

Assignment Two

Reporting and planning

by

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for

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EST300 Assessment, Moderation and Reporting

Word Count:

Part A.**General Scenario/Background Context**

The Year 4 Mathematics test was taken by a composite Year 3 and 4 class, within a Darwin public primary school. The class has 12 students from Year 3 and 15 from Year 4. There are 13 boys and 14 girls in the class, with 5 identified as Aboriginal or Torres Strait Islander and a further 10 with English as Another Dialect. The class has a diverse cultural background, where most students have immediate or close family members from or living overseas.

The school generally performs well during standardised tests, such as NAPLAN. This is due to promotion and focus by senior faculty on these tests or assessments, to allow successful, meaningful and enjoyable attempts by students that attend the school. Whilst the school does not have specific engagement programs for Indigenous Students or any other specific cultural demographic.

There are approximately 10 Teacher's Aides that can assist with student performance and/or management, however availability is limited and usually goes to students with recognised special needs. Additionally, their ability to teach curriculum content is generally low.

Assessment Scenario and Explanation

This assessment was conducted on Weeks 35 and 36, as they are titled. They have been used as a formative assessment to establish and understand ongoing performance and comprehension of the content. The assessment was conducted as an individual sit-down assessment, where students were allowed 15 minutes to complete the worksheet.

Specific Student Scenario

Kelvin is a first generation Australian from an East Asian family. Not only does he live with both parents and two siblings, an older brother and younger sister, but also with one

grandmother. Kelvin is ten years old. Has good and suitable social interactions with most students. The primary language spoke at home is mixed between English and Mandarin, Chinese, as his grandmother's English is poor. Kelvin is also proficient in Mandarin, for his age. Kelvin has been enrolled at this school from pre-school, as has his older brother.

It is assumed that these assessments have been conducted during week 35 and week 36, as they are titled, which leaves very limited time to rectify any identified issues from these assessments. However, any Learning Management Plans or other avenues for improvement will be passed onto the Kelvin's classroom teacher next year and will provide a plan for remediation for Kelvin in the future.

Assessment Sample

Due to the nature of this assessment, there is no rubric. However, scores, as they relate to A-E Grades are as follows:

A – 21-25

B – 17-20

C – 12-16

D – 8-11

E – 0-7

Therefore, Kelvin has scored a D for Week 35 and an E for Week 36.

Whilst this level is below the standard for Year 4 students progressing to Year 5, Kelvin has consistently performed at the C-D grade in Mathematics. There is still reason for concern regarding the grades achieved in these last two assessments are lower than Kelvin would normally achieve.

As is identified below, Kelvin may show a stronger ability to visualise problems and their solutions, without tangible objects available to him. This assumption would be coupled with further investigation, if the information is not already available through the teacher's

tacit knowledge of the student, a learning management plan could be developed to engage this skill, to aid his learning.

The Content Descriptors and their relevant codes that are addressed in the weekly tests are identified as:

- Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems [ACMNA073](#)
- Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder [ACMNA076](#)
- Investigate equivalent fractions used in contexts [ACMNA077](#)
- Solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies [ACMNA080](#)

Whilst the above all address Mathematics, the following Content Descriptor is drawn from English:

- Read and write a large core of high frequency words including homophones and know how to use context to identify correct spelling [ACELA1780](#)

Kelvin's areas of strength, as identified through the two assessment samples are addition and subtraction, when working with whole numbers and understanding of conceptual or abstract ideas such as the hot-air balloon questions, tracing over the crosshair and understanding the image of the cross section from the cube. It is critical that these and other areas, that Kelvin is confident or strong in, are considered when modifying any other learning and assessment, from across the curriculum.

Areas for remediation and further development revealed from the assessment include working with fractions and decimals; understanding the names of decimal place values, that is tens, hundredths, thousandths; and multiplication and division. Further, weakness in

spelling may be identified from this assessment, with supporting information from other sources.

Kelvin should be able to solve fairly complex problems using decimals and fractions at the Year 4 standard, as seen through examples in the Australian Curriculum. From the sample, Year 4 Mathematics – Satisfactory, (Australian Curriculum, 2014) students should be able to understand various problems such as fractions and decimals, up to two decimal places, that is hundredths. Be able to understand and solve problems in number sentences, solve simple purchasing problems, et cetera. Using this and other samples from the Australian Curriculum,

Areas that this assessment does not address.

Interpret information contained in maps. Identify dependent and independent events. Describe methods for data collection and representation and evaluate efficacy. State properties of odd and even numbers. Recall multiplication facts to 10 x 10 and relate division facts. Continue number sequences involving multiples of single digit numbers. Use scaled instruments to measure temperature, length, shapes and objects. Convert between units of time. Create symmetrical shapes and patterns.

Part B

Teaching Moderation and Methods of teaching Kelvin.

