

# Giftedness in the picture: what do teachers believe is needed for gifted students to become and maintain engaged for learning at school?

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**Abstract:** Teachers often experience uncertainty regarding their learning support of gifted students, who can show strong task involvement but by no means self-evidently demonstrate engagement with school-task learning. Through inductive and deductive analyses of in-depth interviews with eight teachers, this study explores teachers' understandings of the needs of gifted children in becoming and maintaining engaged with school learning as well as their own roles in this process. Teachers identify student- and context-related factors that matter for engagement. They describe substantial differences between students in what it takes to become and maintain engaged. For all students, becoming engaged seems to require an autonomy-supportive environment, while the provision of structure appears essential for them to maintain engaged. It is an ongoing challenge for teachers to find the best possible and fair balance between supporting autonomy and providing structure. It requires vigilance and constant monitoring to make it tailored to the child's educational needs.

**Keywords:** engagement; giftedness; motivation; autonomy support; structure

## 1. Introduction

*“He is a boy with many talents and he can work with dedication. But that doesn't necessarily mean he'll get started with his tasks. I want him to gain experiences of success, but it can be challenging, because he can easily disengage - when things get difficult, for example. He does teach me to look closely at what he needs. And sometimes I can see in his eyes that I didn't get it right.”* (Interview with a teacher of a gifted student).

Although gifted students not only possess excellent cognitive abilities and a high degree of creativity but also strong task orientation [1,2] and can be strongly committed in school [3], it has been found that starting and staying focused on schoolwork is not self-evident [4,5]. Teachers are frustrated to see that gifted students in particular can be far from engaged at school or even drop out [6,7].

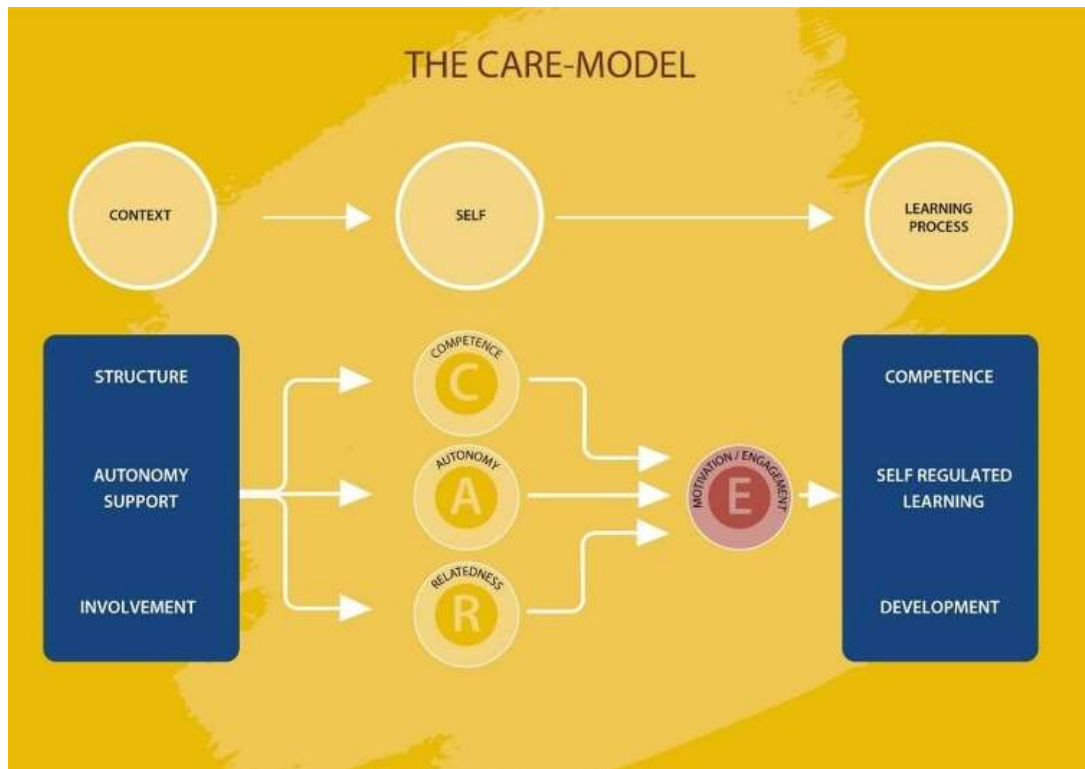
This lack of engagement is a concern because students who are engaged are more likely to achieve better results and less likely to quit [8–10]. Building on Ryan and Deci's [11] self-determination theory (SDT), research by Appleton et al. [8] has provided convincing empirical evidence of a positive relationship between engagement, school performance and school behaviour, demonstrating that the environment plays an important role in helping their talents to flourish (also see: [2,7,12]). However, what does the role of the social environment and—in this case—the teacher entail? Research has shown that it is not easy for teachers to provide gifted students with an environment that supports autonomy in an adequate way [13]. Hence,

this paper focuses on what teachers perceive to be necessary for gifted students to promote and maintain their engagement with learning. Moreover, how do they see their role in this process?

