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Conversations with Australian Teachers and School Leaders About Using Differentiated Instruction in A Mainstream Secondary School

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Abstract: Circumstances in today's schools are requiring a rethinking of pedagogical approaches so that equitable learning opportunities are provided to all students. This small-scale, qualitative Australian study reports how some teachers and school leaders viewed differentiated instruction (DI) being applied in their secondary campus to address diverse abilities and needs. Individual semi-structured interviews were conducted using Zoom. The analysis of data identified three themes related to DI: understandings, practices, and concerns. Findings showed that all participants understood many of the important elements of DI. Teachers reported using several well-known DI strategies, with experienced teachers applying a more considered approach. Teachers raised concerns about limited time for planning and instruction while school leaders expressed concerns about the adjustment of assessment tasks and feedback on progress to individual students. These findings provide starting points for more in-depth investigations at secondary schools. Implications linked to teacher preparation and administrative support in schools are presented.

Key words: differentiated instruction, differentiation, diversity, administrators, secondary education, teachers

Introduction

Differentiated teaching is a trending topic in education systems around the globe (UNESCO, 2017, 2020). In the main, this trend is being driven by refreshed legislation and policy that seeks to better support the inclusion of all students in mainstream schools. As schools have become inclusive, however, classrooms have become more heterogenous in nature, which has resulted in learner diversity and teaching to difference emerging as the new “classroom norm” enabling all students to be engaged in learning, develop competencies, and achieve academically to their full potential (Gibbs & McKay, 2021; Schleicher, 2016). Not surprisingly, catering for the diverse learning needs of students in multi-ability classrooms is challenging the status quo in today's schools (Ewing, 2019).

Differentiated instruction (DI) is an established approach recommended for meeting the needs of students who are working above, at or below year level expectations (Dixon et al., 2014; Lawrence-Brown, 2004). The approach is appealing as it can be viewed as responsive teaching, as student centred, and as a way of respecting each student. Yet, DI is not a single practice: It comprises a complex and time-intensive set of assessment, organisational, and instructional practices that are guided by several general principles and

critical elements. It follows that teachers who engage in DI-related professional learning opportunities are more likely to understand the theoretical underpinnings of DI and be confident in using this teaching approach as an integral part of their practice. In addition, it is more likely that teachers are motivated to use this approach if they are supported by the school leadership team. In this paper, we report on the views held by some interested classroom teachers and school leaders at a secondary campus where DI was expected to be implemented.

DI and its Implementation in Theory

From a teaching perspective, DI is often viewed as a philosophy of teaching (Chick & Hong, 2012; Coubergs et al., 2017; Tomlinson, 2000) and a pedagogical approach for accommodating student differences in multi-ability classrooms (Dixon et al., 2014; Smale-Jacobse et al., 2019). From a learning perspective, particular viewpoints propose that DI maximises student learning (Wormleli, 2005), considers curriculum planning and implementation with an understanding that students learn in different ways (Sands & Barker, 2012), and makes teachers accountable for how students learn (Turner et al., 2017). Tomlinson (2000) synthesised both perspectives when she put forward that DI is “a way of thinking about teaching and learning” (p. 1).

Over the last three decades, assorted models for implementing DI have been put forward in the literature, with many being shaped by the work of Tomlinson, a recognised authority on DI. Tomlinson’s model has progressed from an organisational representation of DI (1999) to a comprehensive, multi-principled model (2014). According to Tomlinson, DI is characterised by the four guiding principles of content (the knowledge and skills teachers use to impart knowledge), process (how the content is taught), product (student demonstration of what has been learned), and environment (a safe and non-threatening classroom). Additionally, teachers need to know their students in three ways: readiness level (knowledge of content at the individual student level), content-related interests (topics connected to student interests) and learning profile preferences (ways in which a student learns naturally and efficiently). Actioning this personalised knowledge not only boosts student engagement and motivation but also removes many barriers to learning for that student (Tomlinson, 2005).

Other important elements to DI include pre-planning by the teacher (establishing clear lesson goals and analysis of pre-assessment data to determine student readiness), ongoing, scaffolded formative and summative assessment (to assess mastery of content), flexible student groupings and classroom environment (individual, paired and group work to vary student learning experiences) and high-quality adaptive teaching processes (varying instruction, pacing the lesson and supporting students when needed). DI, therefore, is a comprehensive teaching framework, multifarious in its approach to planning and teaching students who have diverse learning needs. It is not surprising, therefore, that in a recent review of the DI literature, Smale-Jacobse and colleagues (2019) contend that “although the concept of differentiated instruction is quite well-known, teachers find it difficult to grasp how differentiated instruction should be implemented in their classrooms” (p. 2).

Research into DI Implementation at Schools

School leaders and teachers share responsibility for implementing DI (Suprayogi et al., 2017), with teachers playing the dominant role of “enactment” and principals playing an

important supportive role. Not surprisingly, considerable research has examined teacher variables that positively influence DI implementation together with factors that teachers identify as implementation barriers. Additionally, some studies have explored the strategic ways principals can actively support DI implementation across their school.

Relationships have been found to exist between DI implementation and variables such as teacher beliefs, efficacy, experience, and training (Smale-Jacobse et al., 2019). For example, Dixon et al. (2014) reported that their elementary, middle, and secondary teachers across two school districts in the USA were more likely to implement DI on a consistent basis if they were committed to the approach and had confidence in their teaching ability. Similar results about the positive associations between DI implementation and teacher beliefs and efficacy have since been confirmed by Wan (2016) with a cohort of pre-service teachers in Hong Kong and by Suprayogi and colleagues (2017) with a large sample of teachers at public and private schools throughout Indonesia. Additionally, findings from a large-scale Canadian study conducted by Whitley et al. (2019) not only corroborated these positive associations but also established that teacher efficacy impacted DI implementation to a greater extent compared to teacher beliefs about student learning and engagement. Findings, moreover, showed that secondary teachers reported having more negative beliefs about DI and using the approach less often than their counterparts in middle school.

