

Differentiation in the Classroom

Engaging Diverse Learners through
Universal Design for Learning

Dr Kate de Bruin
July 2018

CONTENTS

ACKNOWLEDGEMENTS	3
EXECUTIVE SUMMARY	4
Key Findings:	4
Implications	5
1. INTRODUCTION	6
1.1 Background to the study	6
Policy & Educational Reform Priorities: Equity, Diversity and Inclusion	6
Differentiated Teaching	7
1.2 Rationale for the study.....	10
1.3 Differentiation & The Universal Design for Learning Framework	10
1.4 Aims	12
1.5 Methods	13
Participants.....	13
Research Context	13
Data Collection	14
Data Analysis	17
1.6 Report Structure.....	17
2 STUDENT ENGAGEMENT	18
2.1 Conceptualising Student Engagement	18
Unidimensional engagement.....	18
Multidimensional engagement	19
Negotiating a group definition for engagement	20
2.2 Evaluating Student Engagement	20
2.3 Teacher practices for engaging all learners	21
3 DIFFERENTIATION	24
3.1 Conceptualising and Implementing Differentiation.....	25
Differentiation as a broad and inclusive approach	25
Differentiation as a response to perceived academic ability	29
Challenges in negotiating a shared understanding of differentiation amongst the group.....	31
3.2 Barriers and Facilitators of Differentiation at SWHS	33
3.3.Evaluation of teaching impact	34
3.4.Differentiated Teaching Exemplars	35
4. CONCLUSIONS AND IMPLICATIONS	36

4.1 Summary: Student Engagement.....	36
Key Findings	36
Recommendations	37
4.2 Summary: Differentiated Teaching	37
Key Findings	37
Key recommendations:	38
4.3 Implications	39
REFERENCES	40
APPENDICES.....	44
Appendix A. Table 3: Productive Behaviours & Examples	44
Appendix B. Table 4: Productive Behaviours Observation Checklist	45
Appendix C. Table 5 Teacher Practices for Differentiation and Engagement	46
Appendix D. Peer Assessment Rubric	51
Appendix E. Teacher Assessment Rubric.....	52
Appendix F. Guttman Chart	54
Appendix G. Language Analysis Essay	55
Appendix H. Narrative Writing Rubric	57
Appendix I. Self Reflection	59

List of Tables

Table 1: Universal Design for Learning principles.....	11
Table 2: Overview of research questions, research contexts, research methods and outputs	15
Table 3: Practices for providing multiple means of engagement.....	22

ACKNOWLEDGEMENTS

The author would like to thank:

- All Silver Wattle High School (SWHS) staff for taking part in the project, for their clear commitment to engaging all learners, and for taking the time to participate in the surveys and interviews and to reflect on their work
- The Director of Pedagogy for their enthusiasm and vision for inclusive pedagogy at SWHS
- The Assistant Principal (Curriculum) for their wisdom in guiding the development of the project and passion for equity in public education
- The principal for supporting and funding the work
- The engagement team at Monash University for outstanding project management support

EXECUTIVE SUMMARY

This document reports on a one-year project undertaken by Monash University in collaboration with Silver Wattle High School (SWHS)¹. The project was conducted with a group of teachers and school leaders, and it was implemented in the context of a series of professional learning workshops over the four school terms of 2017. The focus of the project was on developing teachers' capacity to respond to student diversity by designing differentiated teaching and assessment plans to engage all learners and create equitable learning environments. The Universal Design for Learning (UDL) framework was used to frame an inclusive approach to differentiating teaching for diverse learners. The framework was used as both a conceptual tool for understanding diverse learning needs, as well as a practical set of design principles for planning curriculum, lessons, and assessments. The focus of the early workshops was on cultivating a shared understanding of what differentiation and engagement are, and how they can be framed as a pedagogical response to learner diversity. The later focus was on identifying teachers' priorities for differentiation to address learner diversity in their classrooms, and building knowledge and skills for implementing differentiated teaching practices. The findings are based on surveys and interviews with the staff and leaders involved.

KEY FINDINGS:

- A consistent understanding of student engagement was developed across the group and formalised by defining productive behaviours and developing a classroom observation tool. Staff remained divided about evaluating student engagement.
- Across the group, student diversity was understood in one of two ways.
 - One group of respondents described student diversity in unidimensional terms relating to their perceptions of student ability. They saw this perceived ability as determining student achievement outcomes.
 - The other group described student diversity in multidimensional terms including students' strengths, needs, experiences and behaviour. These saw student achievement arising from the teaching and learning opportunities extended
- The two understandings of diversity clearly influenced how teachers differentiated their teaching. One group offered differentiated content, learning processes or assessment products to specific individuals perceived as performing above or below the group average. The other group designed differentiated resources, learning activities, and assessment tasks for all learners and offered all students choices in their interaction with these.
- There were both strengths and areas for improvement in teachers practices for differentiation their teaching:
 - Some clear strengths were in providing feedback and peer support. The investment by the school in building teacher's capacity for using assessment for learning clearly underpinned this. Staff were comfortable and creative in using assessment and feedback as a means of differentiating for diverse students.
 - There is room to further build capacity in teachers' use of differentiation to engage diverse learners, such as in supporting all students in developing

¹ A pseudonym

- expertise in being goal-directed, strategic and purposeful learners, and to differentiate content to support multiple means of accessing information.
- Teachers were generally reluctant to gather evidence and evaluate the impact of their teaching. This is a clear area for improvement
 - A number of features of the school environment were identified as either supporting the use of differentiation or making it more difficult:
 - Respondents identified the school emphasis on consistency in curriculum and common assessment tasks as something that made differentiation difficult. They also indicated that the emphasis by both the school and also the wider community on success in terms of VCE scores worked against the creation of a shared culture of differentiation at SWHS
 - Facilitators of differentiation included both in-house and external professional learning that was high in quality and sustained over time.

IMPLICATIONS

There are clear areas of strength in the ways that teachers at SWHS differentiate to provide equitable and supportive classrooms at SWHS. One that stands out in particular is the approach to assessment. Teachers felt supported and empowered in taking risks and using creative approaches to assessing student learning and progress.

The group also demonstrated that achieving a consistent and multidimensional understanding of student engagement across a group of staff is readily achievable by drawing on teachers' perspectives, school values and research findings.

There are also clear priorities for enhancing teacher capacity for differentiation and student engagement. One priority is developing a protocol that is accepted by teachers for evaluating and assessing student engagement, given that this is a priority in the General Capabilities in the Victorian curriculum as well as the reporting system at SWHS. Another is articulating a clear understanding of what constitutes differentiation and supporting capacity-building for implementing appropriate pedagogies across the staff. This could be achieved by replicating the model of school improvement that supported change in assessment practices at the school, such as sustained professional learning, and effective communication with parents.

1. INTRODUCTION

1.1 BACKGROUND TO THE STUDY

Education determines more than a child's economic future—it is also critical to a child's social and emotional development, to establishing a sense of identity and sense of place in the world

(Commonwealth of Australia, 2009)

Policy & Educational Reform Priorities: Equity, Diversity and Inclusion

Many influences on the education system have resulted in an increasingly diverse mix of students in classrooms. Global migration, rising socioeconomic inequality, and the moves away from streamed and segregated education have all contributed to this change. In Australia and internationally, educational priorities and reforms now recognise that some students in regular school classrooms are more vulnerable to disadvantage. In particular, vulnerable students include those with disability, diverse social, behavioural and academic capabilities, membership of minority cultural or religious groups, unstable living arrangements, and those for whom one or more of these combine. Disadvantage associated with one or more of these sets of circumstances can lead to poor long-term outcomes such as their employment, their health, the stability of their housing arrangements, or their connection and belonging in their community. Not only can this disadvantage result in “impoverished lives” for individuals, it also has negative social and economic consequences for the nation as a whole (Fenwick & Cooper, 2012; McLachlan, Gilfillan, & Gordon, 2013).

Addressing disadvantage experienced by *some* is vital to supporting achievement by *all*. International data comparisons of school systems through PISA results suggests that the countries with higher-performing school systems are those which are more equitable, fair and inclusive (Organisation for Economic Co-operation and Development [OECD], 2016). This means that by supporting equity and inclusion for disadvantaged students, systems also achieve excellence for *all* students and better social and economic outcomes:

Achieving greater equity in education is not only a social justice imperative, it is also a way to use resources more effectively, increase the supply of skills that fuel economic growth, and promote social cohesion. (OECD 2016, p. 4)

In Australia, as elsewhere, national educational goals and reforms have recognised the importance of improving equity in education. For example, since the commencement of the Melbourne Declaration on Educational Goals for Young Australians (Ministerial Council on Education, 2008) it has been a national priority to ensure equitable opportunities for *all* students to access, participate, or make progress in high-quality and inclusive schooling. Since this was articulated as a national goal, number of reports have emphasised that addressing disadvantage, inequity in schooling remains a key issue for school reform (Gonski et al., 2018; Gonski et al., 2011), with student diversity still strongly associated with inequity of outcomes. The challenge remains to ensure that schools and teachers respond to student diversity in ways that remove that barriers experienced by disadvantaged students, and ensure both equity and excellence across the whole system.

Inclusive practices and differentiated teaching have frequently been promoted as key to enhancing the equity and the quality of teaching and learning for all students (Australian

Council for Educational Research, 2016). Inclusion in education was originally framed as a response to learner diversity with a specific focus on students with disabilities (United Nations Educational, 1994). It is now widely understood encompass a broader understanding of diversity than disability, recognising that equity requires:

accommodation of the differing requirements and identities of individual students, together with a commitment to remove the barriers that impede that possibility. It involves strengthening the capacity of the education system to reach out to all learners. It focuses on the full and effective participation, accessibility, attendance and achievement of all students, especially those who, for different reasons, are excluded or at risk of being marginalized (United Nations Committee on the Rights of Persons with Disabilities, 2016, section 9)

Inclusive education is provided when all students are educated together with their peers in classrooms that welcome them and provide them with the supports that they need to participate actively in the community of learners, and to be successful learners. A cornerstone of its implementation is teachers proactively identifying and remove barriers encountered by diverse students in accessing, engaging with, or progressing in learning. A critical component of implementing inclusion is thus for teachers to have the skills to proactively identify disabling elements within their teaching environments, curriculum, classroom activities and assessment tasks, and to remove those accordingly by providing a personalised education that is free from discrimination or limitation of opportunities.

Differentiated Teaching

Differentiated teaching is widely agreed to be an important means of providing equity and excellence in education for all students through such personalised learning. It is a requirement for teacher accreditation and career progression in Victoria, with all teaching staff required to demonstrate knowledge and competence, and undertake professional learning in differentiating teaching “to meet the specific learning needs of students across the full range of abilities” in line with the Australian Professional Standards for Teaching (Descriptor 1.5, Australian Institute for Teaching and School Leadership, 2014; Victorian Institute of Teaching, 2015).

Differentiated teaching is also promoted as a central element of school improvement and reform. It is a key feature in both the Report of the Review to Achieve Educational Excellence in Australian Schools (Gonski et al., 2018) as well as the National School Improvement Tool (Australian Council for Educational Research, 2016). It is a core component of the framework for planning personalised learning for students with disabilities (Australian Government, 2015b). Quality differentiated teaching practice also forms the bedrock of the Nationally Consistent Collection of Data for Students with Disability (NCCD; Australian Government, 2015a) a compulsory annual census of how schools are complying with obligations under the Disability Discrimination Act of 1992, and the basis of needs-based funding arrangements under the Quality Schools reforms (Australian Government, 2016).

What is differentiated teaching?

The policy and professional requirements in relation to differentiated teaching for supporting diverse students are clear. However, there is less clarity about how teachers and schools

should implement this in ways that enhance the learning of all students. Student diversity has historically been addressed organisationally by making separate provisions for students seen as “different”. This involved the separation and segregation of students with disabilities into special educational settings, the removal of students from classrooms for intervention or extension programmes, or ability grouping, tracking and streaming (Tomlinson et al., 2003). While these organisational arrangements differ in many ways, what they share is the provision of something different for students who are different, such as separate materials, instructional arrangements, and achievement standards for particular categories of students (Terwel, 2005). Research has found that these structural and organisational responses to student diversity are ineffective for raising achievement (Bygren, 2016), entrench disadvantage and inequality (Francis et al., 2017) and create a culture of low expectations for many vulnerable students such as those with disability, or low socio-economic status, or diverse cultural or linguistic backgrounds, which perpetuates and widens achievement gaps (Campbell, 2015).

Differentiation was developed as a framework for teachers to respond to student diversity in heterogeneous classrooms in recognition of these issues (Tomlinson, 2004). The aim of differentiation is to transform what goes on in classrooms to ensure that all students are provided with an appropriately tailored curriculum and a model of instruction to support their growth in knowledge, skills and understanding (Hall, Vue, Strangman, & Meyer, 2004). It is a pedagogical response, rather than an organisational response, by which teachers provide a variety of means for students to access information, master content, demonstrate their learning and work independently or with others. These options are generally provided in a flexible manner such as varying elements in the *content* they teach, the learning *process* or activities they design, the *environments* in which learning occurs, and the *products* through which they assess students’ learning (Santangelo & Tomlinson, 2012).

There is widespread agreement on these features of differentiation; however, there remains inconsistency in how they are interpreted or implemented in practice (Mills et al., 2014; Webster & Blatchford, 2018). This lack of consistency has enabled the perpetuation of routinely-applied practices such as curriculum differentiation, where different expectations are applied to different groups of students (Harris, 2012; Terwel, 2005), or structural differentiation, where within-class ability grouping is implemented through separating students into groups on the basis of prior achievement (Deunk, Smale-Jacobse, de Boer, Doolaard, & Bosker, 2018). These practices remain rooted in deficit thinking about students’ potential and ability, and they undermine the intent of differentiation to provide equitably for all students in heterogeneous settings. Both of these practices are antithetical to the philosophy and practice of differentiation (Santangelo & Tomlinson, 2012).

