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Factors that Influence the Motivation for Teachers to Differentiate Curriculum for Gifted Students*

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Abstract

This study sought to determine the factors that motivate teachers to differentiate curriculum for gifted students in a case study school in Victoria, Australia. For this purpose, 10 teachers from Year 7-9 mixed ability classes at the school were engaged in interviews about their practice of differentiation specifically for gifted students and the factors that either motivated or demotivated them to differentiate. Thematic analysis was conducted on the collected data. The resulting themes provided useful insights into the challenges that teachers face to cater for gifted students and their need for more support. The key findings of the study indicated the presence of many barriers to differentiating curriculum for gifted students including misconceptions, negative attitudes, gaps in support and competing interests. By comparison, the most significant motivator to differentiate curriculum for gifted students was around delivering 'good teaching', otherwise known as best practice teaching in the education sector. Findings suggest that a general lack of training in gifted education was evident in this context and suggest that greater school support and professional development is needed to assist teachers to provide appropriate differentiation for gifted students.

Introduction

The need for differentiated curriculum for gifted students is undisputed amongst scholars. Indeed, the Australian Curriculum (2021) states that gifted students, defined as students who display abilities or characteristics that are significantly above the average for one's age, are entitled to rigorous, relevant, and engaging learning that is tailored to their special learning needs. Nevertheless, the current educational climate that is characterised by a shortage of teachers, along with substantial time and related pressures on teachers, means that many teachers today may not have a high level of motivation to support gifted students. That is, while teachers may generally be dedicated and motivated to provide the best possible education for all their students, there also appears to be several factors that may contribute to a lack of teacher motivation to differentiate curriculum for gifted students.

Given that the occurrence and effectiveness of curriculum differentiation is largely dependent on the classroom teacher's motivation, it is imperative that issues that influence teacher motivation such as attitude, training, and school culture are explored in greater depth (Jung & Worrell, 2017; Siamak Vahidi, 2015; VanTassel-Baska et al., 2020). Furthermore, there is a need to address any identified barriers to teacher motivation, a need to give greater reinforcement to any motivating incentives, and a need to establish a support framework to ensure that gifted students receive the education they require (ACARA, 2021). Such investigations are particularly important with respect to curriculum differentiation for one under-researched cohort of gifted students – gifted secondary school students.

Review of the Literature

The importance of catering for the needs of gifted students cannot be understated. In the field of gifted education, scholars agree that gifted students have unique learning needs that require specialized attention to their intellectual, academic, and socio-emotional development (Gomez-Arizaga et al., 2020; Sharma & Nuttel, 2016; Yuen et al., 2016). Moreover, catering to gifted students is essential not only for the individual students' success and well-being but also for promoting a more equitable, inclusive, and intellectually vibrant educational environment for all students (Gross, 1999). However, the research suggests that

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gifted students are not being catered for consistently in the classroom due to numerous factors that may influence teachers' motivation to differentiate (Farkas & Duffett, 2008; Reis & Renzulli, 2010). These factors may be considered to be motivational *deterrents*.

Motivational Deterrents

In the context of the school environment, a motivational deterrent refers to any factor that diminishes or undermines a teacher's motivation to effectively support and engage with gifted students in the classroom. Such deterrents may include the impact of workload stress, negative attitudes, and various misconceptions which may hinder a teacher's enthusiasm, commitment, and effectiveness in catering for gifted students (Jolly, 2016; Matheis et al., 2018; Walsh & Jolly, 2018).

The Impact of Workload Stress. Teaching can be a very fulfilling and rewarding vocation, but at times, the demanding workload in teaching may be highly stressful. This appears to not only impact the teachers' well-being but also their ability to effectively cater for gifted students (Carroll et al., 2022). For example, Australian teachers have been found to work on average five hours more a week than teachers in other countries. Furthermore, the high levels of administrative work expected of teachers has been found to be among the greatest source of stress for Australian teachers (Carroll et al., 2022). In such a working environment, the additional administrative burdens associated with the creation and adaptation of the curriculum for gifted students may be considered excessive (Jarvis & Henderson, 2015; Walsh & Jolly, 2018).

Additionally, the recent pandemic has negatively impacted the stress and the challenges faced by teachers across the world (Kotowski et al., 2022). Specifically, the abrupt shift to remote and hybrid learning models appears to have taken a toll on the motivation of teachers and their mental capacity to provide tailored support, which may be manifested in the exhaustion of teachers and/or a reduced enthusiasm for teaching (Li & Li, 2021). This is further evidenced by the significant attrition in the teaching profession (Heffernan, 2023). Consequently, the task of differentiating for gifted students may be beyond the focus of many teachers (Li & Li, 2021).

When teachers are overwhelmed by high workloads, school deadlines, and the pressure of students needing to meet academic standards, rather than providing a differentiated curriculum for gifted students, they are likely to narrow their focus to the immediate demands of the classroom (Li & Li, 2021). Furthermore, teachers may choose to prioritise the needs of struggling students over gifted students (Carroll et al., 2021; Farkas & Duffett, 2008; Reis & Renzulli, 2010). The associated stress may also contribute to teachers developing negative attitudes towards gifted education, which may in turn lead to decreased motivation to differentiate the curriculum for gifted students, and to attend to the learning needs of gifted students in general (Farkas & Duffett, 2008; Reis & Renzulli, 2010).

Negative Attitudes. Attitudes are a strong predictor of behaviour. While the positive attitudes of teachers toward gifted students may be conducive to increased motivation to address their learning needs, along with favourable academic results from gifted students (Hattie, 2003; McCoach & Siegle, 2003), negative attitudes may be destructive and contribute to the lack of differentiated learning and support for gifted students (Plunkett & Kronborg, 2011). In Australia, societal attitudes toward gifted students and gifted education have waxed and waned, and range from ambivalent to antagonistic attitudes, although there continues to be a nuanced tension to see the advancement of gifted individuals on the national and international stage (Jolly& Jarvis, 2018; Subotnik et al., 2011). Unfortunately, in the course of history, negative rather than positive attitudes have tended to influence the relevant government departments, and access to appropriate educational opportunities (Rimm et al., 2018).