In an earlier Canadian study with pre-service teachers, Goodnough (2010) asserted that teacher beliefs about DI are likely to strengthen with classroom experience and evidence of positive student learning outcomes. In 2017, Suprayogi and colleagues quantified this assertion when they revealed that those with less than 5 years' experience in their large sample of Indonesian teachers reported significantly lower DI adoption than their more experienced colleagues. Yet, more recent studies in the Maldives (Shareefa et al., 2019) and in Canada (Whitley et al., 2019) found that teaching experience had negligible impact on beliefs about DI.

On the other hand, teacher preparation and ongoing professional development have been clearly linked to DI adoption and implementation, with Pozas et al. (2020) recently echoing the call that Tomlinson and others have made for many years: There is an urgent need for pre-service and in-service teacher training in DI. Despite several studies (e.g., Dack, 2019; Goodnough, 2010; Sands & Backer, 2004; Smets, 2017) exploring assorted ways that teacher educators can use to introduce pre-service teachers to the DI framework and its strategy base, there is mounting evidence that initial teacher education programs are not adequately preparing graduates for working with the diversity of learners in today's classrooms (see, for example, Gaitas & Alves-Martins, 2017; Santangelo & Tomlinson, 2012; Turner et al., 2017). Moreover, practising teachers have continued to identify lack of professional training in DI, including how to implement it, as a key barrier to using the approach (Christopher, 2017; Corley, 2005; Kiley, 2011; Sands & Barker, 2004; Valiandes & Neophytou, 2018; Whitley et al., 2019).

Practising teachers have also identified a range of other barriers to DI implementation. Lack of time, both for planning and for instruction, has frequently been put forward as a prime challenge (Corley, 2005; Gaitas & Alves-Martins, 2017; Hewitt & Weckstein, 2012; Shareefa et al., 2019; Whitley et al., 2019). An associated barrier, lack of administrative support, is increasingly being specified by teachers across cultures and countries (e.g., Christopher, 2017; de Jager, 2017; Shareefa et al., 2019).

However, the need for administrative support, particularly from principals, has been acknowledged for some time. Tomlinson and colleagues (2003) argued that school leaders need to be "fully committed" (p. 134) to assist teachers rethink their practice as they undertake DI-related professional development. Subsequently, two researchers from this team, Hertberg-Davis, and Brighton (2006), examined the influence that principals'

expectations and actions had on teachers at three US middle schools and provided evidence that “principals played a key role in teachers’ willingness and ability to differentiate instruction” (p. 90). Moreover, they reported that teachers required not only resource support (e.g., additional planning time) but also emotional support (e.g., understanding the complexities involved in DI implementation). Furthermore, these researchers contended that administrators needed to be “knowledgeable leaders” in order to encourage staff buy-in and they emphasised the need for administrators to undertake DI-related professional development ahead of their teaching staff.

While few DI studies have been undertaken in Australia (Gibbs & Beamish, 2020), two local studies have contributed to the international research base in this area. Watson and Wildy (2014) undertook a study with novice and experienced early childhood teachers in Western Australian Catholic schools to explore if experience and qualifications influenced pedagogical practice in literacy education. They reported that novice teachers generally lacked self-efficacy and had difficulties in providing a differentiated program while their experienced colleagues drew on their well-established practice to adjust the teaching and learning process for individual learners. These researchers also recommended that all teachers, regardless of experience, should have their professional growth and practice supported through ongoing mentoring and coaching with feedback and professional learning opportunities. Further, they maintained that school leaders had a fundamental responsibility in providing these professional growth activities. Recently, Sharp et al. (2020) extended these notions by demonstrating how a middle manager at a secondary school provided on-site professional growth activities (mentoring, coaching, and professional learning) to teachers at different career stages to build efficacy and ability in using DI. In an earlier study, Jarvis et al. (2016) investigated how eight administrators strengthened the implementation of DI in their respective schools. Their findings not only confirmed the need for principals to lead with high expectations and supportive actions as identified by Hertberg-Davis and Brighton (2006), but also highlighted the power of enabling collaborative professional learning networking to grow within and across school communities.

Context and the Current Study

Current national and state policies (e.g., Australian Ministerial Council on Education, 2019; Department of Education, Northern Territory Government, 2019; Department of Education, Queensland Government, 2019), curriculum documents (e.g., Australian Curriculum, Assessment and Reporting Authority, 2016), and professional standards (e.g., Australian Institute for Teaching and School Leadership, 2014) in this country support diversity and a quality education for all students by specifying a differentiated approach to teaching and learning. Additionally, all schools need to report annual data to the Australian government about the number of students with disability and the adjustments they receive via the Nationally Consistent Collection of Data on Students with Disability (NCCD), which has been developed by the government’s Education Council (2020). Combined, these documents make it clear that addressing learner diversity is integral to teaching in Australian classrooms.

The current study is the first in a planned series of qualitative inquiries to investigate the viewpoints that Australian educators hold about DI. Therefore, this study was exploratory in nature and conducted with a small number of teachers and school leaders at a single secondary setting. Three research questions framed the study:

- How do teachers and school leaders in a Queensland independent secondary setting perceive DI?
- What key DI strategies do teachers use and what key DI strategies do school leaders expect teachers to use?
- What difficulties do teachers and school leaders face when implementing DI?