### Theoretical framework

Engagement is seen as active involvement in a task or activity [14], as ‘energy in action,’ reflecting the connection between the person and activity [15]. Sinclair et al. [16] state that engagement is not so much about the individual as it is about relatedness, which is why it requires an environment that suits the person [17,18]. In line with the scientific literature, the term (dis)engagement is used because it reflects both the intention and the action behind which an emotion lies. This is more comprehensive than the Dutch term ‘engagement’, which only refers to commitment or involvement (Van Dale, 2005), or the term boredom (as a translation of disengagement). Engagement can become visible in the context of the school, where interactions take place between the student and teacher, classmates, and/or subject matter. Engagement is expressed in the quality of a child’s connection to an activity, reflecting the child’s degree of willingness to make an effort and - for example - carry on with the lesson because they intrinsically want to do so and then actually do it [19].

The CARE model (see **Figure 1**), as developed by Minnaert [7], shows that there are pointer points in both the context and the learner that influence engagement. From the contextual standpoint, these relate to structure, autonomy support and involvement [20]. From the student’s perspective, they coincide with the basic psychological needs as referred to in the SDT [20], namely the need for competence, autonomy and relatedness.



**Figure 1.** CARE-model, theoretical framework.

Note: Slightly adapted version with permission from Minnaert (2005, p 53).

The SDT is considered to be universally human because all people benefit from the fulfillment of their basic psychological needs, whereby they form our foundation - so to speak - regardless of gender (e.g., [21]), cultural background (e.g., [22]) or socio-economic status (e.g., [23]). Provision of the three basic psychological needs correlated positively with achievement across cultures, providing broad support for the cross-cultural universality of SDT [24].

In line with the study by Snickers-Mommer, Hoekman, Mayo and Minnaert [19], the concept of engagement was used in this study to refer to active involvement with a task or activity, or the cognitive, behavioral or emotional dimensions [25], which are influenced by both the child and the context [7,8,18]. Engagement pertains to both the intention and the action driven by an underlying emotion; it is essentially motivation that becomes visible through the actions. Sustaining engagement is about maintaining engagement, even at times when tasks become challenging and elicit resistance or alternatively are too easy and lead to boredom.

Previous research has demonstrated that from the child's perspective, it is important for gifted students to feel seen by the teacher, in their talents but also in what they find difficult, in order to become engaged [19]. The fulfillment of psychological basic needs (i.e., the sense of competence, autonomy, and relatedness) and particularly experiencing an autonomy-supportive environment plays a vital role for them here. To maintain engagement, it has been found that being provided with a directive structure is particularly important for fulfilling the need for competence. An environment that thwarts autonomy is seen as an obstacle to engagement in general.

As engagement for learning becomes visible at school and teachers express a sense of hesitance to act in supporting gifted students [19,26,27] this study focused on the teachers' perception. The central research question is:

*What is teachers' perception of engagement with learning in school among gifted students, and how do teachers see their role in gifted students process of becoming and maintaining engaged?*

## **2. Methodology**

### **2.1. Procedure and participants**

Given that teachers' perception is central to this study, in-depth interviews were conducted with eight teachers of four gifted students in upper primary school. Each respondent was informed about the study's objectives prior to its commencement. It was explained that participation was voluntary, and the responses would be processed anonymously. All respondents gave their active consent for participation.

The ethics committee of the Graduate School of Behavioural and Social Sciences, University of Groningen (The Netherlands), approved the research model (April 2021).

Each teacher was interviewed at school at least three times over a period of two years. Prior to the interviews, the teachers and gifted students were observed at least three times during classroom interactions. During the observations, particular attention was paid to identifying moments when the respective students either became engaged with a task or activity or not, as well as how the interaction with the teacher and the teacher's actions unfolded. The observations provided the researcher with the opportunity to become familiar with both the student and the teacher in the classroom

setting. They were also used to tailor the interviews to each individual teacher, meaning that examples from the observations were used to delve deeper into the general open-ended questions during the subsequent interviews.

The interviews took between 40 and 75 min per session. To minimize socially desirable responses, it was emphasized prior to the interviews that all answers were valuable and that it was important to gain insights into the unique perspectives of the teachers.

