PARTICIPANT'S HANDOUT

2020 TRAINING WORKSHOP NO.1

MATHEMATICS

GRADES 8-9

PILO
IMPROVING LEARNER PERFORMANCE

education

Department:
Education
PROVINCE OF KWAZULU-NATAL

Grades 8 and 9
Just-in-Time Training Workshop
2020: No. 1

Participants' Handout

Mathematics

Endorsed by:

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what I do matters

SADTU
NAPTOSA
TEACH WITH DIGNITY
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National Teachers' Union
Educating Our Nation

WORKSHOP PROGRAM – GRADES 8 and 9

Session 1: 2 hours

Introduction

Welcome

Complete the Pre-workshop activity

FINDING YOUR WAY AROUND THE GRADE 9 MATHEMATICS CAPS PLANNER

In this session you will be comparing the new 2020 Planner with the Trackers used in previous years

1.1 The differences between this CAPS Planner and the Trackers you have been using

Discuss the differences

1.2 Interrogating Section A: Introduction on page 3 of the CAPS Planner

Work together with your group to read and discuss page 3

Answer the questions given and share your answers with the group

1.3 Interrogating Section B and Section C in the CAPS Planner

Work together with your group to discuss the topic you have been allocated.

Explain your topic to the rest of the class.

Session 2: 2 hours 20 minutes

ALLOCATING COGNITIVE LEVELS TO A JUNE EXAM

In this session you will check the answers to Paper 1 of a June exam and allocate marks to topics and levels of the questions in the exam and, at the end, write a report on what you have found.

Step 1: Check that the answers are correct, the questions are clear and unambiguous and that the correct number of marks have been allocated to each question.

Step 2: Decide the topics that have been covered by the questions in the exam.

Step 3: Allocate cognitive levels to the question.

Step 4: For each question fill in the marks allocated to each content area and cognitive level in the given table and find the total for each column.

Step 5: Decide whether the cognitive levels are correctly covered by the exam.

Step 6: Decide whether the content areas are correctly covered by the exam.

Step 7: Write a report that you could give to the person who set the exam

Session 3: 1 hour 40 minutes

TRANSITIONING BETWEEN GRADE 7 AND GRADE 8

In this session you will discuss the problems learners have as they transition from Grade 7 to Grade 8.

3.1 What does Transitioning mean?

Discuss the definition given.

3.2 What the situation is.

Discuss the many transitions made by learners during their school lives.

3.3 Talking about Transitioning

Discuss the topic given to your small group

Each small group presents to the large group and discusses the topic with the large group.

Each participant reflects on how they are going to change their teaching when they get back to the classroom.

SESSION 1: FINDING YOUR WAY AROUND THE GRADE 9 CAPS PLANNER

The CAPS Planner is slightly different to the original Tracker although both are intended to help you cover the curriculum for Grade 9 mathematics.

1.1: The differences between this CAPS Planner and the Trackers you have been using

The differences between the CAPS Planner and the Tracker you have been using:

i) All the tracking columns have been removed

ii) Two terms' planners are now in one book. So, you will get two books of planners next year.

iii) You will have to keep the CAPS Planner for the following year as you will not get a new version each year

iv) Tracking will be done on a separate sheet – you will need one per week for each maths class you teach. (A copy is included in the CAPS Planner for photo copying.) Note that, for each week, the teacher needs to estimate the number of learners who are working confidently at Level 4 (adequate achievement) or above.

Please note

- The changes have been made to save costs, to simplify distribution and also to provide a tracker for teachers to use with any planning tool they choose – the ATP or their own work schedules.
- Everything that was in the previous planners and trackers has been included – but some resources, that were repeated each term, are now only given once, with some changes to give term details in one resource rather than two.

The document has been shortened for this workshop. Most of the planning tables and assessment exemplars have been left. The contents list makes clear everything that is included

The CAPS Planner consists of three sections:

Section A: Introduction
Section B: Information about resources in the Planner
Section C: Resources

1.2: Interrogating Section A: Introduction on page 3 of the CAPS Planner

Procedure

- Work together with your small group.
- Start off by reading page 3 on your own (5 minutes)
- Answer the following with your small group and write your answers in the space provided.

