

Teacher Self-Efficacy when Teaching Gifted Children in Primary and Secondary Education

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Abstract

Teacher self-efficacy is necessary to engage in the beneficial behaviours to support gifted children. However, teachers do not always feel competent when teaching children with different learning needs. Teachers generally have less knowledge and experience with teaching gifted children, thus it is likely that teachers have lower self-efficacy when teaching these students. Therefore, we hypothesized that teachers would rate themselves as having higher self-efficacy when teaching in general, compared to when teaching gifted children. Furthermore, we expected that self-efficacy (when teaching gifted children) would be related to the frequency of differentiated instruction being used, as self-efficacy is necessary to implement new teaching practices successfully. Teachers (n=34) completed an online survey that contained questions on teacher self-efficacy, specifically when teaching gifted children, and how often they used differentiated instruction. Eight follow-up interviews were done to get more in-depth explanations. A paired samples t-test showed no evidence that the teachers in our sample felt more self-efficacious when teaching in general, compared to when teaching gifted children (H1). Spearman's correlation also indicated an insignificant relationship between self-efficacy and the frequency of differentiated instruction being used (H2). Thematic analyses of the interview summaries highlighted several themes for improving teacher self-efficacy, including knowledge, experience, feedback and support, attitude, and time. Even though no significant results were found, the interviews yielded very useful insights that can be explored further to help teachers increase their self-efficacy when teaching gifted children, which will be one step closer to getting all gifted children to reach their potential.

Keywords: teacher self-efficacy, gifted children, differentiated instruction

Teacher Self-efficacy when Teaching Gifted Children in Primary and Secondary Education

Gifted students are far more likely to perform below their abilities than is commonly thought (McCoach & Siegle, 2003). These students with high abilities often require an adapted educational program and suitable instructional strategies (e.g., acceleration, differentiation and/or inquiry-based strategies) to fulfil their potential (Little, 2017; Callahan et al., 2015). Special programs have been developed to try and meet these needs (e.g., Montessori+, n.d.; Openbaar Onderwijs Groningen, n.d.). However, many gifted students spend most of their time in a regular classroom and there, a teacher's experience with and knowledge about teaching gifted students varies considerably (Russell, 2018). Teaching gifted students is not a topic that is commonly included in the basic training program for teachers. This absence of knowledge and experience can lead to frustration (Russell, 2018) and feelings of low competence ('handelingsverlegenheid' in Dutch) (Mathijsen, n.d.; Sjoers, 2017) in teachers. Gifted students that are taught by teachers that are aware of the individual student's learning needs often reach higher levels of academic achievement (Rayneri et al., 2006). Teachers are more likely to implement innovative instructional practices when they feel competent (Klaeijsen et al., 2018), which is often necessary to adapt to the learning needs of gifted children. Furthermore, teachers who are confident in their abilities to teach and manage a classroom are more likely to form supportive relationships with their students, which has been shown to have a positive effect on the academic achievement and well-being of students (Hajovsky et al., 2020). In the current study, we explore teaching selfefficacy when teaching gifted children, and how this impacts the use of differentiated instruction.

Gifted Children

The term 'gifted' is generally understood to mean that an individual performs substantially better in a certain domain compared to their peers (Sternberg et al., 2010). In

education, the focus of giftedness is on the intellectual domain, and even though it is now common knowledge that giftedness is more than just a high IQ score, a certain score is still often necessary to get access to gifted education (Mathijsen, n.d.). Giftedness presents itself in a multitude of ways; there can be large differences between people, but also within an individual over time (Sternberg et al., 2010). Giftedness may, for example, be disguised when it exists together with a learning disability within a child, which would be labelled as a twice-exceptional learner (Reis et al., 2014). With or without additional learning difficulties, gifted children are susceptible to underachieving or not reaching their potential, which is often frustrating for the child as well as their parents (e.g., McCoach & Siegle, 2003).

Research has presented several factors that influence the child's performance. For example, gifted achievers appear to differ in their attitudes, both toward school and teachers, as well as in their motivation and self-regulation from gifted underachievers (McCoach & Siegle, 2003). Naturally, not only the performance but also the well-being of the child is important. Many factors have been found to influence both, including need satisfaction (autonomy, competence and relatedness), teacher expectations, and boredom with the regular school curriculum (Suldo et al., 2017). This myriad of influencing factors points towards the framework of complex dynamic systems; many factors constantly interact within an environment and over time (Lichtwarck-Aschoff & van Geert, 2004). More specifically, learning-teaching trajectories are "emergent and dynamic phenomena resulting from the interactions in the entire educational context, in particular the interaction between students and teachers" (Steenbeek & van Geert, 2013, p. 234). Overall, it is known that (gifted) students benefit from individually adapted learning practices (differentiated instruction) and that many factors are constantly interacting in their environment.

Differentiated Instruction

Differentiation is a central topic and challenge in (the research into) gifted education, and can be defined as "an instructive approach by which teachers modify the curriculum, their teaching methods, the educational sources used, the learning activities and the evaluation methods according to and in correspondence to students' differentiated needs, in order to maximize the learning opportunities for every student" (Valiande, Stavroula & Koutselini, 2009, p. 5). Pivotal in this approach is thus taking student differences into account while designing and implementing the curriculum and instructional practices (Tomlinson & Jarvis, 2009). The aim is to meet the learner's needs while engaging with the content and learning skills. More specifically, the framework of differentiation focuses not only on adapting to the individual student but also to the differences within a student over time, which aligns with the dynamic systems approach in the sense that we see differentiated instruction and the child's functioning as part of a complex, dynamic process with many interacting variables (Lichtwarck-Aschoff & van Geert, 2004). To enhance the fit between a student and the available learning opportunities, the curriculum and instruction can be adapted to their interests, learning profiles and levels of readiness (both current and over time) (Dixon et al., 2014). As described in the literature, "differentiation helps to adapt curriculum for gifted students through acceleration, complexity, depth, challenge, creativity, and abstraction" (VanTassel-Baska, 2003, np.). To meet those needs, adjustments can be made on four levels, namely (1) the way of presenting the *content*, (2) the *process* of learning the content, (3) how students respond to the content (the *product*), and (4) the *environment* (Tomlinson & Jarvis, 2009).

Teachers are the ones who are mainly responsible for these aspects of differentiation. The teacher, therefore, needs to be able to understand the characteristics and needs of the individual student, and then be able to adapt the learning instruction and activities to those needs. This is a

complex and dynamic process. Especially when classrooms consist of students with various special needs (i.e., in mixed classrooms), this can be a challenge for teachers. Teachers can thus struggle with differentiating instruction, for example, when they find it challenging to think of ways to differentiate or if they simply do not feel competent when doing so. Even if teachers understand differentiation strategies and how to identify the needs of children, they might still not implement those strategies in the classroom. The necessary effort for using differentiated instruction (more) might seem too overwhelming, perhaps due to time restraints or expecting that the outcome will not be successful (Dixon et al., 2014), which could be the case when teaching gifted children. Thus, how often differentiated instruction is used when teaching gifted children and what it is influenced by is important to investigate.

Teacher Self-Efficacy

One of the variables of interest in teaching gifted students and using differentiated instruction is teacher self-efficacy. Self-efficacy is defined as "an individual's judgement of how well he or she can execute courses of action required to deal with prospective situations" (Bandura, 1982, p. 122). In other words, "the belief that one can accomplish a given task" (Siegle et al., 2020, p. 1600). Self-efficacy is thus the result of thinking processes and is focused on the future, i.e., how one thinks about one's capability to perform a future task. This is the difference with the need to feel competent (basic psychological needs) because the latter is an affective rather than a cognitive experience (Van den Broeck et al., 2010). However, this subtle distinction is not always used consistently in the literature, for example, various studies on this topic involve 'teachers' feelings of self-efficacy' and scales use 'confidence' to rate self-efficacy (e.g., the Ohio State Teacher Efficacy Scale (OSTES); Tschannen-Moran & Hoy, 2001). We thus argue that cognitions and emotional evaluations can be difficult to isolate, and for the current study, this distinction is not as crucial. In this paper, the terms 'feelings', 'beliefs', or 'expectations' can be

used interchangeably to refer to teachers' self-efficacy. From now on, we will use the term teacher self-efficacy to refer to a teacher's self-assessed beliefs or feelings that they can accomplish a given task. The task in this context can refer to teaching in general, teaching gifted children, or, for example, classroom management (Tschannen-Moran & Hoy, 2001). The teacher's feelings of self-efficacy can thus also differ per specific situation, depending, for example, on their experience with the task (Dixon et al., 2014). Teacher self-efficacy for specific tasks or strategies can, however, be raised through practising and observing others performing that task successfully (Starko & Schack, 1989). Teacher self-efficacy can further express itself as invested effort, goal-setting, persistence and resilience (Dixon et al., 2014; Tschannen-Moran et al., 1998), and affects teaching behaviours, including the strategies they use for instruction (Skaalvik & Skaalvik, 2007), which all impacts the teachers' short- and long term behaviour and thus their (gifted) students.