Benefits of differentiation: achievement and engagement

When implemented as intended, teachers can differentiate by appropriately engaging, challenging and scaffolding all students at their point of need. By differentiating in this way, teachers can extend a range of benefits for all students. For example, evidence has found a range of academic benefits that flow from implementing differentiation in this manner. Several studies found that when teachers differentiate their teaching then students’ literacy skills improve (Reis, Eckert, McCoach, Jacobs, & Coyne, 2008; Reis et al., 2007; Shaunessy-Dedrick, Evans, Ferron, & Lindo, 2015). They also perform better on state or school-based achievement testing across the curriculum (Beecher & Sweeny, 2008; Ernest, Thompson, Heckaman, Hull, & Yates, 2011; Mastropieri et al., 2006).

Evidence also suggests that when done well, differentiated teaching improves student engagement (Reis et al., 2008; Reis et al., 2007; Reis, McCoach, Little, Muller, & Kaniskan, 2011; VanTassel-Baska et al., 2008). This point is important, and cannot be overlooked in favour of prioritising academic achievement, although they are related (Angus et al., 2010). School engagement can be defined as:

the extent to which students identify with and value schooling outcomes, and participate in academic and non-academic school activities. Its definition usually comprises a psychological component pertaining to students' sense of belonging at school and acceptance of school values, and a behavioural component pertaining to participation in school activities ... engagement is probably closely tied to students' economic success and long-term health and wellbeing, and as such deserves to be treated alongside academic achievement as an important schooling outcome. Moreover, engagement is not an unalterable trait of individuals, stemming solely from students' genetic make-up or their experiences at home. Rather, it entails attitudes and behaviours that can be affected by teachers and parents, and shaped by school policy and practice (Willms, 2003)

Engagement is clearly fundamental to the provision of inclusive, equitable and high-quality education. If students are not engaged at school, they are less productive in the classroom, less likely to feel to feel and to function as valued members of their community, and less likely to achieve good long-term outcomes or quality of life. Students most likely to be disaffected and disengaged include those with the same risk factors identified for inequitable schooling, such as those diagnosed with disabilities or from poor families (Willms, 2003). These characteristics should not determine students' post-school outcomes, particularly when they can be addressed by quality school and teaching practices, such as differentiation.

Building teacher capacity for differentiation

To build teacher capacity for differentiation, it is vital to address the factors that hinder its implementation. One such barrier is erected when teachers adopt deficit or normative thinking about student diversity, and see student achievement as predetermined by characteristics inherent to the students themselves. A key to addressing this is highlighted by Meyer, Rose and Gordon (2014) as developing a *shared understanding of student diversity as dynamic and wide-ranging*:

[because] none of these qualities or abilities resides entirely within an individual in their brains nor in their genes. Nor are they static and fixed. Personal qualities and abilities continually shift, and they exist not within the individual but in the intersection between the individual and their environment, in a vast, complex, ever-changing dynamic balance. Each individual varies over time, and responses across individuals to the same environment also vary... Individual differences in our brains are not innate or fixed, but developed and malleable, and context has a huge impact. (p. 81)

A related factor that can hinder differentiation is the lack of consistency in how it is understood. Developing a *shared understanding of what differentiation is, and what it is for*, is therefore a key strategy for building teacher capacity for this practice. Addressing this means that some teachers will need to change how they think about and approach the planning of their curriculum, assessment and teaching activities. Sharp, Jarvis and McMillan (2018) note that such a change can pose a challenge:

Teachers might readily acquire the language associated with differentiation and some new teaching strategies, but supporting teachers to challenge and reshape their understandings, assumptions and practices at a deeper level is less straightforward, particularly where this might entail attitudinal change, or where teachers hold beliefs and misconceptions that run counter to a differentiated approach (p. 3)

Where teachers resist this challenge and seek to “tack on” new strategies to their existing practice (Jarvis, Bell, & Sharp, 2016), the resulting use of differentiation tends to be superficial and infrequent (Smit & Humpert, 2012).

For teachers to adopt more holistic, sophisticated and frequent differentiated teaching practices, a number of factors in the school context are important. One is the role played by school leadership. This included leaders’ level of involvement and commitment to building staff capacity for differentiated pedagogies (Hertberg-Davis & Brighton, 2006) and the clarity of their vision for differentiated teaching (Smit & Humpert, 2012). Teachers in schools with such leaders are typically offered greater autonomy in their differentiation, encouraged to experiment and take risks, encouraged to engage in more frequent differentiated teaching practice, to have high expectations of their teaching and to persist in the face of challenges (Dixon, Yssel, McConnell, & Hardin, 2014). An additional feature of school contexts that influences teachers to implement differentiation is degree to which pedagogies promoted for differentiation align with and mobilise resources and strengths already present in schools (Jarvis et al., 2016).

1.2 RATIONALE FOR THE STUDY

Against this backdrop, Monash University and Silver Wattle High School initiated a one-year study on teachers’ use of differentiated teaching in the classroom to engage all students. It sought to build on the existing strengths within the school arising from previous professional learning and whole-school priorities for school improvement at SWHS: Assessment for Learning (AfL) and Understanding by Design (UbD). It was co-designed by a Monash academic staff member and two members of the school leadership who were the school-based project leaders. The project was designed to develop a shared understanding of differentiation and diversity, and to promote holistic and inclusive practices. It was also aligned with key reform priorities in the school, including the Silver Wattle High Strategic Plan 2015-2018, in which differentiation was identified as a Key Improvement Strategy for student achievement and engagement, as well as a key priority identified for teacher professional learning in staff surveys (Silver Wattle High School, 2015).

1.3 DIFFERENTIATION & THE UNIVERSAL DESIGN FOR LEARNING FRAMEWORK

The study employed a conceptual framework that strongly intersects with differentiation (Hall et al., 2004), Universal Design for Learning (UDL), as a means of addressing the priorities outlined above for the professional learning project at SWHS. This was done in light of:

1. the clear conceptual overlap between UDL and differentiation
2. the clear need to strengthen the conceptualisation of differentiation
3. The potential for the UDL framework to provide clarity and structure and supporting teachers in planning differentiated teaching, curriculum and assessment

UDL provides teachers with a set of three basic design principles for planning and implementing curriculum and instruction: providing multiple means of engagement, multiple means of representation, and multiple means of action and expression. It is a framework that supports planning for diversity by acknowledging that diversity in capabilities is not entirely resident within individuals, but rather in how they interact with the learning environment. By building flexible options into their resources, activities and assessments, teachers can provide all students with the educational supports to develop the expertise in being strategic and goal-directed, to transform new information into useable information, and to be purposeful and sustain their motivation to achieve challenging goals, (Rose et al., 2018). This represents a vastly different approach to the early “ability” based model of differentiation that recognised the need to respond to learners whose differences were understood only through attainment scores or tests of achievement.

The three principles underlying UDL acknowledge student variability in three important ways: how students recognize information, how students are motivated, and how students demonstrate their learning. Applied in the classroom environment, the underlying principles and respective guidelines of UDL provide access to and support engagement in the activities of learning for all students, acknowledging student variability both within individual students and across students in an inclusive classroom. Three broad principles and nine guidelines comprise the framework and these are summarised in Table 1.

Table 1: Universal Design for Learning principles

PRINCIPLES	GUIDELINES
Multiple Means of Representation	Options for perception of information, options for symbolic representation of information, and options for comprehension of information.
Multiple Means of Action and Expression	Options for students in how they physically interact with information, options on how they express themselves, and options for the types of scaffolding students require in order to support their executive functioning (i.e., setting goals, planning and implementing strategies, monitoring progress, etc.)
Multiple Means of Engagement	Options for recruiting student interest, options to sustain effort and persistence, and options that provide supports self-regulation (i.e., expectations and beliefs, coping skills and strategies, self-assessment and reflection.

Source: Adapted from CAST (2011) [Universal Design for Learning Guidelines version 2.0](#).

The intersection between UDL and Differentiation

The UDL framework overlaps conceptually with that of differentiation and provides clarity about implementation. In terms of conceptual overlap, they both espouse a view of learner diversity that rejects the traditional model of seeing student achievement as arising from *strengths and weaknesses as located within the students themselves*, and promotes the notion

that student achievement arises *from the interaction between the learner and the curriculum* (Meo, 2008; Rao & Meo, 2016).

There are clear intersections between the principles of UDL and those of implementing differentiation including:

- The guidelines for providing varied “content” in differentiated instruction support the UDL principle *provide multiple means of representation*, in that they encourage the use of several elements and materials to support students in interacting with instructional content
- The guidelines for providing varied “products” in differentiated instruction recognises the need for students to be flexible means of demonstrating their skilled performance. This reflects the UDL Guideline *provide options for action and expression*, encouraging students to make considered choices in how they demonstrate their learning progress
- The guidelines for providing varied “processes” and “learning environments” recognises the importance of students being active and responsible learners. This asks teachers to respect individual differences and to scaffold students as they move from initial learning to practiced, less-supported skills mastery. This guideline clearly aligns with the UDL principle *provide multiple means of engagement* by offering choices of content and tools; providing adjustable levels of challenge, and offering a choice of learning context, as well as to provide varying levels of scaffolding to gain and maintain learner attention during the instructional episode.

1.4 AIMS

The project objectives were drawn from the SWHS Strategic Plan, discussions with the school leaders who were collaborating on the project, as well as the literature reviewed. On the basis of these, the project objectives were to:

- Developing a shared understanding of the concepts of engagement and differentiation
- Develop a resource for teachers to use to evaluate student engagement and participation in the classroom
- Pilot a process for teachers’ use of this resource to identify priorities for differentiating their teaching to enhance student engagement and participation in their classrooms
- Use the UDL framework to support teachers in selecting suitable and evidence-based practices for implementing differentiated teaching to address these priorities
- Sharing exemplars of differentiated teaching practices at SWHS

The objectives were guided by the following research questions:

1. How do staff members:
 - a. conceptualise student engagement?
 - b. evaluate student engagement?
2. How do staff members
 - a. conceptualise differentiation?
 - b. implement differentiation?
 - c. evaluate the impact of differentiated teaching practice?
3. What, do staff members describe as:
 - a. facilitating differentiated teaching?

- b. hindering differentiated teaching?

1.5 METHODS

Participants

All of the participants in the study were SWHS teaching staff (and, on several occasions, their student teachers) as well as school leaders; some participants were both teachers and leaders. There was considerable flexibility and change in the group membership. Some participants remained members of the group throughout the four terms; however, several left at the end of Term 1 while others joined in Term 2. The two school leaders involved in the design of the project both went on extended leave during the project, and their roles were taken up by another staff member in Term 3. The size of the group varied across the year: at its largest, the group had 16 members, and at its smallest, it had nine members. Professional Learning Team (PLT) group members were teachers from across the school's faculties including history, art, maths, science and English.

Research Context

The study was conducted in the context of a series of PLT sessions that were run between February and November 2017. The sequencing of the sessions' content was designed to support teachers in their curriculum planning across the year as well as build their capacity for designing and implementing differentiated teaching. The sessions explored student engagement and differentiation for all learners, looking at the *what*, the *why* and the *how* of these concepts in teaching and learning in heterogeneous classrooms.

The focus of the first term was to develop a shared understanding of the concept of student engagement in the classroom, and how this might be understood and evaluated by teachers in the classrooms. This involved introducing the principles of the UDL framework relating to student engagement in order to broaden how staff understood the concept, and to apply this concept in their school and classroom setting. Staff activities culminated in the articulation of productive classroom behaviours that were collaboratively developed using a combination of data collected by the teachers from surveying their students, research findings, the SWHS values, and the Victorian Curriculum Capabilities (specifically Critical & Creative Thinking, and Ethical Capability, and Personal & Social Capability). Using this list, a classroom observation tool was collaboratively developed that was designed to support teachers in:

- a. Working with a common understanding of student engagement in the classroom
- b. Making observations in the classroom to support reporting against the school values and the Victorian Curriculum General Capabilities for Personal & Social Capability as well as Critical and Creative Thinking
- c. Making clear the connections between the General Capabilities and the school values
- d. Using the data to identify priorities for differentiation in their classrooms

The focus of Term 2 was to follow a similar process for developing a common understanding of differentiated teaching. The sessions focused on introducing the principles of multiple means of representing content to students, as well as designing multiple means for students to express what they know and can do as a result of learning. The PLT sessions promoted a move away from ability-based and individual add-on models of differentiation, and advocated the creation of inclusive and flexible options for all students with a holistic

understanding of diversity. These were grounded in the position of the literature on differentiation, whereby it is understood as “‘shaking up’ what goes on in the classroom so that students have multiple options for taking in information, making sense of ideas, and expressing what they learn” (Tomlinson, 2001, p. 1). They were also grounded in the UDL principles that overlap and intersect with the differentiation literature, advocating for creating flexibility in teaching, learning and assessment by supporting students at their point of need and their readiness and teaching all *students how to learn* (Hall et al., 2004). Teachers were encouraged to use the principles to “audit” practices currently in use at SWHS for challenging, supporting and engage diverse learners such as that students had a range of options for taking in information, engaging with the activities, and demonstrating their learning.

Term 3 activities were focused on developing teachers’ skills to implement a range of evidence-based practices that support differentiation and universal design in curriculum and assessment. These specifically drew on technologies to create flexibility in teaching plans, peer learning arrangements, and thinking taxonomies. Teachers selected those that met their priorities for differentiation previously determined in Term 2 and trialled these in their classrooms.