The interview data were first analyzed inductively, applying an open coding strategy with the aim of discovering key themes and concepts brought to the table by the teachers. Subsequently, to explore the data in more detail, deductive analyses were performed, drawing upon the theoretical concepts of the SDT. Based on empirical research with teachers, De Boer et al. [13] described the SDT as a theoretical framework that is of added value for investigating characteristics of optimal learning environments that are conducive to gifted students. We worked in a team of experts in SDT to look at the data and also to see if any other themes emerged. We coded the concepts of relationship, competence, autonomy, **involvement**, structure and autonomy support based on scientific literature [e.g., 28,29]. For example, if a teacher talked about the importance of giving space for the students' ideas and input, we coded it as autonomy support.

The participants were the teachers of four gifted children (aged 8–10 years) stemming from the first author's practice as a school psychologist. Since the researcher was asked by both the school and parents to provide insights into the educational and instructional questions that had arisen for these students regarding their engagement in her role as a school psychologist, she became a trusted presence for the teachers involved within the school. The warm relationship facilitated the opportunity to conduct ecologically valid research [30] and thus gain the most detailed insights possible into the teachers' perceptions, because they freely discussed their personal strengths, weaknesses, and challenges, as well as the obstacles that they encountered.

Due to job-sharing arrangements, changes in teaching staff, and two students who accelerated through primary school, eventually in-depth interviews were conducted with eight teachers of four gifted children. The teachers differed in the years of work experience they had; both experienced and less experienced teachers were interviewed. Six were women and two men, aged between 25 and 45 years.

The engagement of three of the gifted students of this **teachers** and their own perceptions of what they need to become and remain engaged have been described in detail in a previous study [31]. However, the following paragraph offers a brief introduction of the gifted students discussed by the teachers in the interviews (Eric, boy, age 10; Judith, girl, age 10; Pien, girl, age 8; and Karim, boy, age 9), using quotes from student interviews that were part of this earlier study.

Eric says he never really feels like *"Yay, let's go to school!"* He is bursting with creative ideas and quickly becomes engaged but struggles to maintain this engagement at school and remain focused on tasks, especially when he encounters resistance. *"When tasks become difficult, I, foolishly, tend to avoid them."*

Judith is always *"in the mood to do things."* She is extremely eager to learn, highly independent in her task approach, and can easily indicate what she needs. Judith

enjoys a challenge: *“I’m glad I got challenging math problems because I’ve learned how to learn. And that’s more fun than... not learning.”*

Pien prefers to learn challenging things, and she is always busy working: *“Even if it’s not fun, I still work hard.”* She does not speak up in class, even though insufficient challenges frustrate her: *“Then there’s a little ball of anger inside me that no one sees.”*

Karim enjoys being with his friends at school and exploring new topics. When he finds things difficult, he needs a lot of support to remain focused but he does not ask for help himself: *“I’m, like, someone who is afraid of making mistakes.”*

## **2.2. Interviews and data collection**

Three semi-structured in-depth interviews were conducted with each individual teacher. To develop an understanding of their perceptions regarding the research questions, open-ended general questions were posed, for instance, asking them to describe their relationship with the student in question. The classroom observations that preceded the interviews were used to tailor the questions to the teacher and student. Topics identified in the literature as relevant in processes of student engagement were used as sensitizing concepts (*contextual/child factors: discerning between becoming and remaining engaged*) for follow-up questions. For instance, as both the student him-/herself and the context can influence engagement [7,8,18,20], follow-up questions probed which specific contextual factors and child factors teachers perceived as relevant.

The entire raw audio material was transcribed verbatim. Each round of interviews was followed by a round of inductive data analyses of the interview transcripts. The main themes that arose from these analyses (for example, need for relatedness, competence, autonomy, involvement, structure and autonomy support, as well as disengagement) were incorporated into the subsequent interview protocols as follow-up questions. For instance, follow-up questions were added about the educational and instructional strategies that the teachers employed when the student encountered resistance—i.e., what was necessary for them to remain engaged—as well as how the teachers perceived their own role in this, including the issues that personally affected or challenged them. Specific examples were consistently requested to achieve high ecological validity [30].

## **2.3. Data analysis**

The data were initially analyzed inductively by the first author. Data analysis began by reading and re-reading the interviews, followed by organizing the data using the sensitizing concepts. Subsequently, all data—including those excerpts that did not fit within the sensitizing concepts—were inductively coded, which meant that an open examination was conducted to identify themes emerging from the data clusters. The analyses were discussed with the co-authors until agreement was reached on the themes identified. Subsequently, the data were also examined deductively to interpret the data in detail and acquire a nuanced response to the questions using the SDT frame [32], since the fulfillment of basic psychological needs plays a crucial role in this theory, namely the need for competence, autonomy, and relatedness.