Such attitudes may reflect the "tall poppy syndrome", which refers to a social phenomenon where people of high achievement or success are criticised, resented, or even ostracised by others due to their perceived superiority (Peeters, 2004).) It is possible that the tall-poppy syndrome has a considerable negative effect on the learning and well-being of gifted students. Teachers who hold such attitudes may be less likely to be motivated to provide gifted students with differentiated curriculum or to support their affective development (Free, 2014; Gross,1999). Relatedly, some gifted students may have a fear of standing out or being perceived as arrogant or elitist, which may lead them to downplay their achievements, hide their abilities, or even sabotage their own success.

Evidence from a number of studies show that in both pre-service and in-service teacher cohorts, negative attitudes towards gifted students are present (Baudson & Preckel, 2016; Carrington &

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Bailey, 2000; Lassig, 2015; Matheis et al., 2018; McCoach & Siegle, 2007). For example, Carrington and Bailey (2000) found that teachers often rank gifted students as among the least desirable students to teach. This is perhaps due to teacher perceptions that gifted students exhibit characteristics such as being highly self-centred, neurotic and antisocial (Geake & Gross, 2008; Matheis et al., 2018). Such attitudes appear to persist, despite strong recommendations from two senate inquiries for policy and practice to support gifted students (Parliament of Australia, 2021).

Given that teachers have a significant impact on the educational support and development of gifted students, negative attitudes are cause for alarm. While research studies do not claim that having positive attitudes towards gifted students will ensure that curriculum will necessarily be differentiated, some relationship appears to exist between positive attitudes, teacher training and the provision of differentiated curriculum (Matheis et al., 2018). Moreover, a direct relationship has been found to exist between teachers' negative attitudes towards gifted students and their decreased motivation to provide appropriate classroom support (Lassig, 2015; Matheis et al., 2018). As such, regardless of whether negative attitudes have been influenced by culture, the school environment or peers, they are likely to be motivational deterrents for teachers to differentiate curriculum (Cross et al., 2018; Dixon et al., 2014; Geake & Gross, 2008; Jung, 2014; Lassig 2015).

Misconceptions. In addition to workload stress and negative attitudes, several common misconceptions about giftedness may impact the way teachers approach their gifted students (Bondie et al., 2019; Cross et al., 2018; Ziernwald et al., 2022). Some of these misconceptions include the belief that gifted students are characterized by poor behaviour and maladjustment, the view that gifted student provisions may create inequality among students, and the view that gifted students will succeed regardless of any support that is given (Baudson & Preckel, 2016; Matheis et al., 2018). Such misconceptions may mean that many teachers may misinterpret gifted students and their needs and disregard the need for any special educational provisions for gifted students, including curriculum differentiation (Rimm et al., 2018; Sousa & Tomlinson, 2018).

Motivational Incentives

By contrast to the motivational deterrents, motivational incentives are factors that may motivate teachers to differentiate the curriculum for gifted students. Two of the most common motivational incentives appear to be having a growth mindset and participation in professional development in gifted education.

Growth Mindset. A growth mindset refers to the belief that abilities are not innate but may be improved through effort, learning and persistence (Yeager & Dweck, 2020). Within the school context, a growth mindset refers to the attitude with which teachers face challenges when teaching diverse students, and how they adapt curriculum and develop their teaching craft accordingly (Sousa & Tomlinson, 2018). When teachers exhibit a growth mindset, they become a catalyst to support students' potential which has a positive effect on both themselves, and their students. Having a growth mindset can be a natural motivational incentive to differentiate curriculum for gifted learners, but it can also increase teachers' motivation to deepen their subject knowledge, refine their teaching techniques, and stay updated with the latest educational research (Stambaugh, 2020).

Professional Development. Alongside a growth mindset, professional development may play a crucial role in motivating teachers to cater for gifted students (Dixon et al., 2014). Specifically, teachers appear to acquire new skills and knowledge through their participation in professional development and may experience increased confidence in their ability and an increased motivation to cater to gifted students (Cheung & Hui, 2011; Matheis et al., 2018). Nevertheless, there is some lack of clarity on how the receipt of professional development translates into the actual practice of differentiation for gifted students. Some studies suggest that unless teachers feel confident in their ability to implement differentiated practices in the classroom, professional development alone may not be effective (Matheis et al., 2018; Rowan & Townend, 2016).

Related to the impact of professional development is the potentially positive impact of tertiary training in gifted education (Matheis et al., 2018; Rowan & Townend, 2016). The aim of tertiary training in gifted education is to provide pre-service teachers with a solid foundation of knowledge, motivation, and confidence to implement evidence-based approaches for catering for gifted students in the classroom themselves (Clinkenbeard & Kolloff, 2001). Furthermore, tertiary training in gifted education may be useful in addressing any misconceptions (Chandra 2019; Henderson & Jarvis, 2016; Hertberg-Davis, 2009; Plunkett & Kronborg, 2011), reinforcing positive teacher attitudes toward gifted students and gifted

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education (Cheung & Hui, 2011; Jung, 2014; Lassig, 2015; Rowan & Townend, 2016), and enhancing teacher self-efficacy in supporting gifted students (Farkas & Duffett, 2008; Matheis et al., 2018). While the evidence is compelling in recognising the positive impact tertiary training in gifted education may have on teachers' motivation to differentiate curriculum for gifted students, this opportunity is not widely available in many Australian universities (Fraser-Seeto et al., 2013).