Term 4 activities were focussed on further implementation as well as evaluation of the impact of differentiated teaching and assessment plans, and collation of exemplars.

Data Collection

Surveys

Survey responses were collected from school teachers and leaders during the sessions using a variety of digital technologies including www.socrative.com as well as Google Forms. The survey data was used to feed-forward and shape the PLT session content, as well as to provide data for analysis in answering the research questions outlined earlier. Surveys were designed collaboratively between the Monash academic and the school project leader.

Interviews

Interviewees were self-selected and the interviews were conducted in 1:1 conversations between the researcher and the staff member in a conversation typically lasting between 30-60 minutes. They were semi-structured and focused on building up an in-depth understanding of:

- staff members’ conceptualisation of differentiation
- what previous professional learning they had received in relation to it
- why they felt differentiation is a priority and their goals for differentiating their practice
- the practices that they used to implement differentiation in their teaching and assessment
- whether/how the impact of this can be evaluated.

A summary of the workshop content for each term, and the relation of this to the research questions, methods and outputs is summarised in Table 2.

Table 2: Overview of research questions, research contexts, research methods and outputs

School Term	Session content (context)	Research Questions	Research Methods	Outputs
Term 1	<ul style="list-style-type: none"> Clarify concepts of student engagement and productive learning behaviours Explore rationale and methods of seeking data using student voice Audit teaching plans: What barriers MAY be experienced in my classes? 	<ol style="list-style-type: none"> How do staff members: <ol style="list-style-type: none"> conceptualise student engagement? evaluate student engagement? 	<ul style="list-style-type: none"> Survey 1 (16 staff) Understanding of student engagement Survey 2 (16 staff) Data collection using student voice: teacher findings and lessons learnt 	<ul style="list-style-type: none"> List of “productive behaviours” associated with student achievement, engagement and participation in the classroom. Classroom observation for evaluating productive behaviours in their students.
Term 2	<ul style="list-style-type: none"> Clarify concept and rationale for differentiation, by working with/responding to surveys of teacher understanding of differentiation Explore the UDL framework and how this articulates differentiated teaching practices for anticipating/responding to diversity in the classroom Connecting potential barriers to methods for differentiation: What barriers might students experience in my classes? How might these be addressed by collaborative learning, thinking taxonomies, technology Conceptualising flexibility and diversity in curriculum plans, teaching/learning activities and assessment tasks Share currently used teaching practices that exemplify differentiation and universal design 	<ol style="list-style-type: none"> How do staff members <ol style="list-style-type: none"> conceptualise differentiation? implement differentiation? 	<ul style="list-style-type: none"> Survey 3 (14 staff) Concept of differentiation Survey 4 (14 staff) Priorities for differentiation Survey 5 (14 staff): Practices used in differentiating 	<ul style="list-style-type: none"> “Heat” mapping of current practices used at SWHS for differentiating teaching and assessment

<p>Term 3</p>	<ul style="list-style-type: none"> • Investigate and develop skills for designing research-based teaching/learning/assessment that enable high-quality differentiation to support the achievement, participation and engagement of diverse students in learning and provide opportunities for all students to succeed. <ul style="list-style-type: none"> ○ Thinking taxonomies ○ Cooperative learning ○ Peer tutoring ○ Technology supporting differentiation • Time for teachers to develop curriculum, teaching or assessment plans embedding these practices 	<p>2. How do staff members b. implement differentiation?</p>	<ul style="list-style-type: none"> • Interviews (4) 	<ul style="list-style-type: none"> • Interim Report
<p>Term 4</p>	<ul style="list-style-type: none"> • Evaluate IMPACT of adjustments made to teaching/learning/assessment practices: Was this a successful form of differentiation for this group of students? Collect data using observation and student voice to reflect on student learning and engagement, as well as to refine the teaching practices trialled • Collate exemplars for sharing: Differentiation and Universal Design Priorities and Practices at SWHS 	<p>2. How do staff members b. implement differentiation? c. evaluate the impact of differentiated teaching practice?</p> <p>3. What, do staff members describe as: d. facilitating differentiated teaching? e. hindering differentiated teaching?</p>	<ul style="list-style-type: none"> • Interviews (2) 	<ul style="list-style-type: none"> • Collection and collation of differentiated teaching and assessment exemplars

Data Analysis

To enable in-depth analysis, all interviews were audio-recorded and transcribed in full, and then uploaded to the qualitative analysis software NVIVO, along with the survey responses recorded. An open coding process was then applied to all interview transcripts and survey responses by the researcher to identify recurring ideas and terms within the data. These were checked for consistency and relevance by a research assistant. Interview and survey responses were then inductively analysed using the identified terms and ideas as coding themes across the entire dataset. Through this inductive analysis, the following themes and sub-themes were identified:

- Definitions
 - Engagement
 - Differentiation
- Practices
 - Differentiation
 - Engagement
 - Evaluation
- Barriers
 - Differentiation
- Facilitators
 - Differentiation

1.6 REPORT STRUCTURE

The rest of the report is structured by reporting findings from the initial surveys of teachers' understandings and practices, as well as from the later interviews conducted:

- Section 2 discusses *student engagement*. This includes:
 - how teachers variously conceptualised this
 - how a group understanding was negotiated
 - how a classroom observation resource was developed
 - teacher practices for engaging students (including how these align with UDL)
 - strengths and areas for improvement
- Section 3 discusses *differentiated teaching*. This includes:
 - How teachers variously understood this
 - Factors affecting the development of a shared understanding of differentiation
 - Practices used for implementing differentiated teaching (including how these align with UDL)
 - Strengths and areas for improvement
- Section 4 provides a *summary* of the project's key findings and a discussion of the implications

The findings presented in sections 2 and 3 are based on the surveys and interviews conducted throughout the project, as well as the artefacts that were produced by the group in relation to:

- defining student engaged and productive behaviours in the classroom (see Table 3)
- observing student engaged and productive behaviours in the classroom (see Table 4)
- mapping the use of differentiated teaching practices at SWHS (see Table 5)

2 STUDENT ENGAGEMENT

This section relates to the aspects of the project focused on how SWHS staff understand, design for, and assess student engagement in the classroom. The findings are based on the surveys offered in Term 1, the audit of teacher practices, and the interviews conducted later in the year. This section also presents the resources that were collaboratively developed by the group for understanding and assessing student engagement.

2.1 CONCEPTUALISING STUDENT ENGAGEMENT

There were several different themes that were identified in analysing the survey and interview data. These were strongly aligned with elements of the UDL framework for understanding engagement in learning, although teachers responses often emphasised a unidimensional understanding of engagement (being on-task), with a smaller number regarding it as more complex and multifaceted.

Unidimensional engagement

In the surveys conducted in Term 1, many of the teachers in the project articulated a view that an engaged student is simply a *busy* student who is concentrating on the set work. When asked to describe what student engagement meant to them, they indicated that an engaged student was one who was “actively working on set tasks”, who was visibly concentrating “with a clear focus on the task at hand” and who was “not distracted by others”. Respondents described that they considered a student to be engaged if they were on task and if they finished their work, being able to independently summon up the “internal motivation to participate and complete a task”. These respondents indicated that student engagement was the responsibility of the students themselves:

Student engagement means students have a **willingness** to participate in the lesson and process the information required to form an understanding of the material covered.

and

Students who are interested in the topic. Students that are high achievers. Students that want to learn more. Students that have **made an active choice** on that day to complete their work

Several of these respondents judged the failure of a student to become engaged in class as a function of poor attitude, for example laziness in those who were “unwilling to try” or “just wanting to do the minimum”. These were not described as issues for pedagogy or curriculum design, but rather as a problem located within the student themselves or relating to their personal circumstances, such as their:

family priorities:

Students whose **parents** place high relevance on education

disability:

Students with a **short attention span** and those who have developed strategies over the years to avoid work that might highlight **learning deficiencies**

gender:

I can usually "hook" **bad boys** in. Less successful with **super quiet girls....."blobby" girls** who don't have opinions or a voice.

Boys who have attitude and do not seem to be interested in their learning or engaging with it."

or perceived ability:

Usually the **novice students** as they find the work difficult and don't know how to answer the questions. Or they act up as a cover to the fact that they don't know what is going on.

and

The very weak

Others described disengaged students as saboteurs, "constantly whispering ... distracting others" and "misbehaving and stopping others from learning". These teachers placed the responsibility for being engaged squarely on the student themselves to "direct their own learning", and did not refer to the responsibility of the teacher to find ways to engage students or minimise threats of distraction.

Multidimensional engagement

Some survey respondents described engagement with more complexity, emphasising that it had multiple components that required more than simply appearing busy. These respondents acknowledged that it was important for students to be "on task" but that there was a need to actively *recruit students' interest* to make them "excited about the topic". It was understood that this recruitment of students interest needed to be also *sustained* throughout the learning journey to keep them "interested in the learning; asking questions, curious and possessing a *sense of satisfaction* when they master a new skill/understanding". These respondents highlighted that for students to be engaged they also needed to be enthusiastic and *active contributors* and members of the learning community of the classroom "*interacting* with me and their classmates", and "keen to be involved with their learning and also willing to share what they are doing, level of understanding or possibilities within an task with others". Respondents also underscored the need for students to be able to *embrace a challenge* and "willing to take risks in their learning to achieve their best possible outcome" as well as to "*persist* in the face of challenge, and be "*resilient* enough not to give up until they understand it".

This multidimensional understanding of student engagement strongly aligns with the OECD definition that emphasises students' participation as well as sense of belonging (Willms, 2003).

Negotiating a group definition for engagement

The Term 1 activities included teacher discussion of research findings about student engagement, as well as analysis of data that they collected from their students about engagement. These were explored and compared to the General Capabilities Curriculum as well as the School Values, and the result was a distillation of what teachers felt constituted important behaviours for students to be engaged and productive in learning activities. These are summarised in Table 3. It is clear that the group ultimately agreed that engagement comprised students demonstrating:

- *Enthusiasm* for engaging intellectually and actively with learning content, (Optimism, Critical & Creative Thinking)
- demonstrating *autonomy and independence* in their engagement with tasks (Responsibility)
- *Collaboration* (Respect, Empathy)
- *Self-regulation* and perseverance in the face of distractions or challenges (Persistence and Optimism)

2.2 EVALUATING STUDENT ENGAGEMENT

At the very start of the project, respondents who had conceptualised engagement as being busy and on-task indicated that they assessed whether students were engaged through “body language” such as “eye contact” or “nodding” or being seen to be “completing set tasks”. They articulated that disengagement was apparent in students who were “slouching”, “looking around the room” or “facial expressions such as “blank” or “looking bored and disinterested”. These were consistent with the initial simple conceptualisation of engagement as students *simply appearing to be on task*.

Those respondents who saw engagement as more complex indicated that engagement could be observed in many forms such as paying sustained attention, actively exploring ideas with peers and being proactive in these:

Students are discussing different aspects of the lesson with each other before they have been told to start discussing. Students are debating their different ideas and are willing to listen to one another. Students are not being distracted by one another and are absorbed by the task.

These responds highlighted that looking busy or “on task” may not in fact reveal engagement, but that this was visible in varied and subtle ways:

They ask questions and discuss information specific to the topic (to teacher and one another), are visibly thinking. They may not be 'working' (pen to paper) but there is a sense of curiosity that you see through a nod of the head, or a gesture they make

Once the productive and engaged behaviours had been agreed, PLT participants developed a classroom observation resource that could be used to evaluate engagement and report on it under the General Capabilities as well as the School Values. This observation tool is presented in Appendix B.

Ultimately, teachers did not use the resource created, despite having worked actively on developing it as a group. Reservation about assessing student engagement *at all* was

expressed by many teachers for a range of reasons. Some suggested that amongst the group there was unease about the rationale for the observation tool:

There was the suspicion that we were ultimately being used to rubber stamp the new reporting system

There were also respondents who expressed *strong opposition to the collection of observational data* and “fitting students into little boxes”:

I believe as teachers we are able to gauge this without using a tool which takes away from teaching.

Additionally, respondents expressed reservations about assessing and reporting on students’ engagement at all:

Because we felt like we were making value judgements about kids, about their characters rather than their learning behaviours which was what it was meant to be. They are called the learning behaviours but, yeah, I just felt like I was making a judgement about a kid’s personality which made me feel really uncomfortable. So, that’s the biggest challenge, is how do you kind of keep it I think objective, focusing on the behaviours that they’re showing in class without feeling like you’re making a judgement about who they are as a person.

2.3 TEACHER PRACTICES FOR ENGAGING ALL LEARNERS

During Term 2, teachers mapped the practices that they use in the classroom to engage students onto the UDL framework by reflecting on the connections between what they do in classrooms, and how these related to the principles of design for engaging all learners. A summary of the practices typically used at SWHS for providing multiple means of engagement is provided in the third column of Table 5 (see Appendix C). These include the practices nominated as being used at the start of the project as well as those adopted by teachers later in the project after exposure to a range of workshops on inclusive pedagogies.