To avoid bias, the data were regularly submitted to a team of experts who looked at it critically and provided feedback on coding and on the analyses of the themes.

We also used the member check; the respondents themselves checked the interviews after each interview.

### 3. Results

The results describe teachers' perceptions of what it takes for gifted children to become and maintain engagement with learning at school, as well as how the teachers see their role in this (see **Table 1**). First, based on statements from the interviews, the characteristics of four students and their learning processes and needs regarding their engagement are outlined from the teachers' perspective. These portrayals revolve around the appeal that teachers experience from the students. These are followed by a description of how the teachers perceived engagement with learning among their gifted students and, subsequently how the teachers perceive their own role in promoting and sustaining engagement (see **Table 1**).

**Table 1.** Central quote of the teachers.

Teacher(s) of	Central quote of the teachers about the needs of the student	Central quote of the teachers about their own role
Judith	<i>“What she has to learn is that she can make her own choices.”</i> <i>“She has an enormous internal drive; it’s ingrained in her. She wants to experience something she hasn’t come across before, learn something new. That’s the greatest incentive to get her going.”</i>	<i>“I have to look at her. She has shown me quite a few times that I didn’t do a good job.”</i> <i>“You really have to keep an open mind. [...] It’s about looking really closely.”</i>
Eric	<i>“He needs freedom, but in organizational matters, he needs tight reigns.”</i> <i>“For Eric it is important that he can express his creativity. And this must go with a framework.”</i>	<i>“I often give compliments, you have to do that quite often and then he goes to work fine. But sometimes he doesn’t and then I think: can I do this, am I giving him what he needs?”</i> <i>“At one point I thought: I have to render my resignation or whatever, you know, that you are going to doubt yourself too...”</i>
Pien	<i>“It is important for her to learn to take risks in learning, try something quirky, and if it doesn’t work, well, it doesn’t work, and then we go and see what we should try instead.”</i> <i>“It is important for her to be able to make choices, to get closer to engagement.”</i>	<i>“I try to watch: when do her eyes twinkle, but she doesn’t show that easily.”</i> <i>“I wish I could give her more space to engage with what really interests her and at her pace.”</i>
Karim	<i>“He needs a short leash, positive reinforcement, encouragement and, at the same time, setting very clear boundaries and actively evaluating with him.”</i> <i>“It is important that he is being seen and that things are discussed with him. That decisions are not made for him but that his voice is listened to.”</i>	<i>“I am fine with him taking a different learning path, as long as it suits him.”</i> <i>“We have to keep looking at how things are going and what is needed and then make adjustments.”</i>

#### 3.1. Picture of the student from the teachers' perspective

*“On the very first day of school, Judith sat at the front with wide eyes that swallowed me whole. At some time during that day, something went well, but it could have turned out differently.”*

*“She wants to experience something she hasn’t come across before, learn something new; that’s the greatest incentive to get her going. That hunger for knowledge is gigantic. She has an enormous internal drive; it’s ingrained in her.”*

*If we ignored that, we would have an unhappy child on our hands. And that would deeply sadden me.”*

*“It is a continuous search with Eric; I have to offer him something, get him excited, provide a unique way of processing, it’s like a continuous puzzle. He needs freedom, but in organisational matters, he needs tight reigns. But how do I provide that, freedom in execution and tight reigns in organisation?”*

*“Pien is very introverted, difficult to gauge, providing socially desirable answers. I’ve talked to her about whether things are too difficult or too easy and if she can indicate it a bit more.”*

*“She tends not to cross any lines. It is important for her to learn to take risks in learning, I try to encourage her to take a chance, try something quirky, and if it doesn’t work, well, it doesn’t work, and then we go and see what we should try instead...”*

*“Karim is engaged when he can set his own level, as in open-ended assignments that need further exploration. He did a project on a Hawaiian bird, not your typical topic, and then he wants to get the bottom of the subject.”*

*“He needs a short leash, positive reinforcement, encouragement and, at the same time, setting very clear boundaries and actively evaluating with him. He demands a lot... from the teacher. You have to stay alert... and hang on in there.”*

### **3.2. The teachers’ perception of engagement with learning**

According to the teachers, it can be said that factors within both the child himself—such as the student’s needs and attitude—and the context play a role in engagement for learning. However, what they need from the context and how they express those needs differ, hence prompting the teachers’ reflection that all of their students’ engagement requires customization in what they have to do as teachers. When children feel seen and heard in terms of instruction and education, it serves as fuel for engagement, according to the teachers. However, they add that triggering engagement requires a different approach in the interaction with the child compared to maintaining engagement.

