

Sabbatical Study Term 2 2016

Area of study: To
investigate the pedagogy
and practice of
independent learning
using a differentiated
approach

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As a teaching principal I've always endeavoured to fulfill both of my roles to the very best of my ability. My concern was that in being so busy, I'd miss important developments for my students, or to maintain a healthy global perspective that was beyond our school gate. For these reasons, having an opportunity to visit other schools, to read research, to talk with my colleagues, to think, and evaluate has been a treasure for which I'm very grateful.

Area of study

To investigate the pedagogy and practice of independent learning using a differentiated approach

Rationale

Good teachers use a form of a differentiated approach to teach in multi-level classrooms without even realizing that they do so. They regularly plan for a variety of learning styles, abilities, and learning activities in a purposeful manner to meet the needs of their students. While I could see this approach being mapped out in classrooms, I was concerned that the pedagogy behind what we were doing wasn't

evident, and I was also concerned about student independence and self responsibility for learning.

For these reasons, I planned to research, as well as visit schools to find out about learning management in schools beyond our area. (I have purposely not named the schools I visited during the year, as they were very gracious in allowing me to visit, and query).

As a staff this year we have based our professional development on digital awareness with all of us building our confidence and knowledge in using 'Google docs for education'. Our plan is to become proficient at using this tool for all of our planning by the end of the year, so that we can develop a base upon which to use this tool in our classrooms from 2017. This plan connects to our ERO target to stream-line our documentation, but I also envisage it leading to the development of student independence and self directed learning. As this tool links to my study area, I've chosen to visit schools which use it in their classrooms, and much of my research has also been based on the outcomes of the use of this tool.

I'm full of admiration for what many of these teachers and students are achieving in their class-time, and excited to consider how it could develop a change in learning in our school.

Definitions

'**Differentiation**' In googling this word, a number of prestigious educational researchers names appear. Carol Ann Tomlinson, being at the forefront.

Differentiated instruction, according to [Carol Ann Tomlinson](#)¹, is the process of "ensuring that what a student learns, how he or she learns it, and how the student demonstrates what he or she has learned is a match for that student's readiness level, interests, and preferred mode of learning."

Differentiation stems from beliefs about differences among learners, how they learn, learning preferences, and individual interests (Anderson, 2007). Therefore, differentiation is an organized, yet flexible way of proactively adjusting teaching and learning methods to accommodate each child's learning needs and preferences to achieve maximum growth as a learner.

To understand how our students learn and what they know, pre-assessment and ongoing assessment are essential. This provides feedback for both teacher and student, with the ultimate goal of improving student learning.

Content- what the student needs to learn, what their interests are, and how they access the information. It is skill based with an awareness of the big idea, and key understandings that need to be learnt.

Ultimately the assessment process is vital for this to be relevant to student needs and must be both formative, and summative, and current. Teachers constantly need to be

¹ Tomlinson, Carol-Anne (2001) How to Differentiate Instruction in Mixed Ability Classrooms also see Wikipedia

aware of the students engagement, their prior knowledge, interests, and learning styles to maintain 'meaningful learning'.

Process- the activities that students engage in to help them make sense of their learning and master the skill. This may look like tiered activities; interest centres; varying completion times; student choice of activities to support the mastery of a skill, flexible groupings and It will undoubtedly involve creative problem solving.

Product- Students practicing, applying knowledge, and extending learning. This could look like the use of tiered progressions for learning so students have a self awareness of their learning achievement, and evidence of that learning.

Learning Environment – What the classroom looks like with a variety of furniture, learning spaces (eg quiet, or collaborative places), and management of the routines to work independently, or move from one area of learning to another, or even as simple as where and how work is stored.

Pedagogy- (When a BOT member asked me what this term meant, I realized that that this term also needs explaining, especially as it forms the bases of our programmes.) Pedagogy in a very basic definition is the core beliefs of how we teach, in theory and practice.

Findings

The schools that I visited had a range of common aspects that ensure that their students are deep thinking learners. To emphasize the adaptation of Differentiation, I used the features to focus my observations.

1. Pedagogy – each school leader has a clear vision of what they want their students to achieve. These core beliefs have been built up by the staff over a number of years, and are reflected in the classrooms through student engagement in learning, and explicit teaching.

With sound pedagogy, the vision is enhanced, and teachers are excited to change their practice to help encourage greater levels of achievement. It is vital for strong practice that teachers are aware of how students learn; learning styles; what students need to know, why, and can articulate that in their daily conversation.

Dr Julia Atkin has completed extensive work on learning over a number of years and has created some reflection questions that we should all be considering to build optimum learning pedagogy.

"What is your school doing to:

- *Actively and explicitly build **disposition to learn**, capacity to learn and to build capacity to contribute to others' learning.*
- *Build capacity to **reflect-critically**, deeply, imaginatively & responsively?*
- *Build capacity to **revison, reframe, and re-enact leadership** for learning - in the learning spaces for staff, kids and community?"²*

² Atkin, Dr Julia (2007)'Transforming pedagogy, no magic carpet ride.'

