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To cite this article: Gerbert Sipman, Rob Martens, Jürg Thölke & Susan McKenney (2024) Exploring teacher awareness of intuition and how it affects classroom practices: conceptual and pragmatic dimensions, Professional Development in Education, 50:4, 746-759, DOI: [10.1080/19415257.2021.1902839](https://doi.org/10.1080/19415257.2021.1902839)

To link to this article: <https://doi.org/10.1080/19415257.2021.1902839>



Published online: 18 Mar 2021.



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ARTICLE



Exploring teacher awareness of intuition and how it affects classroom practices: conceptual and pragmatic dimensions

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ABSTRACT

This study explores teachers' awareness of intuition, and how that awareness affects their classroom practices both conceptually and pragmatically. Scholars have long supported the notion that intuition is a crucial form of knowing that supports teaching. Teachers rely heavily on their intuition to deal with complex classroom situations, especially those that require on-the-spot problem solving, decision-making, and creativity. Yet, how they do so has rarely been the topic of empirical investigation. In this study, qualitative data were gathered from two groups of in-service teachers (17 in total) while they participated in a professional development programme designed to improve their awareness of intuitions through meditative and embodied exercises. Reflection log entries revealed that teachers' awareness of intuitions includes preparing for, sensing, and considering intuitive signals. Furthermore, participants perceived increased awareness of intuitions as well as perceived positive effects on individual pupils, groups of pupils, and on themselves. This study reveals teacher experiences in their journey to becoming aware of their intuition, developing it, and putting it to use in the classroom. Recommendations are given for further inquiry into the crucial teacher quality of intuition.

ARTICLE HISTORY

Received 12 July 2020
Accepted 10 March 2021

KEYWORDS

Intuition; teacher
Professional Development;
meditative exercises;
embodied exercises

Introduction

Teaching is a rich, but multifaceted and complex practice, which relies heavily on the use of intuition. Classroom situations are only partly predictable and controllable (Wolff 2015), hence teachers have to act in split-seconds on complex and contingent classroom situations continuously (Eaude 2014). Teachers make relatively few decisions consciously while teaching (Korthagen 2017), since it takes too much time and effort to deliberate on what to do in the heat of the moment (Van Manen 2015). Moreover, people can think consciously about only a handful of factors at once, while their intuition can weigh and integrate large numbers of factors in split-seconds (Dijksterhuis 2007). Intuition plays a dominant role in teachers' judgement (Vanlommel *et al.* 2018), and intuitive decision-making can supplement and complement rational decision-making (Coget and Keller 2010). As such, intuition is a crucial quality which (often unconsciously) supports teachers' handling of complex classroom situations (e.g. Kennedy 2002). For these reasons, scholars have advocated for studies on intuition's role in teacher decision-making (Vanlommel *et al.* 2017), and argued that teachers can benefit from consciously integrating the use of intuition into both teacher education (e.g. Valle 2017) and in classroom practice

(e.g. Anthony 2006). In response to these calls, the study reported here inductively explored intuition's role in handling complex classroom situations.

Intuition

While it is difficult to isolate a single feature of intuition that elicits unanimous agreement (Nado 2015), many would agree that intuition is a crucial human quality that has a role to play in many situations, including teaching. Most literature interprets intuition as a mental faculty, building on prior knowledge and/or experiences. Such intuitions, often referred to as local intuition, result from automated thinking processes through repetition (Pretz 2011), or synthesis of unconnected memory fragments into new information structures (Mintzberg *et al.* 1998). In the context of classroom situations this can, for instance, lead to confirmation bias when teachers focus their attention on what they expect to see (Vanlommel *et al.* 2018). Far less scholars devote attention to what is called nonlocal intuition, which cannot be explained by past knowledge or environmental signals (McCraty and Zayas 2014), and implies receiving information from external sources (Sinclair 2011). Such intuitions emerge subtly (Sadler-Smith 2010), and hence are often overlooked. Both forms of intuition have been characterised as rapid and spontaneous understanding (e.g. Dörfler and Eden 2014), or the spontaneous generation of ideas, alternatives or solutions (e.g. Sadler-Smith 2004), without the need for conscious thought. In light of the warning that 'as educational problems are reduced to "brain problems", we encounter all sorts of conceptual impasses and stumbling blocks for appreciating the complexity of education and human formation' (Di Paolantonio, 2019, p. 603), this study embraces all aspects of intuition described above.