#### **3.2.1. Child factors through the eyes of the teacher**

The teachers explicitly discuss the needs that students have as the foundation for engagement. They indicate that these students want to feel confident that they can learn things (*“It is important for him to know that he can do it; otherwise, he won’t even start.”*), that they cherish the desire to make their own choices (*“She wants... to be able to make her own choices too.”*), and that their students have the need for relatedness with others (*“It is important for him that I see him.”*).

#### *The teachers perception of the students’ attitudes*

Teachers explain that the way in which students express their needs for competence, autonomy, and relatedness, or whether they independently start and continue their work, plays a role in how challenging or easy it is for the teacher to understand what the student really needs. This in turn affects how tailored support can be provided.

*“The remarkable thing is that she can very consistently and understandingly communicate what she needs... That also makes it easier, yes, a child who calmly and pleasantly expresses what she needs.”*

*“Pien is very introverted, a girl you don’t hear often. I try to coax her out of her shell by asking her for her opinion. A quiet girl, difficult to gauge.”*

For some children, asking for help when they encounter difficulties or get stuck and cannot proceed as usual is challenging:

*“Asking for help... there is this great big wall he can’t get past.”*

*“It’s extremely difficult for Pien to ask for help. She does have the independence to ask another child first. She will first read it ten times herself and then, way back at the end of line, it’s my turn.”*

Beliefs of the students, in the eyes of the teachers, seem to play a role in the strategy used to get and stay engaged (or not).

*“She calmly settles into it if she wants to begin and even if she needs to persevere. She is always hard at work.”*

*“He lets his work lapse at times and then you have to sit next to him to get something done.”*

### **3.2.2. Attuning to the child; the role of the environment**

In line with findings from previous empirical studies as mentioned in the introduction of this paper, our teachers experience that engagement is nourished by an interplay of factors, in which—as described—not only the child plays a role but also one’s environment.

#### *Structure, choices and involvement*

All teachers emphasize the importance of providing the students with frameworks, choices, and involvement to tailor to their need for competence, autonomy and relatedness.

Offering structure, for instance, refers to providing explanations, an action plan or clarity about expectations.

*“Eric is engaged when an assignment is tailored to him, when it interests him, and when he can express his creativity. And this must go with a framework.”*

*“Karim needs structure, as in: what is the assignment and what materials he needs. A step-by-step plan to let him know how it is structured and that you can help him to cross a threshold.”*

Offering choices comes down to providing opportunities for the child’s uniqueness and input, as well as support to make their own decisions.

*“You can offer something, make it exciting, let them choose their own way of processing. It is important to allow for the individuality of the child when it comes to engagement.”*

*“It’s important for her to be able to make choices, to get closer to engagement. It’s all a bit flat... you think, that fire is smoldering, but... it needs to be poked a bit... I believe that if she has more choices, it will be more intrinsically motivating.”*

Involvement is about showing personal interest in the students so that they feel seen.

*“It’s important for him to feel seen so that requires something from me.”*

The teachers also considered it important to offer students hope and perspective beyond solving the task at hand (*"I want to look at the bigger picture, it's not just about language and mathematics, it's about being able to follow your own path."*) and provide tools to cope with resistance (*"I wish for him to see resistance as a challenge, and I help him with that."*).

According to the teachers, cooperative involvement of parents helps them to attune to the child as effectively as possible and to search in sync for plausible solutions.

*"It is very nice [to work] with these parents; they understand her and handle it well, and that is helpful. We all want the best for her. We do it together. The mother has always been helpful at school, never pointing fingers. Which also allows me to be honest, including... it is a puzzle."*

#### *Triggering and maintaining engagement with learning*

The teachers mentioned that there are differences in terms of what students ask of them, what is needed to become engaged and what is needed to remain engaged.

In terms of important conditions for becoming engaged, the teachers considered providing a learning environment that allows for the autonomy of their students, is tailored to the interests of the child, accommodates their unique learning pace and encourages the student to make independent choices.

*"In subjects with a personal choice, I can see it... that her eyes start to sparkle. It's important to make choices to get closer to engagement."*

*"To tap into his freedom and his ideas, that's what he needs. If he's doing something he's passionate about, he works as hard as anyone. Then it comes from within."*

*"That I gave him more freedom to make his move. As a result... he felt better about himself, he felt seen because he was allowed to step in in his own time."*

What autonomy support looks like for the unique child continues to require customization once again:

*"Judith gets going when she is given the freedom to work at her own pace and learn things she does not yet know. Yes, she needs nourishment, at her pace... if she doesn't get it, she'll still participate faithfully, but if you look closely, her eyes aren't quite... there."*

*"His engagement coincides with his interests, when it comes to stars, stones, history. That's where you can find his trigger."*

On the other hand, *remaining engaged* is about maintaining engagement even at times when students experience resistance in learning because they find something difficult or are given a task that is not sufficiently challenging, and it requires perseverance. All of the teachers believe that it is crucial to provide structure at those moments.