If we keep these in mind, then the core beliefs that we establish as a learning community will be student centred and explicitly promote learning.

Carol Anne Tomlinson has completed extensive research into the differentiated approach to teaching. She notes that teachers need to have a strong knowledge of both their subject matter and students for it to be an effective tool. It is a student centred approach that is rooted in assessment, is quality versus quantity, has a multiple approach to providing instruction through content, process, and product, has flexible groupings, and is organic in that it will develop and change according to the learning that is happening.³

2. Content – Content is determined by teacher planning, which obviously, is based upon assessment data, knowledge of the student interests, knowledge of the students prior knowledge, and their capacity for engagement., through their preferred learning styles.

The schools visited have specific rich varied forms of assessment that once again relate to the skill being taught. For example, students were using digital devices to access quizzes which demonstrated prior knowledge strengths, and then the student themselves was able to determine the skill progression level that they needed to focus upon. The teacher could also use this information to base teaching workshops upon to build learning capacity.

All of the schools visited have a common learning language that crosses the classroom boundaries. This ensures that regardless of which class students are in they are aware of a shared language. This feature is a bonus for students in that it ensures sustainability of learning. The language is very specific in relating to learning skills.

With the use of ICT, the information is in the hands of the learner and accessible without geographical boundaries, and a connection to the real world beyond the school gate. Learning is no longer solely within the teacher domain, and expertise..

All of the schools use progressions daily.⁴The progressions are skill based and while they may be appropriate to one main curriculum area, often they are transferrable. For example a reading skill will also be applicable to science or social sciences, while the need to write an effective piece of text is relevant for English, but also a necessity if you are explaining how to recycle your rubbish in Social Sciences.

These are visible in the classrooms with individual achievement of each skill evident.

This is an area I need to consider carefully as I've always been reluctant to publically display student individual progression achievement as I'm concerned about the self esteem benefits of such an activity. However the aspect of the achievement focus being in view at all times suggests that it is a motivator for

³ Tomlinson, Carol Anne (2001) "Differentiate instruction in a mixed ability classroom'

⁴ assessment.tki.org.nz – literacy progressions

higher learning, (providing each achievement is celebrated). It also means that the language in the classroom relates specifically to the progression skill that is being worked upon, rather than 'well done'.

One aspect that needs to be noted, is that the progressions are not always linear, but can be chosen by students to meet their interests, and the achievement of the progressions in the public place is student manipulated, rather than by the teacher. In all the classes progressions are displayed in very unique ways showing teacher creativity, but also student ownership.

3. Process- as I was focusing on schools that use a digital medium, I noticed that this was a tool which enabled high student engagement in learning through the use a differentiated approach. Most of the schools used Google Apps for education with Hapara teacher dashboard.⁵ This allows for current feedback from both the teacher, and peers, as well as a secure platform. It allows for collaboration in creating pieces of work, and is seamless between home and school, especially with room for comment and feedback from peers, whanau, and teacher.

Some schools though are using apps such as 'SeeSaw'⁶ or 'Storypark' to share work with whanau, inviting feedback, which is relates to the learning language.

By using digital technologies it is manageable for the teachers to assign *tiered activities* to meet each of the learning skill progressions, which individualize the students learning opportunities. Learning also reflects the areas that the student has already mastered, and ensures that they were constantly moving forward with their skill attainment, building upon prior knowledge.

Teachers are able to provide videos, and a variety of learning activities to meet the students learning skill requirement, from which *students are able to choose* what they want to work on. Teachers also present *workshops* relating to specific skills, from which students choose or are encouraged to attend. These operate in a seamless manner, with no interruption to the working environment.

Some classes use *Learning centres or Action Stations*. This was especially evident in the junior end of the school. Carol-Anne Tomlinson⁷ suggests that these allow for the matching of tasks to skill levels; encourage development of skills; match learning styles; allow for students to pace their learning; allow teachers to focus on groups at a time; and help develop student independence.

All of the classes use *flexible groupings*. This was very evident in the workshop process, as not all students are required to attend a workshop – they choose to, unless the teacher observes that they haven't quite grasped the learning skill, and may need to attend. The groups are based on the knowledge required, and students were often working in their own formed groups for example to discuss a

⁵ TKI-elearning – Hapara Teacher Dashboard

⁶ web.seesaw.me/

⁷ Carol-Anne Tomlinson 'How to differentiate Instruction in the Mixed ability classrooms'

maths problem. This aspect reflects once again a consideration of *learning styles*, in that not everyone works well in a group setting.

Research has suggested that small groups ensure targeted instruction; provide challenges for high ability students; and more intensive support. If they are flexible they don't classify a student, but respect student differences, interests, and levels of engagement.⁸

Some classes use *learning contracts*, where students are given a variety of tasks that are required to be completed by a certain time. With these there are evident 'must do, can do' structures. Often if they aren't completed by a certain time of the week, the student misses the opportunity to be involved in a choice activity. This obviously works better in classes where there are multiple staff to monitor and support the students who are having difficulty with time management.