Kelvin requires some additional aid to maintain focus on the work being undertaken, therefore, where possible, the Learning Support Officer (LSO) will be allocated to him or his group during mathematics lessons. The primary aim is to ensure he stays on task, with the secondary aim to assist his learning and guiding him through the problems.

This learning moderation will be guided with key goals, developed by Kelvin with the Classroom Teacher and any other relevant support staff.

Identifying Kelvin's preferred learning style, during mathematics. During conversations with Kelvin regarding his own learning goals, I attempted to identify how he learns best and guided him to discovering his own goals to strive towards. Through this conversation, Kelvin developed his own SMART goals to help improve his Mathematics literacy and maintain focus during these lesson periods.

Whilst the goals developed and agreed upon by Kelvin, do not meet all of the SMART goal criteria, the importance of ownership by the student is considerable. Further, the pursuit of perfecting his goals to meet the criteria are likely to confuse and cause indifference by Kelvin, therefore it was justified that his goals be used to encourage his ownership of learning. Greater fidelity will also be developed by the Classroom Teacher, for example, development of a timeline and specific learning outcomes in the Learning Management Plan.

Other resources to develop Kelvin's Mathematics Literacy

The resources developed here is not an exclusive list, nor is it compulsory or chronological. Each resource will be assessed by Kelvin and the Classroom Teacher in an attempt to qualify its efficacy. Through this testing and development process, resources and methods may be discounted or amplified to continue Kelvin's development.

Use of flash cards will be developed with Kelvin to understand the words used in mathematics problems, such as hundredths and thousands. Building of these cards will be done with Kelvin whilst concurrently building his understanding of how to use them and how it will improve his comprehension. (Tan & Nicholson, 1997. Wissman, et al., 2012)

Use of gamification within his learning will aid in self-determined self-paced progress toward his goals. The use of gamification in education has been developed to capitalise on the progression reward systems and, in some cases, competitiveness of students with their peers. (Wissman, et al., 2012. Majury, et al., 2018) This will be introduced to aid his development

of general mathematics comprehension, which is intended to be used to increase his learning rate, when compared with his peers, therefore reducing the difference.

Kelvin will also be paired or grouped with specific students that excel or are confident in the mathematics content and also have a strong rapport with Kelvin, in order to assist him, when school staff are otherwise unavailable.

Assessment Moderation

Whilst assessments similar to the examples given will continue for all students, including Kelvin, alternative worksheets will be developed to assist his learning and development. Further, so that he becomes more familiar with this type of assessment, practice tests will be given to Kelvin to work on in his own time, as well as repeats of previous tests, to allow Kelvin to further confirm his comprehension of the content, after revision has taken place.

Reporting

It is critical that records are kept to inform all interested parties of Kelvin's progress. This will assist with more objective reporting by providing evidence of his achievements.

It will be key to report the plans in intentions, established with Kelvin, to the appropriate Senior Teacher and Specialist Teacher, to ensure that the plans are suitable for this subject and Kelvin's needs. Further, discussions with his parents may take place, to inform them about the school's intentions to remediate Kelvin's numeracy.

Appendices:

1. Discussion with Kelvin,
2. Pizza and fractions – Teaching Resource
3. Learning Management Plan
4. Annotated Student Assessment

References

- Australian Curriculum. (2014). The Australian curriculum: Mathematics.
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- Van Roy, R., & Zaman, B. (2018). Need-supporting gamification in education: An assessment of motivational effects over time. *Computers & Education*, 127, 283-297.
- Lia Griffith. (n.d.). *Play Pizza Made From Felt*. <https://liagriffith.com/pizza-made-from-felt/>

Appendix 1.

Developing learning strategies with Kelvin. (Student responses in red.)

How do you feel about your grades in Mathematics?

I feel like it's too hard.

How do you think we can improve you grades?

More practice.

How do you think you will best learn moving forward? (Individual coaching, group/individual projects, traditional classroom, etc)

I like working with my friends.

What areas of Mathematics do you enjoy?

Shapes.

How do you feel about tests? Would you like become more comfortable when undertaking these kinds of tests?

They are hard because I have to sit still and can't talk to anyone. Yes, I would like to get better at them.

Guided discussion regarding SMART Goals. (Specific, Measurable, Achievable, Relevant, Time bound).

Kelvin's agreed goals

- Understand fractions
- Multiplication and division
- Feel comfortable with tests

Appendix 2.

Making a Pizza - Teaching Resource

Using felt, paper, cardboard, etc, students will have a mock pizza divided in halves, quarters, sixths and eighths. Topping ingredients will also be available.

Students will build at least 4 pizzas with at least 3 toppings each with varying quantities/ratios.

Students will be required to document the following:

	How is the pizza cut?	What fraction of the pizza is covered by?		
Pizza Number:		Topping 1	Topping 2	Topping 3
E.g.	Sixths	Pineapple – $\frac{1}{2}$	Pepperoni – one third or two sixths	Olives – $\frac{5}{6}$
1				
2				
3				



(Image: Lia Griffith, n.d.)