*"Remaining engaged requires a foundation, a channel, yes, structure!"*

*"At times when Karim doesn't know exactly what is expected, he throws in the towel. When that happens, he needs clarity and certainty to be able to persevere."*

### 3.3. The teachers' role in promoting and sustaining engagement

The teachers were questioned not only about their perception of engagement with learning but also concerning how they perceive their role in this. They described that for them it involves a constant search for balance in customization and that looking at both the child and themselves guided their actions in the classroom.

#### Searching for a balance in allowing freedom and providing structure

Teachers face the challenge that providing freedom of choice as well as structure—as essential ingredients for engagement—constantly requires them to seek balance:

*“Take it up from freedom and his ideas and then: provide a framework. He needs a channel, the base to be able to implement his creative ideas; otherwise, they will run in all directions. If that happens, it won't lead to... anything.”*

*“You have to set clear boundaries and be a bit flexible and leave it up to him. That is quite a challenge.”*

Being able to provide this balance required them to look at children from a broader perspective and their different aspects of children's needs, not only at the cognitive but also the relational aspects.

#### Considering the child

The teachers emphasized the importance of considering the child and what it needs at that specific moment in the search for this balance. This is not so much about consideration of what the child wants, but rather what is desirable for this child in that situation to become or remain engaged. This can be about small questions that ask for concrete encouragement, for example, *“What are the steps to take now?”*, but also providing support and guidance to children with greater issues: *“But I thought about it... what does Judith need? She doesn't have to learn that you have to complete your assignment. She doesn't have to learn ... the subject matter... either, because if I don't teach her ... she will read it for herself, in which case she will know it too. That's not what it's all about for her. What she has to learn is that she can make her own choices.”*

The way teachers described their task in the process of providing gifted children with effective support for educational engagement can perhaps be characterized as an 'educational air traffic controller' and underlines the complexity of what they understand is required of them.

They described it as their personal and ongoing task to look at what is needed in the interaction with the student. They experienced moments when it worked (*“She got completely engrossed and couldn't be stopped.”*), but also moments when it did not (*“I could tell from her that I did not get it right.”*).

According to the teachers, observing students in their work process and consequently assessing what is necessary for the student is therefore an ongoing process from the start of an assignment to the end of the class, because engagement can upend quickly, with the student being actively involved at one moment and completely pulling out the next.

*“You have to keep a close eye. She is very driven but it is also easy to lose her.”*

*“I've seen him get fully into it. But that might just as well have been the opposite.”*

Observing the child with an open mind is a prerequisite for teachers to act in the moment.

*“You really have to keep an open mind. I think it’s part of being a teacher, your basic attitude is to help children and observe. You know, there are students at the midpoint, some below and some above that midpoint, and some of those stand out, I have one of them in my class and that is Judith. And she has just as much right to be seen as everyone else. I think that’s mostly what it is. It’s about looking really closely.”*

#### *The teachers’ self-reflection, a vulnerable process*

Teachers explain that it is not just about looking at the student but it takes also critically reflecting on their own actions. This self-reflection is a vulnerable process, precisely because they believe that it is important to question why things are going well or not. According to the teachers, this self-reflection is necessary to learn to act appropriately for the individual child.

*“At one point I thought, I have to render my resignation or whatever, you know, that you’re going to doubt yourself too...”*

*“She’s shown me quite a few times that I didn’t do a good job... that I had overlooked things... that I should come better prepared, and whether I was honest or not towards the class, I can see all that in her eyes.”*

*“You have to look at what does work. Look closely, that should be something you are willing to do, and next: accept all the help and things. And also be honest and say: I think that’s a really good idea, but I can’t do that in this class.”*

It requires constant monitoring and tailoring of actions to the child, partly because engagement can fluctuate from moment to moment: *“It can change just like that, so you have to continue observing and adapting”*. It is about customization in terms of both education and instruction, as the specific ins and outs differ for each child. Teachers describe unique pedagogical moments that call for acting in the moment, thereby explicitly focusing on what is desirable for *this* child.

