress Lindsey's ability to follow the child's lead, while highlighting that sometimes her own enthusiasm leads her to inadvertently be ahead of the child's pace.
2. *Sensitive discipline: Sensitive pause.* Lindsey already uses a few discussed discipline strategies but has not yet practiced new strategies from the previous sessions, such as acknowledging feelings. The intervener brings this topic up again and Lindsey shares that she often struggles with acknowledging children's negative feelings regarding school tasks. She tends to dismiss them and instead focuses on positive signals. Following this reflection, Lindsey expresses an intention to practice acknowledging children's feelings more adequately. Lindsey had

not yet started the assignment of counting compliments she gives to Olivia after the previous session, as she was focused on creating what she describes as “special moments” of one-on-one interaction with other children (see sensitivity).

Session 4

Protocol

This session starts with filming in the classroom to help teachers in transferring their newly learned skills into daily classroom practice. After filming, the videos of the previous session are discussed: playing with puppets, performing a construction task together, and clearing up the toys. The themes of this session are (1) *Sharing emotions* (sensitivity) and (2) *Empathy for the child* (sensitive discipline).

1. *Sensitivity: Sharing emotions.* The themes and techniques from previous sessions (e.g., speaking for the child, sensitivity chains) are repeated, and moments of shared emotions are highlighted; for instance, comforting a sad child or sharing joy. The intervener explains how sharing both positive and negative emotions with children creates a supportive environment where children feel safe to express their emotions. This is especially important for children with behavior challenges, who may struggle to trust new adults, resulting in behavior that may not align with typical expectations.
2. *Sensitive discipline: Empathy for the child.* Teachers are encouraged to acknowledge the feelings of children during difficult moments and to show empathy. Again, the intervener repeats strategies for sensitive discipline discussed in previous sessions and asks about the sensitive pause.

Personalized: Janice

Profile points: Using induction and good communication between teacher and child (items 8 and 13).

1. *Sensitivity: Sharing emotions.* The intervener stops the recording at moments where Janice shares the feelings of Max: “Max beams with pride as you both admire the tower you’ve built together. Your eyes meet, and you exchange a celebratory high five. An unforgettable moment!” Janice shares that in moments like these she now feels more connected with Max emotionally, as her anxious and negative thoughts when interacting with him have diminished.
2. *Sensitive discipline: Empathy for the child.* Referring to the topic “empathy,” Janice shares her opinion that Max struggles to show empathy toward other children after conflicts, failing to recognize his own role in the situation. The intervener explains how modeling empathic behavior and verbalizing the needs of others can enhance empathy in children. This is illustrated with a video of Max and Janice cleaning up toys together. Max, frustrated by the limited selection of toys to play with this time, and now having to clean them up as well, begins sighing and groaning. Janice acknowledges his feelings and shows empathy, providing him with enough support to continue cleaning up.
In the videos, the intervener points out the effect of sensitive disciplining strategies like praise and ensuring contact before giving compliments: “It’s wonderful to see Max receiving such a meaningful compliment from you. By touching Max’s shoulder, you ensure that you have his full attention, which enhances the impact of the

compliment.” Janice observes that ignoring Max’s minor misbehaviors—a strategy from session 2—does not reduce his disruptive noises in the classroom. Concerned that this approach was not working as well for her as for her colleague, she wonders if their bond is strong enough. The intervener reassures her that both teacher and child need time to adjust to new strategies before consistent results appear. When asked about the sensitive pause, as discussed in the previous visit, Janice mentions leaving the door open during Max’s tantrums, but his noises in the hallway disrupt other children. Still figuring out how to apply this strategy effectively, the intervener provides her with the key steps of a sensitive pause on paper to consult if needed.

Personalized: Lindsey

Profile points: Using different strategies to respond to negative child signals and following the child’s initiatives (items 6 and 15).

1. *Sensitivity: Sharing emotions.* The intervener shows moments of shared emotions between Lindsey and Olivia: “Olivia echoed, ‘Yes, no, yes. ... Will the tower stay up?’ Both of you share the suspense of whether the tower would remain standing.” Lindsey notes that sharing these emotions has made her more aware of how adorable, happy, and funny Olivia is.
2. *Sensitive discipline: Empathy for the child.* Videos of the clean-up task show Lindsey employing sensitive discipline strategies to engage Olivia: repeating the rules clearly, delaying alternative activities, distracting her with pleasant conversation, and complimenting her for her hard work. Lindsey responds less to the feedback on this topic compared to feedback related to sensitivity, limiting opportunities for reflective discussions.