Method

Research Site

The setting was an Independent Prep-Year 12 school situated in a peri-urban coastal area in South East Queensland, Australia, and positioned approximately 120 kilometres north of the state capital, Brisbane. Located in a growing mid-to-high socioeconomic area, the co-educational college is committed to providing a distinctive learning environment for students with exemplary standards of care, Christian values, and academic rigour through the encouragement of independent and positive learning. Approximately 837 students aged 11 to 18 years are educated in mixed-ability classes within the secondary campus.

Participants

Ethical approval for the study was obtained through the university's Human Research Ethics Committee. Recruitment of participants was undertaken initially through a series of email contacts to the principal, who was known to the lead author of this paper. Following his endorsement to conduct the research within the secondary campus, information and consent packages were sent to him for distribution to interested staff. Over a 2-week period, five staff (three teachers and two school leaders) returned completed consent forms to the researchers. The teachers, two females and one male, were aged in their 30s. Individually, they had less than 10 years teaching experience, and at the time of the study were teaching in distinct subject areas (viz., Science, Technology and Languages other than English [LOTE]). The school leaders were older (both over 48 years), with each having taught in classrooms for over 25 years. The principal had been at the school for 13 years and had no teaching load. The Director of Student Learning had been in that position for 4 years and had a shared administrative-teaching load. At the time of the study, she was teaching Year 5-7 Mathematics, Year 5-6 Engineering and Prep-Year 2 Sport.

Data Gathering

Data were gathered using semi-structured interviews where individual participants were asked to respond to predetermined, open-ended questions. This style of interview was selected in preference to one with more structure as it was seen to allow participants to express their perspectives to a greater degree (Kvale & Brinkmann, 2009). In addition, Porter and Lacy (2005) have recommended that small-scale studies use more open-ended interviews to facilitate the collection of in-depth information. Interviews were conducted using Zoom, a video conferencing platform that offers convenience, recording and security options, and cost-effectiveness (Archibald et al., 2019). In comparison to telephone interviews, Zoom allows the interviewer to pick up on important non-verbal cues.

Interviews occurred across a 3-week period at a mutually convenient time, with the duration of interviews ranging from 28 minutes to 1 hour. Three days prior to each interview,

participants were sent an email to remind them of the interview times, that the interviews were voluntary, and that the list of open-ended interview questions (viz., interview guide) was attached for their perusal. As recommended by Kvale and Brinkmann (2009), a list of key probing questions also were developed, but this list was not emailed to the participants. The purpose of these probing questions was to assist the interviewer to gain more content related to the introductory question, especially if a participant did not initially provide a detailed response (see Appendix). The interview guide for teachers was slightly different to that of school leaders (see Table 1). Recommendations put forward by Creswell (2014) were followed in relation to pilot testing and member checking. First, interview questions were piloted with a practising secondary teacher and a Head of Department prior to finalisation of the guides. Next, a transcript of the interview was emailed to each participant for verification of content.

DI questions for teachers	DI questions for school leaders
What are your views on differentiated instruction? Describe some key strategies you use when differentiating during: - planning - instruction - assessment	What are your views on differentiated instruction? Describe some key strategies you would expect teachers to use when differentiating during planning.
What are the constraints in using DI in your classroom?	Describe some key strategies you would expect teachers to use when differentiating during: - planning - instruction - assessment

Table 1: Interview Guide

Data Analysis

Following the completion of interviews, the data were analysed following the phases of thematic analysis recommended by Braun and Clarke (2006). This analysis procedure was used due to its flexibility to identify themes in interview data and its ability to organise and code emerging categories into developing themes. A 6-step process was used for coding the data and identifying the emerging themes from the transcripts in relation to the interview questions. First, the two authors read each of the transcripts twice and pinpointed initial ideas for codes. Second, a consensus about the codes were agreed upon and manually coded. Third, after the coding process, information was sorted into developing themes. Fourth, the themes were then reviewed and refined. The trustworthiness of data interpretation was strengthened by the two authors of this paper critically discussing and reaching consensus about themes and the thematic structure during the review phase of the coding process (Cho & Trent, 2006). Fifth, the emergent themes were then named. Sixth, quotations were carefully selected from the data using guidelines put forth by Kvale and Brinkmann (2009) and are presented here using pseudonyms.

Results and Discussion

Three key themes were identified during the analysis of interview data: (1) *understandings of DI*, (2) *classroom practices related to DI* and, (3) *concerns in using DI*. The introductory theme captured the importance that staff placed on DI as a teaching approach. The second theme reflected the varied ways that staff implemented DI when

planning, instructing, and assessing students in the classroom. The final theme provided insight into teacher and school leaders concerns about using DI at this secondary campus.

Understandings of DI

The initial examination of transcripts showed that both teachers and school leaders had effective understandings of DI, with all participants speaking about DI using conventional terms and concepts from the literature. When asked for personal perspectives, teachers commented that DI was important due to the student diversity in their classrooms and was therefore an integral part of their daily practice. By comparison, school leaders perceived DI from a broader perspective and emphasised the need for DI to be happening in every classroom at the College.

Teachers generally viewed DI in terms of student need. For example, Kate described DI as a teaching approach that “catered to the needs of all students”, whereas Sarah indicated that DI was related to “delivering knowledge and assessing whether that has been understood or not in different ways for different student’s needs... [because] every child should have access to the same opportunities”. She also highlighted the importance for every student to “have the same access to everything that you are teaching and whether they understand it in a different way to one child should not be detrimental to their learning”. While John also mentioned that DI was about “trying to meet [student] needs”, he also talked about the importance of “trying our best to accommodate them by knowing each student and planning for that”.