*“Judith had had it, she had made too many assignments and she had wanted to do them all for more than 100%. She always does what she has to do, she has kept working and working and working [during the school closure due to COVID]. She just manages everything, it’s in her nature. I thought, I have to go to her house, this is an important moment. I have to go to her now, this is the moment she will understand and grasp it. I went to her, rang the doorbell and said: ‘I have ice cream, do you want to go for a walk?’ We talked to each other eating our ice cream. About how she felt, that she wants to do everything properly. We talked about the fact that you don’t have to do everything 100% in all areas, and that it is not even humanly possible. I gave her a concrete exercise: every day, text me one assignment that you are not going to do, for example: ‘Sir, I’m not going to do that dictation but lie in the hammock reading or play football.’ She has learned that the world does not end if she doesn’t get everything finished. As well as how to pick up where you left off.”*

#### **4. Discussion and conclusion**

Central to this study is the question of what, from a teacher's perspective, it takes for gifted children to become and maintain engaged with learning at school, as well as how the teachers see their role in this process.

The teachers felt that it is important for these gifted students to experience support from their environment by providing structure, room for personal choices and involvement as nourishment for the child's basic psychological needs, as the building blocks for engagement. For example, we saw how providing structure affects engagement that when students (who needed it) were given clear explanations, especially at times when they encountered resistance in learning or performing tasks, students were able to continue working actively and engaged. Teachers indicated that if they offered autonomy support to students, e.g., by allowing them to bring in their own initiatives or decide on the order of tasks, they were/became (more) engaged in their work.

These findings correspond to the SDT [11,32–34], which assumes that people have three basic psychological needs: The need for competence, autonomy, and relational connectedness or relatedness, which are necessary to achieve autonomous motivation and growth. In line with the theoretical framework, the main themes of providing structure, autonomy support and involvement as nourishment for the basic psychological needs clearly coincided with the concepts of the SDT and the CARE model.

The results of this study show that particularly to become engaged, it is important that the environment offer room for the child to make his/her own choices and take into account the child's interests. In short: an environment that supports autonomy. For the child to remain engaged, especially at times when they experience resistance, the provision of structure plays an essential role. In short: an environment that provides structure. This is in line with recent research [31] from which the same concept emerged from the child's perspective.

The results of this study can be deployed in education by starting with actively providing students autonomy support, structure and involvement from an open, need-supportive mindset. In everyday practice, this means that it is important to give students space, but in addition, always provide them with support and direction. Do not let learners swim into the deep end right away, without clear preparation and a good safety net. If expectations and goals are clear and tailored to the students, that can be like sustainable oxygen for ownership and own ideas.

A teacher who creates an autonomy-supportive environment listens to students' needs and inspires them. Starting a dialogue with the child about what he or she would like to learn, getting excited about what makes the pupil's eyes shine, could be a starting point for autonomy support. As Vansteenkiste and Soenens [29] also argue, input and dialogue are levers to strengthen learner autonomy. If teachers were to ask me for advice from my role as a school psychologist, I would say: engage with the child in an open, interested way!

Students deserve the teacher's respect and attention, but the teacher also deserves the students' respect. Practice shows that when teachers have the courage to be curious and open in their interactions with the child, they more than earn that respect.

We consider it important that pre-service- and in-service teacher training and in-service training for school psychologists not only pay more attention to the guidance of gifted students, but also how tailor-made education can be provided and the right CARE can be offered for the unique child. It is pivotal for equitable quality education that prospective teachers learn to see that customization is important and dare to look at what the child needs so that engagement can (and remains to) be fully nurtured. Yet it remains an ongoing challenge in educational settings to strike the best possible and equitable balance between supporting autonomy and providing structure. Van Manen [35] described the tension between allowing freedom and exercising control as one of the most fundamental educational conflicts, being inherent in educational interactions between the child and those involved in their education. The dual role of both actively guiding and supporting the child as well as letting them find their own direction is a constant challenge that requires educational reflection [35].

The building blocks of structure, autonomy support and involvement must be tailored to the child's educational needs. What matters at educational moments is the focus on what is appropriate for the unique child and for the environment to optimally suit the child [18]. While eating ice cream is not a standard recipe for engagement, it illustrates what Judith needed at that moment and what the teacher observed—and could offer—at that moment. This teacher had the opportunity to guide Judith by—as Biesta [36] refers to it—interrupting, suspending and sustaining her and thus providing an educational intervention tailored to her needs. Suspending allowed time for something other than continuing on the path that she was on; interrupting and eating ice cream allowed Judith to reflect on her actions, and a concrete plan supported Judith in learning to make choices.