Both interindividual and intraindividual differences are relevant to explore to understand the intricacies of teacher self-efficacy. In the current study, we focus on the differences within a person, in various situations. A teacher might experience high self-efficacy when teaching in a regular classroom while feeling more insecure or rating themselves as having lower self-efficacy when teaching gifted students (VanTassel-Baska et al., 2020). Previous experience and prior knowledge usually lead to higher self-efficacy, whereas teachers, in general, have less knowledge and experience with teaching gifted children (it is usually not taught in their education), thus it is likely that teachers have lower self-efficacy when teaching gifted children (when having less (positive) experiences and knowledge with this specific group). This reasoning leads to our prediction that teachers' self-rated self-efficacy is higher when teaching regular children compared to teaching gifted children (VanTassel-Baska et al., 2020).

The present research

The current study on teacher self-efficacy is part of a bigger, concurrent research project into the dynamic interactions between teachers and gifted children with or without additional learning difficulties (Hanze University of Applied Sciences, n.d.). So far, it has been shown that a supportive teacher-student relationship is important for academic achievement and that such a relationship consists of successful interactions. For creating constructive interactions and successfully using differentiated instruction regularly, the teacher must have a sufficient level of self-efficacy (Dixon et al., 2014; Hajovsky et al., 2020). Therefore, it is important to gain insight into teachers' self-efficacy and their real-life experiences with and needs when teaching gifted children. To our knowledge, no study has been done that included both teacher self-efficacy and differentiated instruction that focused specifically on teaching gifted children.

The current study thus aims to answer the question: "How do teachers perceive their self-efficacy when teaching gifted children?". This consists of a quantitative part, concerning the question: "How do teachers rate their self-efficacy when teaching gifted students and is this related to the frequency of differentiated instruction being used?". Based on the literature we predict that (H1) teachers' self-rated self-efficacy is higher when teaching in general compared to teaching gifted children (VanTassel-Baska et al., 2020), We, furthermore, expect (H2) that teachers' self-efficacy when teaching gifted students will be related to the self-reported frequency of differentiated instruction being used (e.g., Dixon et al., 2014). The second, explorative part will aim to answer the following question: "What do teachers need to feel more competent when teaching gifted students?".

Method

Participants

The participants were teachers who have at least some experience with teaching gifted children. Many of them work in schools that are either specialized entirely in gifted education or that have special programs for cognitively talented children. They were approached via both personal networks (social media) and by sending e-mails to all schools in the Netherlands that were promoted as being specialized in teaching gifted children (n=113; Wind, 2022). In total 51 responses to an online survey were collected in March and April of 2022. Not all 51 responses were complete, and thus not usable (n=17) for the final analysis. First of all, four respondents agreed to the informed consent without filling out the rest of the survey. An additional nine responses only included the answers to the demographic questions. Furthermore, two respondents only answered the first block of questions on teacher self-efficacy (TSE). Comparing the two TSE scales is necessary for examining our hypotheses, therefore, the previously mentioned total of 15 responses was excluded from further analysis, meaning there were 36 eligible responses. Out of those 36, four people did not answer the questions about differentiated instruction, however, their answers are still useful for our first hypothesis. Two more responses were excluded at a later stage, due to them having used the answer option 'Not Applicable' too often, (see 'data analysis' for a further explanation). This eventually resulted in 34 responses being used for the analysis to compare teacher self-efficacy when teaching in general vs. gifted children (H1). For the second hypothesis, in which the relationship between the frequency of differentiated instruction and teacher self-efficacy when teaching gifted children is tested, 30 responses were used. Out of those 30 respondents, 22 indicated that they would like to be interviewed. To ensure feasibility within the set time frame of our study, a subset of ten participants was approached. Various factors were taken into account when selecting ten interviewees for follow-up interviews. The aim was to get a diverse array of teachers, in terms of their teaching experience (with teaching gifted children), their self-efficacy scores and their

availability. Thus, the 10 highest and lowest scoring volunteers on those factors were selected. More specifically, the five teachers with the least experience with teaching gifted children and the five teachers with the most experience were selected. Those automatically included the teachers with the lowest self-efficacy scores. Due to the limited availability of the ten selected participants, eight participants were eventually interviewed.

Descriptives concerning gender, type of education, and the proportion of gifted students in the teacher's class can be found in table 1. The age of the respondents ranged from 33 to 61 years (M = 43.79, SD = 7.96). Respondents' teaching experience ranged from 5 to 38 years (M = 18.79, SD = 8.33). All respondents had at least some experience with teaching gifted students, which ranged from 2 to 20 years (M = 8.74, SD = 4.46).

Table 1Characteristics of Participants

Proportion Gifted Students

n	%
31	91.2
2	5.9
1	2.9
22	
10	
7	
	31 2 1 22 10

Some	3	8.8
About half	3	8.8
More than half	5	14.7
All	19	55.9
Other ^b	4	11.8

^aMultiple answers were possible. ^bIncluded (further) explanations like 'full-time gifted education'.

The sample of interviewed volunteers consisted of eight primary school teachers. Their experience with teaching gifted students ranged from two to 16 years. Most of them were teaching only gifted students (at the time of the interview), meaning that their students either have characteristics of being gifted, are described as being cognitively talented, or were officially tested (IQ >130). Their self-reported teacher self-efficacy when teaching gifted children ranged from 70% to 100%.

Materials

The data was collected through an online Qualtrics questionnaire which contained an introduction, two blocks of questions about teacher self-efficacy, a block about differentiated instruction, and a page with closing questions (see Appendix I for the full questionnaire including the informed consent). More specifically, after reading through and agreeing with the informed consent, the respondents were asked several demographic questions, asking their age, gender and experiences with teaching (gifted children). After that, to gain insight into the first hypothesis on self-efficacy, all participants answered two blocks of almost identical questions which were adapted from the Ohio State Teacher Efficacy Scale (OSTES; Tschannen-Moran & Hoy, 2001). The first block focused on teaching in general, which we operationalized as the teacher's own

classroom to make it more relatable. For example: 'How much confidence do you have that you can come up with alternative questions for your students?'. The second block zoomed in on teaching gifted children. These statements were only slightly adjusted to ascertain that only the situation (own class vs. gifted children) the teacher was thinking about was different between the two blocks. For example, 'How much confidence do you have that you can come up with alternative questions for your gifted students?'. Both blocks started by asking the teachers to rate their confidence in their own teaching skills using a slider from 0 to 100. Subsequently, the teachers rated their self-efficacy through 13 statements. The first 12 statements were adapted from the short-form Ohio State scale. The Ohio scale seemed most fitting with our research interests as it focuses on Teacher self-efficacy especially, and it includes three subscales, including instructional strategies. The original OSTES was adapted through several steps. First of all, it was translated from English to Dutch. Secondly, the Dutch language was adapted to make sense for the respondents and to make all questions have the same format. After that, we received feedback from a specialist in teaching gifted students and adapted some terms to fit with the Dutch School system and the current needs in practice. One statement was added to gain insight specifically for teacher self-efficacy with differentiated instruction: 'How much confidence do you have that you are capable of adapting to the individual needs of students?'. Answers could be given using Likert Scales, with six answer options ranging from 'entirely not' to 'a lot', 'Not Applicable' was also an option. The original Ohio Scale had nine answer options, we adapted this to five to increase usability. The 13 statements within a block of questions were shown in a random order to avoid order effects. Our Dutch (13-item) version of the Teacher Self-Efficacy scale shows good reliability ($\alpha = .83$), also when specifically asking about gifted children ($\alpha =$.85). More specifically, the subscale Student Engagement (4 items, $\alpha = .83$) seemed to be reliable as well, also for gifted children ($\alpha = .80$). The subscale for Instructional Strategies indicates

questionable reliability for teaching one's own class (4 items, $\alpha = .60$), but good consistency for when teaching gifted children (4 items, $\alpha = .77$). The subscale Classroom Management) showed questionable internal consistency for both scales (4 items, $\alpha = .69$; $\alpha = .67$).