In general, addressing motivational deterrents and providing motivational incentives to teachers are essential steps in effectively catering for gifted students. In this study, the factors that contribute to the motivation of teachers to differentiate curriculum for gifted students will be further explored within the context of the case study school.

Significance

Gifted students often face a unique set of challenges that require personalised or modified curriculum adjustments. Despite the acknowledged need for differentiated curriculum in the teaching profession, there is a significant gap in understanding the motivational incentives and deterrents that influence teachers' decisions to differentiate curriculum for gifted students. For example, many educators still perceive gifted provisions as an optional extra and are not fully aware of the diverse needs of gifted learners, or the benefits of a differentiated curriculum (Hertberg-Davis, 2009; Jarvis & Henderson, 2015; Jung & Worrell, 2017; VanTassel-Baska et al., 2020; Walsh & Jolly, 2018). This study sought to uncover the motivational factors behind teachers' decisions with respect to curriculum differentiation for gifted students, to gain a clearer understanding of the impact they may have on the educational experiences of gifted students.

While several studies on differentiated curriculum in the primary school setting have been conducted to date, comparatively less attention has been devoted to the secondary school setting (VanTassel-Baska et al., 2020). In general, secondary school teachers appear less likely to differentiate the curriculum in comparison to primary school teachers, which suggests that secondary school students may be comparatively more at risk from being underchallenged at school (Reis & Renzulli, 2010). It is not yet understood why secondary school teachers may be less likely to differentiate than their primary school counterparts, which is a gap in the research literature that is worthy of further investigation. Furthermore, although much research has been done linking teacher motivation to student outcomes (Han & Yin, 2016) and differentiated curriculum to student outcomes (Barbier et al., 2022; McCoach & Siegle, 2007; VanTassel-Baska, 2019), the existing body of literature linking motivational factors to the provision of differentiated curriculum for gifted students is notably sparse.

The specific research question that guided this study was "What is the motivation behind curriculum differentiation for gifted students among secondary teachers?"

Method

Participants

The participants of this exploratory case study were teachers employed at an Independent K-12 school in Victoria, Australia who taught in either Year 7, 8 or 9. The 10 participants of the study were aged 23 to 65 with teaching experience ranging from less than one year to over 30 years' experience. As the practice of differentiating curriculum is embedded in the school culture for struggling students, all the participants have some knowledge and experience in the differentiation of curriculum for the unique learning needs of students.

Interviews

Data collection for the study took place at the case study school through a one off, structured interview with the 10 participants. All interviews, which were conducted face-to-face, lasted between 20-30 minutes, and were audio-recorded. Each participant was asked a set of 10 questions regarding their understanding of giftedness, differentiation practices, motivation for differentiation, and attitudes toward differentiation. All interview questions were open ended to allow greater scope for individual responses. Furthermore, participants were encouraged to express their honest opinions to capture the fullest possible accounts and the social situatedness of the research data (Cohen et al., 2018).

Thematic Analysis

All collected interview data were analysed using the principles of thematic analysis which aims to identify and sort patterns within the data, to allow for a rich and deep understanding of the phenomenon of interest (Cohen et al., 2018). A

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key goal during the analysis was to provide a rich thematic description of the important themes arising from the data set to elucidate understanding of the motivations behind teacher practices of curriculum differentiation for gifted students. As thematic analysis is a recursive and iterative process, the different phases of analysis were revisited during the process in a non-sequential order, and detailed notes were kept on how codes and themes were developed.

Findings

After re-listening to the audio recordings multiple times, and re-reading transcripts to highlight prevalent key words and phrases, 41 codes were generated from the interview data. Thereafter, these codes were sorted into 28 sub-themes. While each of the 28 sub-themes were distinct from one another, when they were combined with other related sub-themes, a cohesive set of five themes that represented the entire data set emerged. Table 1 outlines the five themes and 28 sub-themes, supported by text segments.

In this study, a sub-theme was recognised as a concept that was repeated by at least one other participant during the participant interviews. Once all sub-themes were identified, they were sorted into five themes that influence the motivation of teachers to differentiate curriculum for gifted students. These themes were as follows:

(a) Misconceptions: Inaccurate understandings or lack of knowledge about giftedness.
(b) Teacher attitudes: Ways in which teachers displayed an underlying positive or negative attitude towards gifted students.
(c) Support issues: Addressing what supports were currently in place, or were lacking.
(d) Good teaching: Factors that contributed to what is understood as a 'good teacher', recognising that a good teacher would try to cater for gifted students.
(e) Competing interests: Factors that teachers recognized as competing for their attention, which reduced their availability for gifted students.

Overall, the analysis of the data revealed that the teachers tended to lack motivation to differentiate curriculum for gifted students for a variety of reasons. Specifically, most of the participants recognised that they had a somewhat elementary conception of giftedness, due to a lack of training in gifted education and/or a lack of professional development opportunities. Other motivational deterrents were found to stem from some negative attitudes toward gifted students and gifted education, and misconceptions about gifted students and gifted education. In comparison, the dominant motivational incentive to differentiate curriculum for gifted students was identified to be professionalism in teaching practice.

Five Themes

Each of the five themes that emerged from the thematic analysis are outlined and explained below.

Misconceptions

A number of misconceptions about giftedness appear to have led the teacher participants to believe that gifted students do not require differentiated curriculum to fulfill their potential. Specifically, three misconceptions were identified in the data. Firstly, there was a misconception that poor behaviour was a general characteristic of gifted students. For example, the participating teachers reported that the gifted students in their classes were often complaining, refused to follow instructions, and were *always* behaving poorly. These sentiments were noted by several participants in the study as contributing to their lack of desire to differentiate. For example:

> *It is always the kids who are off topic, are mucking around who are like just standing off to the side and just complaining. They are the gifted ones* (Participant #8).