Session 5

Protocol

In this booster session, the videos from the previous classroom visit are reviewed and discussed: two videos of puzzles and one video of shared reading.

Sensitivity and sensitive discipline. During the video-feedback, all messages regarding sensitivity and sensitive discipline are repeated, with explicit connections made to application in the classroom environment.

Personalized: Janice

Profile points: Understanding what motivates the child and adjusting the teacher’s pace to the pace of the child (items 2 and 10).

Sensitivity and sensitive discipline. Janice is pleasantly surprised by Max’s concentration on the tasks, even though they are not sitting apart but in the classroom in these recordings. The videos demonstrate Janice’s increased sensitivity to Max’s needs. She mentions no longer feeling compelled to constantly (re-)direct his behavior, trusting his ability to alternate between exploratory activities and attachment behaviors. The

intervener highlights this during a puzzle activity: “Max was focused but then looked at you and asked a question. This clearly shows the switch from exploration mode to proximity-seeking mode. He was happily working on his own, but when it becomes challenging, he turns to you for help and support.”

Janice also mentions increased confidence in applying sensitive discipline strategies and has observed their effectiveness. That Janice successfully applies the techniques was evident from the videos; the intervener points out how Janice effectively keeps Max engaged while reading a book together: “Max knows exactly what he has to do since he has been given an important role in the activity—he has to search for the balloon.”

Personalized: Lindsey

Profile points: Not interfering during the child’s exploration and following the child’s initiatives (items 9 and 15).

Sensitivity and sensitive discipline. Lindsey was seated with Olivia in a corner of the classroom during the videos, and Lindsey comments that she was pleased to see that Olivia focused so well amidst all the distractions around her.

Lindsey’s growing awareness of respecting and fostering children’s exploratory behavior is visible in the videos, with Lindsey more often letting Olivia take the initiative. Lindsey explains that she now more often refrains from physical contact to gain attention because she does not want to disrupt the child’s independent play. The concept of the “invisible suitcase” is revisited, and Lindsey reflects on Olivia’s growing trust in her availability, even after moments of disconnection. Olivia’s growing trust in Lindsey is also evident in the video: “Olivia continues with the puzzle, fully immersed in the flow, seeming very okay that you’re momentarily attending to the class and not to her. It’s impressive how independently she can do this now!” Observing Olivia’s growth, Lindsey shares that she thinks a lot about applying strategies from VIPP-School in interactions with other children.

Changes in teacher sensitivity and sensitive discipline scores

Table 1 shows the scores of Janice and Lindsey on sensitivity and sensitive discipline at pretest and posttest. Janice’s sensitivity scores showed modest improvement, reflecting her growing ability to follow Max’s lead, resulting in more positive interactions. This progress was evident as Janice noted Max’s increased enjoyment of their time together, seen through more eye contact, shared smiles, and a significant rise in compliments

Table 1. Scores on sensitivity and sensitive discipline at pretest and posttest.

Measure (range)	Pretest		Posttest	
	Janice	Lindsey	Janice	Lindsey
Sensitivity (1–7)	3.00	3.50	4.25	6.25
Sensitive discipline—Supportive presence (1–7)	2.50	4.00	5.00	4.00
Sensitive discipline—Laxness (1–5)	5.00	1.50	2.00	2.00

for Max. She demonstrated even more improvement in sensitive discipline. She was better able to maintain boundaries (shown by reduced laxness) and helped him follow rules using various sensitive discipline strategies, such as acknowledging feelings, providing explanations, and offering alternatives (indicated by an increase in supportive presence).

After completing VIPP-School, Lindsey's sensitivity scores showed substantial improvement. Initially, she struggled with following the child's lead and not interfering during exploration, as this emerged as a recurring theme in all sessions. Lindsey was gradually making conscious efforts to step back, creating space for Olivia to express herself and pursue her own interests. In the classroom, Lindsey applied these skills by creating "special moments" with all children. Lindsey's sensitive discipline scores remained consistent; she employed several sensitive discipline strategies from the beginning.

Discussion

Understanding how teachers learn from interventions remains an important area of educational research, because it provides insight into active components of interventions and the mechanisms of change through which interventions work (e.g., Beijaard et al., 2000; Cuijpers et al., 2019 Asterhan & Lefstein, 2024). In the present study, we addressed this issue for VIPP-School by describing two case studies of kindergarten teachers who participated in the intervention. We first describe the active components of VIPP-School and then focus on the mechanisms of change through which individual teachers learn.