The survey block on differentiated instruction consisted of two questions. The first question was adapted from Dixon et al.'s (2014) study and asks (indirectly) about the self-reported frequency of differentiated instruction being used: "In most groups, three levels of differentiation are being used. How often do you, next to that, adapt your instruction to the needs within your classroom? We used the same five answer options as Dixon et al. (2014), translated to Dutch, which were 'daily for each subject' to 'never', and 'other' was also an option. Lastly, an open question asked the teachers about what they thought are good teaching strategies for gifted children. In the final part of the survey, the teachers had the opportunity to indicate whether they would like to participate in a follow-up interview, whether they would like to gain insight into their scores and whether they would like to receive the results of the current research. The survey was rounded off by asking if the respondents had any further questions or comments and by thanking them for their participation.

Follow-up interviews

The 30-minute follow-up interviews were designed to get further insights into the (open) questions of the survey. There were three broad topics, including the teachers' feelings of self-efficacy, differentiated instruction and instructional strategies. The first topic fits most closely with our qualitative research question and is thus used for further analysis. The interview questions were also adapted to fit with the more knowledgeable target group (see Appendix II). For example, the question "What helped build your feelings of competence?", also gave insight into what teachers, in general, could need to feel more competent.

Procedure

The current study was a mixed design incorporating qualitative and quantitative methods to get a complete and practical overview of the experiences of teachers of gifted children. The quantitative part contained the two teacher self-efficacy scales and a question about the frequency of differentiated instruction being used. This part included the testing of our hypotheses which was done on a within-subjects basis. The second, more explorative, and qualitative part, consisted of the semi-structured follow-up interviews. The dynamic network approach was central to our study, thus, no dependent and independent variables were assumed. All data was self-reported by the teachers and no adverse effects were expected. All identifying information was deleted from the dataset before any further inspection.

Data Analysis

SPSS (IBM, 2022) was used for the analysis of the quantitative data. Before starting the main analysis of the data, the responses were coded. A dispute included the coding of 'Not Applicable (NA)' in the Likert scale response formats (see Appendix III). A total of six answer options were possible, ranging from 'entirely not'(1) to 'a lot' (5), and 'Not Applicable'. It was decided to include this option to enhance the fit with the different situations of the teachers in our sample. Dealing with this potential issue was done in three steps. First, when inspecting the response sets, a total of five responses included at least one NA answer. Three of those were deemed negligible, as no obvious pattern for the self-efficacy scale items was distinguishable and enough answer options (a maximum of three 'NA' per scale' were available for the data to be usable). Two respondents did not meet this 'maximum of three' criteria, with six and eight times NA per scale. Second, those two participants were thus excluded from further analyses. Third, the decision was made to code 'Not Applicable' as the neutral answer, thus with a three. Those are not missing

values, and coding them as zero would have substantially lowered the averages. Subsequently, we continued with the analyses as planned, with the data of 34 respondents for hypothesis one, and 30 responses for hypothesis two. Next, scales and subscales (for each situation; teaching one's own class, teaching gifted children) were calculated through unweighted means, as specified by (Tschannen-Moran & Hoy, 2001). Thus, the subscale 'Student Engagement' was combined through items 2, 3, 4 and 11. Instructional Strategies consisted of items 5, 9, 10, and 12. Efficacy in Classroom Management was informed by items 1, 6, 7, and 8. The full scale consisted of those three subscales combined plus our added question on differentiated instruction. Before continuing with our planned analyses, the assumptions required were explored, which included Shapiro-Wilk as a test of normality for the data of both teacher self-efficacy scales. The internal consistency of the scales and subscales was explored by computing Cronbach's alpha. After that, to test the hypothesis (H1) that self-efficacy when teaching one own's class would be higher than when teaching gifted children, paired-samples t-tests (one-tailed) were done using teacher self-efficacy general (unweighted mean of 13 items) and teacher self-efficacy when teaching gifted children (unweighted mean of 13 items), as well as for the subscales, e.g., comparing the mean of instructional strategies for the first scale, with the mean of instructional strategies for the second scale. To gain insight into the intraindividual differences in teacher selfefficacy, the score for teacher self-efficacy in general minus teacher self-efficacy when teaching gifted children was computed and displayed in a scatterplot.

Secondly, teacher self-efficacy when teaching gifted children was related to the self-reported frequency of differentiated instruction being used, through Spearman's rho (one-tailed), because of one of the variables being non-continuous (frequency differentiated instruction) and the sample being large enough (n=30).

The qualitative data, including the interview transcripts, were inspected and summarized through thematic analysis using Taguette; an open-source tool for qualitative analysis (*Taguette*, n.d.). Notes were taken during the interviews. Afterwards, half an hour per interview was spent on adding information from the automatically generated transcripts to the notes made by the interviewer. Those eight summaries were used for further thematic analysis. This qualitative analysis consisted of several steps. First of all, familiarization with the data, in which the coder spent half an hour scanning through the summaries. Second, an initial round of coding per subquestion was done. An inductive and latent approach was used, as no appropriate theoretical framework was available (Braun & Clarke, 2006). As a third step, the initial coding scheme was cleaned up, by adding together similar terms and grouping the codes based on whether they were more internal or more external. For example, "reading about the topic of gifted children" is more of an internal effort or action, whereas "changing the system" is mainly controlled by influences outside the teacher's control. A complete overview of the codes including quotes can be found in Appendix IV.

Results

The required assumptions were inspected before continuing with the data analysis. For self-efficacy when teaching one's own classroom significant deviances from normality were found using a Shapiro-Wilk test (W(34) = .92, p = .02). On the contrary, for self-efficacy when teaching gifted children, non-significant results were found (W(34) = .95, p = .22). Visual inspection indicates however that the deviances from normality were relatively small. This, in combination with our sufficient sample size (n=34), led to our decision to move forward with the analyses as planned, using a paired samples t-test for the first hypothesis.

Quantitative Analysis

H1: teachers' self-rated self-efficacy is higher when teaching regular children compared to teaching gifted children

Contrary to our predictions, there was no significant difference between teacher self-efficacy in general and when teaching gifted children (t(33)=.97, p=.17; one-tailed). The descriptives can be found in table 2, which indicates indeed that there are no clear differences (in the mean and spread) between the two scales.

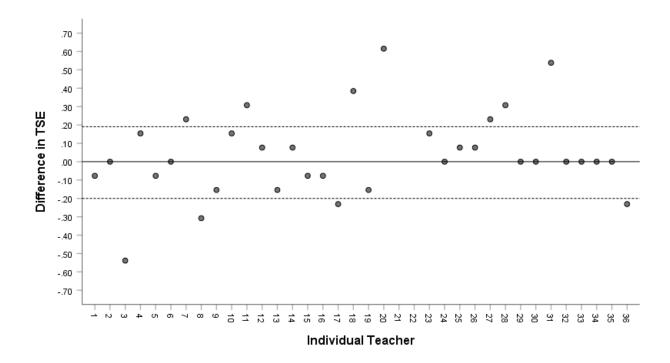
Table 2

Teacher Self-Efficacy when Teaching Own Class vs. Gifted Children

	N	Minimum	Maximum	Mean	SD	
Own class	34	3.85	5.00	4.36	.38	
Gifted children	34	3.62	5.00	4.33	.39	

This suggests that there is no evidence that teacher self-efficacy when teaching one's own class is higher than when teaching gifted children in our sample. Figure 1 displays the individual scores through a scatterplot of the difference between self-efficacy in general vs. when teaching gifted children for each individual teacher. In the plot, it becomes visible that nine of the respondents had the same total self-efficacy score for both scales. Furthermore, fourteen of the teachers indicate higher self-efficacy when teaching in general, whereas another eleven participants show the opposite: they rapport higher self-efficacy when teaching gifted children. Overall, the majority of the teachers show only small differences (.20) in either direction.

Figure 1



Note. The difference in TSE is calculated through teacher self-efficacy when teaching own class minus teacher self-efficacy when teaching gifted children.

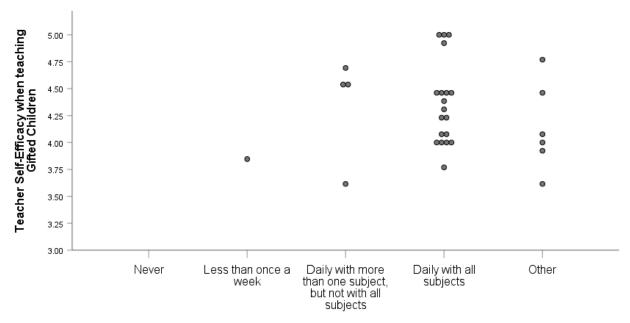
Subscales There was also no significant difference between teacher self-efficacy in general and when teaching gifted children for the subscales Student Engagement (t(33)=.48, p=.32), Classroom Management (t(33)=.59, p=.27), and Instructional Strategies (t(33)=.37, p=.35; one-tailed).