Nurturing engagement requires vigilance and needs constant monitoring, as argued by Minnaert and Odenthal [4]. Teachers recognize that they play a pivotal role in this, and they indicated that the children's eyes could speak volumes and were—as it were—the indicators of (dis)engagement. Vigilance requires reflection in action and reflection on action on the part of the teacher. Reflection in action helps teachers to become more responsive while dealing with challenging, complicated situations and reflection on action allows spending more time considering the complexity of a situation and practices that could have been adopted to more effectively deal with the situation at hand [37]. Reflection on action requires thereby “looking beyond the surface of the gifted individual” [38], or as Pien put it herself: *“When I get bored I get sort of angry, but no one can see that. I'm the only one who knows. No one else.”*

When students behave in a socially desirable way that is not disruptive to the group, it is particularly important for the teacher to gain insights into behavior that is neither visible nor tangible. This requires alertness to what is going on under the surface. A student who gets to work may not necessarily be engaged—as Judith herself states: *“I would have just done it, I would have stuck to it but I didn't necessarily feel like it.”*—just as a student who looks away may seem disengaged but could be deeply immersed in mind-wandering thoughts [39].

The teachers reflected on their actions, which also made them vulnerable: *“At one point I thought, I have to render my resignation or whatever, you know, that you're going to doubt yourself too, like, I'm not a good teacher.”* Kelchtermans [40] describes vulnerability as part of being a professional teacher that must be both nurtured and

endured. Enduring this vulnerability, judging and acting engaged is precisely the prerequisite for creating certain educational freedom in the relationship between the teacher and student.

The crux is to see the child's psychoeducational needs and demands [41] and to act accordingly in the educational moment [35].

In the context of diversity and inclusion, teachers have a pivotal role in their commitment and involvement in the dynamics of learning and development and in their equitable quality approach to address the needs of all learners. Paving the way to address the needs of the gifted has been proven to be efficient for all learners, especially when engagement with learning for school is the core. The results further ground the added value of pre-service and in-service training and professionalization of teachers to guide youngsters in their growth and to keep them engaged for school.

Regarding engagement, it can be said that examining at different layers both above and below the surface and collaboratively addressing the puzzle of the building blocks of engagement, namely involvement, and especially autonomy support along with structure can serve as a catalyst for discovering an appropriate response to the child's educational request.

#### **4.1. Strength and weakness analysis**

The voice of the teachers was central to this research. By investing in the relationship with teachers, it was possible to form an integrative picture of their perception of what is needed in the educational practice to promote and maintain engagement for these children, not only in terms of what is going well but also where teachers experience hesitancy (or even resistance) to act. In the interviews, efforts were made to seek examples from practice, aiming for high ecological validity. Although the results cannot be generalized to all gifted students and the findings cannot lead to statements about the "typical" gifted student, the added value of the qualitative research process utilized is that it focused on unique children in their personal context.

The framework of SDT is valuable in providing insights into the characteristics of an optimal learning environment conducive for gifted students [13], although it does not say much about the long-term perspective. One teacher explicitly stated that they believed the long term to be important: *"What I try to do with children like Judith is to paint a kind of bigger picture of why you are actually at school here, why you are going to do this. You don't do this for fun, you do this because you want to get to know the world. You don't do it because I say so, but from your own volition, from your own goal to look at things from a bigger picture."* Accordingly, clarifying the goals for each student and providing perspective for the long(er) term is a forward-looking challenge.

#### **4.2. Recommendations for follow-up research**

Teachers play a substantial role in initiating and maintaining engagement with gifted students in primary education. The question is how students in secondary education and tertiary education—in which dropping out of school is a risk, especially for gifted students [42]—can increasingly acquire ownership and learn to reflect on themselves to remain engaged. Longitudinal research could provide even better

insights into which promoting and impeding factors (continue to) play a role in this. It is valuable for such studies to focus on the interaction between the teacher and student to gain insights into the ups and downs in engagement.

In future research, we would advise including diverse educational settings. It would be useful to examine whether the results correspond to teachers working in other educational settings or whether accent differences in the type of special educational needs become apparent, as demonstrated by Loopers et al. [43]. The study then requires replication with a new sample and in combination with different educational settings, which calls for a more sizeable group of participants.

Investigating longitudinal effects of autonomy support and structure on gifted student engagement across different educational stages and cultural contexts could provide valuable depth, precisely in the context of equity, and especially for children following alternative educational pathways.

Research into what teachers do in class to challenge and motivate gifted children has shown that teachers generally succeed in meeting their students' needs for competence and social relatedness, but that they fall short in providing differentiated activities and in creating an autonomy-supportive environment [13]. This is also a concern for the teachers in this study, who mentioned that providing autonomy within the established curriculum is not always straightforward: *"Ehm yes... I think so, that she should be able to make more choices... and our core package... is of course quite fixed... I believe that if she has more choice, it's more intrinsically motivating."*

Research into what is needed to translate these insights into action and learn to implement this effectively and confidently in the educational practice would be an ecologically valid next step that would do justice to the developmental affordances of these gifted students and their teachers.

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