Active components of VIPP-School

In VIPP-School, video-feedback provides teachers with a unique bystander perspective on their own interactions with children. It allows teachers to step back, analyze complex interactions, and engage in in-depth discussions with the intervener (Marsh & Mitchell, 2014). Video-feedback has been widely recognized as an effective tool for enhancing teachers' classroom practices, particularly in supporting pedagogical behaviors (van der Linden et al., 2022). The case studies illustrate the cyclical process of video-feedback, where strategies are implemented, videos reviewed, reflective discussions held, and strategies adapted as needed.

Several mechanisms of change emerge from these case studies, indicating how the video-feedback may have supported teacher learning and led to more positive teacher-child interaction. These mechanisms seem in line with proposed active components of VIPP-SD, the parent-focused intervention on which VIPP-School is based (Juffer et al., 2008/2023; van IJzendoorn et al., 2023), and include: (a) pausing or replaying a video fragment, (b) speaking for the child, (c) highlighting sensitivity chains, (d) focusing on positive interactions (e) emphasizing child efforts to make contact or to comply, and (f) discussing alternative strategies for difficult moments.

First, pausing and replaying video fragments allows teachers to notice subtle child signals that may have gone unnoticed in real-time interactions. Recognizing these signals is a prerequisite for sensitivity, as it may lead to a more accurate perception

of the child's needs (Ainsworth et al., 1978; Juffer et al., 2017). For example, Janice learned to recognize Max's subtle attachment signals indicating his need for proximity. Second, "speaking for the child" builds on the teachers' observation skills by encouraging them to take the child's perspective, strengthening their mentalization skills: the ability to reflect on a child's thoughts, feelings, and intentions (Fonagy et al., 2002). Over time, both teachers adopted "speaking for the child," showing growth in their mentalizing abilities.

Third, identifying and reinforcing chains of sensitive interaction—where a child signals a need, the teacher responds sensitively, and the child reacts positively in return—helps teachers recognize that feedback is embedded in their own interactions. VIPP-School aims to support teacher autonomy by helping them see and reflect on children's responses. This positive feedback loop was observed in Lindsey's trajectory: as she became more attuned to Olivia's reactions, she relied less on the intervener's feedback and began independently implementing one-on-one interactions with other children. Fourth, focusing on positive teacher-child interactions enhances teacher motivation and encourages the adoption of new strategies (van der Linden et al., 2022). For example, Janice received feedback on how her calm, patient response successfully deescalated a conflict with Max, reinforcing her confidence. Similarly, Lindsey reviewed a video in which she successfully redirected Olivia's attention through distraction techniques, reinforcing her understanding of how to use this strategy effectively.

Fifth, highlighting children's efforts to engage in tasks or comply with demands fosters teachers' empathy and encourages more supportive responses. Seeing the children struggle to concentrate yet persist in their efforts helped both teachers develop more empathy for the child. Sixth, watching moments where teacher responses were less sensitive or effective and discussing alternative responses with corrective messages may serve as a catalyst for both reflection and enactment. This process encourages teachers to refine their approaches and adopt new skills, while acknowledging their own role in shaping interactions (Juffer & Steele, 2014).

Individualized intervention trajectories in VIPP-School

Although teachers were offered the same protocolized intervention components, differences emerged in the implementation, reflecting the individualized and adaptive nature of coaching-based interventions (Elek et al., 2025; Yang et al., 2022). Each teacher's learning process was shaped by the specific content of the video recordings and the profile points guiding each session, tailored to their existing skills and specific areas for improvement. For Janice, these profile points varied across sessions, addressing both sensitivity and sensitive discipline, leading to growth in both dimensions. In contrast, Lindsey's profile points on which to work concentrated mainly on sensitivity, resulting in notable growth in that area but limited development in sensitive discipline.