Enhancing intuition

Effectively using intuition depends on the extent to which one is able to access and utilise the non-conscious mind (Strick and Dijksterhuis 2011). Intuition literature therefore endorses concentrative and/or meditative exercises for improving awareness of intuitions (e.g. Sadler-Smith and Shefy 2007). As such, practicing mindfulness has been endorsed as a viable approach for becoming aware of intuitions (Dane 2011). Such techniques appear to increase self-awareness, emotional balance, and mental clarity (Childre and Rozman 2002), and help teachers to become more aware of their unskilful emotional and mental patterns, and how to manage stress (Le and Alefaio 2019). Further, embodied exercises, mostly known as systemic constellations (Cohen 2006) hold promise for enhancing (awareness of) intuition. In these exercises people physically embody (represent) persons/elements of social systems, thereby creating an invisible, yet noticeable, 'field' of information (Thölke and Herder-Wynne 2013), which enables them to intuitively perceive thoughts, feelings, bodily sensations, and/or intentions that are related to the person/element that they represent. Evidence supports both the existence of this 'field', and the hypothesis that human nervous systems are able to detect and react to this field (McCraty and Zayas 2014).

Meditative and embodied exercises might support teachers' awareness of intuitions, and could consequently empower teachers to (better) handle complex classroom situations. Intuition can support split-second problem solving, decision-making and creativity (Dane and Pratt 2009), and improving awareness of intuitions has been said to lead to more effective communication, smoother social interactions, and positive relations (McCraty and Zayas 2014). It therefore comes as no surprise that implications for classroom practices have also been considered. With regard to teachers' intuitive handling of complex classroom situations, two concepts have been particularly prominent. First, intuition has been said to be a form of Schön's reflection-in-action (Van Seggelen-damen and Westerveld 2020). Reflection-in-action refers to when professionals act and that doing so generates an effect in the situation which is feedback for the professional to reaffirm, modify or reframe his approach. Second, teachers' pedagogical tact manifests in teacher improvisation within teacher-student-content relations (Friesen and Osguthorpe 2018). Teachers who have developed

this – so-called – ‘practical wisdom’ well are able to know intuitively what is the right thing to do in specific situations (Schwartz and Sharpe 2010). While there is no disputing that reasoning abilities are crucial for teaching (Scheffler 1973), or that it would be unwise to allow intuition to overshadow more considered responses (Orchard and Winch 2015), it does seem important to acknowledge that split-second teacher action can be enhanced by (the use of) intuition.

Aim of the study

Empirical work on the role of intuition in handling complex classroom situations is limited. Moreover, literature provides barely any guidance on supporting teachers in their development of awareness of intuitions and conscious use of intuition. The present study was undertaken to address these gaps by aiming to (1) develop a conceptual framework for teachers’ awareness and use of intuition, and (2) explore how to pragmatically enhance intuition through a practical learning experience based on meditative and embodied exercises. To achieve these aims, a professional development (PD) programme focused on improving teachers’ awareness of intuitions was designed. Participant experiences and perceptions, both during the PD programme and in their classrooms, were investigated. Two main research questions (RQs) guided the study:

- *RQ1: After participation in the PD programme, what characterises participants’ experience of their awareness of intuitions?*
- *RQ2: In what ways (if any) do participants perceive that their own awareness of intuitions shapes their classroom practices?*

Methods

To answer the research questions, a small intervention study was undertaken. The intervention was a six-session PD programme on improving awareness of intuitions through meditative and embodied exercises. A qualitative approach was chosen, which is appropriate for new topics and helps the researchers to stay close to the participants (De Boer and Smaling 2011). Intake questionnaires gathered background information about the participants at the start of the study. Moreover, the main data source for this investigation was a set of 75 reflection logs, completed individually by participants after each session of the PD programme, and examined through framework analysis.

Participants

The participants were from two different school communities in the east of the Netherlands; both of these communities partner with the teacher education institute at which the first author of this article is affiliated. Through this network, principals provided their teachers a short description of the goals, structure and approach to be used in the PD programme, and invited them to participate on a volunteer basis. In total, 17 participants joined the programme, ranging in age from 23 to 55 years old. To diminish the possibility of group-specific effects, two consecutive cohorts were formed; cohort 1 had nine participants (zero men and nine women), and cohort 2 had eight participants (two men and six women).