Teachers’ perceived confidence in identifying key implementation principles for DI seemed to be related to years of teaching experience. With 9 years teaching experience, Kate reported that she was able to vary and adapt her teaching to match her students’ abilities and clearly articulated her self-belief in using DI “relatively well”. John, another experienced teacher, spoke about the importance of knowing his students in three important ways: readiness level (student knowledge of his subject area), interest (topics that fascinated them) and their learning profile (ways in which his students learnt best). Yet Sarah, with only 2 years’ experience, was unsure how she would describe DI to other teachers as “I don’t know that much about the practice of differentiation yet”. Due to the small number of participants in the study, it is unclear if implementing DI is influenced by years of teaching experience. However, an association between stage of teaching career and the ability to apply a more considered DI approach has been reported by Watson and Wildy (2014) in Australia and Suprayogi et al. (2017) in Indonesia. Similarly, Goodnough (2010) in Canada indicated that teacher belief and confidence in using DI are enhanced with years of teaching experience.

On the other hand, Sonya, a school leader with a teaching load, described DI as “providing instruction that is enabling learning to happen wherever your learning ability is at and to enable every student to access the curriculum, access and develop skills, and even extend those skills as well”. Her account of DI positions the teacher as responsible for delivering a relevant curriculum for all students, including those performing above, below and at year level expectations. Further, she highlighted the need for teachers to individualise and personalise learning and “accommodate for where every student is at” on a daily basis. Sonya used the term “academic learning journey” to describe teachers’ responsibility for student learning. She said:

Knowledge of each individual student as a learner... knowledge of the curriculum and then [teachers are] planning for that, we are always planning in mind, not only of the learning journey but what skills we need to be developing

but how are we going to impart that with the student in mind in terms of who they are and where they are at, to actually get them moving to the next stages.

Taken together, these comments describe some of the fundamental aspects of teachers' work when successfully applying DI in the classroom (van Geel et al., 2019).

School principal Colin also described DI from a teaching perspective but emphasised the need for DI to be integrated into "every part of your teaching practice; ... your planning, your preparation, your execution, and your follow up". In addition, he identified four of Tomlinson's (2014) key instructional strategies: content, process, product, and assessment and made it clear that these strategies should be used by all teachers at the College. Moreover, he put forward several questions that his teachers should be capable of responding to. For example:

What are you doing with your content? What are you doing with the actual information you want to share with the students? What are you doing with the actual classroom set up? So how are you setting the room up, how are you using groups, what are you doing with the end result, what do you want the students to actually have achieved? So how you're making that different and probably how you're feeding back to the kids. How are you doing those things?

While all participants talked about the importance of varying teaching strategies to cater for all learners, teachers tended to associate DI more with less capable students, particularly those identified in need of curriculum adjustments on the NCCD (Education Council, 2020). Sarah spoke specifically in terms of the "differing needs of differentiation" for the students she taught who were identified on the NCCD. Likewise, John indicated that students on the schools' NCCD list would benefit most from DI as this approach enabled him to pinpoint "what they are struggling with, what they are good at, what they need some extra for". Kate did not mention the NCCD specifically, but she did speak about the need to identify and focus on specific learning outcomes for "your modified students". Given that teachers were interviewed individually, it is noteworthy that each participating teacher articulated connections between the term DI and the instruction of students with special educational needs. Research conducted by Dack (2019) in North America and Sharp et al. (2020) in Australia has identified that this connection is a common misconception held by teachers. Additionally, both Dack and Sharp and colleagues show that specific professional learning opportunities at preservice and inservice levels are necessary to resolve this misconception and build foundational knowledge around DI being a pedagogical tool to use with all students, particularly in multi-ability classrooms.

Classroom Practices Related to DI

In theory, DI is considered a responsive teaching approach whereby teachers adapt their planning, instruction, and assessment to match the abilities, needs and interests of individual learners. Dixon and colleagues (2014) propose that successful DI pedagogy focuses on teachers' skills in understanding individual learner characteristics and then applying this knowledge to plan and adjust instruction that enables that every student to maximise their learning potential. When interviewed about strategies used to differentiate across the teaching and learning process, staff at this secondary campus responded in ways that reflected not only their student-centred focus but also their professional teaching style.

Key DI strategies used for planning showed little commonality among our teachers. For example, DI strategies used by John during planning were all about ways to respond to his students. He shared: "First of all, we have knowledge and the different learning styles of students and secondly, we try our best to accommodate the needs of each student". As a

LOTE teacher, John was cognisant of the importance to support students from different cultural backgrounds. He said: “If they are from overseas... they have their own learnings which can be different from students in Australia. I keep thinking it's very important to do differentiated learning and plan for that”.

For Sarah, planning revolved around designing sequenced lessons and learning activities. She stated:

I try to consolidate that knowledge from the one [lesson] beforehand to see whether I need to go back and cover that content or not. I will plan things and I will have extension tasks attached so if there are people who are getting further ahead, there is stuff there for them and I usually have a few scaffolded things that may go into that assumed knowledge. Sometimes I'll have some background material for that so if there's obvious gaps in their knowledge, there's stuff there that we can do to try and build that up along the way instead of them falling by the wayside straight at the beginning.

By comparison, Kate viewed planning in terms of units of work, student need and learning outcomes. She commented:

You are looking at your unit outlines and the key outcomes that you want throughout the unit. So, depending on the level of need, you start with your modified students. At the first level I would be looking at what are my outcomes for that student and what am I hoping they are going to achieve at the end.

When describing key DI strategies for instruction, Kate, John, and Sonya provided examples of how they scaffolded learning so that every student could access curriculum content (Dixon et al., 2014). Kate spoke substantially about scaffolding how information was presented to her students. She indicated that she used “lots of visual stimulus with instructions” and for students with a physical impairment “gives them scaffolded notes and allows them to take a photo of the board during the instruction”. On the other hand, John reported how he scaffolded content when teaching Chinese using a task analytic approach. He explained:

...at the beginning of a lesson we try to break down the tasks, so as to make it more achievable... some students find it stressful when they have to complete a big task... we find three or four small tasks to do, otherwise they lose interest, or they lose confidence.