However, learning outcomes were also affected by each teacher's engagement with intervention topics, as teachers' existing skills, beliefs, and knowledge shape their engagement with new information (Clarke & Hollingsworth, 2000; Vygotsky, 1978). Lindsey's lower receptiveness to feedback on sensitive discipline strategies may have stemmed from her relative strength in this area, leading her to perceive the suggested strategies as less relevant. In contrast, for Janice, much of this content was new, and

she showed greater openness to change. A similar pattern emerged in discussions about behavior problems in the context of attachment theory and learning theory. While Janice readily accepted these ideas, Lindsey more often questioned these connections. These differences highlight the active role teachers play in their learning process and the importance of aligning professional development with their prior knowledge, skills, and experiences (Warford, 2011). Rather than passively receiving information, teachers engage with new material in ways that reflect their unique perspectives, supporting the view of learning as an interactive and iterative process (Clarke & Hollingsworth, 2002).

In line with previous research on teacher learning (Clarke & Hollingsworth, 2002; Elek et al., 2025), our findings emphasize that improvement in sensitivity and sensitive discipline requires a combination of reflection and applying new strategies in daily practice. For example, for both sensitivity and sensitive discipline Janice balanced reflection with gradually trying out new approaches in the dyadic interaction and in her classroom behavior. This combination probably contributed to improvements in both outcome measures. In contrast, Lindsey focused primarily on putting sensitivity-enhancing strategies into practice, such as incorporating “special moments” into her classroom activities, while reflecting less on the topic of sensitive discipline. Although this hands-on approach led to substantial growth in sensitivity, her relatively limited reflection on, and practical application of, strategies related to sensitive discipline may have resulted in more modest improvement on this outcome.

Implications

We hope that our study offers valuable insights for practitioners supporting early elementary teachers. We identified possible active components of intervener video-feedback that may support teacher learning, including replaying or pausing video fragments, speaking for the child, and discussing alternatives for difficult moments. Our findings indicate that professional development initiatives should be individualized, aligning with teachers’ prior knowledge, skills, and experiences to ensure that new strategies seem relevant and applicable. In addition, interventions should be flexible to accommodate diverse learning pathways, while also fostering iterative cycles of reflection and applying new strategies in daily practice. Rather than one process preceding the other in a fixed sequence, it is their dynamic interaction that drives meaningful change. Some teachers prefer to experiment first with new strategies before reflecting, while others may need a shift in perspective before they feel comfortable to try something new.

Limitations

The findings of this study should be interpreted considering some limitations. The case studies complement the positive results from an RCT (Starreveld et al., 2024b) by illustrating how the intervention works in practice and providing insight into the processes and dimensions of teacher professional development. However, with only two cases analyzed, the generalizability of the findings is limited. Yet this small-scale, in-depth approach enabled us to offer rich, contextualized descriptions that complement

the RCT and support analytic generalization: the processes observed here can inform an understanding of how similar dynamics may unfold in other, comparable contexts (Yin, 2018).

A further limitation concerns the first author's direct involvement in the development and application of VIPP-School, which ensured high fidelity to the protocol and allowed for detailed observations but may have reduced objectivity and critical distance. To mitigate this bias, reflective practices and peer feedback between the first and second author were employed. A connected study limitation is that data came from intervener notes, without incorporating teacher perspectives, nor contextual data on cultural or organizational practices at the teachers' schools. While videotaped teacher-child interactions provide valuable insights into classroom dynamics, they may not fully capture whether observed behaviors translate consistently to everyday teaching practice. Future research should incorporate multiple informants, such as teachers and school administrators, and examine how intervention-driven behaviors are sustained in classroom practice.

Conclusion

This article contributes to our understanding of how VIPP-School works and how it can be implemented with different teacher-child dyads. Through two case studies, we demonstrated how the intervention's structured yet flexible approach enables teachers to follow individualized intervention trajectories. We found multiple possible active components in the way the feedback was delivered to the teacher that seem in line with proposed active components of VIPP-SD, the parent-focused intervention on which VIPP-School is based. Our findings support the view that teachers engage with intervention programs in unique ways, as suggested by Clarke and Hollingsworth (2002). A central takeaway from this study is the critical role of iterative cycles of reflection and applying new strategies in daily practice. Regardless of the specific route taken, the combination of reflection and bringing new behavior into practice is crucial for consolidating change within coaching interventions. Future research should continue to explore how such interventions can optimize teacher development and, by extension, improve outcomes for children in early education settings.

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Data availability statement

Due to confidential and legal regulations, only pseudonymized data will be shared on request. Requests can be made to the corresponding author. Data sharing starts 1 year after the end of the project in the Yoda research data management database. The data will be shared after approval of the request for data sharing and establishing a data sharing agreement.