Procedures

When invited to join, it was explained to the participants that the PD programme and the flanking research focused on developing teacher abilities for handling complex classroom situations by improving awareness of intuitions. To improve teachers’ awareness of intuitions, the programme used approaches chosen in accordance with the literature. Each of the six biweekly sessions of 3 hours started with a meditative exercise in the form of visualisations. Each visualisation started with

four phases for becoming more aware of oneself: (1) getting into a comfortable pose, (2) deepening breath, (3) heightening senses by becoming aware of external signals (e.g. sounds), and (4) becoming aware of inner signals by scanning one's own body. Thereafter, participants joined in embodied exercises, in which they physically represented persons of social systems. For instance, a participant laid placemats opposite to each other on the floor to indicate the perceived relationships between the members of their nuclear family (without explanation). Then, another participant stood on the placemats one by one, and shared the emerging intuitions, emotions, sensations, and perceived intentions. By sharing the emerging information about elements that are represented, hidden patterns can be revealed (Jurg 2010). Thereafter, the participants were asked to reflect on their experiences, first in pairs and then in the group. Per group, the same two facilitators verbally guided the activities in each session. To mitigate the possibility of facilitator-specific effects, a total of three facilitators were involved, each of whom had gone through training for facilitating the PD programme.

Data sources

After giving their informed consent and prior to the start of the programme, the participants were asked to complete an intake questionnaire. After some personal details (date of birth, years of experience in education, etc.), five open questions were posed to investigate participants' initial perceptions regarding (improving) their awareness of intuitions: previous education, present strengths and weaknesses, future learning wishes and obstacles.

To capture participants' experiences both during and after the sessions, a week after each PD session the participants received a request to write and hand in reflection logs before the next PD session. The reflection was prompted by two open-ended questions; participants were asked to describe their (learning) experiences during the PD sessions, and effects hereof after the PD sessions on their teaching practice (themselves, pupils, groups). To encourage natural, authentic responses, no further guidelines were given. The participants therefore were free to share whatever had touched or struck them in or after the PD sessions (or not). All participants were offered the opportunity to email the researcher to supplement, change, or delete any of their reflections.

Data analysis

The intake questionnaires were analysed inductively by comparing participants' answers. Per open question, similarities and differences in participants' answers were noted. This yielded general characteristics concerning their initial situation regarding improving their awareness of intuitions.

For the reflection logs, we made use of framework analysis, which is a form of applied qualitative research aiming, among others, to define concepts, map the nature of phenomena, create typologies, and/or develop new ideas (Ritchie and Spencer 1994). Ten of the reflection logs were not completed due to absence or administrative error (no pattern was found in the missing logs), thus 75 reflection logs (411–5928) words were analysed with the aid of Atlas.ti software version 7. After familiarisation with the data, an initial framework with 11 themes was identified inductively. Thereafter, the data were indexed/coded deductively, on the basis of the thematic framework. Next, to build up a picture of the data as a whole, the coded data were charted according to the appropriate thematic reference. Finally, for interpreting the data set as a whole, we mapped the themes in five successive categories, and we created typologies of the participants (see Results). Table 1 shows the categorised final themes, their definitions, and example quotes per code. For increasing the reliability and the validity, the data from the first teacher cohort ($n = 9$) were analysed independently by two researchers, and then discussed until consensus was reached about the thematic framework.

Table 1. Thematic framework with definitions and example quotes.

Categories	Theme	Definition	Example
Awareness of intuitions			
Preparing	Being in the moment	A state of mind in which one is aware of oneself	<i>Sensing requires a certain concentration; emptying and returning to myself is not easy for me.</i>
	Withholding judgement	Further assessment is put on hold, acceptance of 'what is'	<i>It felt vulnerable to express the things I sensed, I did not want to be judgmental.</i>
	Feeling relaxed	A positive state of mind (e.g. leaving worries behind or settling down)	<i>I could leave the hustle and bustle of the morning behind, due to the meditation.</i>
Sensing	Becoming aware of intuitions, thoughts, or emotions	Receiving signals	<i>I learned that little signals in my body can tell a lot, even about people who are not there or who I don't know.</i>
Considering	Distinguishing signals	Separating intuitions from thoughts and/or emotions	<i>I'm working on the distinction between sensing and interpreting, for instance in case that I think that a pupil is angry ... do I think or sense it?</i>
	Attending to emergent insights	To trust, express or follow emerging intuitions	<i>I sensed that I needed to go home, so I left a meeting early. My intuition was right, my son needed me.</i>
Classroom practices			
Action	Pedagogical actions	Any overt action, including doing nothing (consciously), taken with regard to individual pupils, small groups or the whole class	<i>Instead of just helping pupils, I took time to sense who really needed me. Astonishing, particularly pupils of who I had not expected it!?</i>
Effects	Effects on individual pupils	Positive/negative effects of the action taken on individual pupils in the classroom	<i>Instead of being strict with a disturbing toddler, I made inner contact. He turned around and behaved better!</i>
	Effects on group	Positive/negative effects of the action taken on the class as a whole	<i>There is more ease in my class, which helps me to be significant for more pupils instead of focusing on one single pupil.</i>
	Effects on teacher perception of self	Positive/negative effects of on teachers' state of being	<i>Due to the PD programme I feel much more relaxed; I'm better able to focus on what pupils need of me.</i>
	Effects on teacher perception of role	Attention for supporting the development of pupils as individuals	<i>My biggest wish is that in education focus shifts to the pupils' self-understanding.</i>