As a result the teaching and learning activities are involved with the learning skill need, rather than busy work. They make meaning for the student, and there is a self awareness that learning happens when we think, image, feel, enact, and reflect.

4. Product – The product is the aspect of the learning where the student provides evidence of what they've learnt and how they've developed their thinking or skill, by creating something new, and 'real' to them.

In a differentiated learning environment, the teachers planning is paramount to frame rich learning for the students skill need. In some schools 'Blooms taxonomy'⁹ was evident to ensure rich learning was happening, in others 'SOLO'¹⁰, and in digital environments 'SAMR'¹¹ was often practiced. Each of these tools focuses the learner towards evaluating, and creating a product beyond simple knowledge attainment or practice. In the SAMR model, it is about using technology to create, present or develop ideas in a way in which they could not have been done if the technology was not available.

These planning tools can determine the product of the learning, but also have a deeper role, in that they encourage the teacher to think of how to engage the student on an emotional level to ensure rich, meaningful learning takes place.

Students in most of the schools could articulate very well what they were learning, how they knew that they'd learnt the skill, and what they needed to work on next. They were proud of their successes.

In most of the classrooms that I visited, the student chose how to digitally provide evidence of their knowledge of the progression to their teacher., and learning community. They may have used an ipad to 'explain everything' or

⁸ Carol-Anne Tomlinson 2000; Anderson 2007; Rock, Gregg, Ellis and Gable 2008; McQuarrie, McRae and Stack-Cutter 2008; Tieso 2005

⁹ Benjamin Bloom , (1956)Taxonomy of learning

¹⁰ pamhook.com/solo-taxonomy/

¹¹ Dr Ruben Puentedura <https://sites.google.com/a/msad60.org/technology-is-learning/samr-model>

taken a video of themselves explaining it to another student, or their story was published with illustrations and music to present at assembly.

In all cases the student was empowered by being able to choose their form of presenting evidence, and they were very aware of the skills that they had mastered, plus passionate and engaged about the knowledge that they'd learnt through the research to present information.

A key feature of this was the depth of learning that it displayed. It was not just a regurgitation of information, but rather a creation that displayed thinking, based upon research.

5. Learning Environment- All of the schools visited are embedding physical 'Innovative Learning environments'. These ranged from a school that had very little furniture in the classroom, to one that integrated a variety of table heights, shapes, with couches, bean bags, and lily pads. Larger schools are also introducing learning hubs, where classes were larger in size, with multiple adults to lead workshops, monitor learning or question thinking.

These features once again matched the idea that learning is not linear. We need an environment that is full of curves, is adaptable, agile, with a diversity of mini settings, and encompassing of outdoor spaces.¹² We're all individuals, and learn well in particular types of learning spaces, plus we need to build an expectation that learning happens in the place where you are at any one time, eg outdoors in the playground is just as strong a learning environment as the kitchen at home.

All of the classes visited had introduced very clear guidelines on how to use technology, and how to self-manage learning. When I spoke with students, they were very clear about what they were doing, and how they moved between activities.

Implications

I'm excited about the educational opportunities that New Zealand offers its children. We have a National curriculum that invites optimum learning. We have within our communities, skills to help all schools to deliver a rich learning platform to help our young people to aspire to great things.

For this to function well there needs to be

- A shared set of student centred core beliefs of what needs to be taught
- A consistent learning language across the school, and community, that transcends curriculum areas
- Consistent explicit 'child-speak' skill progressions across the school and community
- A shared belief in the seamless use of technology through 'what' and 'how', and trials to see what works best for a cohort of students
- An acknowledgement through time, funding, giving things a go, failing, and successes we all continue to learn throughout our lives
- Learning activities that are engaging, varied, and empowering by linking to the heart of the student
- The teacher as a facilitator

¹² Atkin, Julia NZEI Principals Conference 2015

- Active, empowering teacher inquiry with reflection of practice and an aim to always do better.

Benefits

- Engaged learners
- Seamless learning between home and school
- An empowered learning community that collaborates to build skills

Conclusions

Most of the schools that I visited would probably consider that they were using a self-directed model of learning rather than a differentiated one. However upon reading various articles, I think I agree with the opinion that true 'self-directed learning is based upon the learner initiating all of his/her learning.

'a process where the learner takes the initiative, with or without the assistance of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes.' (Knowles 1975)¹³

While this is the optimum goal for intrinsic learning, it is still not an everyday occurrence in our primary school classrooms, where the teacher usually scaffolds learning based upon assessment, student prior knowledge, skill progressions, learning styles, interests, levels of engagement, flexible grouping patterns, collaboration, creativity, sharing of knowledge and learning, and opportunities for success with a sense of self responsibility for deeper learning. All of which are the essential elements of a 'differentiated approach'.

Through the use of digital tools this approach can be modified to meet an individual students learning needs and serve as a means of learner engagement.

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