H2: Teachers' self-efficacy when teaching gifted students is related to the self-reported frequency of differentiated instruction being used

Hypothesis two included the relationship between TSE when teaching gifted children (see table 2) and the self-reported frequency of adapting one's instruction to the individual needs in the classroom (differentiated instruction). Inconsistent with our hypothesis, there was no significant positive relationship between self-efficacy when teaching gifted children and frequency of differentiated instruction (r(32)=.05, p = .39). This indicates that there is no confirmation for our hypothesis that the self-reported frequency of differentiated instruction being used is related to teacher self-efficacy when teaching gifted children. Figure 2 displays the individual scores on this relationship, indicating indeed no obvious relationship between the teacher self-efficacy scores and how often they use differentiated instruction, with most teachers indicating they adapt their instructions daily for each subject (n=19). The range of self-efficacy scores of the individual teachers is similar for the different categories. The self-efficacy scores for 'daily for all subjects', which is the highest frequency of differentiated instruction, appear slightly more skewed towards higher self-efficacy compared to 'daily, but not for all subjects' and 'other'.

Figure 2

Teacher Self-Efficacy vs. Differentiated Instruction



Frequency of Differentiated Instruction

Qualitative Analysis

RQ: What do teachers need to feel more competent?

The semi-structured interviews gave insight into our explorative question: "What do teachers need to feel more competent?", a full overview of the responses can be found in Appendix IV.

What influences your feelings of self-efficacy when teaching gifted children? The interviewed teachers described themselves as having high self-efficacy, especially in general and when teaching their own class. Often mentioned (12 times) was experiencing lower self-efficacy in specific cases: when having to teach other teachers, or when teaching specific children with extra needs within the classroom, for example, twice-exceptional children. What contributes to their self-efficacy, is a lot of experience with teaching (gifted children) and knowledge (combined mentioned 7 times), most of the teachers studied the topic of gifted children extensively. Many of them also display a certain attitude and mindset towards teaching: being

authentic, daring to make mistakes and being vulnerable included. Their environment contributed to this development of skills and passion for teaching this group: most of the interviewed teachers explain they have a lot of autonomy in designing their lessons, including time and being able to discuss these topics with colleagues. Many of them mention that constructive feedback is very useful to hear (what) they are doing well when teaching: from colleagues, parents and their students (mentioned 3 times in response to this question).

What helped you to increase your feelings of self-efficacy? As described above, just trying and experiencing and learning a lot about the target group is vital when teaching gifted children. This changes the stereotypes many teachers have about gifted children, and they learn to see their unique characteristics and struggles. It helps if the teacher is very motivated and passionate to learn more, including themselves. Once again one's attitude is thus very important: you also need to ask for and be open to feedback.

What do you need to further increase your feelings of self-efficacy? The teachers describe some support systems or changes that could further help them enhance their self-efficacy. This includes time; to have enough time with the children, talk with parents, also to prepare and do research. A systemic change would help with that: less testing, fewer requirements and lower admission fees. Furthermore, more practical tools based on science would be appreciated. One teacher, for example, mentioned that this would be helpful, also to explain to parents why a certain tool works. The latter coincides with sharing what works: having experienced colleagues with whom you can discuss tools, wins and challenges, would help to further increase self-efficacy.

Do you have any tips for other teachers to increase their feelings of self-efficacy?

Start with knowledge, for example, knowing the many different profiles of giftedness. Next, the attitude is very important: be authentic, ask for feedback, use trial and error and be creative.

Moreover, all the previously mentioned aspects are important, including just trying and gaining experience.

Summary

All questions combined give some insight into what teachers need to feel more competent when teaching gifted children, which can be divided into more internal efforts, and more external influences. Internal efforts are more amendable by the individual teacher and include accumulating knowledge, for example by reading about the topic and following extra courses or studies. Furthermore, a certain attitude towards the teaching experience, which includes being authentic and daring to make mistakes, is something the teacher can learn. This all contributes to gaining skills over time. More external influences are steps the systemic environment can take, which include fewer requirements and more time for teachers, and showing appreciation for their effort. As well as there being knowledgeable colleagues with whom the teacher can discuss wins and challenges. Undoubtedly, many of those efforts happen in interaction. For example, the teacher can ask for feedback (internal effort), and the environment (students, colleagues, etc.) need to respond with constructive feedback. Additionally, the teachers would like to have more scientifically construed tools, which both they can contribute by noting down what worked in which situation (time is needed) and by the research community. Overall, when asked about their feelings of self-efficacy, and what that term means to them, the teachers described themselves as feeling in their element, just feeling good and competent, when they report high self-efficacy, also, or even especially when teaching gifted children.

Discussion

The current study explored teacher self-efficacy when teaching gifted children. More specifically, we expected that teachers' self-rated self-efficacy would be higher for teaching in

general (teaching one's own classroom) than when teaching gifted children. The results showed no significant differences. Although this relationship was in the expected direction, it was nonsignificant. Secondly, we hypothesized that teacher self-efficacy when teaching gifted children would be significantly related to the frequency of differentiated instruction being used. The results show a positive but non-significant correlation. Thus, no credible evidence for both our hypotheses was found. The additional part of our study aimed to answer the question "what do teachers need to feel more competent when teaching gifted children?". This question can broadly be answered through several factors: time, experience, support and constructive feedback, attitude, and background knowledge, and can be split into more internal efforts and more external influences. In general, it seems like the teachers in our interviewed sample already did many of the possible actions that were within their influence, which likely contributed to their, on average, high feelings of self-efficacy. More systematic changes need to happen to further increase their self-efficacy, also in specific situations, for example when teaching twice-exceptional children. These results indicate that less experienced teachers could start with the described steps they can take themselves. For even stronger, and sustainable effects it is likely important that the environment also positively contributes to the teachers' feelings of self-efficacy when teaching gifted children, for example by allowing time to learn about what giftedness means and to collaborate with colleagues.

The fact that we did not find a significant effect on who is being taught and the teachers' self-efficacy (H1) is unexpected, based on our initial reasoning that teachers generally have less knowledge and experience with teaching gifted children, thus it being likely that teachers have lower self-efficacy when teaching gifted children (when having less (positive) experiences and knowledge with this specific group). The latter part, in brackets, were assumptions and were not explicitly and quantitatively tested in the current survey, and also not (to our knowledge) in

previous studies. However, from the sample of interviewed teachers, we can infer that they have rather high self-efficacy and substantially more experience and knowledge than the average teacher. Moreover, our manipulation for the comparison of the two teacher self-efficacy scales did not prove to be very successful. The question for the first block of questions was phrased as "think of your own classroom" to get teachers to think about teaching in general. This decision was made to make identifying with the situation in the questions easier, and understandability should increase validity. However, many of the teachers in our sample only teach gifted or cognitively talented children (see table 1) and likely filled out similar answers twice. On the other hand, six teachers in our sample indicated that the majority of the children they teach are not gifted. We cannot fully extract whether the teachers actually rated their self-efficacy while thinking of teaching the two groups and thus that our operationalization had a major impact on this.

Furthermore, not a lot of research has been done on self-efficacy and using differentiated instruction specifically for teaching gifted children (H2). However, as stated earlier, sufficient self-rated self-efficacy is necessary to successfully and frequently use differentiated instruction (Dixon et al., 2014; Hajovsky et al., 2020). Unfortunately, it is not specified what a 'sufficient level' is. Looking at our respondents' scores, it is however possible, that they all had a sufficient level of self-efficacy when teaching already, as all unweighted means were rather high (lowest = 3.85 out of 5). Thus, there might have been somewhat of a ceiling effect, meaning that the participants already scored rather high, resulting in it being difficult to distinguish or find an effect, between the different scores. Thus, perhaps our formulation of the hypothesis and how we operationalized the question in the survey were not most well-suited to explore the nuances of teacher self-efficacy in this specific sample. Perhaps more interesting as an overarching question

would be "Are positive experiences with and knowledge about teaching gifted children related to self-reported teacher self-efficacy?". This could for example be split into measuring years of experience with teaching gifted children, rating their experiences from negative to positive, rating the perception of their own knowledge, and so on. This would allow for testing our underlying assumptions first and could give practical insights for future interventions.