Results

As part of the framework analysis, the intake questionnaires revealed three profiles in relation to participants' expectations with respect to using and improving their intuition. Four participants described themselves as *cognitively oriented*, for example: 'I do think a lot and doubt what the right approach is, my head sometimes gets 'full''. Three other participants considered themselves *overly sensitive*, one of them wrote: 'I am not able to shut myself off for emotions of pupils/people'. Five others described themselves as *naturally intuitive*, for instance: 'I act a lot upon my intuitions, although often unconsciously'. There were also five participants whose responses did not seem to align with any profile.

The remainder of this section presents the results of the framework analysis, clustered by the themes that emerged. As a visual preview, these themes are shown in [Figure 1](#). The findings are presented per column, from left to right.

Teacher awareness of intuitions

Preparing

In their reflection logs, the participants mentioned three themes that helped them to prepare for becoming aware of signals: being in the moment, withholding judgement, and feeling relaxed. First, seven participants mentioned that particularly meditative exercises supported being in the moment

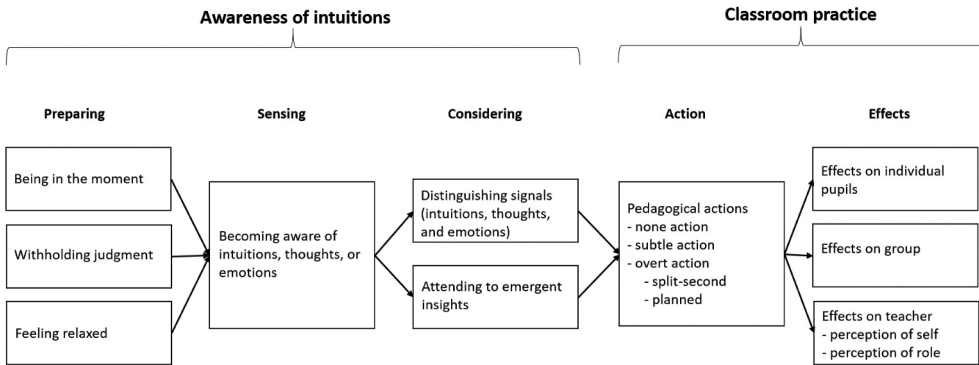


Figure 1. Map of themes that emerged from the framework analysis.

for becoming more aware of themselves. They described this state of being with words such as ‘settling’, ‘concentrating’ and ‘getting into contact with yourself’. One participant specifically mentioned that these exercises helped to ‘open up for signals about others’. It appeared that, for three participants, it took time to get used to meditative exercises: ‘Visualising still is difficult for me, but it is not frustrating any more’. According to another participant ‘the degree of shifting to intuition depends on the moment’.

Second, participants mentioned the ability to withhold judgement as a preparatory condition, generally in relation to an overall attitude towards life: ‘it is what it is’. In both meditative and embodied exercises, pupils’ perspectives were explored, through which participants’ judgements concerning their pupils seemed to alter: ‘I experienced how he feels (heavy head, tingling feet), now I understand him’. Nine participants mentioned that ‘I have gained insight in my judgements’. This attitude seemed to prevent biased local intuitions, as it was said to help to look at others, situations and oneself from an accepting stance: ‘The things that my buddy sensed when she represented the pupil have made me milder towards her’ or ‘I was able to see myself with soft eyes’.

Third, five participants specifically indicated that the meditative exercises lead to feeling relaxed, which may have promoted intuitive processing. They described having become more ‘relaxed’ or ‘at ease’. For example, a participant mentioned ‘The visualisation quieted my mind’, and another wrote ‘I was able to let go some inner tension’. Participants also referred to feeling relaxed indirectly, by using words such as ‘emptying’, ‘not pressuring yourself’, or ‘taking time’.