At several points later in the year some teachers and leaders were also interviewed and their responses included information about practices they used for engaging students. The analysis of the responses to surveys and interviews were mapped against the UDL framework and indicate that teachers often used one or more of the design principles for student engagement. Quotes to indicate how teachers enacted a design principle are presented in Table 3, and demonstrate a range of ways in which SWHS teachers can design for student engagement that are applicable across the curriculum,

Table 3: Practices for providing multiple means of engagement

Multiple Means of Engagement	
7: Provide options for recruiting interest	Quotes
7.1 Optimize individual choice and autonomy	“if I’m designing a lesson I’ll say – I mean it might not be that I’m differentiating the content every time but it might be, ‘Okay, today if you’d like to work on your own you can work on your own, if you’d like to work in pairs you can, if you want to work in a group you can...”
7.2 Optimize relevance, value, and authenticity	“I think exit cards are great. So, not only do they help you sort of understand if they’ve got the crux of the lesson, you can also ask for some feedback on what it is that they found enjoyable and want to learn more about, so sort of shape the rest of the lesson”
7.3 Minimize threats and distractions	“often you have to try to find some ways to break down the lesson even further for others so that they can have periods of distraction without disturbing others”
8: Provide options for sustaining effort and persistence	
8.1 Heighten salience of goals and objectives	
8.2 Vary demands and resources to optimize challenge	
8.3 Foster collaboration and community	
8.4 Increase mastery-oriented feedback	“Using peer and self-assessment – focusing on improvement”
9: Provide options for self-regulation	
9.1 Promote expectations and beliefs that optimize motivation	

9.2 Facilitate personal coping skills and strategies	“just encouraging them to take things on step by step, and just getting them to do a little bit more, that often works really well with them, and sort of lots of praise as they get things done”
9.3 Develop self-assessment and reflection	“The annotating their own work was a really good one. So, I put that into place with a Year 9 class that was like your poster child for differentiation. And so I got them to write their essays and then go through and annotate their choices, why did you put that evidence in, how does that make that stronger? And for them to almost have a conversation on paper to themselves about what they had done”

Strengths in SWHS teachers use of practices for engaging all learners

The clear strength in teachers’ capabilities for engagement of students at SWHS was related to how many used formative assessment techniques. This reflects the findings of previous research that indicated teachers’ use of differentiation practices is supported by the degree to which these respond and draw on existing strengths in the school culture (Jarvis et al., 2016). Teachers were able to leverage existing knowledge and practice already in use, of which formative assessment is a clear feature at SWHS. Analysis of the survey and interview responses, as well as the practices nominated in Table 5, demonstrated that many SWHS staff are skilled at using a variety of forms of assessment to provide multiple means of engaging students. Teachers clearly used formative assessment techniques to ensure that they were *optimising the authenticity* of the classroom activities that they designed, to design opportunities for students to receive relevant, constructive and timely *feedback to support mastery*. They also designed activities to develop students’ capability for metacognition, particularly by embedding *self-assessment* into learning activities.

It is important to note that this clear strength in the practice of many teachers may not represent all teachers at SWHS. It is, however, a clear asset on which to build, and provides a resource for enhancing the capability across the whole staff. Interviewees emphasised that *whole-school professional learning* at SWHS had included “a big push on formative assessment” and respondents indicated that this had been highly influential in changing their practice, to make it routine:

I actually find now that because I’m doing these little formative assessment tasks every day

One respondent noted that the shift in teacher practice to adopt greater formative assessment had required *sustained effort by the leadership* and that it

took some years before people could be persuaded that you know it's not, it's okay to tell kids how to do well. It's not a game, you're not cheating, and you're not telling them the rules

One implication of this is that to build and extend teacher capacity for engaging all learners will require a similar longevity of reform effort by leadership at SWHS, to get staff buy-in

and to create the cultural shift needed to support the adoption of new pedagogies across the staff. This is certainly consistent with the findings of research on leadership and school reform in relation to differentiation, which has found that school leaders need to encourage experimentation and risk-taking in pedagogy, as well as demonstrate a commitment to long-term change at the school (Hertberg-Davis & Brighton, 2006).

Areas for improvement in teacher practices for engaging students

There are some clear indications of areas that could be improved in teachers' capacity to design curriculum and assessment with multiple means of engagement. These are apparent in the gaps evident in Table 1 and Table 5. The first gap suggests a need to improve teachers' capacity to design multiple means for students to understand and maintain a consistent vision for the learning goal for all students. This can be done using techniques such as representing goals in multiple ways, asking students to re-state goals, using rubrics to explore what constitutes a high-quality response, or dividing goals into long and short term objectives.

The second gap indicates a need to improve teachers' design of learning activities that increase collaboration and communication between students. Interestingly, survey respondents indicated that these were important learning behaviours but it was not common for teachers to embrace this as a design priority for their curriculum and assessment planning. While some respondents mentioned using student grouping in the classroom, they did not design these with options for building student collaboration skills, such as assigning clear goals, roles and expectations for group members, offering prompts for seeking help or facilitating positive peer interactions, or creating clear expectations for the group itself. Teaching these behaviours are critical elements in the design of group work if the group is to function effectively and the students to develop their collaborative skills (Johnson & Johnson, 2009).

The third gap is that teachers did not appear to design activities for teaching important skills for students to identify appropriate and realistic personal goals, or to foster positive self-belief for example using tools such as checklists, rubrics, prompts and reminders. Nor did they design to explicitly teach students to develop expertise in collaborative behaviours, such as those articulated in the General Capabilities curriculum, which may explain why teachers were reluctant to assess these behaviours. Respondents to surveys had indicated that teachers were frustrated when student were unable to execute these behaviours, such as the ability to persist, to seek help when needed, and to maintain a focus on the learning goal. The degree to which teachers found this frustrating, and the importance that research places on teaching these behaviours to improve student engagement (Lazowski & Hulleman, 2016), makes this an important area for future capacity-building.

These gaps offer useful insights for priorities that could be addressed in addressing future PLT or faculty-based planning time, to build staff capacity by developing the skills to embed these in their teaching routinely and support all students to gain expertise in being more persistent and more self-regulated in their learning.

3 DIFFERENTIATION

This section reports on the findings related to how SWHS staff understand and implement differentiated teaching. The results are based on the surveys offered in Term 2, as well as interviews conducted later in the year with school teachers and school leaders. They explore how differentiation was understood by staff as a pedagogical response to student diversity,

the classroom practices used for implementation, and what supported or hindered its implementation.

3.1 CONCEPTUALISING AND IMPLEMENTING DIFFERENTIATION

Analysis of the surveys and interviews clearly demonstrated that teaching and leading staff held a common understanding of differentiation as a teaching priority for responding to student diversity. However, the analysis of staff responses from surveys and interviews clearly identified two very different ways in which the respondents understood this diversity. The two ways in which they understood student diversity were strongly associated with how they understood the nature, purpose and goals of differentiation, which in turn was associated with specific subsets of pedagogical practices that they used. Each of these two different approaches was identified through the consistent and recurring language and ideas identified in the analysis of responses of multiple teachers and school leaders. It became very clear that these two different approaches were apparent between staff as well as between school leaders. This is consistent with the research literature that indicates that such different and inconsistent understandings exist in schools elsewhere in Australia (Mills et al., 2014) and internationally (Webster & Blatchford, 2018)

Both of these different understandings of diversity, and the way in which differentiation is formed as a response, are discussed below. The discussion of each explores firstly how teachers understood differences to exist between students, then how they saw that as requiring a response from them, finishing with how that determined their teaching practices.

Differentiation as a broad and inclusive approach

A multidimensional understanding of student diversity

Many of the responses of the PLT group members drew understood student diversity in their classrooms as *dynamic*, articulating that they understood that students varied from their peers in all kinds of different ways. They also articulated that students themselves changed over time and between different contexts, describing students' strengths and areas of need as fluid, such that students could simultaneously have strengths and areas of need at any moment in time or area of the curriculum. The way in which they understood that students could differ was multifaceted and *wide-ranging* including:

[their] needs, abilities, behaviours, history, potential, experience, their past experience because some of them have got past experience so they're ahead of the game with something but then in other areas they're really weak. So all those things so it's adapting my teaching to cater for all those differences in the individuals that are sitting in front of me

Respondents indicated that students differed through variation in "a wide range of learning needs" however these responses did not frame this through a deficit model, but rather understanding needs as idiosyncratic to each student and relevant only to their unique learning journey:

hopefully, you're understanding where your students are at in terms of their learning, and then you have to plan accordingly, in terms of where they're at and what you think their learning needs are

This group of respondents typically emphasised that a strengths-based approach to understanding diversity was an important foundation for approaching differentiating their teaching, building on what students know and can do in order to approach teaching by “accepting and utilising every student’s *strengths* when planning and undertaking activities in the classroom”.

Differentiation as proactive as well as responsive

Those respondents articulating a multidimensional understanding of diversity described that their educational planning and design began by being *proactive* and student-centred. They emphasised that the presumption of wide-ranging diversity was key to initiating the design of flexible teaching and learning activities that ensured “each student is challenged and learning” while remaining connected to the whole group learning activities. They described that this meant they needed to design their curriculum, lesson activities and assessment by anticipating diversity in order to that “students are able to complete a range of tasks in a range of different ways to (hopefully) cater to a wide range of learning needs/interests”. Respondents typically framed their discussion of classroom differentiation as beginning by first acknowledging:

that every student is different and find tools to address that and not just teach how I want to teach, it’s not my agenda that needs to be put in place. I want to be able to cater for the individual needs of the student because I guess I acknowledge that we have a range of students here with learning needs or who need to be extended or who have troubled backgrounds that all of that needs to be addressed when you are trying to create your lesson for them

While respondents recognised the importance of proactively anticipating diversity in the classroom, they also emphasised that differentiation required a simultaneously *reactive* approach as well. This meant that although they had planned for flexibility in anticipation of a range of strengths, needs and interests, they needed to ensure that they were truly designing for their particular students in a way that was sensitive and responsive to specific information about each student by:

gathering the evidence of their understandings, particularly, their prior understandings and their connection in whatever way to a unit of work you’re introducing, so you get to understand where they sit in terms of what you’re about to teach them ... you have to plan accordingly

They also described this reactive approach being observant and alert, checking to see if further adjustment to aspects of their teaching might be suitable at any moment in time in myriad ways:

it's not just necessarily the material that the children are doing. It might be where I'm standing in regard to their bodies. It might be how I'm speaking to them. It might be the language I'm using. It might be the stories I'm telling them. It's how I'm trying to link them to whatever learning they're doing and it's just the whole package really. It might be how the room is set up. It might be whether I've got them gathered round the board at the front, there might be five there because they have more difficulty concentrating. I might have to change my language that I'm

using, might have to change the diagram I've used. It's the whole box and dice and a good teacher does it all the time

Inclusive differentiation practices

Amongst the teachers and leaders who adopted the holistic and inclusive approach outlined above, a range of commonly used practices were repeatedly named as important for differentiating teaching. These respondents highlighted the importance of using practices that helped them to design for flexibility by anticipating a range of diverse strengths and needs, as well as responding to each student's strengths and needs by ensuring that they were "working at their point of need or interest depending on the learning situation". One such practice that was frequently raised was the use of *scaffolding* to provide support to assist all students to work towards a common goal or task. Teachers often described providing resources as scaffolds to support learners in all kinds of ways including to support them in both *initiating and completing tasks*:

I've got kids who really can barely string sentences together let alone write a whole essay. So, for them they're still doing an essay, they still have the same topics, but then they will have supports, templates on how to write, sentence starters, and things like that

These resources were typically resources that were either created for a class by teachers "as individuals or as a faculty that help students that really do struggle that break it down". Scaffolds were also offered by teachers to support students in *becoming more independent* learners by offering supports to assist their skill development. These scaffolds included human resources for students to access such as teachers and peers, who could serve as more capable coaches, or who could provide models of practice as well as feedback. Teachers described designing learning activities so that students could access a range of people to provide these, including both the teacher and also classmates:

I do lots of group work for those needs as well and in my groups I change it up from students that I know could help one another in that they're stronger in that topic or that skill, but sometimes I deal with skills based in that they're all at the same level and I can spend extra time with certain groups

The use of *flexible grouping* was described as important for providing differentiated *mentoring and feedback arrangements* for all learners "sometimes groups of different levels of ability, sometimes to have an 'expert' learner in each group" so that all students had turns in accessing opportunities to be both mentor and mentee in group learning arrangements. Teachers using flexible grouping approaches described that this aspect of the learning environment needed to be carefully designed to support differentiation by using varied approaches to grouping including ability-based, heterogeneous as well as 1:1 grouping arrangements in order to support all students developing expertise in working with their peers as well as managing their own learning journeys independently:

I think they need to be doing the learning as independent learners and then I can walk around and give one on one attention. I do lots of group work for those needs as well and in my groups I change it up from students that I know could help one another in that they're stronger in that topic or that skill, but sometimes I deal with

skills based in that they're all at the same level and I can spend extra time with certain groups

Another key practice that was frequently mentioned was to offer students *choices* in their learning and “catering for the diverse interests and needs of students by providing options for their learning”. This was described as ensuring that all students were working at their point of need and area of interest, and that they were provided with opportunities to practice making appropriate choices and *building their independence and autonomy*:

Students were in teams and they obviously fell into their... and they really knew each other as learners. That was really interesting because the kids were comfortably talking to each other as someone who, about whatever they were doing. And they were in their collaborative teams, there were stations around the room... But apart from that, on the board, there were a number of math problems all lined up. And so, and above each problem, was a name. And students would look up, I didn't realise this bit was happening until I, because it all just seemed to happen by magic around me, and the kids would see their name on the board and they'd just wander out, they might take someone with them, and they'd be doing their problem, [the teacher] would be moving around the stations, would go down the front. So at any one point in time, there might be between six and 12 kids at the board. And then, there'd be the other kids moving around in the stations. And then the questions were all differentiated. And [the teacher's] knowledge of the students was so good, she was just basically pointing them in the direction of what they could do. Some of them did the whole lot, some of them went, you could see them, "Oh my goodness, I can do that." And then, "Oh, well why don't you do this." And this was all just happening very naturally. Every child in that class felt like they were learning and growing and just the talk you could hear behind you, kids talking about maths

Choices were offered in terms of the learning *process* (activities) *and learning environment* (grouping), as in the quote above, but they were also offered in terms of the *product* (assessment) that was made available for students to select as the most appropriate option for them to express their learning either through varied kinds of task responses:

More often though, differentiation has occurred in my classrooms across a topic where students are able to complete a range of tasks in a range of different ways

or offering options in the levels at which they engage by

Providing choices for students in how they learn and how they demonstrate their learning... and providing optional extension tasks to further challenge students.