Limitations

Apart from the considerations described above, there are three limitations to acknowledge when contemplating the results. First of all, our final sample does not correspond entirely with our initial target group. The target group, or population, encompasses all teachers in the Netherlands who sometimes teach or have experience teaching gifted children, or children with similar characteristics or learning needs. The majority of children in the Netherlands do not spend all their school hours in gifted education. However, the majority of the teachers in our sample teach only children who are gifted or show similar characteristics. This fits with the next disadvantage of our sampling method: it was a convenience sample; participation was voluntary and more time was unintentionally invested in trying to reach teachers from gifted education. Thus, we can infer that the teachers who decided to participate (voluntarily), and even more so for the interviews, were motivated and interested in the topic of gifted education, and had enough time to do so. This limitation would have been reduced by sampling more carefully from the entire population or by limiting our target group to only experienced teachers and designing the hypotheses and accompanying survey to fit with experienced teachers in gifted education.

A second, but related limitation is that our survey did not seem to fit entirely with the current sample's teaching experiences. For example, through the interviews it became apparent that for this 'specialized in teaching gifted children' group, the teachers seem to already have

adapted their instructions to the needs of the gifted students. Thus, solely asking the teachers about the frequency of how often they adapt their instruction in addition to the regular three levels, yielded not much additional information. Exploring differentiated instruction further is thus necessary, as it is often mentioned in the literature as being very important to help gifted students reach their potential. Perhaps differentiated instruction can be measured through its subcomponents, as Tomlinson and Jarvis (2009) described four levels on which can be made adjustments: the way of presenting the content, the process of learning the content, the student's responses to the content and the environment. Additionally, doing a pilot study with an actual sample of the target group would give insight into the fit of our survey with the sample. This would also have been beneficial to explore the questionable internal consistency of our subscales.

Lastly, our qualitative results could have been more extensively explored and analyzed to get even more out of the already rich collection of information. The current set-up (an open conversation around several main questions) had its benefits, as this design allowed for the interviewer to flexibly adapt to the interviewee's expertise and responses, which is likely to have led to richer answers to our questions and a more complete view of the teacher's experiences. A consideration could be to conduct the interviews in a more structured manner, for example, by adhering more strictly to a predefined list of questions. More importantly, transcribing the full interviews and using that for extensive analysis would increase transparency and allow for more robust conclusions to be made. This qualitative analysis would consist of several rounds of extensive coding with at least two coders. Excerpts of the coded transcripts could then also more explicitly be used for analyses in future research and as input for a teacher self-efficacy enhancing intervention eventually.

Future Research

Further research should be done to explore the intricacies of teacher self-efficacy in the gifted education context. More specifically, this could include comparing a deductive and inductive approach to analyzing qualitative data. For example, measuring the components known to influence self-efficacy (incl. task characteristics, seeing others perform the task, previous experiences; Bandura, 1997; Dixon et al., 2014; Starko & Schack, 1989), which already surfaced during our semi-structured interviews. Understanding what exactly contributes to teacher self-efficacy specifically will give insights into developing interventions and tools to decrease feelings of incompetence. Exploring the nuances of teaching different age groups (e.g., comparing primary and secondary education) is also necessary to give concrete advice on how to enhance teacher self-efficacy.

The current study, furthermore, relied solely on self-reports, which we deemed appropriate as self-efficacy is inherently a subjective evaluation. However, when examining it in relation to, or as a tool to eventually enhance the functioning of gifted students, it would be useful to gather information that is more objective as well. Comparing different perspectives (for example, by including how gifted students experience their teacher's teaching) would be very useful to get more insight into the dynamic network explored. This could, for example, be done through video recordings and afterwards having the teachers rate their self-efficacy per moment, asking the teacher's own students and colleagues, and so on. The recordings could also be used for behavioural observation and independent coders could rate the efficacy of the teacher's used strategies, and/or this input can be used for video feedback coaching. Moreover, as the interviewees' answers indicate, also experienced teachers struggle sometimes with more complex learning needs (e.g., twice-exceptional students; Reis et al., 2014) within the classroom. Applying the previously described research recommendations to this particular group would help to get

specific insights into how to teach this group of children and thus enhance teacher self-efficacy even more.

For current gifted education, our results seem to indicate that there are many actions both teachers and the school system can do to further enhance teacher self-efficacy, both over time and in various circumstances. The results also point to future interventions (for example, a support group; see Appendix IV) being targeted toward the more and less experienced teachers of gifted children. Every teacher and gifted child, and their interaction, is unique, which should be taken into consideration when giving further practical recommendations.

Conclusion

In the current study, we combined the theoretical findings with experiences from the real-life school context. No evidence for our hypotheses was found, however, we continue to believe that we touched upon an interesting framework to gain insight into self-efficacy when teaching gifted students. The mixed-methods design yielded a rich understanding of the complex and dynamic network in which teaching gifted children is embedded. Overall, we got very useful insights that can be explored further to help teachers increase their self-efficacy when teaching gifted children, which will be one step closer to helping gifted children reach their potential.

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Appendix I: Survey

BEGIN SURVEY

Blok 1 - Informed consent

Lesgeven aan hoogbegaafde leerlingen

Beste leerkracht.

Welkom bij ons onderzoek over lesgeven aan hoogbegaafde leerlingen.

De vragenlijst

Het doel van het huidige onderzoek is inzicht krijgen in ervaringen van leerkrachten tijdens het lesgeven aan hoogbegaafde kinderen. De resultaten willen we gebruiken om praktische tools te ontwikkelen om de handelingsbekwaamheid van leerkrachten tijdens het lesgeven aan hoogbegaafde leerlingen te vergroten. Bij het invullen zijn er geen goede of foute antwoorden. Voor ons onderzoek is het van belang dat je deze vragen zo eerlijk mogelijk invult. Het invullen van de enquête duurt ongeveer 10 minuten, afhankelijk van de hoeveelheid informatie die je met ons wilt delen. Het meedoen aan dit onderzoek vindt plaats op vrijwillige basis.

Anonimiteit

Je gegevens zullen vertrouwelijk worden behandeld. De resultaten zullen worden bewaard op een beveiligde plaats en volledig anoniem worden verwerkt. Dit betekent dat je antwoorden niet aan jou als persoon kunnen worden gekoppeld. Na het onderzoek zal de data worden verwijderd. Gedurende de studie handelen we in overeenstemming met de richtlijnen van de Ethische

Commissie van de Hanzehogeschool Groningen. Bij deelname behoud je ten alle tijden het recht deze deelname weer in te trekken, waardoor je op elk moment kan stoppen met het onderzoek.

Wie voert het onderzoek uit?

Deze enquête is onderdeel van de onderzoekslijn van het lectoraat Diversiteit in Leren en Gedrag van de Hanzehogeschool Groningen, in samenwerking met de afdeling Ontwikkelingspsychologie van de Rijksuniversiteit Groningen. Deze enquête wordt afgenomen door Maleah Knevel (student van de Master 'Talent Ontwikkeling en Creativiteit'). De hoofdonderzoeker is Dr. Henderien Steenbeek (Lector Hanzehogeschool en universitair Hoofddocent, afdeling ontwikkelingspsychologie).

Voor vragen of opmerkingen kun je terecht bij m.knevel.2@student.rug.nl.

Resultaten ontvangen?

Als je een verslag van het onderzoek wilt ontvangen, dan kun je dat aangeven aan het eind van de vragenlijst.

Alvast hartelijk bedankt voor je deelname aan ons onderzoek!

Ik verklaar hierbij dat ik de bovenstaande voorwaarden heb gelezen en begrepen:

- Ja, ik wil deelnemen.
- Nee, ik wil niet deelnemen.
- → Indien NEE geselecteerd

"Je hebt ervoor gekozen niet deel te nemen aan ons onderzoek. Indien gewenst kun je in onderstaand tekstvak je keuze toelichten.

Alsnog hartelijk bedankt voor je interesse in ons onderzoek.

Op het volgende scherm wordt de vragenlijst gesloten."

Blok 2 - demographics

Jouw (onderwijs)achtergrond

Voordat we je vragen over het lesgeven aan hoogbegaafde leerlingen willen we graag weten wat jouw (onderwijs)achtergrond is.

Wat is je leeftijd?

[tekstvak]

Met welk geslacht identificeer je jezelf? [mc]

- Man
- Vrouw
- Anders
- Wil ik liever niet zeggen

In welke onderwijssector ben je werkzaam? [meerdere antwoordopties mogelijk]

- Voorschoolse educatie
- Basisschool (regulier onderwijs)
- Basisschool (speciaal onderwijs)
- Middelbare school (regulier onderwijs)
- Middelbare school (speciaal onderwijs)
- Anders, namelijk [tekstvak]

Hoeveel jaar ervaring heb je met lesgeven?