1) In South Africa, too many learners drop out of school before Grade 12, and so few of those who reach Grade 12 do really well in the NSC examinations. Study the Introduction to the Planner on page 3 and use it to list a reason for this happening and what the teachers can do about it.

2) Figure 1 on page 3 gives the cycle of practices for supporting improved curriculum coverage. List and describe the nine steps that it is suggested you go through in order to improve curriculum coverage.

3) Figure 1 on page 3 also describes the role of your colleagues and your Departmental Head in supporting you as you try to improve the coverage of the curriculum. Describe how your colleagues and Departmental Head can help you

1.3: Interrogating Section B (Information about resources in the book) and Section C (Resources) in the CAPS Planner

Your small group will be given one of these topics to discuss

i) Planners for a daily program of work
ii) Plans for assessment
iii) Resources to support content knowledge, pedagogy and assessment practice

1) Read through your topic in Section B with your small group. When your topic mentions a reference to something in Section C, find the reference and read through it.

2) Decide, with your small group, how you are going to explain the work to the whole group.

3) One person from each group presents their topic to the whole group. They need to explain the topic in Section B as well as the relevant parts of Section C. This person has to be prepared to answer questions from other in the whole group.

SESSION 2: STEPS TO GO THROUGH WHEN MODERATING PAPER 1 OF A GRADE 9 JUNE EXAM

When teachers work together with their colleagues either at their school or in their cluster, they are often asked to moderate a colleague's exam.

Moderating an exam with meaning is a skill that can be learned, so, in this workshop, we are going to go through the steps you should follow when you moderate an exam.

STEP 1: Check that the answers are correct, the questions are clear and unambiguous and that the correct number of marks have been allocated to each question.
STEP 2: Use the Time Allocation Per Topic (from CAPS) to record the topics have been covered by the questions in the exam
STEP 3: Use the cognitive levels table (from CAPS) to allocate cognitive levels to the questions
STEP 4: For each question fill in the marks allocated to the content area and the cognitive level in the given table and find the total for each column.
STEP 5: Decide whether the cognitive levels are correctly covered by this exam
STEP 6: Decide whether the content areas are correctly covered by this exam
STEP 7 Write a brief report that you could give to the person who set this exam.

These are the steps in detail:

STEP 1: Check that the answers are correct, the question are clear and unambiguous, and that the correct number of marks have been allocated to each question

Work with your small group

1) Check the memo and make sure that the answers to the exam questions are correct. This is a 75-mark exam so share the questions amongst the members of the small group so each one gets questions to check.

2) As you check the answers, check that the questions are clear and unambiguous (clear and with only one way to interpret it). Discuss with your small group if you think the wording of any of the questions should change.

3) At the same time, analyse the memo and see if the correct number of marks has been allocated to each topic. If you disagree with the number of marks allocated, discuss this with your small group and write your suggested changes on the examination.

Discuss your answers with the rest of the group.

WESTERN CAPE GRADE 9 MATHEMATICS PAPER 1 – JUNE 2015

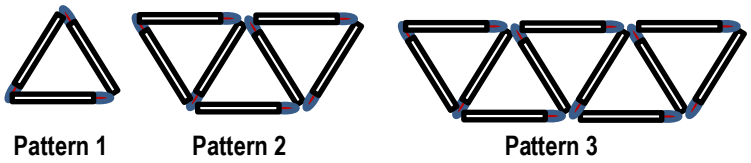
MARKS: 75 **TIME: 1 hour and 30 minutes**

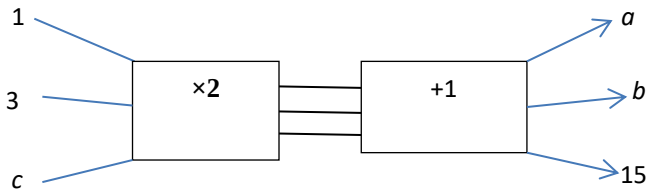
Read the following instructions carefully before answering the questions.