Teachers emphasised the importance of supporting students to exercise their independent judgement and supporting them to do this well:

We'll give students a choice of three and some students we may suggest that they do a certain topic, but it's also up to them. But it pretty much is there's three topics and there'll be an easier, middle and harder topic and it's up to the students to identify that or you can point out to them a suggestion that you could do this one.

The most common teacher practice discussed was related to assessment, as was found in the discussion of how teachers engage students. This is clearly visible in the teaching exemplars that were provided after the conclusion of the project (see Appendices D-I).

Differentiation as a response to perceived academic ability

A unidimensional understanding of student diversity

By contrast, another group of respondents were committed to a very different model of practice that was driven by a divergent understanding of differentiation as a response to student diversity. These respondents only discussed student differences in unidimensional terms based on *teacher judgements of inherent student academic ability*:

there's basically three groups in the classroom. There's students who don't have an understanding of a particular thing, students who do, and students who have an understanding of the whole unit

Teachers invoked the idea of diversity as normally distributed along a bell curve of ability, such that there was a majority of “average” achieving students, with two other smaller groups on either side who typically attained high or lower achievement scores. These teachers did not view the achievement of students as a result of their interaction with the design of the activities, the assessments of the environment. Rather they saw student ability as *determining their achievement*, such as one respondent who suggested that that:

I think, they're success to an extent despite us

This group of respondents saw student achievement as arising from their being either intrinsically “brighter kids or weaker kids”. Differentiation by these teachers was thus a response to this way of seeing student difference as an inherent characteristic, rather than as needing a teaching and design response to develop learner expertise in setting/meeting challenging goals, monitoring their own progress to mastery, or accessing and utilising resources to support the acquisition of new skills and knowledge.

Interestingly, the benefits were generally described for students described as “expert” with an assumption that this would benefit other students as a flow-on effect:

I think, if teachers look at them and really try to extend them, they'll do something with the middle. Or, the middle will be moved along

These teachers were interested in differentiation as a social justice response, however they perceived that that these “expert” students were the most disadvantaged:

I think too often the classroom actually stops or prevents students from achieving their full potential and by trying to 'reduce the gap' between students and their abilities, we have essentially 'put a lid' on our top achievers

This view of diversity and differentiation was a widely held view in the group at the start of the year, prior to the engagement with Universal Design for Learning, with respondents explaining that it was typical practice at SWHS for teachers to classify students into one of these three ability categories:

They're terms we just kind of throw around, like they're a novice learner so they're either beginning or they don't have the skills needed. It's a term mostly used – I've mostly heard it in maths but we have spoken about it in English in terms of the reading levels or whatever. I think it's just a way to classify where a student is

Respondents generally used this common vocabulary of “novice”, “accomplished” and “expert” which suggested that this was widely used teachers in different content areas, and is widespread at SWHS.

Differentiation as reactive

Staff adopting this bell-curve approach offered definitions of differentiated teaching as *reactive* with strong belief that it involved creating multiple pathways through learning in their classrooms. However, these pathways were rigid rather than flexible, with teachers mapping these pathways for particular students. Rather than designing curriculum in a way that anticipated diversity as outlined above, these respondents described designing activities and assessments for an “average” student, and then making tiered versions using “modification of some sort with brighter kids or with weaker kids” such as “by giving them different prompts, for example”. Rather than offering students the choice and self-determination in selecting the level at which they engaged with the content, as was done by the other group of teachers, and in line with UDL, these teachers often assigned “tasks pitched to different levels of ability within the class setting”, and decided who would complete which task at which level based on ability typically determined by achievement. This was evident in language that described students using achievement data such as describing more able groups of students as “the top quartile”.

Those respondents who advocated for a reactive and ability-based form of differentiated teaching mostly advocated for this approach as beneficial for those learners they felt were more advanced suggesting that assigning them different work to other students was beneficial:

I certainly have been really pleased with the level that some of the top end students have done, because I've given them the opportunity to take on something that would be more challenging

Ability-based classroom practices

The respondents who were focused on ability-based differentiation typically did not approach this as a design consideration for the whole group, but rather as parallel add-ons for particular individuals. These respondents typically approached curriculum design as a standard one-size for the majority group and implemented differentiation on an individual basis for those seen to be likely to achieve higher or lower results. Respondents described this individual approach in three ways. The first was through adjusting the standard of the curriculum for individual students and drawing on related content from that standard:

I kept skills to basics (offered work at lower year level) and offered extension work (year above)

The second was through a tiered approach to offering alternative resources and activities

really extend top end kids by giving them different prompts, for example

Having tasks pitched to different levels of ability within the class setting

And the third was through a tiered approach to assessment, with different products being required from different students:

Most differentiation has been done from an assessment perspective - e.g. changing the assessment task to accommodate for gifted or novice learners

Graduated assignments & extension work

This group all drew strongly on a *three-tiered model of teaching* and assessment for “novice”, “accomplished” and “expert” learners in which teachers selected which students would receive which version of the activity or assessment task.

Challenges in negotiating a shared understanding of differentiation amongst the group.

The PLT sessions encouraged the view that all students can be expert learners and endorsed a range of practices as effective for differentiating to support the development such expertise in all students. They also encouraged a view of student diversity across multiple domains rather than limiting this to academic achievement or “ability. This was embraced by some teachers, but not all, meaning that there was not common understanding of differentiation and diversity adopted across the group.

The teachers who were focused on academic ability were committed to a model of differentiation that saw the majority of students as “average” with something different required for those who teachers felt were higher or lower achieving in terms of academic attainment. Staff who advocated for the tiered ability-based approach did not describe any moral opposition to the inclusive approach to differentiated teaching, more that it was their preference. Some described that they had selected the PLT group specifically in order to learn more about:

differentiating academically, as opposed to all sorts of other ways that you can differentiate. But being able to present work that’s going to be challenging to offer the students in the class. So I guess that was what I was primarily looking for

Indeed, many teachers described having selected to opt-in to the PLT group specifically in order to learn better how to design tiered tasks based on ability for example this staff member was seeking to learn:

a way to extend learners at both expert and novice level; particularly expert learners. I think too often the classroom actually stops or prevents students from achieving their full potential and by trying to 'reduce the gap' between students and their abilities, we have essentially 'put a lid' on our top achievers. I thought that this PLT would be an opportunity to learn new skills to differentiate my classroom practice in every lesson

These respondents advocated for a tiered approach on pragmatic grounds, describing alternatives as impractical or impossible, such as the following school leader:

So, differentiation ... teaching to their point of need. I haven’t quite got my head around that, because if there's 25 different points of need in the classroom, I

wouldn't be able to do that, I don't think. No one has equipped me with the skills to do that, and I wouldn't expect a teacher to do that

The departure of some teachers at the end of Term 1 points to a resistance to this holistic approach, with teachers' comments in the PLT feedback indicating that they were there to learn individualised and ability-based approaches to differentiation, and demonstrating a commitment to the implementation of tiered and individualised differentiation:

I think some people within the Monash Uni PLT were under the impression it would be more in line with individual differentiation - thus far this hasn't been the case

Interestingly, the staff who adopted the more inclusive model of student difference articulated their opposition to a tiered approach using student attainment as a model, and to the individualised and ability-based approach

I'm not someone that makes like a novice intermediate expert kind of resource person because I just don't, to be honest, believe in that

This opposition tended to be expressed as a rejection of the tiered approach using the model of novice, accomplished and expert as a way of understanding student diversity. These respondents described that model as inadequate, creating the appearance of differentiating without actually implementing it:

I think it's a way to group students to kind of try and show that we're differentiating. But I think we're just still grouping students, we're not actually differentiating.

Their opposition was also expressed as conflicting with their values as a teacher, with respondents arguing that characterising students using these terms, and assigning work based on perceptions of ability was restrictive and undesirable:

creating three different lesson plans for different kids and pigeon-holing students which often happens and that really frustrates me.

Some went further and described it as damaging:

Looking now at how engrained those terms, novice, accomplished and expert have become in different faculties, I don't think that's helpful. But I think where it came from, it came from a good place but I think the meaning has been lost a little bit and I think teachers naturally like to categorise. I think it helps us organise and understand. So, I understand why it's happened and particularly the faculties that it's happened in, the way that those faculties like to organise their curriculum. Yeah, it doesn't surprise me that they've taken this approach. But I think it's just had a bit of a damaging impact on students and their self-perception

It is also worth noting that an additional difficulty in creating a shared understanding of differentiation within the group may have arisen from change in the school personnel collaborating to lead the PLT group. Two school leaders who were collaborators in the design of the PLT project went on leave in Term 2, and they were replaced by another staff member

new to the project. This points to the importance of sustained leadership involvement when seeking to change teacher practice.

3.2 BARRIERS AND FACILITATORS OF DIFFERENTIATION AT SWHS

Teachers and school leaders nominated a range of school factors that worked against the implementation of differentiation. The first was *time*:

I guess probably your biggest thing is just having the time to develop lessons that show really good differentiation. In fact probably time is always the factor that works against teachers

So the moment we try and, we'll try and be asking teachers to differentiate what they're doing in the classroom, whether it's be the environment, whether it be the language they use, whether it's their body, what they're doing with their body. Whether it's the work and many of them feel because they've probably got six on that day or five on that day, it's just really difficult to think about, they just have a lot to think about and then, it's not always successful

Another was the constraints of the *set curriculum*:

our school has become very much making courses that we're all on the same page, we're all doing the same thing and it's very consistent and I really strongly believe in consistency but I don't believe that we should all be doing the same thing because we're not the same and also the requirement for classes to be assessed through common assessment tasks:

and of common assessment tasks:

because every class is different, the dynamics of a class, what they know, what they don't know. And so I like to build on the class that I've got and I'm a little bit limited sometimes now because I have to give a particular common assessment task

School leaders noted that the pressures of assessments were also external to the school, for example the social pressure applied by VCE and league tables which reward high scores, not student growth and development:

In any community, the success of the school is generally measured by the VCE results and that's our culture. And the media portrays that successful schools are the ones that have excellent VCE results... There is no community discussion about, gee, Silver Wattle did really fantastically. The way they value added to the GAT was just amazing. It just doesn't happen. That happens in our heads. It'd be really nice to think that that was of value, but there are very few schools that are celebrated because of the... at the end of the year, show me a school where the Herald Sun has celebrated the value adding that a school's done. It just doesn't happen. And I think that makes differentiation really difficult because we don't acknowledge it.

There were mixed feelings regarding whether professional learning facilitated differentiation at SWHS. Some respondents indicated the importance of professional learning being sustained, school wide and high in quality:

need to be skilled through professional development and, good professional development

While others indicated that they had found previous professional learning of limited value:

sometimes, you know, sometimes you go to, in-services and you don't gain a lot from them

I guess through uni I did it. We've definitely had it through school but to be honest PD all kind of – like, we've had it but it just all kind of gets lost in your brain

Generally, whole school PD doesn't work. I don't think. Bringing in external people doesn't work for a whole day.

It was noted that the success of the whole-school approach to professional learning relating to formative assessment could be attributed to the strong message sent in putting a lot of resources into that, as well as in getting families to support the change:

It was two whole days, including and then that also included parents. There was a parent session

3.3.EVALUATION OF TEACHING IMPACT

School leaders were keen for staff to be evaluating the impact of their differentiated teaching

But I think actually looking at how we assess and getting the community to accept the idea that a school could actually be assessing for growth rather than a high jump approach that would be helping teachers really assess whether their differentiation is working... It has to be a whole range of assessment items and assessment activities, and it has to be part of their everyday teaching and it has to be sort of catching it while they can, and mightn't be something big, but it has to be constant

This vision by leadership was, however, was not widely shared by teachers, although they were very comfortable with seeking feedback from students about their interest in the lesson content or pleasure in the learning activities.

Teachers preferred to evaluate student enjoyment of the content or the activities, rather than how effective it was to learn that way. Exit cards were repeatedly offered as a preferred means of seeing feedback on this, which aligns with UDL guideline 8 in recruiting student interest:

when you ask them to give you some feedback, something like on an exit card about what they enjoy about the lesson or what they want to know more about

Teachers were happy to seek this information about interest and pleasure in learning and use it to influence their future planning:

I think exit cards are great. So, not only do they help you sort of understand if they've got the crux of the lesson, you can also ask for some feedback on what it is that they found enjoyable and want to learn more about, so sort of shape the rest of the lesson

While teachers were comfortable in evaluating students' academic performance, or in evaluating student interest and enjoyment from within a lesson, there was strong resistance to evaluating their teaching impact on other aspects of student engagement that all teachers had agreed were important, such as student independence, resilience, or capacity for monitoring their own progress:

I almost sort of think some of those values, while they're really important to us as a school, they don't really have a place in being measured and judged. Things like responsibility, yeah, fine, you know, bringing books to class. I don't have an issue with sort of saying that a kid has shown that they are a responsible learner. But yeah, some of those things like integrity – that's the real sticky one and I just find that really difficult to make a judgement about that

While teachers described that it was difficult to judge a student's capacity for teachers' resistance to using the tools that had been developed for evaluating they also articulated as finding it time-consuming and effortful, and that it was not seen as a core part of "teaching". This reluctance is curious when it is considered in light of the enthusiasm for which teachers engaged in a wide variety of forms of summative and formative academic assessment, and the emerging interest over the project in assessing students' social capabilities (such as that seen in Appendix H). It is a clear area for improvement in the staff capacity, and strongly anchored in the school priorities and values. It is also advocated by leadership who can see that this is an area for capacity building:

assessing for growth rather than a high jump approach that would be helping teachers really assess whether their differentiation is working. Because at the moment, the assessment tools are really, we don't use it very well. We need to be learning more... You want teachers' energy to go into being creative and developing good lessons.