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Appendix A. Themes of VIPP-School per session

	Session focus	Theme	Description
1	Sensitivity	Exploration versus attachment behavior	Explaining that children alternate between exploratory behavior (e.g., trying to make something work) and attachment behavior (e.g., seeking eye contact), requiring different teacher responses.
	Sensitive discipline	Inductive discipline and distraction	Suggesting giving the reasons behind rules and expectations (inductive discipline) and the use of distraction techniques to redirect child attention when necessary.
2	Sensitivity	“Speaking for the child”	Supporting the teacher recognizing (subtle) child signals by providing “subtitles” to verbal and nonverbal child behavior.
	Sensitive discipline	Positive reinforcement	Encouraging adequate child behaviors by providing rewards or praise, strengthening the likelihood that the behavior will be repeated.
3	Sensitivity	Sensitivity chain	Focusing on the importance of prompt and adequate responses to child signals. Based on the recordings, the child’s reaction when the teacher promptly and adequately responds to a child signal is highlighted. This way, the teacher’s attention is drawn to the feedback provided by the child, with the ultimate aim of making the teacher independent of the intervener’s feedback.
	Sensitive discipline	Sensitive pause	Introducing the use of a sensitive “pause” to help the teacher and/or child calm down before addressing difficult behavior. This pause allows both parties to regain composure before reconnecting to discuss the behavior and repair the relationship.
4	Sensitivity	Sharing emotions	Encouraging open communication about feelings, emphasizing the importance of acknowledging and validating both positive and negative emotions. Attention is given to decoding child signals that may be ambiguous or distorted due to the child’s experiences in other relationships.
	Sensitive discipline	Empathy	Fostering emotional understanding and empathy. It involves recognizing the child’s perspective and responding with compassion, and stimulating the child’s empathy and compassion for others.
5	Sensitivity and Sensitive discipline	Booster session	All themes are reviewed, with explicit attention to the transfer of the learned skills to daily classroom practice.

Appendix B. VIPP-School profile points (Overbeek et al., 2024).

1. Noticing of signals, observing the child
2. Understanding what moves the child, empathy: in your role as intervener you can give information about the development of children, such as “*children of this age like to do everything themselves, because...*”
3. Adequately reacting (including giving compliments) to positive signals of the child, such as smiling and hugging
4. Adequately reacting to negative signals of the child, in particular crying, protesting, refusing to obey, or being naughty
5. Noticing and correctly interpreting the behavior of the child, and reacting correctly to it (doing something about it): in your supportive role you can encourage the correct reaction of the teacher
6. Using different strategies to react to negative signals; not sticking to one and the same ineffective way of reacting
7. Giving directions to the child in a sensitive way
8. Giving explanations to the child about why something is not allowed or is impossible in a sensitive way
9. Not interfering or disturbing the child when he/she is exploring or playing
10. Adjusting the pace of the teacher to that of the child (usually this will mean: introduce breaks)
11. Encouraging physical contact (especially with teachers who say that the child doesn't like sitting on their lap, or are not the hugging type, etc.)
12. Encouraging eye contact
13. Good communication between the teacher and child—playful interaction and sharing of feelings
14. Warmth in the teacher's voice and facial expression when interacting with the child
15. The “following” of the child by the teacher: looking at what the child is looking at, playing along with a game the child has started, etc.

Appendix C. Activities of VIPP-School per session (Starreveld et al., 2024a).

Session	Activity	Description
Baseline	Drawing together	The teacher and the child collaboratively recreate three drawings on a computer.
	Don't touch	The teacher plays a game on a tablet while the child sorts beads by color, while being prohibited from watching the game.
1	Puzzle task	The child independently solves a puzzle.
	Reading together	The teacher and the child read a book without structured text together.
	Building together	The teacher and the child freely play with Lego bricks.
	Clearing up	The teacher and the child clean up the Lego bricks together.
2	Don't touch	The child is prohibited from opening a mystery box filled with toys that make a noise.
	Playing together	The teacher and the child play with a dollhouse together.
	Working together	The teacher and the child collaboratively recreate three examples using plug-in mosaics.
3	Playing together	The teacher and the child play with hand puppets together.
	Working together	The teacher and the child collaboratively recreate an example using building blocks.
	Clearing up	The teacher and the child clean up the building blocks together.
4	Playing alone with game rule	The child independently solves a difficult puzzle. The teacher is instructed to only help when invited by the child.
	Reading together	The teacher and the child read a search book together.
	Difficult puzzle together	The teacher and the child collaboratively solve a difficult puzzle.