1. This question paper consists of 6 questions. Answer ALL the questions.
2. Number the answers correctly according to the numbering system used in this question paper.
3. Clearly show ALL calculations.
4. Answers only will not necessarily be awarded full marks.
5. You may use an approved scientific calculator (non-programmable and non-graphical), unless stated otherwise.
6. If necessary, round off answers to TWO decimal places, unless stated otherwise.
7. Write neatly and legibly.

QUESTION PAPER	SOLUTIONS	TOPIC	LEVEL
QUESTION 1 (5 marks) Match column A with column B by writing the correct value from column B next to the correct description in column A on your answer sheet. e.g. 1.1 20 **Column A** / **Column B** 1.1 Factor of 8 — $\frac{2}{3}$ 1.2 Zero — $0,\overline{2}$ 1.3 $\frac{2}{9}$ = …. — $\frac{3}{0}$ 1.4 Reciprocal of 1,5 — 4 1.5 Undefined number — $\frac{0}{4}$	1.1 4 ✓ 1.2 $\frac{0}{4}$ ✓ 1.3 $0,\overline{2}$ ✓ 1.4 $\frac{2}{3}$ ✓ 1.5 $\frac{3}{0}$ ✓		
QUESTION 2 (13 marks) 2.1 There are 45 learners in grade 9A. The ratio of number of boys to the number of girls is 2: 3. How many boys are there in the class? (2)	Number of boys = $\frac{2}{5} \times 45$ ✓ = 18✓		

QUESTION PAPER	SOLUTIONS	TOPIC	LEVEL
2.2 Bongiwe invests R12 000 in a savings account at 6,5% per annum compound interest. Calculate how much there will be in the savings account after 5 years. (3)	$A = P(1+i)^n$ ✓ $= \text{R}12\,000(1+0{,}065)^5$ ✓ = R16 441,04 ✓ OR $A = P\left(1+\frac{r}{100}\right)^n$ ✓ $= \text{R}12\,000\left(1+\frac{6{,}5}{100}\right)^5$ ✓ = R16 441,04 ✓ OR Year 1: 12 000 × 6,5% = 780 Year 2: 12 780 × 6,5% = 830,70 Year 3: 13 610,7 × 6,5% = 884,70 Year 4: 14 495,4 × 6,5% = 942,20 Year 5: 15 437,6 × 6,5% = 1 003,44 There will be R16 441,04 in his account		
2.3 The cost price of a scooter is R15 000. Uviwe paid 15% of the amount in cash and signed a hire-purchase agreement to pay the balance in 24 equal monthly instalments. The interest rate is 10% per annum. 2.3.1 How much did he pay for the deposit? (1)	2.3.1 Deposit = 15% of R15 000 $= \frac{15}{100} \times$ R15 000 = R 2 250✓		
2.3.2 What was the total amount he paid for the scooter? (4)	2.3.2 $A = P(1+ni)$ ✓ = R12 750 [1 + 2 (0,1)] ✓ = R15 300✓ Total amount paid for the scooter = R2 250 + R15 300 = R17 550 ✓		
2.4 Petrus takes a bus to school. The bus travels at an average speed of 40 km/hour. The school is 9 km from his house. How many minutes does he take to get to school? (3)	$D = S \times T$ so $T = \frac{D}{S} = \frac{9\ km}{40\ \text{km/h}} = \frac{9}{40}$ hours ✓ $\frac{9}{40}$ hours = $\frac{9}{40} \times 60$ minutes ✓ = 13,5 minutes ✓		
QUESTION 3 (9 marks)			