[tekstvak]

Heb je ervaring met lesgeven aan hoogbegaafde leerlingen?

- Nee
- Ja, namelijk .. jaar : [tekstvak]

Aan welke groep(en) geef je nu les?

[tekstvak]

Hoeveel van deze leerlingen zijn hoogbegaafde leerlingen? [mc]

- Enkele
- Ongeveer de helft
- Meer dan de helft
- Allemaal
- Anders, namelijk ... [tekstvak]

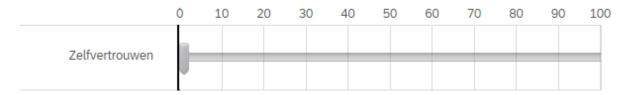
Blok 3: Teacher Self-efficacy

We vragen je nu om te denken aan het lesgeven aan je eigen klas. Geef bij onderstaande stellingen jouw mening aan.

1. Hoeveel vertrouwen heb je in je eigen vaardigheden als docent?

Zelfvertrouwen [slider 0 - 100]

Hoeveel vertrouwen heb je in je eigen vaardigheden als docent?



Hoeveel vertrouwen heb je erin dat jij...

- 2. Het belang van leren aan je leerlingen over kunt brengen.
- 3. Niet taak-gericht gedrag in de klas kunt beïnvloeden.
- 4. Leerlingen die weinig motivatie hebben voor schoolwerk kunt motiveren.
- 5. Leerlingen kunt laten inzien dat ze goed kunnen presteren op school.
- 6. Goede vragen voor je leerlingen kunt bedenken.
- 7. Leerlingen de klassenregels kunt laten volgen.
- 8. Een leerling die niet tot taak-gedrag komt kunt stimuleren om aan het werk te gaan.
- 9. Voor iedere groep effectief klassenmanagement kunt inzetten.
- 10. Verschillende manieren om te beoordelen kunt gebruiken.
- 11. Een alternatieve uitleg of voorbeeld kunt geven als de leerlingen het niet begrijpen.
- 12. Ouders kunt ondersteunen om hun kind het goed te laten doen op school.
- 13. Alternatieve instructiestrategieën kunt gebruiken in jouw klas.
- 14. In staat bent om aan te sluiten bij individuele behoeften van leerlingen.

Antwoordopties:

Helemaal niet, weinig, enigszins, redelijk veel, heel veel, n.v.t.

Blok 4 - Self-efficacy HB leerlingen

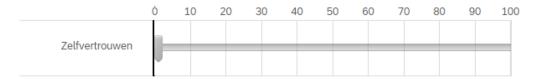
We vragen je nu om te denken aan de <u>hoogbegaafde leerlingen (HB)</u> die je lesgeeft. Geef bij onderstaande stellingen jouw mening aan.

15. Hoeveel vertrouwen heb je in je eigen vaardigheden als docent tijdens het lesgeven aan hoogbegaafde leerlingen?

Zelfvertrouwen [slider 0 - 100]

TSE_HBslider

Hoeveel vertrouwen heb je in je eigen vaardigheden als docent tijdens het lesgeven aan hoogbegaafde leerlingen?



Hoeveel vertrouwen heb je erin dat jij...

- 16. Het belang van leren aan je HB leerlingen over kunt brengen.
- 17. Niet taak-gericht gedrag van HB leerlingen in de klas kunt beïnvloeden.
- 18. HB Leerlingen die weinig motivatie hebben voor schoolwerk kunt motiveren.
- 19. HB Leerlingen kunt laten inzien dat ze goed kunnen presteren op school.
- 20. Het belang van leren aan je HB leerlingen over kunt brengen.
- 21. Goede vragen voor je HB leerlingen kunt bedenken.
- 22. HB Leerlingen de klassenregels kunt laten volgen.
- 23. Een HB leerling die niet tot taak-gedrag komt kunt stimuleren om aan het werk te gaan

- 24. Aandacht en instructie voor HB leerlingen kunt inpassen in je klassenmanagement.
- 25. Verschillende manieren om te beoordelen kunt gebruiken bij HB leerlingen.
- 26. Een alternatieve opdracht kunt geven als de HB leerlingen het juist wel begrijpen.
- 27. Ouders kunt ondersteunen om hun kind het goed te laten doen op school.
- 28. Alternatieve instructiestrategieën kunt gebruiken voor HB leerlingen in jouw klas.
- 29. In staat bent om aan te sluiten bij individuele behoeften van HB leerlingen.

Antwoordopties:

Helemaal niet, weinig, enigszins, redelijk veel, heel veel, n.v.t.

Blok 5 - Self-efficacy vs. differentiated instruction/instructional strategies

Nu zouden we je graag een tweetal specifieke vragen stellen over het inspelen op individuele behoeften in jouw klas.

In de meeste groepen worden drie differentiatie niveaus gebruikt.

- 30. Hoe vaak pas jij daarnaast je instructie aan, aan de behoeften in jouw klas? [mc]
- Dagelijks bij ieder vak
- Dagelijks bij meer dan 1 vak, maar niet bij alle vakken
- Minder dan 1 keer per week
- Nooit
- Anders, namelijk.. [tekstvak]
- 31. Wat zijn volgens jou strategieën om hoogbegaafde leerlingen goed les te geven? Probeer zo specifiek mogelijk te zijn.

[tekstvak]
Blok 6 - Afrondende vragen
We willen graag met je doorpraten over het lesgeven aan hoogbegaafde leerlingen? Zou je
hiervoor openstaan?
• Ja
• Nee
Anders, namelijk [tekstvak]
Wil je informatie ontvangen over de resultaten van dit onderzoek?
• Ja
• Nee
→ mailadres
Heb je verder nog vragen of opmerkingen over het onderwerp of het onderzoek?
[tekstvak]
Hartelijk dank voor je deelname aan dit onderzoek.
Op het volgende scherm wordt de vragenlijst gesloten.

Appendix II – Interview Overview

Introductie

De vragenlijst die je hebt ingevuld bestond uit vragen gericht op het lesgeven aan hoogbegaafde kinderen. Dit gesprek vandaag is bedoeld om wat dieper op deze onderwerpen in te kunnen gaan. Wij zijn benieuwd naar jouw inzichten, tips en behoefte aan ondersteuning tijdens het lesgeven aan hoogbegaafde leerlingen. Zo hopen wij de volgende vraag te kunnen beantwoorden: "Wat hebben leerkrachten nodig om zich meer handelingsbekwaam te voelen tijdens het lesgeven aan hoogbegaafde leerlingen?" Deze verzameling van ervaringen en tips zal gebruikt worden om praktische tools te ontwikkelen om de handelingsbekwaamheid van leerkrachten tijdens het lesgeven aan hoogbegaafde leerlingen te vergroten.

Handelingsbekwaamheid definiëren wij als:

"De individuele leerkracht is (of voelt zich) in staat verantwoord en adequaat antwoord te kunnen geven op de specifieke instructie- en onderwijsbehoeften van een of meer leerlingen."

- Geschatte duur interview: 30 minuten
- Akkoord met opnemen van het gesprek?
- Heb je tot nu toe vragen?

Ik ben allereerst benieuwd wat je vond van de vragenlijst. Hoe heb je het invullen daarvan ervaren?

Demografische gegevens

Ik las dat je ... jaar ervaring hebt met lesgeven aan hoogbegaafde leerlingen, klopt dat?

En ongeveer ... daarvan is hoogbegaafd?

Geloof-in-eigen-kunnen

Zoals je hebt gemerkt zijn we geinteresserd in je geloof-in-eigen-kunnen, hoe competent iemand zich voelt tijdens het lesgeven. Dat blijkt heel belangrijk te zijn voor onder andere het opbouwen van positieve relaties met leerlingen in de klas.

Hoeveel vertrouwen heb je in je eigen vaardigheden als docent tijdens het lesgeven aan hoogbegaafde leerlingen?

- Wat beïnvloedt dat denk je?
- Zijn er verschillen per situatie? (open stellen)
- Kun je daarvoor een specifieke situatie beschrijven? (weinig zelfvertrouwen vs. veel zelfvertrouwen)
- Wat hielp je om meer zelfvertrouwen (geloof in eigen kunnen) te krijgen?
- Wat zou je daarbij nog meer kunnen helpen?
- Heb je ook tips op dit gebied voor andere leerkrachten die lesgeven aan hoogbegaafde leerlingen?

Aangepaste/onderscheidende instructie

Hoe vaak pas jij je instructie aan, aan de verschillende behoeften in jouw klas?