3.4. DIFFERENTIATED TEACHING EXEMPLARS

Some teachers that remained in the PLT group for the full year offered a range of exemplars to demonstrate how they had incorporated differentiation into their planning. These are available in Appendices D-H. From an inspection of these, it is clear that SWHS staff feel very comfortable with using a range of assessment practices to differentiate *products*. This is an asset that the school can draw on to further develop teacher capacity for designing and implementing differentiation. Teachers were clearly able to use assessment in ways that could engage a range of learners and that aligned with the UDL framework. For example, teachers designed:

- *Peer assessment* and *teacher assessment* activities that support executive functions (UDL Guideline 6) such as meeting long-term goals, monitoring academic progress towards those goals, receiving timely feedback to support continued planning for meeting goals and guiding their efforts and practice. See Appendix D, E and G
- Methods for monitoring student achievement using Guttman charts. These can be used to ascertain student points of need and learning readiness and ensure that

teaching, curriculum and assessment design provides *optimised challenges* for all (see Appendix F)

- Activities and assessments that were designed *to foster collaboration and communication* (UDL Guideline 8). These included learning activities that required students to work cooperatively with both independence as well as interdependence, executing their own role while working towards a common goal. The embedding of these general capabilities into the rubric created clear expectations for these peer interactions and guided the effectiveness of these by providing clarity about the expected nature of those, as well as feedback on how these were executed. See Appendix H.
- *Self-assessment* activities that enabled students to persist and sustain their efforts (UDL Guideline 8) – see Appendix I. This exemplar clearly supported students’ self-regulation by providing opportunities for them to regulate their emotions that can affect progress (in this exemplar these were pride, pleasure, boredom, regret), and to reflect on their progress towards independence, identifying areas for strength and improvement. They also designed peer-assessment activities that enhanced students capacity to obtain feedback that support

4. CONCLUSIONS AND IMPLICATIONS

The final section provides a summary of the study’s key findings (Section 4.1) and outlines a series of implications for the development of future work in this area.

4.1 SUMMARY: STUDENT ENGAGEMENT

Key Findings

1. A *consistent understanding of student engagement* was developed across the group. Exposure to UDL and mapping of this onto the General Capabilities Curriculum as well as the SWHS School Values resulted in a widely agreed and broad understanding of the elements that constitute student engagement. It is clear that exposure to a range of forms of evidence including research evidence and student voice data *had an impact on how teachers think* about and understand engagement. This resulted in a wide-ranging and multi-dimensional understanding of engagement that included intellectual engagement with content, collaborative and respectful engagement with peers and teachers, and sustained engagement through persistence and self-monitoring of progress. This multidimensional understanding was formalised by defining productive and engaged classroom behaviours and developing a classroom observation tool.
2. Staff remained *reluctant to assess student engagement*, with many expressing philosophical opposition to assessing this. Many teachers were *resistant to teaching and assessing behaviours related to engagement*. Several saw engagement as intrinsic to students or beyond the control or mandate of the teacher, rather than a professional responsibility to address for all students. If students were interested in a topic, teachers did not regard this as a response to their efforts to make the topic engaging, but rather that it simply resonated with that student. If students were not engaged, teachers did not typically see this as a professional challenge for them to resolve, but often a failing in students’ circumstances or characters.

3. Many teachers at SWHS are *skilled at using formative assessment* as a means of supporting student engagement.

Recommendations

There remain areas in which teachers could develop new skills to expand their teaching repertoire for engaging all learners, particularly in designing supportive learning activities to support every student in sustaining effort and to self-managing their engagement. The following recommendations are suggested in response:

1. Develop a whole-school approach to student engagement that draws on the Victorian General Capabilities in order to emphasise that these are promoted as:
 - Teachable
 - Assessable
 - A professional responsibility
2. Ensure that this approach is grounded in the school values and gets staff “buy in” given that there was such strong resistance from teachers to assessing what they felt were student’s characters. In light of the unprecedented success of the formative assessment school wide reforms, a key recommendation is to draw on the assets that supported that endeavour: getting parental and whole-staff buy-in.

4.2 SUMMARY: DIFFERENTIATED TEACHING

Key Findings

1. Amongst staff at SWHS there exist *two differing and conflicting ways of understanding student diversity*, and how differentiation should be implemented as a response to that diversity. The two positions on diversity and differentiation were evident amongst teachers as well as between school leaders. These two perspectives were:
 - a. A *unidimensional* understanding of diversity based on student ability. These respondents described a perception that student achievement was driven by intrinsic characteristics of being more or less able than other students.
 - b. A *multidimensional* understanding of student diversity including students’ strengths, needs, experiences and behaviour. These respondents described perceiving that student achievement was a reflection of the learning environment created by teachers
2. Teachers understanding of student diversity drove the pedagogies that they used to differentiate:
 - a. Those teachers and leaders that understood student diversity in multidimensional terms embraced a rich and elaborate model of differentiation. They proactively and holistically planned for a diverse student group by adopting a mix of practices that involve *differentiation of content, process and product and these were available to all students*. For example, student were encouraged to make appropriate choices in the way that they took in information, whether they worked alone or in groups, the kinds of supports that they would receive, and how they would demonstrate their learning. These teachers understood differentiation as a priority for each student across many aspects of student diversity. When analysed through the UDL lens, it was

clear that these teachers were adept at providing multiple means of engagement and of action and expression, particularly through creative approaches to assessment. For these teachers, the challenge remains to mobilise differentiated teaching and universal design principles across a wider number of teaching domains to support students in acquiring expertise in being resourceful, strategic, and purposeful.

- b. Those teachers and leaders that adopted a unidimensional understanding of diversity used a narrower range of pedagogies for differentiating their teaching. These were typically individualised and ability-based approaches that were added on to their existing teaching approach. These staff members adopted a teach-to-the-middle model, planning for whole-class teaching and then *differentiating content, process or product only for a few individuals* by providing something different to specific students who they viewed as high or low-achieving. Differentiation practices typically involved tiered assessments and curriculum differentiation, with tasks that offered work that was more or less challenging to students selected by the teacher
3. A number of features of the school environment were identified as either supporting the use of differentiation or making it more difficult:
 - a. Respondents identified the school emphasis on consistency in curriculum and common assessment tasks, as well as the emphasis on success in terms of VCE scores, *to work against the creation of a shared culture of differentiation at SWHS.*
 - b. The described that both in-house and external professional learning *supported engaging in differentiated teaching*

Key recommendations:

There are clear priorities for supporting teachers in developing their capacity for differentiation at SWHS. In particular these include:

1. SWHS leaders to develop an agreed position on differentiation and to communicate this to staff as well as the wider school community.
2. If differentiation is to be included in the next Strategic Plan, then it is advised that school leaders are involved in professional learning offered, that they actively encourage a culture of risk-taking, and commit to long-term change, all of which are associated with effective reform in this area (Jarvis et al., 2016).
3. In light of the challenges faced in this project with the change in school leaders involved in co-leading the project, it is recommended that a long-term plan is formed for the school leaders who will take responsibility for the next phase of reform.
4. The teachers in the project acknowledged that differentiation was a practice for social justice, and sought to implement it to address the needs of students that they felt were disadvantaged. However, there was no agreement about who these were. The author advises that the school should develop a clear position about those students who are most disadvantaged in the school based on school data, and informed by education priorities from Australia and internationally that are designed to produce improved long-term outcomes for vulnerable students.

4.3 IMPLICATIONS

This study set out to work with teachers on differentiating teaching for student diversity and engagement. The aim was to develop a shared understanding among the group regarding the importance and the means of creating an equitable and inclusive learning environment for all students. Through in-depth analysis of teachers' practices and interviews, it has generated fresh insights into how diversity and engagement are understood, as well as the types of differentiated teaching practices that are in use at SWHS. It has also highlighted areas of strength as well as priorities for change.

Firstly, there was a *general commitment to social justice* for all students. While there were differing opinions about who the priority equity groups were in the school, it is an important starting point that fairness and equity are seen as a priority more broadly. This is an important foundation for equity reforms, and even though it can be challenging for teachers to adopt a new philosophy and mode of professional practice, this can only be achieved if they first genuinely care and believe in the importance of equity. The school can capitalise on this general commitment by identifying who are the students most vulnerable to disadvantage in the school and *developing a shared commitment to improving equity* for these students.

Secondly, there was widespread *agreement on the importance of differentiating teaching*. Teachers and leaders differed on how this should occur, but the collective agreement on its importance is a strong basis for developing a shared understanding. From this can then flow a collective agreement regarding implementation.

Finally, school leadership should take note of the strength across the teaching staff in the shared culture of effective assessment of and for learning. Teachers at SWHS typically approach assessment for students in creative ways, and this reveals *high capacity for whole-school reform at the school*. Leadership should be encouraged by the clear depth of impact that their commitment to creating a culture of formative assessment at the school has had on the staff. There are important lessons to be learnt here, such as the length of time that it takes to change practice meaningfully, the need to invest heavily in resourcing and providing professional learning for widespread change, as well as the need to take parents on the change journey through effective communication. This is a school that has already successfully implemented a school wide reform successfully and has a *roadmap by which that change be accomplished*.

The author hopes that this study demonstrates the importance of *continuing the project of building teacher capacity for differentiated instruction* at SWHS. In this sense the study is a first step towards understanding the challenges and complexities in developing teachers' capacity for differentiation, as well as the clear assets and resources that will support continued school improvement in this area.

REFERENCES

- Angus, M., McDonald, T., Ormond, C., Rybarczyk, R., Taylor, A., & Winterton, A. (2010). *The Pipeline Project: Trajectories of classroom behaviour and academic progress: a study of student engagement with learning*. Mount Lawley, Western Australia: Retrieved from <http://ro.ecu.edu.au/ecuworks/7000/>.
- Australian Council for Educational Research. (2016). *The National School Improvement Tool*. Canberra: Department of Education, Employment and Workplace Relations. Retrieved from www.acer.edu.au/nsit.
- Australian Government. (2015a). *Nationally Consistent Collection of Data for Students with Disability*. Canberra: Department of Education and Training. Retrieved from <https://www.education.gov.au/what-nationally-consistent-collection-data-school-students-disability>.
- Australian Government. (2015b). *Planning for Personalised Learning and Support: A National Resource*. Canberra: Department of Education and Training. Retrieved from <https://docs.education.gov.au/system/files/doc/other/planningforpersonalisedlearningandsupportnationalresource.pdf>
- Australian Government. (2016). *Quality Schools, Quality Outcomes*. Canberra: Department of Education and Training. Retrieved from https://docs.education.gov.au/system/files/doc/other/quality_schools_acc.pdf.
- Australian Institute for Teaching and School Leadership. (2014). *Australian Professional Standards for Teachers*. Melbourne: AITSL. Retrieved from http://www.aitsl.edu.au/docs/default-source/apst-resources/australian_professional_standard_for_teachers_final.pdf
- Beecher, M., & Sweeny, S. M. (2008). Closing the achievement gap with curriculum enrichment and differentiation: One school's story. *Journal of Advanced Academics*, 19(3), 502-530.
- Bygren, M. (2016). Ability grouping's effects on grades and the attainment of higher education: A natural experiment. *Sociology of education*, 89(2), 118-136.
- Campbell, T. (2015). Stereotyped at seven? Biases in teacher judgement of pupils' ability and attainment. *Journal of Social Policy*, 44(3), 517-547. doi: 10.1017/S0047279415000227.
- Center for Applied Special Technology (CAST). (2011). *Universal Design for Learning Guidelines Version 2.0*. Wakefield, MA: CAST Retrieved from [http://www.udlcenter.org/sites/udlcenter.org/files/UDL_Guidelines_Version_2.0_\(Final\)_3.doc](http://www.udlcenter.org/sites/udlcenter.org/files/UDL_Guidelines_Version_2.0_(Final)_3.doc)
- Commonwealth of Australia. (2009). *Shut Out: The Experience of People with Disabilities and their Families in Australia*. Retrieved from https://www.dss.gov.au/sites/default/files/documents/05_2012/nds_report.pdf
- Deunk, M. I., Smale-Jacobse, A. E., de Boer, H., Doolaard, S., & Bosker, R. J. (2018). Effective differentiation Practices: A systematic review and meta-analysis of studies on the cognitive effects of differentiation practices in primary education. *Educational Research Review*, 24, 31-54. doi: 10.1016/j.edurev.2018.02.002.
- Dixon, F. A., Yssel, N., McConnell, J. M., & Hardin, T. (2014). Differentiated instruction, professional development, and teacher efficacy. *Journal for the Education of the Gifted*, 37(2), 111-127. doi: 10.1177/0162353214529042.