Sensing

Participants described that they became aware of intuitions, thoughts, or emotions. All participants referred to intuitions in the reflection logs, which were particularly sensed in embodied exercises. Many also mentioned receiving thoughts or emotions, mostly in relation to intuitions, for example: ‘It was chaos in my head, how to integrate these intuitive experiences?’, or ‘I was [affectively] touched by what I sensed’. Furthermore, they learned that intuitions can emerge in different forms, for instance: ‘I was totally surprised by the emotions, the small details I felt in my body, and the words that came to my mind’. Particularly in the embodied exercises the participants experienced gut feelings (intuitions). All participants except one wrote in reflections about intuitions that emerged. For instance, participants wrote about representing people whom they had never met, and therefore could not be related to prior knowledge or experiences; for example: ‘It was as if I stood in her shoes’. It impressed the participants how much they were able to sense, a participant wrote: ‘I had no idea that I am able to sense so strongly what another person feels, even if you are not open to it like me’. For instance, the participants intuitively explored their pupils’ perspective in the embodied exercises: ‘I started moving back and forth, it just didn’t feel right. Then my practice buddy said: “That is exactly what this pupil does!” After the first PD sessions, eight participants used

words such as “intangible”, “unreal” and “bizarre”, to describe their intuitive experiences. However, the PD approach seemed to become natural in the second half of the PD programme, for example: “I am surprised that the PD programme method already has become natural”. Over the course of the PD programme, participants’ appreciation for intuitions increased, for instance a participant wrote: ‘It remains special to feel and experience a bit more every time’.

Considering

The data showed how participants considered signals particularly during embodied exercises. Two main challenges were revealed: distinguishing signals, and attending to emergent insights. First, it appeared that thoughts, emotions, and intuitions can be intertwined. The four participants who described themselves as more cognitively oriented in their intake questionnaires struggled to distinguish between thoughts and intuitions, but they seemed able to get into contact with their intuition; for example: ‘I do not want to lose contact with intuition anymore’. Three participants who considered themselves as overly sensitive indicated that they were often challenged to distinguish their own feelings from intuitions about feelings of others. They reported getting more grip on this distinction, but as a participant mentioned ‘to distinguish intuitions from emotions remains difficult’. Two of the five participants who described themselves as naturally intuitive in the intake questionnaires wondered whether their classroom actions emerged from assumptions that were based on prior experiences or from gut feelings. For instance, one of them wrote: ‘I am searching for the distinction between real intuitions and interpretations’. Although this distinction remained a challenge, they learned to trust their gut feelings, for example: ‘I learned that my first hunch often is my intuition. In practice I often ignore this.’

Second, in the PD sessions it appeared that participants struggled to learn to attend to the signals and insights that emerged. This challenge was particularly encountered in the embodied exercises, for example: ‘It feels bizarre that you really sense things in the [embodied] exercise. I was afraid that I was wrong, but I wasn’t’. Twelve participants had to learn to follow subtle signals, for instance a participant wrote: ‘I shared the “wobbles” I sensed, they were minimal. The “wobbles” were no surprise to my buddy’. Five participants shared that it sometimes felt uncomfortable to express emerging insights, for instance a participant wrote: ‘Questions came into my head, but I thought it wasn’t the time or place to express them’. However, over the course of the PD programme, this seemed to become easier: ‘I noticed that I dared to express what I sensed more easily; it helped me that I did not know what/who I was representing’.

Classroom practice

As hoped, practicing awareness of intuitions in the PD sessions led to applications in the classroom. In their reflection logs, 12 participants described an increased trust in their intuition due to the PD programme, although two of them added that they still doubt when to trust their intuitions. For three participants, the PD programme endorsed their use of intuition in practice, which helped them to do this more consciously. For example, one of them wrote: ‘I am used to sensing my pupils’ signals, so the things we did in the session were not new to me; confirmatory though’. The participants explicitly referred to sensing intuitive signals in classroom. For instance, a participant wrote that ‘I listened to the words behind the story’ and another shared that ‘I sensed what he needed, I just “knew”’. Eight participants also noted that they had applied their ‘considering’ abilities in practice too. A participant wrote, for instance, that she had learned to distinguish her own emotions from intuitions about others, which in practice led to ‘less loss of energy’. Another participant referred to consciously attending to emergent insights by writing that ‘I intuitively observed who needed my help’.

Acting

In the reflection logs, all participants described pedagogical actions, which can be clustered into three forms: none, overt split-second actions, and overt planned actions. One participant explained

her overt choice to take no action: 'I intuitively sensed what a pupil would need of me; he, totally unexpected, needed nothing'. Almost all described pedagogical actions pertained to overt actions. Thirteen participants described overt actions were taken in split-seconds, for instance: 'I instantly made a decision which I normally would not make'. Some of these split-second actions were about expressing intuitions in classroom, for example: 'I used my intuition consciously when I talked with pupils, which has led to beautiful and deep conversations'. Eleven participants also described actions that were planned, for instance: 'In the exercise I started to understand the frustrations my pupil had; I gave her other assignments to reduce these frustrations'. Further, it should be noted that three participants indicated that: 'acting upon intuition remains difficult'.