Another misconception was that differentiated curriculum should be a *reward* for positive behaviour. As communicated by some of the participants, unless gifted students earnt the provision of differentiated curriculum by their behaviour, any learning that was appropriate to their needs was not offered:

> *My gifted kids aren't really giving me much today so you justify it (not differentiating curriculum) … I can only do so much* (Participant #2).

The third significant misconception that was identified was that in order to differentiate curriculum for gifted students, teachers should give greater amounts of work, rather than appropriately challenging work (e.g., by adding depth and complexity to tasks). As the participating teachers were more familiar with differentiation strategies that cater to the needs of struggling students (i.e., reducing the size of the task and allowing more time), many

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Table 1
Themes

Theme	Sub-theme	Text Segment(s)
Misconceptions/ Lack of knowledge of giftedness	Classroom issues	#3 For him, the pattern was he would interrupt the lessons. He would cause a disturbance in the class. He would get kicked out of the class.
		#9 I didn't actually understand fully how gifted kids work because you might have one that comes in and sits at the back and you're like,' Oh, OK, that's just that noisy kid at the back.
	Unaware of characteristics of gifted students	#9 I haven't come across a gifted student yet in my teaching career. What are we even looking for?
		#1 You're well behaved, you're polite, studious, you sit on 95%. Oh so you're gifted
	Unaware of Learning needs	#1 I think people have the misunderstanding that if they're bright, they can almost teach themselves.
		# 3 Some are more visual some are more hands on. Others need to read things.
	Unsure of Labels/terminology	#3 I don't acknowledge that these are the gifted kids. I do not like to do that because I do not want one of the lower kids feeling bad.
		#9 I haven't come across a lot of gifted students yet in my teaching career. Since coming to this school, hearing the word gifted is actually the first time I've actually heard about that term.
	Unaware of the cause of Underachievement	#6 Some of them that can finish early can get a little bit bored,
		#2 but if I was to give him extra work, he'd be really annoyed by it. It doesn't matter what form it's in, you know if it's like extra chapter questions here
		#2 They've done exactly what you've asked everybody else to do, and now you need to leave them alone.
	Concept of Differentiation - More not different	#1 everyone does the textbook but gifted kids move through it quicker.
		#8 And then the gifted kids should have more opportunity to go and smash through all five of them (activities). They just need more work.
		#5 : Because he had already finished work, I said he go on to the next thing
		#2 They've done exactly what you've asked everybody else to do, and now you need to leave them alone.
Attitude towards gifted students	Reward/punishment theory	#2 My gifted kids aren't really giving me much today. So like, you justify it to yourself. Oh well, I can only do so much.
	Tall poppy syndrome	#3 I don't acknowledge that these are the gifted kids. I do not like to do that because I do not want one of the lower kids feeling bad.
		#8 it is always the kids who are off topic, are mucking around who are like just standing off to the side and just complaining that are the gifted ones.
	Empathetic to underachievers	#1 He kind of just dies a little bit inside when he's not given challenging work. Like

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Table 1 (continued)

Theme	Sub-theme	Text Segment(s)
		the light in his eyes will dim, if he's not being engaged or stimulated, you know, and so you'll have this lovely, compliant little child, but they're completely depressed.
	Caring but disempowered	#7 Sure, differentiation does exist, but we just don't have enough time. No time and also very little resources too. I wish I could do more
Support issues	Lack of training	#2 anything that I know about it or anything that I've engaged with has been through my own quick Google search
	Under resourced	#2 I need a lot of support. Yep, like everyone finds it to be, I'm honest that it's too much work. #7 Sure, differentiation does exist, but we just don't have enough time. No time and also very little resources too. I wish I could do more
	Leadership issues	#2 It would be great to not just add differentiating for gifted kids to the top of something, but remove some other things so that we can actually explore 'What is a gifted student, what do they look like'? Like, it starts with extension activities and then it kind of goes from there to how can I broaden their students' skills capabilities, interests? But the school itself has not provided that opportunity. #7 They need a leader in the school to actually have the sensitivity to pick up 'Who are the teachers in my staff who know how to teach gifted students well? Who are the ones who are better suited for gifted kids? Who are willing to say that 'I'm a learner in the process of learning still?' and support them.
	Lack of professional development	#3 If we had a workshop or some professional development, then teachers would also need to understand that this is the way of teaching, not take it as an extra load of work. If everyone differentiates, we'll be all helping the students. I think we need a lot of workshops, and we should have a like a whole school or senior school specific workshop, educate everyone, do some professional reading, and do some discussion on that. It's really, really essential that we do that.
	Challenge of teaching gifted students	# 5 I think differentiating for gifted students is really hard because of our own inadequacies as teachers
Identified elements of 'good teaching'	Know your students	#2 if you are engaging with the student on a personal level and they know you see something in them, they know you see their capabilities, they know you care about them extending themselves, they're going to put the work in. #1 We have a consistent approach at a faculty level so we are all on board, but I go into a lot more detail than that when I teach my classes.
	Impact of planning	#3 At the faculty level there is no planning, so I spend a lot of time in the first 2-week period for planning and then my term runs really smoothly. So if you want to differentiate for gifted students you need to be super organized and have a plan.
	Understanding of a correlation	#1 very high correlation obviously.