- Ernest, J. M., Thompson, S. E., Heckaman, K. A., Hull, K., & Yates, J. (2011). Effects and social validity of differentiated instruction on student outcomes for special educators. *The Journal of the International Association of Special Education*, 12(1), 33-42.
- Fenwick, L., & Cooper, M. (2012). Prevailing pedagogies for classes in low SES contexts and the implications for standards-based reform in Australia. *The Australian Educational Researcher*, 39(3), 349-361. doi: 10.1007/s13384-012-0066-8.
- Francis, B., Connolly, P., Archer, L., Hodgen, J., Mazonod, A., Pepper, D., . . . Travers, M.-C. (2017). Attainment Grouping as self-fulfilling prophesy? A mixed methods exploration of self confidence and set level among Year 7 students. *International Journal of Educational Research*, 86, 96-108. doi: 10.1016/j.ijer.2017.09.001.
- Gonski, D., Arcus, T., Boston, K., Gould, V., Johnson, W., O'Brien, L., . . . Roberts, M. (2018). *Through Growth to Achievement: The Report of The Review to Achieve Educational Excellence in Australian Schools*. Canberra: Department of Education and Training. Retrieved from https://docs.education.gov.au/system/files/doc/other/662684_tgta_accessible_final_0.pdf
- Gonski, D., Boston, K., Greiner, K., Lawrence, C., Scales, B., & Tannock, P. (2011). *Review of school funding: Final report*. Canberra: Department of Education, Training, and Workplace Relations. Retrieved from <https://docs.education.gov.au/system/files/doc/other/review-of-funding-for-schooling-final-report-dec-2011.pdf>
- Hall, T., Vue, G., Strangman, N., & Meyer, A. (2004). *Differentiated Instruction and Implications for UDL Implementation*. National Center on Accessing the General Curriculum. Wakefield MA. Retrieved from <http://aem.cast.org/about/publications/2003/ncac-differentiated-instruction-udl.html#.W2uMMdIzZPY>
- Harris, D. M. (2012). Varying teacher expectations and standards: Curriculum differentiation in the age of standards-based reform. *Education and Urban Society*, 44(2), 128-150. doi: 10.1177/0013124511431568.
- 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(2), 90-102.
- 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.
- Johnson, D. W., & Johnson, R. T. (2009). An educational psychology success story: Social interdependence theory and cooperative learning. *Educational Researcher*, 38(5), 365-379. doi: 10.3102/0013189x09339057.
- Lazowski, R. A., & Hulleman, C. S. (2016). Motivation interventions in education: A meta-analytic review. *Review of Educational Research*, 86(2), 602-640. doi: 10.3102/0034654315617832.
- Mastropieri, M. A., Scruggs, T. E., Norland, J. J., Berkeley, S., McDuffie, K., Tornquist, E. H., & Connors, N. (2006). Differentiated curriculum enhancement in inclusive middle school science: Effects on classroom and high-stakes tests. *The Journal of Special Education*, 40(3), 130-137. doi: 10.1177/00224669060400030101.

- McLachlan, R., Gilfillan, G., & Gordon, J. (2013). *Deep and Persistent Disadvantage in Australia*. Canberra: Productivity Commission. Retrieved from <https://www.pc.gov.au/research/supporting/deep-persistent-disadvantage/deep-persistent-disadvantage.pdf>
- Meo, G. (2008). Curriculum planning for all learners: Applying universal design for learning (UDL) to a high school reading comprehension program. *Preventing School Failure: Alternative Education for Children and Youth*, 52(2), 21-30. doi: 10.3200/PSFL.52.2.21-30.
- Meyer, A., Rose, D. H., & Gordon, D. (2014). Universal design for learning: Theory and practice. Wakefield, MA: Center for Applied Special Technology. Retrieved from <http://udltheorypractice.cast.org/login>. Mills, M., Monk, S., Keddie, A., Renshaw, P., Christie, P., Geelan, D., & Gowlett, C. (2014). Differentiated learning: from policy to classroom. *Oxford Review of Education*, 40(3), 331-348. doi: 10.1080/03054985.2014.911725.
- Ministerial Council on Education, Employment, Training and Youth Affairs. (2008). *Melbourne Declaration on Educational Goals for Young Australians*. Melbourne: Council of Australian Governments. Retrieved from <http://apo.org.au/node/29859>.
- Organisation for Economic Co-operation and Development. (2016). *PISA 2015 Results (Volume I): Excellence and Equity in Education*. Paris. Retrieved from https://www.oecd-ilibrary.org/education/pisa-2015-results-volume-i_9789264266490-en
- Rao, K., & Meo, G. (2016). Using Universal Design for Learning to design standards-based lessons. *SAGE Open*, 6(4), 1-12. doi: 10.1177/2158244016680688.
- Reis, S. M., Eckert, R. D., McCoach, D. B., Jacobs, J. K., & Coyne, M. (2008). Using enrichment reading practices to increase reading fluency, comprehension, and attitudes. *The Journal of Educational Research*, 101(5), 299-315. doi: 10.3200/JOER.101.5.299-315.
- Reis, S. M., McCoach, D. B., Coyne, M., Schreiber, F. J., Eckert, R. D., & Gubbins, E. J. (2007). Using planned enrichment strategies with direct instruction to improve reading fluency, comprehension, and attitude toward reading: An evidence-based study. *The Elementary School Journal*, 108(1), 3-23. doi: 10.1086/522383.
- Reis, S. M., McCoach, D. B., Little, C. A., Muller, L. M., & Kaniskan, R. B. (2011). The effects of differentiated instruction and enrichment pedagogy on reading achievement in five elementary schools. *American Educational Research Journal*, 48(2), 462-501. doi: 10.3102/0002831210382891.
- Santangelo, T., & Tomlinson, C. A. (2012). Teacher educators' perceptions and use of differentiated instruction practices: An exploratory investigation. *Action in Teacher Education*, 34(4), 309-327. doi: 10.1080/01626620.2012.717032.
- Sharp, K., Jarvis, J. M., & McMillan, J. M. (2018). Leadership for differentiated instruction: teachers' engagement with on-site professional learning at an Australian secondary school. *International Journal of Inclusive Education*, (early online), 1-20. doi: 10.1080/13603116.2018.1492639.
- Shaunessy-Dedrick, E., Evans, L., Ferron, J., & Lindo, M. (2015). Effects of differentiated reading on elementary students' reading comprehension and attitudes toward reading. *Gifted Child Quarterly*, 59(2), 91-107. doi: 10.1177/0016986214568718.

- Smit, R., & Humpert, W. (2012). Differentiated instruction in small schools. *Teaching and Teacher Education*, 28(8), 1152-1162. doi: 10.1016/j.tate.2012.07.003.
- Terwel, J. (2005). Curriculum differentiation: Multiple perspectives and developments in education. *Journal of Curriculum Studies*, 37(6), 653-670. doi: 10.1080/00220270500231850.
- Tomlinson, C. A. (2001). *How to differentiate instruction in mixed-ability classrooms*. Alexandria, VA: Association for Supervision and Curriculum Development. Retrieved from <http://www.teachersity.org/resources/instruction.pdf>
- Tomlinson, C. A. (2004). The Möbius effect: Addressing learner variance in schools. *Journal of Learning Disabilities*, 37(6), 516-524. doi: 10.1177/00222194040370060601.
- Tomlinson, C. A., Brighton, C., Hertberg, H., Callahan, C. M., Moon, T. R., Brimijoin, K., . . . 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(2-3), 119-145. doi: 10.1177/0013124511431568.
- United Nations Committee on the Rights of Persons with Disabilities. (2016). *General comment No. 4 on Article 24: Right to inclusive education*. Geneva: United Nations Educational, Scientific and Cultural Organization. Retrieved from <http://www.ohchr.org/EN/HRBodies/CRPD/Pages/GC.aspx>
- United Nations Educational, Scientific and Cultural Organization. (1994). *The Salamanca Statement and Framework for Action on Special Needs Education*. Paris: UNESCO. Retrieved from http://www.unesco.org/education/pdf/SALAMA_E.PDF.
- VanTassel-Baska, J., Xuemei Feng, A., Brown, E., Bracken, B., Stambaugh, T., French, H., . . . Bai, W. (2008). A study of differentiated instructional change over 3 years. *Gifted Child Quarterly*, 52(4), 297-312. doi: 10.1177/0016986208321809.
- Victorian Institute of Teaching. (2015). *Special Needs Plan*. Melbourne: VIT. Retrieved from <https://www.vit.vic.edu.au/registered-teacher/special-needs-plan>
- Webster, R., & Blatchford, P. (2018). Making sense of ‘teaching’, ‘support’ and ‘differentiation’: the educational experiences of pupils with Education, Health and Care Plans and Statements in mainstream secondary schools. *European Journal of Special Needs Education*, (early online), 1-16. doi:10.1080/08856257.2018.1458474
- Willms, J. D. (2003). *Student engagement at school: A sense of belonging and participation: Results from PISA 2000*. Paris. Retrieved from <http://www.oecd.org/education/school/programmeforinternationalstudentassessmentpisa/33689437.pdf>

APPENDICES

APPENDIX A. TABLE 3: PRODUCTIVE BEHAVIOURS & EXAMPLES

PRODUCTIVE BEHAVIOUR CATEGORY	EXAMPLES
Persistence	<ul style="list-style-type: none"> - Remains focused on learning tasks during class time - Employs strategies to ensure tasks are completed - Demonstrates self-belief and resourcefulness - Maintains effort in the face of difficulty - Motivated to improve
Responsibility	<ul style="list-style-type: none"> - Takes pride in the work completed - Makes active decisions in engaging with set work - Sense of pride and/or satisfaction in their work - Arrives on time - Brings all required materials - Meets deadlines
Respect	<ul style="list-style-type: none"> - Actively listens to others - Responds appropriately to others - Uses resources for learning suitably - Uses respectful language
Optimism	<ul style="list-style-type: none"> - Embraces and accepts feedback - Is willing to act on feedback provided - Accepts the challenges that new learning presents - Demonstrates resilience in the face of challenges - Displays enthusiasm - Focuses on how they can improve (not what they did wrong)
Empathy	<ul style="list-style-type: none"> - Is considerate of the opinions/beliefs of others - Collaborates effectively with others during learning tasks - Is able to change perspectives, acknowledge alternative options and/or consider other ideas - Respects those who are different - Engage supportively with other students
Critical/Creative thinking	<ul style="list-style-type: none"> - Demonstrates active intellectual engagement with learning content - Forms, enunciates and supports an opinion - Demonstrates preparedness to question/challenge their own ideas or those of others - Seeks to identify a creative solution to a problem - Is prepared to consider ideas in a new way or take risks

APPENDIX C. TABLE 5 TEACHER PRACTICES FOR DIFFERENTIATION AND ENGAGEMENT

MULTIPLE MEANS OF REPRESENTATION	MULTIPLE MEANS OF ACTIONS & EXPRESSION	MULTIPLE MEANS OF ENGAGEMENT
1: Provide options for perception	4: Provide options for physical action	7: Provide options for recruiting interest
1.1 Offer ways of customizing the display of information	4.1 Vary the methods for response and navigation	7.1 Optimize individual choice and autonomy
-		<p>Allowing a personal choice in a multi-question assignment. Making an exception!</p> <p>Shifting instruction from teacher-focused to inquiry-focused, allowing for choice</p> <p>Allow for a huge range of responses in a creative multi-choice assignment</p> <p>Providing choices for students in how they learn and how they demonstrate their learning</p>
1.2 Offer alternatives for auditory information	4.2 Optimize access to tools and assistive technologies	7.2 Optimize relevance, value, and authenticity
Khan Academy video	<p>Use www.edrolo.com.au for</p> <ul style="list-style-type: none"> - Textbook - Study and books - Crash course in chemistry 	<p>Make it about the student. Ask students what they hope to get out of the subject, relate examples to these. Conduct conversations about home life.</p>

<p>Introductory video for visual and audio representation of topic information</p>	<p>Computer tasks</p>	<p>Real world task. Linking lessons/knowledge to real life context e.g. finding errors in advertising. Trying to showcase multiple context “chemistry in everyday life”</p> <p>I’ve got a student that isn’t so engaged, I might change the topic a little bit for him, so it’s something more that he or she are interested in</p>
<p>1.3 Offer alternatives for visual information</p>		<p>7.3 Minimize threats and distractions</p>
<p>Use audio books and annotations</p> <p>Use a variety of different types of learning materials</p> <p>Use a variety of different types of learning materials</p>		<p>often you have to try to find some ways to break down the lesson even further for others so that they can have periods of distraction without disturbing others</p>
<p>2: Provide options for language, mathematical expressions, and symbols</p>		<p>5: Provide options for expression and communication</p>
<p>2.1 Clarify vocabulary and symbols</p>	<p>5.1 Use multiple media for communication</p>	<p>8.1 Heighten salience of goals and objectives</p>
<p>-</p> <p>-</p>	<p>Different types of assessment BUT they all count (VCE Chem)</p> <p>Students write their responses on the whiteboard</p>	<p>-</p> <p>-</p> <p>-</p>

-	<p>Allowing students to show their learning by choosing their own presentation preference e.g. oral presentation, video, create an artefact</p> <p>1.2.3. Getting kids up out of their chairs to do formative assessment e.g. walk to points of the room (agree, disagree etc...)</p>	-
2.2 Clarify syntax and structure	Rhythmic dictation in teams – students have to run to the board and write answer	8.2 Vary demands and resources to optimize challenge
		<p>Providing scaffolding for students so they can complete tasks more confidently</p> <p>Providing optional extension tasks to further challenge students.</p>
2.3 Support decoding of text, mathematical notation, and symbols	5.3 Build fluencies with graduated levels of support for practice and performance	8.3 Foster collaboration and community
	Get verbal responses instead of/before written responses	I've tried getting students to work in groups to respond to a specific component of an artwork. The intent was that students would provide this information to get a really good resource
2.4 Promote understanding across languages	Pair work to discuss a topic then “findings” are relayed back to the whole class	<p>Pair work: evaluate your partner, share with the class something positive your partner did</p> <p>Cooperative learning</p> <p>Socratic circles</p>
	-	