Effects

The participants described the effects of their classroom actions on three levels: individual pupils, groups/classes, and on teachers themselves. First, according to eight participants, the intuitively informed pedagogical actions had positive effects on individual pupils in the form of improved relationships or better behaviour in classroom. For instance, a participant mentioned that 'I sensed the distance he needs between us; respecting this distance improved our relationship', and another participant even noted that 'The PD session helped me to understand a pupil's behavioural problems; the next day he behaved himself excellently'. Some actions seemed to aim more at the teachers themselves than at the pupils, for instance: 'My pupils are more relaxed when I distinguish between my emotions and intuitions'.

Second, participants reported that their increased awareness of intuitions had positive effects on their groups/classes. Again, the effects referred to improved relationships and better behaviour in classroom. Ten participants reported perceiving something in the line of 'better contact with the pupils in my class'. They mentioned improvements in the classroom due to the PD sessions, such as: 'My class just runs smoothly due to the PD programme' or 'I had a good day with this normally challenging group'.

Third, all participants except one reported positive effects on how they perceive themselves to be integrating the use of intuition into their teaching, for example: 'I want to listen to intuition more; it makes me happy to see that pupils are happier when I react from my heart'. In reflection logs, participants mentioned that improving awareness of intuitions had confronted them with personal issues, such as 'wanting to be perfect', or 'taking over responsibilities'. They reported personal growth such as 'I feel more relaxed' or 'I'm better able to stand up for myself'. Participants explained why they felt that such personal development positively affected their professional performance, for example: 'I am better able to focus on what is needed in my class', 'I now stand more firmly in my class', or 'I'm more flexible when I rely on my intuition'.

Finally, in relation to the effects on the teachers' themselves nine participants reported (re-)engagement with how they perceived their teacher role in relation to their pupils. Eight of them mentioned (wanting to) to pay more attention to pupils' emotional and/or intuitive life, for instance: 'With intuitive exercises I would like to contribute to the development of my pupils' personality'. Participants also mentioned other forms of (re-)engagement with their teacher role such as 'I truly want to see and hear my pupils', or 'I want pupils to be able to be themselves'. Five of these participants described how they transferred their teacher role into practice; for example: 'The day after the session I invited pupils to share their feelings', or 'Today I invited my pupils to stand firmly behind their chair. Eyes closed, taking time to feel where your breath is'.

Conclusions

This study explored both the experiences engendered (RQ1) and the classroom effects (RQ2) of a PD programme that focused on improving teachers' awareness of intuitions. Here, the research questions are answered.

What characterises participants' experience of their awareness of intuitions?

The data revealed that teacher awareness of intuitions seems to consist of three sequential stages: (1) *preparing* by being in the moment, withholding judgement and feeling relaxed; (2) *sensing* intuitions, thoughts, and emotions; and (3) *considering* by distinguishing between these signals, and attending to emergent insights. Further, participants reported conscious use of their awareness of intuitions, which yielded non- or overt *actions*, the latter of which can be split-second intuitive actions or planned actions. In terms of *effects*, they perceived an increased sensitivity to pupils and their needs; some even noted better behaviour of problematic pupils or groups due to the PD programme. Further, the PD approach seemed to generate a more accepting stance towards pupils and the participants themselves. Most participants reported personal growth related to their professional performance, in terms of their own state of being or how they perceived their role in supporting pupil development.

How does awareness of intuitions shape classroom practice?

Finally, the data also suggest that, although it takes time to learn to become aware of intuitions, teachers' use of intuition can be enhanced through professional development. Meditative exercises appear to prepare participants to become aware of intuitions by being in the moment and feeling relaxed, whereas embodied exercises seem to instigate withholding judgement, but sensing and considering signals too. Participants who initially described themselves as more cognitively oriented did struggle, but were able to get into contact with their intuition. Participants who considered themselves to be naturally intuitive learned to use their intuition more consciously, whereas participants who described themselves as overly sensitive learned to (better) distinguish between their own emotions and intuitions about (emotions of) others.

Discussion

Reflection on findings related to conceptual understanding

This study aimed to deepen conceptual understanding of intuition's role in teachers' abilities to handle complex classroom situations. This section reflects on the conceptual framework that emerged with regard to teacher awareness of intuitions (preparing, sensing, considering), commensurate classroom practices (actions, effects), and the themes within each. The themes were identified through a process which started with inductive analysis of the data and were refined iteratively. We recognise that the framework categories and themes that emerged can hardly do complete justice to grasping a complex, elusive phenomenon such as intuition.