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Table 1 (continued)

Theme	Sub-theme	Text Segment(s)
	between differentiating curriculum and student outcomes	#6 No I. Don't really think there is.
	Accurate understanding of differentiation	#10 So I will focus on differentiating the complexity based on the curriculum content. Increase the challenge. #4 It's not often with the high achievers that you would give them an extra lot of work because they will often be like, 'Why do I have to do more work? So like I said, it's more to do with the application. Go back, refine
	Love of subject area and expert in curriculum	#2: It doesn't take a long time for me to find extension work because it's something I'm already interested in. When I was teaching a subject which was not my favourite, I found that I lacked that kind of motivation to engage with my gifted students because I might have to spend extra time looking for resources for content I don't already understand or have a passion for.
Competing interests	Legislation for learning support students	#8: I think the lower-level students are always in the spotlight. Gifted kids are almost like middle child syndrome, and you've got to cater for the majority. And then you always compensate for the ones screaming out for attention, which is the ones who get the government funding and legislation #5 This government focuses, and the schools are focusing on just getting funding. The gifted students are not our priority. I'm passionate enough, but it's being died down because of the legislations and the things that you have to keep ticking off in the boxes
	Time poor and overworked	#4 I think time is probably a big factor. I think we're burnt out. Because if we had time and we had the energy, I think we would differentiate for gifted kids #10 If you differentiate the activity in the curriculum that means extra work. That's the main reason why we don't differentiate, because as teachers, to be honest, we're really busy
	Parent and media pressure	#1 The kids down here's parents are noisier. Parents make a lot more noise when 'my kid' isn't where they're supposed to be. It's all over the place in media. 'Australia is slipping behind. You've got to pull up the weaker kids.
	Crowded curriculum	#8 What demotivates me I think is the content that you need to get through. You're just sitting up the front pumping through a PowerPoint, trying to get the content across to them. So there's not much opportunity to differentiate.

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incorrectly assumed that curriculum differentiation for gifted students required them to offer a greater quantity of work (perhaps with less time to complete it):

> *Everyone does the textbook but gifted kids move through it quicker* (Participant #1).

> *The gifted kids should have more opportunity to go and smash through all five of the activities. They just need more work* (Participant #8).

Attitude

Many of the participants held positive attitudes toward gifted students, which was communicated through their desire to support gifted students despite the challenges in developing the skills to do so. This may be evidenced by the fact that some of the participants reported that they felt badly for gifted students who did not receive challenging work and would have liked to see them better supported:

> *He kind of just dies a little bit inside when he's not given challenging work. Like the light in his eyes will dim, if he's not being engaged or stimulated, you know, and so you'll have this lovely, compliant little child, but they're completely depressed* (Participant #1).

Some participants also understood that when gifted students were not provided with learning that is appropriately pitched to their ability, they may become bored and frustrated. Due to the lack of challenge and complexity in the curriculum offered, gifted students may then start to misbehave in class. These teachers acknowledged that poor behaviour is not an inherent characteristic of giftedness, but rather a result of poor learning opportunities in the classroom:

> *OK, you're just bored in class and that's why you're mucking up* (Participant #8).

An interesting insight into teacher attitudes from the data was gained with participant responses to the term "gifted". The level of discomfort with the term from some of the participants appeared to stem from the tall poppy syndrome, whereby high intelligence is associated with arrogance or elitism. One participant even suggested that it should not be used at all in the school context, in order to gain greater teacher, parent and community support for gifted students and gifted education. Those participants who struggled with the term also described their discomfort with providing gifted students with specialised learning:

> *I don't acknowledge it as 'these are the gifted kids'. Okay. I do not like to do that because I do not want a lot of kids feeling bad (who aren't gifted)* (Participant #3).

It is difficult to evaluate if the negative attitudes that were identified in the study are ingrained and reinforced by school culture or only held by a few participants within the study group.

Support Issues

In comparison, it is noteworthy all the participants noted that a key barrier to being motivated to differentiate curriculum for gifted students was their lack of skills and training in giftedness and gifted education. Specifically, the participants reported a lack of professional development opportunities, not only in terms of how to cater for gifted students within existing curriculum frameworks, but also professional development opportunities in gifted education in general. Of note, none of the participants received gifted education training at a tertiary level, nor had any been provided by the case study school or previous workplaces. The participants appeared frustrated by this, because while they did not want to add more to their already heavy workloads, they felt ill equipped to cater for gifted students. This in turn affected their self-efficacy and motivation to differentiate the curriculum for gifted students:

> *Anything that I know about it (catering for gifted students) or anything that I've engaged with has been through my own quick Google search* (Participant #2).

> *I think differentiating for gifted students is really hard because of our own inadequacies as teachers* (Participant #5).

Additional support was considered necessary as the participants found that curriculum differentiation for gifted students was much more challenging than curriculum differentiation for weaker students, with which they all had some experience. Specifically, curriculum differentiation for struggling students was perceived as "taking away" from the regular curriculum, whereas curriculum differentiation for gifted students was considered to require the creation and addition of something "new" to the regular curriculum. Part of the challenge for some of the participants was knowing their subject content well enough to know how to create differentiated tasks:

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> *I think it's easier to fill in gaps for weaker students than think how you're extending or moving a gifted student on (Participant #1).*

Many of the participants also felt that the case study school needed to promote greater awareness about gifted education, and to explicitly encourage and support curriculum differentiation for gifted students (as they do for weaker students). Relatedly, the participants did not consider giftedness to be a key priority of the school leadership team, whose direction and guidance was considered essential to support their efforts to better cater for gifted students:

> *I would love to see one (professional development session) that was on differentiation for the collective for low, medium and high, and what that looks like. …when you're accountable ...I think that's more powerful* (Participant #4).

> *They need a leader in the school to actually have the sensitivity to pick up 'Who are the teachers in my staff who know how to teach gifted students well'... and support them* (Participant #7).

Competing Interests

Independent of the support of the school leadership, the participants were aware that their motivation to differentiate curriculum for struggling students was much greater than their motivation to differentiate curriculum for gifted students. Nevertheless, the difference in motivation to differentiate curriculum for the two cohorts appeared to be driven more by legislation and consequences, than by choice or professional judgment. Teachers in Victoria are bound by state legislation to differentiate curriculum for struggling students, but there is no corresponding legislation for gifted students. Herein lies the dilemma of competing interests that many teachers appear to grapple with. With the need to complete paperwork and a legal need to demonstrate modifications for struggling students, the participating teachers clearly stated that they had little time or motivation to cater for gifted students:

> *I need to look after my ILP kids (weakest 10% of students) because I need to, it's like, it's a legal requirement, – I can only do so much, and I have to ensure I'm showing evidence of differentiating for them so that I don't get into trouble for this* (Participant #2).