<p>2.5 Illustrate through multiple media</p> <p>Providing written and verbal explanations for new concepts</p> <p>-</p> <p>-</p>	<p>-</p> <p>-</p> <p>-</p> <p>-</p>	<p>8.4 Increase mastery-oriented feedback</p> <p>Sharing understanding of content through presentations - help demonstrate understanding: others in the class were required to give feedback via a rubric (Socratic formative assessment tool</p> <p>Using peer and self-assessment – focusing on improvement</p> <p>Informal discussion</p>
<p>3: Provide options for comprehension</p>	<p>6: Provide options for executive functions</p>	<p>9: Provide options for self-regulation</p>
<p>3.1 Activate or supply background knowledge</p> <p>3.2. Highlight patterns, critical features, big ideas, and relationships</p> <p>Small tasks such as documenting plot</p>	<p>6.1 Guide appropriate goal-setting</p> <p>Formative Assessment – Hinge questions</p> <p>Formative assessment tools:</p> <ul style="list-style-type: none"> - www.plickers.com - www.kahoot.it 	<p>9.1 Promote expectations and beliefs that optimize motivation</p> <p>Set high expectations through repeated positive reinforcement</p>
<p>3.3 Guide information processing, visualization, and manipulation</p> <p>Group decoding of different questions and brainstorm response</p>	<p>6.2 Support planning and strategy development</p> <p>Breaking down instructions to very simple steps to support students with organisational skills</p>	<p>9.2 Facilitate personal coping skills and strategies</p> <p>just encouraging them to take things on step by step, and just getting them to do a little bit more, that often</p>

<p>Visual decoding of questions as a whole class</p> <p>One-on-one discussion in a targeted sense</p>	<p>6.3 Facilitate managing information and resources</p>	<p>works really well with them, and sort of lots of praise as they get things done</p>
<p>3.4 Maximize transfer and generalization</p> <p>Games</p> <p>-</p> <p>-</p>	<p>6.4 Enhance capacity for monitoring progress</p> <p>OneNote tracking – on the screen work-wise</p> <p>Weekly diary writing on the week’s discussion topic</p> <p>Progress sheet</p>	<p>9.3 Develop self-assessment and reflection</p> <p>Have students write a one-line reflection after each lesson</p> <p>Develop checklist to help students self-assess and to increase self-awareness</p> <p>Exit cards</p> <p>Red/green lights</p> <p>They all write a reflection on what they learned and how they felt about it</p> <p>Annotating their own work</p>

APPENDIX D. PEER ASSESSMENT RUBRIC

Peer Assessment Rubric

Board game:

	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
Practicality	The game is very easy to set up and to play	The game is fairly easy to set up and play.	The game takes a fair while to set up and play or it is too brief.	The game takes a significant time to set up and to play, or is over very quickly
Rules	Rules are short, clear and complete	Rules are fairly short, clear and complete but could be streamlined	The rules are not entirely clear or complete.	Rules are unclear or too long. There are rules which complicate the game without adding to playability or learning
Instructional Effectiveness	To win the game you must demonstrate significant knowledge of at least contraception and STI's	To win the game you need some understanding of both contraception & STI's but there is also some chance involved.	There is significant content which is unrelated to contraception & STIs, or some of the knowledge is incorrect	The content is incidental – you can play without demonstrating your knowledge
Design	The game is professional in appearance, care has been taken in production, it is aesthetically pleasing.	The game has been fairly well produced, although there are elements that could be improved.	The game is playable, but is not professional in appearance.	The game appears to have been rushed or little care has been taken with its production. Parts may be missing.

Comments:

APPENDIX E. TEACHER ASSESSMENT RUBRIC.

Teacher Assessment Rubric

Board Game:

	4 Advanced	3 Proficient	2 Basic	1 Needs Improvement
Practicality	The game is very easy to set up and to play	The game is fairly easy to set up and play.	The game takes a fair while to set up and play or it is too brief.	The game takes a significant time to set up and to play, or is over very quickly
Rules	Rules are short, clear and complete	Rules are fairly short, clear and complete but could be streamlined	The rules are not entirely clear or complete.	Rules are unclear or too long. There are rules which complicate the game without adding to playability or learning
Group Work	You were able to work together effectively, communicating well and balancing the work between you all	You usually worked well together, using time effectively. Work was fairly balanced.	One or more people in your group shouldered the majority of the work, you didn't always use your time effectively	Your group did not work effectively. Work was not balanced, members did not use time effectively, communication was an issue
Design	The game is professional in appearance, care has been taken in production, it is aesthetically pleasing.	The game has been fairly well produced, although there are elements that could be improved.	The game is playable, but is not professional in appearance.	The game appears to have been rushed or little care has been taken with its production. Parts may be missing.

	8 Advanced	6 Proficient	4 Basic	2 Needs Improvement
*Key Content	Your game assessed (at least) contraception and STI's. Questions were designed to challenge players and were of a high standard	Your game attempted to assess both contraception and STIs and most of them were correct and of a good standard	Your game briefly assessed the key knowledge or some answers were incorrect	Your game did not effectively assess the key knowledge of STI's and contraception
*Instructional Effectiveness	To win the game you must demonstrate significant knowledge of at least contraception and STI's	To win the game you need some understanding of both contraception & STI's but there is also some chance involved.	There is significant content which is unrelated to contraception & STIs, or some of the knowledge is incorrect	The content is incidental – you can play without demonstrating your knowledge

*These two criteria are marked more highly due to their importance in reflecting the key knowledge and skills

Teacher Score	Average of peer assessment	Final Percentage	Final Grade – Report
/32 %	%	%	

Comments:

APPENDIX G. LANGUAGE ANALYSIS ESSAY

Language Analysis Essay

	1.2.4 Analyses why the author's construction of argument is persuasive to the specific audience.	1.3.2 Analyses potential bias and why it impacts authorial language choices chosen for the target audience.	1.4.4. Analyses why the different arguments/approaches/are persuasive to the target audience	2.1.4 Analyses why changes in tone have been chosen to elicit an emotional response in the target audience		2.3.3 Analyses the authors intention in using language choices to elicit a response from the target audience.	2.4.4. Compares how language choices were used to elicit emotional responses in their target audiences	2.5.5. Analyses why the visual has been chosen to position the target audience and elicit an emotional response.	
	1.2.3 Analyses how arguments are used to build the contention	1.3.2 Analyses how contention and arguments were used for a specific audience	1.4.4. Compares how the authors have used argument/approach to build contention.	2.1.3 Analyses changes in tone	2.2.2 Evaluates how language choices have been used by the author to build arguments	2.3.2 Describes how the author intended to position an audience through their use of persuasive language.	2.4.3. Compares how the authors have used language to position their target audiences.	2.5.4 Uses specific examples from the visual to support discussion of the intended effect on the audience.	3.1.3 Compares separate pieces of evidence to support analysis.
	1.2.2 Discusses the intended	1.3.1 Discusses author's purpose	1.4.3. Discusses similarities and differences between	2.1.2 Explains how tone is		2.3.1 Discusses the effect	2.4.2. Uses comparison conjunctions	2.5.3 Discusses how the	3.1.3 Groups separate pieces of

	impact of arguments.	in writing the article	argument/approach and purpose.	used to persuade an audience		of persuasive language	to compare articles.	visual supports the argument and/or contention.	evidence to support analysis.
1.1.2 Summarises contention throughout analysis.	1.2.1 Identifies arguments		1.4.2. Acknowledges similarities and differences between contentions.	2.1.1 Identifies tone	2.2.1 Identifies persuasive language		2.4.1. States similarities and differences in language use.	2.5.2. Describes the visual	3.1.2 Embeds quotes into sentences
1.1.1 Identifies the overall contention presented in the article/s			1.4.1. States all contentions presented in the articles.		2.2.1 Tags persuasive techniques			2.5.1. States that a visual is present.	3.1.1 Quotes direct extracts from the article
Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence
1.1 Identifies contention	1.2 Identifies arguments	1.3 Identifies purpose/intent	1.4. Compares approach	2.1 Analyses tone	2.2 Analyses language	2.3 Analyses intended effects of language	2.4. Compares language use	2.5 Analyses visuals	3.1 Uses evidence
1.0 Analysis and Comparison of Argument				2.0 Analysis and Comparison of Language					3.0 Conventions

APPENDIX H. NARRATIVE WRITING RUBRIC

Narrative Writing: Year 9 Children's storybook.

1.1.5. Arranges multiple plot threads and relationships throughout the narrative for purpose and effect.		1.3.4. Creates distinct personalities for characters through use of voice, behaviour and feeling.	1.4.5. Moral message is appropriate and obvious for the target audience.	2.1.4. Adjusts sentence lengths and structures for dramatic purpose relevant to the audience					4.1.2. Based on self and group reflections, students share workload to work towards the group goal and each participate in the different stages of story production. (<i>E.g. My role was the editor, but as Aadesh had so much work with the drawings, a few of us helped with that to meet our deadline.</i>)
1.1.4. Includes narrative devices that links structure together, e.g. foreshadowing, red herrings, plot twist.	1.2.4. Creates distinct moods for different settings in the narrative.		1.4.4. Moral embeds Silver Wattle High School values			2.3.3. Images and word choices have been chosen to reflect the genre and audience.	2.4.4. Uses dialogue to extend plot.		4.1.4. Group members continuously review and evaluate their progress and make changes based on reflection (<i>E.g. We didn't use our time well today, next time we need to do A, B and C to meet deadline.</i>).
1.1.3. Paragraphs follow orientation, conflict, obstacles, climax and resolution.	1.2.3. Uses the senses to describe and create mood for the setting.	1.3.3 Links characters to action	1.4.3. Story finishes with a message of acceptance	2.1.3. Varies the beginning of sentences by starting with verbs, adjectives, adverbs,			2.4.3. Uses alternative words for 'said' e.g. <i>sniggered, screeched, yelled.</i>	3.1.2. Edits work for spelling, grammar and punctuation so that it contains no error.	4.1.3. Learning is self and peer directed. (<i>E.g. I am going to do this to help the group, and perhaps you could do this too Billie.</i> ")

				nouns and pronouns.					
1.1.2 Narrative has a clear beginning, middle and end.	1.2.2 Describes setting to enhance interest for reader.	1.3.2. Describes characters physical appearance	1.4.2. Includes synonyms of diversity throughout story	2.1.2. Uses a combination of simple and compound sentences.	2.2.2 Uses nouns, verbs and adjectives relevant to the audience.	2.3.2. There is a connection between the images and words.	2.4.2. Uses commas, speech marks and full stops to punctuate dialogue correctly.	3.1.1. Edits work for spelling, grammar and punctuation so that it contains minimal error.	4.1.2 Students are responsible for their own contribution and also actively support the group goals (<i>E.g. I did my part and I helped Susie and Huan with theirs.</i>)
1.1.1 Sequences events.	1.2.1. Includes setting	1.3.1. Includes characters	1.4.1 Story is based on a diversity theme	2.1.1. Uses simple sentences	2.2.1 Uses nouns, verbs, adverbs and adjectives.	2.3.1. Story includes images and words.	2.4.1. Includes dialogue that has a new line for each speaker.		4.1.1. Students complete delegated roles (<i>E.g. "I did my part"</i>).
Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence	Insufficient evidence
1.1 Follows narrative structure	1.2 Includes setting	1.3 Introduces characters	1.4 Includes a moral message	2.1 Varies sentence structure for context	2.2 Uses descriptive language	2.3. Writes according to genre	2.4. Includes dialogue	3.1. Edits work for clarity	4.1. Works collaboratively
1.0. Structures writing				2.0 Use of language features				3.0 Edits work	4.0 Works collaboratively

APPENDIX I. SELF REFLECTION

Self Reflection

‘What is Health’ Investigation – Year 8 Health

Being honest, complete this reflection by taking time to think about the way that you worked on this assignment and about how you felt with your finished product.

STUDENT NAME	Leith
ABOUT YOUR WORK	
List the major steps you undertook while working on the assignment (eg how did you break it into more manageable sized tasks?)	We started by dividing the tasks equally but ended up all contributing to each part of project in some way or another. I helped write the script and recorded some parts of it for the video while the other’s recorded the other parts. Then with input from my team members edited the video and helped created the PowerPoint to go along with it. The work was, for the most part, equally distributed.
What is the most important health concept that was reinforced by completing this project?	I think that the most important aspect of the project wasn’t one area of health specifically (not Social, Mental or Physical) but the interconnectedness of all of them. Learning that they affect each other and that you need to work on all three is crucial.
What part of the project did you do your best work on? Why were you proud of this piece of the project?	I was really proud of the PowerPoint document that went along with the video I really tried to make it look nice and functional. Additionally, though it may not be noticeable, I was also proud of the audio editing that was done on the recorded voices. There was one instance where I had to piece together pieces of Brook’s voice to make a word which as difficult.
What do you wish you had spent more time on or had done differently?	Recording the video. Taking more time on the audio and making it more fluent, I think, would enhance the overall result. We kind of rushed it at the last minute. We would spend more time recording properly.
What were the biggest obstacles you faced in completing the project? How did you try to overcome these?	Our group was really socially connected and friendly throughout the duration of the project but the friendship we have did lead to some joking and ‘giggles’ but it wasn’t too hindering.
Do you think that you used your class time as well as possible?	Obviously using the entire time with full efficiency is impossible but we worked well and used almost all of our time working on the project.
ABOUT THE PROJECT	
What was the most enjoyable part of this project?	Recording the video because it was funny and amusing but it may have been less enjoyable if we needed to worry about visual as well or if we had been using all our time effectively.

What was the least enjoyable part of this project?	Writing the script because it was tedious but necessary.
How could your teacher change this project to make it more enjoyable/challenging/interesting next time?	I think it was fine. No comment.
Did you refer to the success criteria while completing this project?	I usually do but didn't this time, in future I will pay more attention to such a crucial aspect of marking. (Very ashamed)