For *preparing* to become aware of intuitions, three themes emerged. First, preparing to become aware of intuitions requires being in the moment, a state of mind in which one is aware of both oneself and one's surroundings (Dane 2011). High self-awareness helps people to better understand their own process of intuition (Burke and Sadler-Smith 2011) and has been described as a quality of socially and emotionally competent teachers (Jennings and Greenberg 2009). Second, preparing to become aware of intuitions requires withholding judgement in the sense of an overall nonjudgmental attitude towards life (Kabat-Zinn 2003). Putting further assessment on hold can help prevent biased intuitive information processing (Sadler-Smith and Burke 2009). Third, feeling relaxed, relates to participants' well-being. Research has demonstrated that a positive emotional state can promote intuitive processing (Epstein 2011), and also enhance the accuracy of intuitive judgements (Subramaniam, *et al.* 2009). The integration of these preparatory aspects in education could address the plea for developing a present-dwelling orientation in education (e.g. Ergas 2019), although the eastern paradigm that are often behind such approaches can oppose western paradigms. Dominant western rationalist worldviews often exclude intuitive ways of knowing (Anthony

2006), which may explain why participants seemed to go through a paradigm shift to be able to integrate particularly intuitions beyond prior experiences or knowledge.

The three aspects of preparing seem to support *sensing* of signals. In this study, sensing opposes views that sensing fundamentally is a relation to particulars and their features that could hold only in the presence of such things and features (O'Callaghan 2017), since PD participants also sensed things that were not present. Our data showed that the participants perceived three types of signals: intuitions, thoughts, and emotions. Thoughts are rational signals, such as the didactic steps in teaching a certain lesson or signals that can be seen by others too (e.g. pupils talking, working, laughing), provide information about the present moment and can activate prior knowledge (Iannello *et al.* 2014). Personal emotions can positively influence teachers' rational (Emmer and Stough 2001) and intuitive functioning (Epstein 2011), but they can bias rational decision-making (Shiv *et al.* 2005) and negatively influence intuitive judgement (Sadler-Smith 2010) too. Moreover, people often fail to notice intuitions (Dijksterhuis and Aarts 2010), hence the ability to sense intuitions seems crucial for using these signals positively in classroom practice.

After sensing signals (consciously or not) humans can *consider* them, for which we found two themes: distinguishing signals (intuitions, thoughts, and emotions), and attending to emergent insights. Emotions can distort or overwhelm thoughts and intuitions, but to make it even more confusing, intuitions can emerge as thoughts or feelings. Finally, existing research shows that people often fail to attend to their intuitions (Hofmann and Wilson 2010), and that it can be difficult to rely on intuitions due to the inability to rationally justify them (Epstein 2011). This might explain why participants had difficulties to follow the insights that emerged through the integration of intuitions, thoughts, and emotions. Still, our data showed that participants of all profiles were able to learn to attend to emergent insights.

Further, as hoped, improving awareness of intuitions seems to influence teachers *acting* in classroom. The finding that some teachers consciously choose to take no action (e.g. choosing to ignore pupil behaviour) has been described as a key intervention. Longitudinal evidence shows that this can yield positive effects (Hester *et al.* 2009). Interestingly, in our data we did not come across references related to subtle actions such as physical gestures, facial expressions, eye contact, tone of voice, despite that this is a key characteristic of effective teachers (Steele 2010). All these actions are important since teacher quality is related to how they instruct and how they deal with their pupils' behaviour (Visscher 2017).

Teachers' perceived that their actions led to *effects* on: individual and groups of pupils, as well as teacher perception of self and role. This is consistent with existing literature, as improving awareness of intuitions has been said to lead to more effective communication, smoother social interactions, and positive relations (McCraty and Zayas 2014), which can help teachers to effectively manage social or emotional challenges in their classroom. When teachers are able to do so, pupils show higher levels of on-task behaviour and performance (Marzano *et al.* 2003). Further, the positive effects on teachers' self and role are important, as teacher's self-understanding is an important source for personal learning (Hoveid and Honerød-Hoveid 2008). It seems plausible that observing the positive results of their own actions bolstered teachers' sense of self-efficacy, which is a well-recognised characteristic of effective teachers (Steele 2010). This is noteworthy, because a powerful predictor of teachers' commitment to teaching is the sense that they are making a positive difference in their pupils' lives (Darling-Hammond, and Bransford, 2000).