Compounding the legislation that drives and motivates teachers to concentrate their differentiation efforts on struggling students is media pressure. The participants reported that they feel mentally fatigued and discouraged by the negative portrayal of teachers in the media, the impact of which has been a reduced capacity to create differentiated and meaningful tasks for gifted students. Furthermore, the participants felt that the coverage of teachers in the media has given extra reason for parents to complain to the classroom teacher when their child is performing below standard, particularly as the case study school is a fee-paying school. This appears to reinforce the expectation to prioritise weaker students:

> *It's all over the place in media. "Australia is slipping behind. You've gotta pull up the weaker kids". The kids down here's parents (pointing to the lower end of the ability spectrum) are noisier. Parents make a lot more noise when their kid isn't where they're supposed to be* (Participant #1).

Nevertheless, all respondents expressed a heartfelt desire to respond to the learning needs of gifted students, and in an ideal world, they hoped to design effective curriculum tailored to gifted student needs. Unfortunately, the participants felt that their time was commandeered by the continually growing paperwork. Indeed, time was identified to be a consistent and prevalent theme in the data, and was referenced many times by the participants as a key demotivator to differentiate the curriculum for gifted students:

> *Differentiating means creating more resources and spending more time planning your lessons- you don't have time for that* (Participant #8).

Best Practice or "Good Teaching"

Finally, during the interviews, the participants regularly referred to the phenomenon of "good teaching", which is synonymous with the more commonly used phrase "best practice". Good teaching was described by the participants as knowing their students well, caring for them holistically, being passionate about the subject area, and being lifelong learners. These components of good teaching are significant to the study because unlike the other themes, all participants agreed that this was something that motivated them to differentiate for gifted students. Indeed, among some of the participants, a differentiated curriculum for

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gifted students was perceived to be a non-negotiable element of good teaching. However, despite the positivity of the comments, in reality, most of the participants could only give examples of differentiation for weaker students when asked to share examples of differentiation for gifted students:

> *it still comes down to 'a good teacher will differentiate regardless of what category they think any kids are in'* (Participant #1).

Another component of good teaching was the impact *planning* had on the motivation to differentiate curriculum for gifted students. When participants had planned for differentiation at the onset of designing a unit of work, they were much more inclined to follow through with the implementation of a differentiated curriculum. In contrast, those participants who did not have an opportunity to plan for differentiation found it to be difficult to execute on the spot:

> *So I spend a lot of time in the first 2-week period for planning and then my term runs really smoothly. So, if you want to differentiate for gifted students you need to be super organized and have a plan* (Participant #3).

A final motivating factor to differentiate curriculum as a part of good teaching was the teacher's passion for their subject area. When teachers were excited about their subject area, they described a joy in wanting to share their enthusiasm with highly able students who had the capability to grasp more complex concepts in that subject. This meant that when a student showed interest in the subject, the motivation of the participants to differentiate curriculum significantly increased:

> *I love people loving my subject and that's great. Like I'm passionate about my subject and I want to get other people passionate about it* (Participant #4).

Discussion

Evaluating the factors that motivate teachers to differentiate curriculum for gifted students in the current educational climate is both interesting to unpack and important to understand because of the relationship between educational interventions (including curriculum differentiation) and student outcomes (Bondie et al., 2019; Ziernwald et al., 2022). There is a clear need, highlighted by the literature, for a national strategy and mandated procedure to ensure that Australia's brightest students are catered for daily in the classroom (Jolly, 2016; Jolly & Jarvis, 2018). However, until that happens, gifted students, as highlighted by these findings, are dependent on the motivation of their teachers to provide learning appropriate to their needs. Global ratings have declined, media noise about dissatisfied students seems louder, and the administrative expectations on teachers seem to keep rising. So, amidst these external pressures, are teachers differentiating curriculum for gifted students, and if so, what motivates them to do so?

While the research aimed to explore the various factors that contributed to the motivation of teachers to differentiate curriculum, surprisingly, more negative than positive factors were identified. This is particularly significant given that the study relied on teachers volunteering their time to participate, which may mean that the participants could perhaps be amongst the most motivated in the case study school to differentiate curriculum for gifted students. It was therefore not surprising to discover a genuine interest in the provision of support for gifted students among the participants. However, there were also barriers to such support, including misconceptions, attitudes, professional development, and legislative priorities.

Misconceptions and Attitudes

Particularly evident in this study was the impact that misconceptions about giftedness may have had on the participants' motivation to cater for gifted students. Misconceptions differ to attitudes in that once identified, they are generally easily corrected with appropriate training. Nevertheless, as the participating teachers had received little or no training in gifted education, the misconceptions in the findings have remained unchallenged. As such, many of the teachers made assumptions about gifted students from their own world view, which may have directed the style and pedagogy of their teaching. The consequences of teaching gifted students without being adequately informed by the current research or best practice pedagogy on gifted students and gifted education, may lead to negative outcomes for gifted students (Hattie, 2003).

In acknowledgement of the fact that the participants had minimal prior training in gifted education, they were asked to share their understanding of the learning needs of gifted students. This was necessary to gauge their general knowledge of giftedness and to identify any issues in being able to attend to the of needs

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of gifted students. Consistent with the research literature, the responses generally reflected a deficit perspective that was characterised by the perceived emotional immaturity of gifted students and/or gaps in their knowledge (Matheis et al., 2017). Furthermore, many of the participants were guided by the outdated theory of learning styles based on a preference for auditory, visual or kinaesthetic learning (Scott, 2010; Zwaagstra, 2022). Learning style theory is a theory that may be seen to conflict with the learning needs of gifted students who require flexible learning environments, acceleration, and a challenging curriculum (Heacox & Cash, 2020). It was therefore apparent that many of the participants were unsure of the specific learning needs of gifted students, which not only affected their ability to differentiate curriculum, but also their motivation to do so. Without a clear understanding of gifted students' learning needs, many teachers made the assumption that gifted students would enjoy a greater *quantity* of work.