- Wat beïnvloedt dat denk je?
- Kun je daarvoor een specifieke situatie beschrijven? (wel vs. niet differentiëren)
- Wat heb je nodig om dat vaker te doen? Wat zou je daarbij kunnen helpen?
- Heb je ook tips op dit gebied voor andere leerkrachten die lesgeven aan hoogbegaafde leerlingen?

Strategieen

Wat zijn volgens jou strategieën om hoogbegaafde leerlingen goed les te geven?

- Hoe merk je dat deze werken?
- Kun je daarvoor een specifieke situatie beschrijven? (gebruik van specifieke instructional strategy)
- Hoe vaak gebruik je deze strategieën ongeveer?
- Hoe is je geloof-in-eigen-kunnen tijdens het gebruiken van deze strategieën?
- Wat heb je nodig om vaker deze strategieën te kunnen gebruiken?
- Heb je ook tips op dit gebied voor andere leerkrachten die lesgeven aan hoogbegaafde leerlingen?

Afsluiting

Zijn er verder nog zaken die je wilt bespreken over dit onderwerp?

Appendix III: Coding 'does not apply' and Missing Values

Step 1: explore missing data

TSE_G: n.v.t.

Respondent 14 – item 11

Respondent 22 item 1, 3, 8, 10

Respondent 28 – item 6

TSE_HB: n.v.t.

Respondent 14 – item 11

Respondent 21 item 4, 5, 6, 8, 9, 10, 11, 12

Respondent 22 item 1, 2, 3, 6, 8, 12 (toddlers)

Respondent 25 – item 6

Respondent 28 – item 6, 8, 10

Step 2: delete participants nr. 21 and 22

Step 3: code 'does not apply' as '3'

Continue with analysis as planned

Appendix IV: Coding interview responses

Totaal 28 codes

Intern

Kennis (33)

- Kennis (20)
- Lezen (2)
- Scholing (7)
- Verbreden (1)

Houding (6)

- Durf te falen (1)
- Gewoon doen (6)
- Relatie (2)
- Inleven (2)
- Authenticiteit (1)
- Zelfkennis (2)

Vaardigheden (5)

Extern

- Leerlingen (13)
- Collega's (8)
 - o Gelijkgestemden (2)
- Ouders (3)

- Systeem verandering (5)
o Tijd (4)
- Waardering (1)
Intern/extern in interactie
Ervaring (7)
Wetenschappelijke onderbouwde tools (3)
Competent gevoel (4)
- In element (3)
- Vrijheid (4)
- Feedback (15)
Minder vertrouwen ¹ (22)
- Specifieke leerling(en) (8)
- Nuanceverschillen (2)
Andere vraag (10)
1 Situaties waarin de leerkracht aangaf minder vertrouwen of self-efficacy te ervaren
1. Wat beïnvloedt jouw geloof-in-eigen-kunnen tijdens het lesgeven aan hoogbegaafde
kinderen?

In element (3)	- Tijdens lesgeven plusklas in element
	- In element bij lesgeven: vrijheid, creativiteit
	- In de plusklas was ik heel ervaren, dat begreep ik
Ervaring (3)	- Door ervaring
	- Daardoor heel veel vaardigheden in ontwikkeld
	- 40 jaar voor de klas, 14 jaar als invaller
Kennis (4)	- Kennis
	- Gaan richten niet alleen op kennis opdoen, maar ook op
	het ontwikkelen van een bepaalde houding en mindset
	(fouten durven maken, leren hulp vragen, samen
	werken)
	- Veel gelezen over de doelgroep
	- Heb een specialisatie en weet heel veel over de
	kinderen.
Feedback (3)	- Reactie van andere leerkrachten en leerlingen
	- Soms lastig om echt te weten of jij het verschil hebt
	gemaakt voor een leerling Ik vind dat ik nog steeds veel
	te leren heb
	- Kinderen vinden dat ik goed instructie geef, ik ben kort
	en duidelijk. Leg veel bij hun.
Leerlingen (5)	- Reactie van andere leerkrachten en leerlingen
	- Welbevinden kinderen

	- Soms lastig om echt te weten of jij het verschil hebt
	gemaakt voor een leerling. Ik vind dat ik nog steeds veel
	te leren heb
	- Wel veel moeten wennen aan deze setting (meer
	gedragsproblematiek, sociaal emotioneel gebied). Zijn
	bijv. thuiszitters geweest.
	- Kinderen vinden dat ik goed instructie geef, ik ben kort
	en duidelijk. Leg veel bij hun.
Collega's (4)	- Reactie van andere leerkrachten en leerlingen
	- Samen met een collega zelf mogen ontwikkelen.
	- Dingen die je van collega's hoort □ vergroot arsenaal
	- Samen met 2 collega's ontwikkeld, lijn uitstippelen.
Minder vertrouwen	- Minder vertrouwen: begeleiden van andere leerkrachten
(12)	- Minder vertrouwen: onderpresteerders/dubbel-
	bijzondere leerlingen □ duurt langer Bijv.: 1 jongen,
	creatief begaafd + dyslectisch, hekel aan taaltaken.
	- "Ik ben niet zo'n vechter" meer van het harmoniemodel.
	- Lager gevoel van competentie bij didactische stuk (niet
	achter staan □ zelfvertrouwen)
	- Soms lastig om echt te weten of jij het verschil hebt
	gemaakt voor een leerling Ik vind dat ik nog steeds veel
	te leren heb

bijv. nuanceverschillen (wat heeft een hb leerling het dyslexie of dyscalculie nodig?) Het blijft maatwerk. Lastig de ladder af te dalen om de juiste vragen te stellen, bijv. aan leerlingen uit groep 3,4. Kleuters voel ik mij sowieso incompetent bij. Ik kan wel signaleren dat een leerling nodig heeft en op een hoger vlak denkt, maar om dat zelf aan te passen, dat vind ik nog lastig Ik neig vaak naar te hoog in zetten (cognitief/denkniveau) ipv daadwerkelijk kijken naar wat de leerlingen nodig hebben Heel specifiek bepaalde leerlingen, soms nog wel eens wat onzekerheden, 'wat is nu handig?', 'welke stap zou nu beter zijn?'. Bijv. jongentje van 8, superhoogbegaafd: wat bied je aan? Of als 1 helemaal geen motivatie heeft. (stuk of 3 kinderen). Wel veel moeten wennen aan deze setting (meer gedragsproblematiek, sociaal emotioneel gebied). Zijn bijv. Topklas weer in het diepe gegooid Specifieke leerling(en) Minder vertrouwen: onderpresteerders/dubbel-**(8)** bijzondere leerlingen □ duurt langer Bijv.: 1 jongen, creatief begaafd + dyslectisch, hekel aan taaltaken

bijv. nuanceverschillen (wat heeft een hb leerling het dyslexie of dyscalculie nodig?) Het blijft maatwerk. Lastig de ladder af te dalen om de juiste vragen te stellen, bijv. aan leerlingen uit groep 3,4. Kleuters voel ik mij sowieso incompetent bij Ik kan wel signaleren dat een leerling nodig heeft en op een hoger vlak denkt, maar om dat zelf aan te passen, dat vind ik nog lastig Ik neig vaak naar te hoog in zetten (cognitief/denkniveau) ipv daadwerkelijk kijken naar wat de leerlingen nodig hebben Heel specifiek bepaalde leerlingen, soms nog wel eens wat onzekerheden, 'wat is nu handig?', 'welke stap zou nu beter zijn?'. Bijv. jongentje van 8, superhoogbegaafd: wat bied je aan? Of als 1 helemaal geen motivatie heeft. (stuk of 3 kinderen). Wel veel moeten wennen aan deze setting (meer gedragsproblematiek, sociaal emotioneel gebied). Zijn bijv. thuiszitters geweest. Topklas weer in het diepe gegooid Vrijheid (4) In element bij lesgeven: vrijheid, creativiteit Komt ook door manier van instromen: van alles zelf mogen opbouwen Samen met een collega zelf mogen ontwikkelen

	- Samen met 2 collega's ontwikkeld, lijn uitstippelen.
Gevoel competent (4)	- In eigen groep heel competent
	- Ik denk wel dat ik het kan.
	- Over het algemeen voor de groep: ik ben competent,
	voel me prettig, niet het gevoel dat ik het niet kan.
	- In de plusklas was ik heel ervaren, dat begreep ik.
Houding (3)	- Gaan richten niet alleen op kennis opdoen, maar ook op
	het ontwikkelen van een bepaalde houding en mindset
	(fouten durven maken, leren hulp vragen, samen
	werken),
	- Niet denken dat ik alles hoef te weten
	- Ik wil zelf ontdekken, zelf leren van hun en andersom,
	in een open, creatieve setting.
Vaardigheden (3)	- Daardoor heel veel vaardigheden in ontwikkeld
	- Ik kan wel signaleren dat een leerling nodig heeft en op
	een hoger vlak denkt, maar om dat zelf aan te passen,
	dat vind ik nog lastig Ik neig vaak naar te hoog in zetten
	(cognitief/denkniveau) ipv daadwerkelijk kijken naar
	wat de leerlingen nodig hebben
	- Juiste tools te pakken, kinderen goed zien.
Nuanceverschillen (2)	- bijv. nuanceverschillen (wat heeft een hb leerling het
	dyslexie of dyscalculie nodig?) Het blijft maatwerk.