Reflection on findings related to pragmatic approaches

Besides deepening conceptual understanding, we aimed to explore pragmatic approaches for improving teachers' intuitive abilities to handle complex classroom situations. Teachers constantly wrestle with the distinction between what is desired and what is desirable (Biesta 2013). Our findings suggest that it is possible to intentionally improve participants' awareness of intuitions in practice situations, which can influence how they handle authentic classroom situations. This is

in line with literature suggesting that one's use of intuition can be trained like a muscle (e.g. Tomasino 2011). Further, the map which emerged from the analysis (Figure 1) portraying awareness of intuitions (preparing, sensing, considering) and their affordances for classroom practice (acting and effects) may prove useful for teachers wishing to reflect on (what influences) their own performance, even without attending the PD programme described here.

Meditative exercises seem appropriate for preparing to become aware of intuitions, which is in line with the literature (e.g. Burke and Sadler-Smith 2011). Such exercises seem to particularly instigate being in the moment as well as feeling relaxed. Embodied exercises seem particularly appropriate for learning: to withhold judgements (preparing stage); to become aware of intuitions, thoughts, and emotions (sensing stage); and to distinguish between those signals and to attend to emergent insights (considering stage). It seemed that such exercises particularly enhance awareness of intuitive signals that extend beyond prior knowledge or experiences. In literature, this form of intuition is often dismissed as 'paranormal', although increasing empirical evidence shows that it is real (Dossey 2015) and a natural ability of people (e.g. Tomasino 2011). Our results do not give reason to dismiss this form of intuition, although the study was not designed to investigate this *per se*.

Another pragmatic approach for using intuition more consciously in handling of complex classroom situations, which received only indirect attention in our PD programme, is a reflection on personal emotions. This seems particularly important in relation to intuitions that build on prior experiences or knowledge, since they may be infused with fears, prejudices and wishful thinking (Sadler-Smith 2010). For reflection in education, for instance, Procee (2006) refers to Kant's 'Urteilkraft' (faculty of judgement) for developing a sense of what to do in specific situations. In a similar vein, the conceptual themes that emerged from our data can also be used for reflection on teachers' awareness of intuitions.

Future directions

For future research we recommend using instruments that are more finely calibrated to capture intuitive experiences, such as retrospective protocol analysis (Baldacchino *et al.* 2014) or dialogical inquiry (Coget 2014). Research instruments for investigating from the first-person perspective such as Husserl's phenomenological reduction or epoché (Gallagher and Zahavi 2012) can be of use here too. While our open-ended approach was selected to stimulate but not to steer participants' reflection on their perceived awareness of intuitions development, specialised instruments may offer new insights (albeit shaped by the interests manifested in those instruments). For instance, such instruments can investigate what PD approaches improve which form(s) of intuition. Next, we advise approaches that go beyond self-report to overcome the limits of our findings. Direct observation (by researchers) or second-hand observation (e.g. gathering the views of those who know the PD participants) could be useful in ascertaining whether or not the results were noticeable beyond the personal experience of the participants.

Further, rather than offering one pathway to enhancing awareness and use of intuition (as was the case in this study), further research might explore varied approaches. For instance, in light of the observation that humans make use of their intuition differently, future research might investigate which approaches for enhancing awareness of intuitions are attuned to each of the profiles encountered in this study (cognitively oriented, overly sensitive, or naturally intuitive). Such approaches can focus on enhancing awareness of intuitions in general, but also target specific elements of the stages preparing, sensing and considering of our conceptual framework.

Finally, since all our PD participants joined voluntarily and hence were interested in learning about using intuition consciously (although two participants were openly sceptical about the PD sessions), our sample may have been inherently biased. For this reason, we recommend reaching out to participants who do not self-identify as being open to improving one's awareness of intuitions by using randomised selection. Further, additional perspectives on how participants

perceive and experience intuition might be captured through the use of narrative or contemplative methods.

Closing remarks

Although preliminary, this study offers deepened conceptual understanding concerning the role of intuition role in handling complex classroom situations and practical recommendations for enhancing this crucial teacher ability. We do not view teachers' awareness of intuitions as a panacea, but we do believe that this study provides justification for further research in this area, since (educational) research in many countries has largely neglected the relevance of intuition for teaching (Harteis and Gruber 2008). Such work is important to help teachers in tackling today's problems in education, such as the diversity of expectations of students to which teachers must attend (Flores 2017). The call for intuitive approaches is growing, because of an increasing complexity in society and education (Sipman et al. 2019). While modest, we genuinely hope that the contribution of this study can support future work to understand and develop the crucial teacher quality of intuition.

Disclosure statement

No potential competing interest was reported by the authors

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