The notion that "gifted kids just need more work" demonstrates a misunderstanding not only about gifted student needs, but also about the nature of curriculum differentiation. Simply giving gifted students more work may be considered, at best, an effort to keep the student busy, but in fact overlooks the actual and specific needs of the student (Phillips & Lindsay, 2006). Relatedly, the concept of curriculum differentiation appears misunderstood among many of the participants as a *quantitative* variable rather than a *qualitative* variable of curriculum and instruction (Heacox & Cash, 2020).

Another identified misconception was the belief that gifted students are *always* doing the "wrong thing" in terms of classroom behaviour. It may be useful to explore whether this misconception stems from an expectation or assumption that because gifted students are intelligent, they should be well behaved. Nevertheless, contrary to the belief held by many participants in the study that disruptive behaviour is a common trait of gifted students, multiple studies suggest that gifted students actually exhibit fewer behavioural problems than non-gifted students (Sayler & Brookshire, 1993). A question exists as to whether the belief that gifted students are generally poorly behaved is purely a misconception or the negative attitudes of teachers.

A related misconception that was identified is the view that differentiated curriculum should be used as a reward for positive classroom behaviours. This finding is indicative of a lack of understanding of not only giftedness but also of curriculum differentiation. It also aligns with past studies that have outlined common teacher misconceptions, including the belief that supporting the needs of gifted students should be optional (Walsh & Jolly, 2018), and the belief that gifted students may be successful regardless of the existence or otherwise of any targeted educational interventions (Walsh & Jolly, 2018). These interconnected misconceptions about gifted students and gifted education may reflect a general lack of government, policy and related guidance and support for gifted students and gifted education in Australia (Australian Institute for Teaching and School Leadership, 2017; Javis & Henderson, 2015; Walsh & Jolly, 2018).

Finally, while the attitudes of the participants were mainly positive, consistent with the literature, the tall poppy syndrome appeared to negatively affect the motivation for some of the participants to differentiate curriculum for gifted students (Geake & Gross, 2008). This may be related to the negative elitist connotations of, and the consequent discomfort with, the term "gifted", along with possible concerns about the impact of supporting gifted students on the self-esteem of weaker students (David, 2023; Gross, 1999; Miller, 2021). The revelation of elitist attitudes was somewhat unexpected, particularly as all participants regarded themselves as advocates for gifted students. It nevertheless highlighted the importance of training in gifted education to dispel any possible misconceptions and negative attitudes about gifted students and gifted education (Jung, 2014; Lassig, 2015; Plunkett & Kronborg, 2011).

School Support and Professional Development

As for misconceptions and attitudes, many references were made throughout the interviews on the influence of prior training in gifted education, professional development in gifted education, and school support for gifted education on the motivation of the participants to differentiate curriculum for gifted students. In alignment with the findings of other studies (Brewster et al., 2022; Lassig, 2015; Plunkett & Kronborg, 2011; Rowan & Townend, 2016), the participants of this study noted that school support and professional development may have an important role to play in the promotion of positive attitudes and increasing the motivation of teachers to support gifted students.

The participants generally indicated that they were motivated in theory to support the gifted students in their class. Nevertheless, many of the participants did not know how to differentiate for gifted students well. The

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finding was in alignment with the literature in the field which suggested that teacher beliefs in the need to differentiate curriculum for gifted students do not necessarily translate into classroom practices, unless the teachers in question have the requisite skills to differentiate curriculum (Bondie et al., 20019; Lassig, 2015; Rowan & Townend, 2016). The finding highlights the importance of professional development in gifted education, not only to gain knowledge about gifted students and gifted education, and to address misconceptions and negative attitudes, but also to support the implementation of differentiation practices in the classroom (Brigandi et al., 2019; McCoach & Siegle, 2007; Rowan & Townend, 2016).

Legislative Priorities

The participants also made regular references to the impact that the *Disability Discrimination Act (1992)* and the *Disability Standards for Education* (2005) legislation had on their motivation to cater for gifted students. The increased administrative expectations and the documentary requirements under the relevant legislation to support the needs of students with disabilities, meant that the participating teachers often felt time poor and overworked to support the needs of gifted students. In essence, the effect of the push for educational equity from the disability legislation, is *inequity* for gifted students (Gross, 1999). There is an obvious need for teachers to promote and support true equity in the classroom, whereby all students, including gifted students and students with disabilities, have access to learning opportunities that are appropriate to their needs (Ritchotte et al., 2020). In a truly inclusive school classroom, curriculum should be differentiated to ensure optimal learning experiences for *all* students (Rowan & Townend, 2016).

Good Teaching Practice

Given that many more motivational deterrents were identified than expected, it was surprising to note that the most important factor to motivate curriculum differentiation for gifted students was being a “good teacher". This finding is significant because if the notion of good teaching holds the greatest weight as a motivational factor, there are implications for teacher training. What is referred to in the educational context as good teaching or best practice is a standard which expects teaching to be evidence-based, considerate, reflective, informed by new strategies, and informed by the latest knowledge, technology and procedures (Ingvarson et al., 2014). What good teaching specifically refers to in this study by the participants was not explored. Nevertheless, there was consensus amongst participants that good teaching included “knowing your students” (Sousa & Tomlinson, 2018). The idea of “knowing your students” is often referred to in the literature on the benefits to learning when there is relational engagement between the teacher and the student (Hattie, 2003; Henderson & Jarvis, 2016; Sousa & Tomlinson, 2018). Unfortunately, within the current educational climate, most secondary teachers are subject specialists who may teach a vast number of students and may therefore find the establishment of relational engagement to be challenging.