Finally, Sonya shared how she used group work when presenting content. She said, “having teams working together allows them to clarify their thinking and they don't feel as threatened”. Her flexible use of groupings has long been considered an essential process element of DI (Santangelo & Tomlinson, 2012).

A variety of instructional approaches also were identified as being frequently used during learning activities. Kate indicated her preference for using “modelling and giving exemplars so we might look at a piece together and analyse it to have a look at what makes it a strong piece”. Sara's preferences included “graphics organisers, an essay template” and “with exams we do little tiny practice ones and we go through them as a class”. For John, a combination of class “team quizzes” or “Kahoot” (a technology quiz tool) provided fun activities to review student learning.

According to Tomlinson (2014), teachers in differentiated classrooms should use student data to guide and make assessment adjustments and accommodations for specific students so that they are able to demonstrate what they know and can do in relation to learning outcomes. Kate, Sarah, John, and Sonya's capacity to adapt assessments included adjustments to specific processes (e.g., scaffolds, additional time, use of a reader and or writer, rest breaks); the task itself (e.g., rephrasing questions, using simplified language) or the actual format of a task (e.g., written point form

instead of reports or essays). For example, Kate explained how she adapted the process element of adjusting tests by “reading the question to help infer what it is asking” or the task structure, “if it is going to be a lot of writing, he has the option of using a laptop or Dragon Speak or I say just use dot point, you don’t have to write an essay”. Similarly, Sonya shared how she offered “extra time and rest breaks”, or adjusted the task by “highlighting questions, or eliminating some questions”. This personalised approach to assessment allows students to demonstrate what they know and understand by considering individual student learning profiles and preferences.

Concerns in using DI

Even though differentiation is an effective pedagogical approach for addressing student diversity, teachers frequently experience a range of challenges when attempting to apply it on a daily basis in their classrooms. Due to the organisational structure of secondary schools, challenges frequently increase (Smale-Jacobse et al., 2019). The major concern raised by our teachers in using DI was lack of time for preparation and instruction, a commonly identified factor inhibiting the use of DI in secondary settings.

Sarah was responsible for teaching across a number of teaching areas including Food Technology, Design Technology (Woodwork), Engineering, and Numeracy and Digital Solutions. She had a broad teaching load, which she described as “a bit of everything”. She pointed out that the practical subjects taught to lower grades such as Food and Design Technology were timetabled over one semester, so her planning and teaching time with these students was limited,

I have got 27 kids, three lots of 27 kids for 40 minutes a week, that’s all I see them and there’s a lot of kids in that class that need a lot of differentiation, but it is very difficult to judge what’s working for them and what’s not when I only have that small exposure to them.

Like Sarah, Kate had similar concerns in regard to time constraints. “You can design activities that try to meet the needs of every student, but the reality is, to get to know them in such a short space of time”. She was conscious of the limited time she had allocated to her timetabled classes so planning for her meant that “big picture stuff happens at the start of the term for the higher needs students”. Further, Kate proffered that DI was “becoming harder and harder to achieve really well as it is hard to differentiate successfully across the board all the time”. Sarah echoed similar sentiments when she stated that DI was “difficult to incorporate at times due to number of students and because it is hard to hit the nail on the head with it”.

Collectively, Sarah and Kate clearly identified lack of preparation and instructional time and fixed organisational structures such as timetabling as obstacles to effective DI implementation in their classrooms. These barriers to the successful implementation of DI have been identified globally by researchers (e.g., Corley, 2005; Gaitas & Alves-Martins, 2017; Hewitt & Weckstein, 2012; Shareefa et al., 2019; Whitley et al., 2019).

By comparison, the school leaders had little to say about these raised concerns. When asked about teacher preparation time, Colin, the school principal, indicated that teachers get “four Tuesday afternoons a term, so we’re talking about 2 hours, so 8 hours a term, for planning and that is essentially when [planning for] differentiation takes place”. He then commented that some faculty staff were better at using this time for planning than others.

Assessment and related activities, however, was a clear area of concern for both school leaders. Sonya specifically remarked about the inability of some teachers to adjust assessment tasks, which is a requirement for all teachers at the College. She said, “it’s

probably been seen as “gee, that's annoying. I have to do that extra work” whereas it should be about “gee, it's great” or “I can actually get so much more out of this student as a learner to show me what they know and understand”. On the other hand, Colin focused on a related concern when he revealed the need for some teachers to better provide timely and adequate feedback about learning progress to individual students. He declared:

Probably it's a bit of a bugbear of mine at the moment. It's actually trying to say that you've got to make sure that the feedback you're giving isn't just a tick in the box. It actually is, to the child, relevant to where they're up to.

Effective delivery of DI includes the adjustment of assessment tasks and ongoing feedback to students, which are strategies known to motivate students to learn and experience academic success (Graham et al., 2018; Tomlinson, 2014).

Summary

Overall, these data show that teachers and school leaders at this college have an adequate understanding differentiation. Teachers are accepting of their responsibility to address learner diversity in their planning, instruction, and assessment, while school leaders set high expectations in this area and prompt teachers to better meet the learning needs of every student in their class. Teachers revealed that they needed not only the time for planning for individual needs but also classroom time for delivering the varied learning experiences and assessment tasks in flexible student groupings. On the other hand, school leaders did not mention any concerns related to DI planning and instruction. Rather they focused on assessment issues that some teachers were failing to address.