	- Ik kan wel signaleren dat een leerling nodig heeft en op
	een hoger vlak denkt, maar om dat zelf aan te passen,
	dat vind ik nog lastig Ik neig vaak naar te hoog in zetten
	(cognitief/denkniveau) ipv daadwerkelijk kijken naar
	wat de leerlingen nodig hebben
Zelfkennis (0)	N.v.t.
Andere vraag (2)	- Helpt: inlevingsvermogen, thematisch onderwijs,
	individuele aandacht, compact + verrijking
	- Sta ook voor kleuters met een ontwikkelingsvoorsprong

${\bf 2.\ Wat\ hielp\ je\ om\ meer\ zelfvertrouwen\ (geloof-in-eigen-kunnen)\ te\ krijgen?}$

In element (0)	N.v.t.
Ervaring (4)	- Visie veranderd door de ervaring (stereotypen)
	begrip/inleving
	- Ervaring
	- Ervaring
	- Ervaring
Kennis (14)	- Cursus
	- Boek: Rineke Derksen - Ik ben een kind, gelukkig &
	gevoelig hoogbegaafd
	- Motivatie/drijfveer □ verdiepen (doelen stellen,
	mindset)

	- Opleiding
	- Visie veranderd door de ervaring (stereotypen) □
	begrip/inleving
	- Achtergrondkennis
	- Opleiding
	- Veel lezen erover
	- 2013 Master
	- Collega's met veel kunde
	- Scholing
	- Opleiding gevolgd van Novilo
	- Achtergrondkennis
	- Inlevingsvermogen
Feedback (10)	- Feedback terug van kinderen
	- Vooral te zien dat kinderen floreren (hoor je ook terug
	van ouders)
	- Leerlingen die teruggeven dat ze blij zijn met het
	onderwijs dat ze van mij hebben gekregen (bijv.
	knuffels van kinderen groep 4,5, dan heb je wat
	betekent).
	- Terug horen van ouders dat ze zo'n interessante les
	hebben gehad

	- Probeer zoveel mogelijk met het kind te bespreken: Wat
	wil jij? Wat vind jij? Hoe kan ik jou helpen?. Meer een
	soort coach dan leerkracht.
	- Feedback vragen van kinderen
	- Gesprekken met kind zelf (vanaf groep 4, kunnen ze
	heel goed uitleggen)
	- Feedback krijgen
	- Kinderen met plezier naar de klas
	- Echt openstaan voor feedback
Leerlingen (8)	- Relatie
	- Feedback terug van kinderen
	- Vooral te zien dat kinderen floreren (hoor je ook terug
	van ouders
	- Leerlingen die teruggeven dat ze blij zijn met het
	onderwijs dat ze van mij hebben gekregen (bijv.
	knuffels van kinderen groep 4,5, dan heb je wat
	betekent).
	- Probeer zoveel mogelijk met het kind te bespreken: Wat
	wil jij? Wat vind jij? Hoe kan ik jou helpen?. Meer een
	soort coach dan leerkracht.
	- Feedback vragen van kinderen
	- Gesprekken met kind zelf (vanaf groep 4, kunnen ze
	heel goed uitleggen)

	- Kinderen met plezier naar de klas
Collega's (3)	- Helpt: overleggen met collega
	- Collega's met veel kunde
	- Samenwerken met collega
Houding (2)	- Motivatie/drijfveer □ verdiepen (doelen stellen,
	mindset)
	- Echt openstaan voor feedback
Vaardigheden (2)	- Inlevingsvermogen
	- Vaardigheden ontwikkelen
Zelfkennis (1)	- Helpt dat ik niet hoogbegaafd ben (van afstandje kijken)
	vind ik
Andere vraag (1)	- Thematisch onderwijs, individuele aandacht, compact +
	verrijking
Scholing (5)	- Cursus
	- Opleiding
	- 2013 Master
	- Scholing
	- Opleiding gevolgd van Novilo
Lezen (2)	- Lezen over de doelgroep
	- Veel lezen erover
Relatie (2)	- Relatie
	- Eerst relatie opbouwen, kind lekker in vel, in zichzelf
	geloven - Daar krijg je positieve energie van

Inleven (2)	- Inlevingsvermogen
	- Visie veranderd door de ervaring (stereotypen) \square
	begrip/inleving
Gewoon doen (5)	- Doen en ervaren □ Actief mee bezig zijn
	- Motivatie/drijfveer □ verdiepen (doelen stellen,
	mindset)
	- Gewoon doen
	- Gewoon uitproberen en
	- Uitdaging aan gaan

3. Wat zou je daarbij nog meer kunnen helpen?

Kennis (1)	- Meer lezen/weten over tools vanuit die wetenschap
	onderbouwd zijn (ook voor competentiegevoel richting
	(meer kritische) ouders). Waarom het werkt.
Collega's (1)	- Gelijkgestemden/collega's □ intervisieclubje (zelf
	opgericht)
Ouders (2)	- Ook gesprek met ouders bijvoorbeeld, gesprekken met
	kinderen
	- Contact met ouders (driehoeksverhouding)
Gelijkgestemden (2)	- Gelijkgestemden/collega's □ intervisieclubje (zelf
	opgericht)
	- Gelijkgestemden

Wettenschappelijk	- Meer lezen/weten over tools vanuit die wetenschap
onderbouwde tools (3)	onderbouwd zijn (ook voor competentiegevoel richting
	(meer kritische) ouders). Waarom het werkt.
	- Veel interventies op ervaring/aannames, maar toch veel
	trial en error. Leg te weinig vast wat werkt
	- Dus: afstemming op basis van onderzoek
Tijd (2)	- TIJD, omdat het maatwerk is; voor goed afstemmen,
	onderzoekstijd
	- Veel interventies op ervaring/aannames, maar toch veel
	trial en error. Leg te weinig vast wat werkt
Systeem verandering	- Geen cito's
(4)	- Bureaucratisch gedoe
	- Eigenlijk moet het schoolsysteem veranderen (kleinere
	klassen levert niet zo veel op, meer mensen op een
	groep misschien, wet en regelgeving aanpassen +
	jeugdzorg – stempel - bekostigen)
	- Hoge ouderbijdrage afschaffen (frustratie)

4. Heb je ook tips op dit gebied voor andere leerkrachten die lesgeven aan hoogbegaafde leerlingen?

Kennis (1)	- Begint bij kennis, bijv. over de vele profielen van
	hoogbegaafdheid

Feedback (2)	- Goede, opbouwende feedback
	- Tijd en ruimte voor gesprek
Houding (1)	- Open zijn
Zelfkennis (1)	- Eigen lijn vinden
Andere vraag (7)	- Door gedrag heen kunnen prikken (kinderen schoppen
	tegen reguliere systeem □ onderliggend)
	- Resultaten cito toets (hoe ingevuld) bespreken
	- Executieve functies □ door leerzone
	- Herkennen van kinderen als HB is belangrijk
	- Specifieke handvaten om goed te verrijken ook in een
	reguliere setting. Niet een extra werkboekje, maar echte
	verrijking: hogere orde denken en opdrachten, creatieve
	denken
	- Kijk verder dan het gedrag, probeer niet impulsief te
	reageren op ongewenst gedrag. Dieper kijken, wat zit
	daar onder? Prikkelgevoelig, thuis iets aan de hand,
	faalangst, perfectionisme.
	- Kinderen beter leren kennen, ook zichzelf.
Scholing (1)	- Pabo: kennis over HB
Gewoon doen (1)	- Gewoon proberen
Tijd (1)	- Tijd en ruimte voor gesprek
Systeem verandering	- Pabo: kennis over HB
(1)	

Waardering (1)	- Pogingen gezien en gewaardeerd door omgeving
Durf te falen (1)	- Durf te falen (practice what you preach)
Authenticiteit (1)	- Puur zijn
Verbreden (1)	- Neem tijd om om je heen te kijken □ Blik verbreden