Implications for Research

The findings of this study have several implications for further research. Given that this study focused on the teachers of Year 7- 9 students only, it would be worthwhile to replicate this study with primary school teachers and the teachers of Year 10-12 students at the case study school, to identify any differences. It is also noted that the case study school offers two pathways for learning (i.e. the Victorian state curriculum and the International Baccalaureate). Therefore, it may also be useful to replicate the study with the Year 7-9 teachers in the International Baccalaureate pathway, which differs from the cohort investigated in this study in terms of teacher training, the applicable curriculum, and educational mandates.

Another area for further investigation is the accessibility of professional development in gifted education for teachers in Australia. As most of the participants in this study reported that they have had little or no professional development in gifted education during their teaching careers, important new insights are likely to be gained. Relatedly, there is a need for further research into the most beneficial and effective types of professional development required to support teachers to differentiate the curriculum for gifted students. Specifically, an investigation into the intensity, duration and other characteristics of optimal professional development programs may be a valuable contribution to the research literature.

Implications for Practice

The study findings regarding the misconceptions prevalent in the teaching community at the case study school are consistent with the research literature. Given that the participants revealed that they were unaware of the need to

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differentiate curriculum on a daily basis and were unsure of how to differentiate effectively for gifted students (VanTassel-Baska et al., 2020), the teachers at the school may require greater support and training in curriculum differentiation and gifted education. Furthermore, they may benefit from encouragement to read current research in gifted education, to reformulate their definitions of giftedness, and to re-evaluate their differentiation practices.

Additionally, the study findings indicate that the provision of regular professional development would be valuable to debunk the misconceptions and upskill teachers to better cater for gifted students (Cheung & Hui, 2011; Jung, 2014; Rowan & Townend, 2016). As general professional development is already well facilitated at the school through regular staff meetings, the introduction of additional professional development on gifted education should not be too difficult. The professional development must, however, be meaningful, engaging, and vigorous, to not only promote an understanding of the learning needs of gifted students, but to also teach educators to be able to differentiate curriculum for gifted learners with confidence. Much research has indicated that, in general, educators are only in the early stages of developing a healthy and supportive understanding of gifted students and gifted education (Jolly & Jarvis, 2018; Mullen & Jung, 2019; Plunkett & Kronborg, 2011; Sharma & Nuttal, 2015).

Limitations

This study has some limitations that need to be acknowledged. First, the possibility exists that the findings are only reflective of the case study school, which means that any generalizations to other schools in and outside Australia should only be made with caution (Cohen et al., 2018). Second, it is noted that while every attempt was made to be as thorough as possible during data collection, it is unlikely that *all* the factors that may contribute to the motivation of teachers to differentiate curriculum for gifted students were identified. Third, Australian teachers have emerged from a very stressful period of teaching during the past two years of extended lock downs. This may mean that the participating teachers may have had a reduced capacity to be enthusiastic and motivated about their profession, learning, and differentiation for gifted students.

Conclusion

As evidenced in decades of research, teachers undeniably have the greatest influence on the development of gifted students (Lassig, 2015; Plunkett & Kronborg, 2011). The participants in this study gave deep insight into the challenges that they may face in differentiating curriculum for gifted students, the many factors that may increase or decrease their motivation to differentiate curriculum for gifted students, and their willingness to learn and support gifted students in the future.

The findings of this study highlighted the integral role that professional development may play in enhancing the motivation for teachers to differentiate curriculum for gifted students. Professional development may also be useful in addressing any misconceptions, in challenging possible negative attitudes, and in upskilling teachers in the planning and delivery of differentiated curriculum (Jung, 2014; Rowan & Townend, 2016). The most positive finding from this study was the pursuit of best practice teaching from participants, and the growth mindset that they displayed to learn more about gifted education. This suggests that with further support, the provision of effective differentiated curriculum for gifted students may become a reality. Such support will also need to help teachers to overcome some of the many obstacles to curriculum differentiation (e.g., misconceptions, negative attitudes, and support issues) to not only empower teachers to effectively cater to the diverse needs of all students, but also to increase their delivery of "good teaching".

It is clearly imperative that gifted students are provided with appropriate educational experiences that foster their unique talents. By motivating teachers to differentiate curriculum, we create an environment where these students can thrive, excel, and contribute meaningfully to society, with benefits extending far beyond the individual.

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Appendix

Interview Guide

1. Please describe your understanding of curriculum differentiation for different learners in your class.
2. What kinds of learning needs have you noticed from the gifted students in your class?
3. How often do you differentiate curriculum for gifted students?
4. Can you share your understanding of what effective curriculum differentiation might look like for gifted students?
5. What do you think motivates yourself, or other teachers you know who differentiate, to differentiate curriculum for gifted students?
6. What do you think are the biggest reasons why teachers don't differentiate curriculum for gifted students?
7. Has professional development assisted you in catering for gifted students in your class and if so, how?
8. Can you suggest anything that will help teachers be better equipped to differentiate curriculum to gifted students?

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Jae Yup Jung, PhD, is a professor in the School of Education and GERRIC at The University of New South Wales, Australia. His research program incorporates various topics relating to gifted adolescents, with a particular focus on their career-related decisions. His research has been recognised with awards from the American Educational Research Association, the Mensa Education and Research Foundation/Mensa International, and the Society for Vocational Psychology, and grants from an Australian Research Council and the Australian Department of Foreign Affairs and Trade. He is the current editor of the Australasian Journal of Gifted Education, a member of the Executive Committee of the Asia-Pacific Federation on Giftedness, and a member of the Council of the Australian Association for the Education of the Gifted and Talented.