Limitations and Future Research

These findings should be considered with several limitations in mind. First, we acknowledge that this small-scale, exploratory study sought perspectives about DI from five staff at an independent, co-educational, and comparatively privileged setting in Queensland. These perspectives, therefore, may not be representative of staff working in other secondary settings throughout Australia or elsewhere. As a consequence, conclusions regarding understandings, instructional practices and concerns about DI should be considered with a degree of caution. Second, an interview in isolation may not be an adequate measure to capture the depth of staff understandings about DI or experiences in using this comprehensive teaching approach. However, as this research was exploratory in nature, online interviews provided an effective means of answering the broad research question and delivered a starting point for further investigations.

We need to confirm key findings from this study that require further investigations with larger sample sizes and

To date, few international studies have examined the use of differentiated instruction in secondary settings (see review by Smale-Jacobse et al., 2019) and according to Gibbs and McKay (2021), only six studies have been conducted in Australian secondary schools. It is vital, therefore, that more in-depth DI studies with a secondary focus are completed in this country. At minimum, findings from this exploratory study point to the need to investigate further: (a) the influence of years of teaching experience on the capacity to implement DI, (b) how teachers can be better supported within a whole-school context to adapt instruction and assessment for their diverse learners, (c) what aspects of a secondary schools' organisational structure can be varied to better support the everyday implementation of DI, and (d) key

facilitators and barriers to DI implementation in Australian secondary schools. Wherever possible, secondary schools for sampling should be vary across geographical locations (metropolitan to rural and remote), educational sectors (government and non-government), size (small to large) and student characteristics (e.g., cultural backgrounds, learning needs).

Implications for Practice

Several timely recommendations linked to teacher preparation and administrative support in schools emanate from our findings. For teachers to better understand and apply DI in their classrooms, Australian universities and schools should partner together to promote DI as a recommended pedagogical approach for teaching all students.

This study confirmed a commonly held misconception that DI is an approach restricted for use with students at the lower end of the academic continuum (Dack, 2019) or students with special needs (Sharp et al., 2020). As such, there is need to improve teacher beliefs and understanding that DI is a comprehensive teaching framework for use with students across the achievement range. To cater for the diversity of learner abilities in today's classrooms, pre- and in-service teachers (primary and secondary) require a basic skill set (knowledge, abilities, and experience) related to DI, including (a) misconceptions about the approach, (b) curriculum planning, implementation, and assessment, and (c) classroom management and organisation. Teacher educators, therefore, are well positioned to embed DI as a pedagogical approach into a range of curriculum-based courses across the years of teacher preparation, including courses with practical experience in schools. Professional experience in schools should provide opportunity for exchanges about DI to occur between not only pre-service teachers and their teacher mentor, but also teacher mentors and teacher educators.

Moreover, to advance the implementation of DI in schools, a culture of professional sharing can be used to further develop and extend understandings about DI, attitudes towards DI, and classroom practices related to DI. There is evidence to show that DI implementation in classrooms is boosted when school leaders endorse DI as an effective teaching approach within a whole school framework and support in-school professional learning opportunities for teachers to build capacity in this area (Gaitas & Martins, 2017; Jarvis et al., 2016). Leadership support in the form of administrative assistance (e.g., time for planning units of work and lessons, timetable considerations) also is critical so that teachers are able to commit to DI as a recommended pedagogical approach for everyday classroom use.

Conclusion

As student diversity in Australian schools increases, it is crucial e that teachers and leadership teams view education as a collective responsibility and work together to overcome common difficulties and identify mutual goals to build classrooms that cater for learner differences. It is also imperative that teacher educators take responsibility to ensure that teachers are genuinely prepared for today's multi-ability classrooms.

References

- Archibald, M. M., Ambagtsheer, R. C., Casey, M. G., & Lawless, M. (2019). Using zoom videoconferencing for qualitative data collection: perceptions and experiences of researchers and participants. *International Journal of Qualitative Methods, 18*, 1-8. <https://doi.org/10.1177/1609406919874596>
- Australian Institute for Teaching and School Leadership [AITSL]. (2014). *Australian Professional Standards for Teachers*. <https://www.aitsl.edu.au/>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Chick, K. A., & Hong, B. S. S. (2012). Differentiated instruction in elementary social studies: Where do teachers begin? *Social Studies Research and Practice, 7*, 112-121.
- Christopher, K. O. (2017). *Understanding teachers' perceptions and resistance to implementing differentiated instruction regularly and consistently*. (Doctoral dissertation, Capella University). (ERIC Document Reproduction Service No. ED575509).
- Cho, J., & Trent, A. (2006). Validity in qualitative research revisited. *Qualitative Research, 6*, 319-340. <https://doi.org/10.1177/1468794106065006>
- Corley, M. A. (2005). Differentiated instruction: Adjusting to the needs of all learners. *Focus on Basics: Connecting Research and Practice, 7*(C,) 13-16.
- Coubergs, C., Struyven, K., Vanthournout, G., & Engels, N. (2017). Measuring teachers' perceptions about differentiated instruction: The DI-Quest instrument and model. *Studies in Educational Evaluation, 53*, 41-54. <https://doi.org/10.1016/j.stueduc.2017.02.004>
- Creswell, J. W. (2014). *Educational research: Planning, conducting and evaluating quantitative and qualitative Research* (4th ed.). Pearson.
- Dack, H. (2019). Understanding teacher candidate misconceptions and concerns about differentiated instruction. *The Teacher Educator, 54*, 22-45. <https://doi.org/10.1080/08878730.2018.1485802>
- de Jager, T. (2017). Perspectives of teachers on differentiated teaching in multi-cultural South African secondary schools. *Studies in Educational Evaluation, 53*, 115-121. <https://doi.org/10.1016/j.stueduc.2016.08.004>
- Department of Education, Northern Territory Government. (2019). *Framework for inclusion 2019-29*. https://education.nt.gov.au/__data/assets/pdf_file/0010/662779/Framework-for-inclusion-brochure.pdf
- Department of Education, Queensland Government. (2019). *Whole school approach to differentiated teaching and learning*. <https://education.qld.gov.au/curriculum/Documents/school-approach-to-differentiated-teach-and-learn.pdf>
- Dixon, F. A., Yssel, N., McConnell, J. M., and Hardin, T. (2014). Differentiated instruction, professional development, and teacher efficacy. *Journal for the Education of the Gifted, 37*, 111-127. <https://doi.org/10.1177/0162353214529042>
- Education Council, Australian Government. (2020). *2020 Guidelines for the nationally consistent collection of data on school students with disability*. https://www.nccd.edu.au/sites/default/files/2020_nccd_guidelines_accessible_final.pdf
- Ewing, R. (2019). Embedding arts-rich English and literacy pedagogies in the classroom. *Literacy Learning: The Middle Years, 27*, 7-17.

- Gaitas, S., & Alves Martins, M. (2017). Teacher perceived difficulty in implementing differentiated instructional strategies in primary school. *International Journal of Inclusive Education*, 21, 544-556. <https://doi.org/10.1080/13603116.2016.1223180>
- Gibbs, K., & Beamish, W. (2020). Differentiated instruction: A programming tool for inclusion. In H. Van Rensberg & S. O'Neill (Eds.), *Inclusive theory and practice in special education* (pp. 174-191). IGI Global. <https://doi.org/10.4018/978-1-7998-2901-0.ch009>
- Gibbs, K., & McKay, L. (2021, early online). Differentiated teaching practices of Australian mainstream classroom teachers: a systematic review and thematic analysis. *International Journal of Educational Research*. <https://doi.org/10.1016/j.ijer.2021.101799>
- Goodnough, K. (2010). Investigating pre-service science teachers' developing professional knowledge through the lens of differentiated instruction. *Research in Science Education*, 40, 239-265. <https://doi.org/10.1007/s11165-009-9120-6>
- Graham L. J., Tancredi, H., Willis, J., & McGraw, K. (2018). Designing out barriers to student access and participation in secondary school assessment. *Australian Educational Researcher*, 45, 103-124. <https://doi.org/10.1007/s13384-018-0266-y>
- Hertberg-Davis, H. L., & Brighton, C. M. (2006). Support and sabotage principals' influence on middle school teachers' responses to differentiation. *Journal of Secondary Gifted Education* 17, 90-102. <https://doi.org/10.4219/jsge-2006-685>
- Hewitt, K. K., & Weckstein, D. K. (2012). Differentiated instruction: Begin with teachers! *Kappa Delta Pi Record*, (48)1, 35-46. <https://doi.org/10.1080/00228958.2012.654719>
- Jarvis, J. M., Bell, M., & Sharp, K. (2016). Leadership for differentiation: An appreciative inquiry of how educational leadership shapes pedagogical change. *Leading and Managing*, 22(1), 75-91.
- Kiley, D. (2011). *Differentiated instruction in the secondary classroom: Analysis of the level of implementation and factors that influence practice the level of implementation and factors that influence practice*. (Doctoral Dissertation, Western Michigan). <https://scholarworks.wmich.edu/dissertations/427>
- Kvale, S., & Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing* (2nd ed.). Sage.
- Lawrence-Brown, D. (2004). Differentiated instruction: Inclusive strategies for standards-based learning that benefit the whole class. *American Secondary Education*, 32, 34-62.
- Pozas, M, Letzel, V., & Schneider. (2020). Teachers and differentiated instruction: Exploring differentiation practices to address student diversity. *Journal of Research in Special Educational Needs*, 20, 217-230. <https://doi.org/10.1111/1471-3802.12481>
- Porter, J., & Lacey, P. (2005). *Researching learning difficulties: A guide for practitioners*. Paul Chapman Publishing. <https://doi.org/10.4135/9780857024602>
- Sands, D. I., & Barker, H. B. (2004). Organised chaos: Modelling differentiated instruction for preservice teachers. *Teaching and Learning*, 19, 26-49.
- Santangelo, T., & Tomlinson, C. A. (2012). Teacher educators' perceptions and use of differentiated instruction practices: An exploratory investigation. *Action in Teacher Education*, 34, 309-327. <https://doi.org/10.1080/01626620.2012.717032>
- Schleicher, A. (2016). *Teaching excellence through professional learning and policy reform: Lessons from around the world*. OECD Publishing. <https://doi.org/10.1787/9789264252059-en>

- Shareefa, M., Moosa, V., Zin, R. M., Midawati Abdullah, N. Z., & Jawawi, R. (2019). Teachers' perceptions on differentiated instruction: Do experience, qualification and challenges matter? *International Journal of Learning, Teaching and Educational Research*, 18(8), 214-226. <https://doi.org/10.26803/ijlter.18.8.13>
- Sharp, K., Jarvis, J. M., & McMillan, J. M. (2020). Leadership for differentiated instruction: Teachers' engagement with on-site professional learning at an Australian secondary school. *International Journal of Inclusive Education*, 24, 901-920. <https://doi.org/10.1080/13603116.2018.1492639>
- Smale-Jacobse, A., Meijer, A., Helms_Lorenz, M., & Maul, N, R. (2019). Differentiated instruction in secondary education: A systematic review of research evidence. *Frontiers in Psychology*, 10, 1-23. <https://doi.org/10.3389/fpsyg.2019.02366>
- Smets, W. (2017). High quality differentiated instruction: A checklist for teacher professional development on handling differences in the general education classroom. *Universal Journal of Educational Research*, 5, 2074-2080. <https://doi.org/10.13189/ujer.2017.051124>
- Suprayogi, M. N., Valcke, M., & Godwin, R. (2017). Teachers and their implementation of differentiated instruction in the classroom. *Teaching and Teacher Education*, 67, 291-301. <https://doi.org/10.1016/j.tate.2017.06.020>
- Tomlinson, C. A. (1999). *The differentiated classroom: Responding to the needs of all learners*. Association for Supervision & Curriculum Development.
- Tomlinson, C. A. (2000). Reconcilable differences: Standards-based teaching and differentiation. *Educational Leadership*, 58, 6-11.
- Tomlinson, C. A. (2005). Grading and differentiation: Paradox or good practice. *Theory into Practice*, 44(3), 262-269. https://doi.org/10.1207/s15430421tip4403_11
- Tomlinson, C. A. (2014). *The differentiated classroom: Responding to the needs of all learners* (2nd ed.). Association for Supervision & Curriculum Development.
- Tomlinson, C. A., Brighton, C., Hertberg, H., Callahan, C. M., Moon, T. R., Brimijoin, K., Conover, L. A., & Reynolds, T. (2003). Differentiating instruction in response to student readiness, interest, and learning profile in academically diverse classrooms: A review of literature. *Journal for the Education of the Gifted*, 27, 119-145. <https://doi.org/10.1177/016235320302700203>
- Turner, W. D., Solis, O. J., & Kincade, D. H. (2017). Differentiating instruction for large classes in higher education. *International Journal of Teaching and Learning in Higher Education*, 29, 490-500.
- UNESCO. (2017). *A guide for ensuring inclusion and equity in education*. <https://unesdoc.unesco.org/ark:/48223/pf0000248254>
- UNESCO. (2020). *Inclusion and education: All means all*. <https://en.unesco.org/gem-report/report/2020/inclusion>
- Valiandes, S., & Neophytou, L. (2018). Teachers' professional development for differentiated instruction in mixed-ability classrooms: Investigating the impact of a development program on teachers' professional learning and on students' achievement. *Teacher Development*, 22, 123-138. <https://doi.org/10.1080/13664530.2017.1338196>
- van Geel, M., Keuning, T., Frèrejean, J., Dolmans, D., van Merriënboer, J., & Visscher, A. J. (2019). Capturing the complexity of differentiated instruction. *School Effectiveness and School Improvement*, 30, 51-67. <https://doi.org/10.1080/09243453.2018.1539013>
- Wan, S. W.-Y. (2016). Differentiated instruction: Hong Kong prospective teachers' teaching efficacy and beliefs. *Teachers and Teaching*, 22, 148-176. <https://doi.org/10.1080/13540602.2015.1055435>

- Watson, R., & Wildy, H. (2014). Pedagogical practice of early childhood teachers: Explicit enhancement of students' literacy. *Australasian Journal of Early Childhood*, 39, 82-90. <https://doi.org/10.1177/183693911403900211>
- Whitley, J., Gooderham, S., Duquette, C., Orders, S., & Cousins, J. B. (2019). Implementing differentiated instruction: a mixed-methods exploration of teacher beliefs and practices. *Teachers and Teaching*, 25, 1043-1061. <https://doi.org/10.1080/13540602.2019.1699782>
- Wormleli, R. (2005). *Busting myths about differentiated instruction*. <https://www.greatschoolspartnership.org/wp-content/uploads/2017/01/Busting-Myths-About-Differentiated-Instruction-1.pdf>

Appendix

Interview Guide for Teachers: Introductory and Key Probing Questions

1. What are your views on differentiated instruction?
Probing Questions
How would you define differentiated instruction?
How would you describe the principles of differentiated instruction to another teacher?
2. Describe some key strategies you use when differentiating during planning.
Probing Questions
Describe how you track and monitor student performance.
How do you pre-plan lessons prior to teaching a unit of work to capture the academic needs of all students?
Describe how you cater for the varying interests that students in your class have.
3. Describe some key strategies you use when differentiating for instruction.
Probing Questions
Describe how you structure teaching/learning activities to ensure all students in your classes can better understand the content taught.
Describe how you support students who require extra assistance.
Describe the types of resources you use to deliver the content material taught.
4. Describe some key strategies you use when differentiating assessment tasks.
Probing Questions
How do you accommodate assessment tasks for those students who are not meeting year level expectations?
How do you accommodate assessment tasks for those students who are part of the NCCD?

Interview Guide for School Leaders: Introductory and Key Probing Questions

1. What are your views on differentiated instruction?
Probing Questions
How would you define differentiated instruction?
How would you describe the principles of differentiated instruction to another teacher?
How would you describe the principles of differentiated instruction to a member of the senior management team?

2. Describe some key strategies you would expect teachers to use when differentiating during planning.
Probing Questions
Describe how teachers track and monitor student performance.
Describe the schools process of planning allocation for teachers.

3. Describe some key strategies you would expect teachers to use when differentiating for instruction.
Probing Question
How does the school administration support teachers to use DI in their classrooms?

4. How does the school administration encourage professional learning on DI for mainstream teachers?
Probing Questions
How interested are teachers in attending PD about students with diverse learning needs?
Tell me how often training courses are available for teachers in regard to diverse student needs?

5. Describe the key administrative role in regard to informing teachers about making accommodations to assessment tasks.
Probing Questions
Describe the schools tracking and collection of data on students with additional needs.
How do you accommodate assessment tasks for those students who are part of the NCCD?
How do you approach staff who are not open to making adjustments to assessments for students who are working above or below year level expectations?