QUESTION PAPER	SOLUTIONS	TOPIC	LEVEL
The patterns below are made using matchsticks:  **Pattern 1** **Pattern 2** **Pattern 3** 3.1 Redraw and complete the table: (4) Pattern number (n) | 1 | 2 | 3 | 4 | n Number of matchsticks | 3 | 7 | | |	3 | 4 | n 11✓ | 15✓ | $4n - 1$ ✓✓ OR Any equivalent form of $4n - 1$		
3.2 How many matchsticks will there be in the 12th pattern? (2)	$T_{12} = 4(12) - 1 = 48 - 1 = 47$ ✓✓		
3.3 Which pattern number will have 59 matchsticks? (3)	$4n - 1 = 59$ ✓ $4n = 59 + 1 = 60$ ✓ $n = 15$ ✓		
QUESTION 4 (23 marks) 4.1. Simplify, without using a calculator and write answers with positive exponents. (Show all calculations): 4.1.1 $x^3 \times x^7$ (1)	x^{10} ✓		
4.1.2 $(y^2)^5$ (1)	y^{10} ✓		
4.1.3 $\sqrt{121} - \sqrt[3]{-125}$ (3)	11 ✓ – (–5) ✓ = 11 + 5 = 16 ✓		
4.1.4 $\frac{8x^2y^4}{16x^4y^{-3}} \div \frac{x^{-3}}{2y^2}$ (3)	$\frac{8x^2y^4}{16x^4y^{-3}} \times$ ✓ $\frac{2y^2}{x^{-3}} = x$ ✓y^9 ✓		
4.1.5 $\frac{x}{5} + \frac{x}{10} = 3$ (3)	× 10: $2x + x = 30$ ✓ $3x = 30$ ✓ so $x = 10$ ✓		

QUESTION PAPER	SOLUTIONS	TOPIC	LEVEL
4.1.6 $\frac{a^2+2a}{2a}$ (2)	$\frac{a^2+2a}{2a}=\frac{a^2}{2a}+\frac{2a}{2a}=\frac{a}{2}+1$ ✓✓ OR $\frac{a(a+2)}{2a}=\frac{a+2}{2}$ ✓✓		
4.2 Simplify and write in scientific notation: 4.2.1 0, 00031 (2)	3,1 ✓ × 10^{-4} ✓		
4.2.2 $(1{,}3\times10^{-4})\times(2\times10^{6})$ (2)	2,6 ✓ × 10^2 ✓		
4.3. Use the flow diagram to determine the values of *a*, *b* and *c* (3) 	*a* = 1 × 2 + 1 = 2 + 1 = 3 ✓ *b* = 3 × 2 + 1 = 6 + 1 = 7 ✓ *c* × 2 + 1 = 15 2*c* + 1 = 15 2*c* = 14 *c* = 7 ✓ OR 15 – 1 ÷ 2 = *c* 14 ÷ 2 = *c* 7 = *c*		
4.4 4.4.1 Determine the lowest common multiple of 125 and 300. (1)	125 = 5^3 and 300 = 3 × 2^2 × 5^2 LCM = 3 × 2^2 × 5^3 = 1 500 ✓		
4.4.2. Determine the highest common factor of 125 and 300. (2)	HCF = 5^2 = 25 ✓✓		
QUESTION 5 (11 marks) Simplify: 5.1 10 – 3(*x* + 2) (2)	10 – 3*x* – 6 ✓ = 4 – 3*x* ✓ OR –3*x* + 4 ✓		
5.2 (3*x* – 2)(3*x* + 2) (2)	$9x^2$ ✓ – 4 ✓		
5.3 $(x+2y)^2$ (3)	x^2 ✓ + 4*xy* ✓+ $4y^2$ ✓		
5.4 $3(x+4)-x(x-9)$ (4)	$3x+12-x^2+9x$ ✓= $-x^2$ ✓+ 12*x* ✓+ 12 ✓		
QUESTION 6 (14 marks) Solve for x : 6.1. $x+8=72$ (1)	*x* = 72 – 8 = 64 ✓		

QUESTION PAPER	SOLUTIONS	TOPIC	LEVEL
6.2. $\frac{x}{21} = 3$ (1)	$x = 21 \times 3 = 63$ ✓		
6.3. $6(x-2) = x+3$ (3)	$6x - 12 = x + 3$ ✓ $5x = 15$ ✓ $x = 3$ ✓		
6.4. $\frac{3x-2}{4} + \frac{x}{2} = 7$ (3)	× by 4: $3x - 2 + 2x = 28$ ✓ $5x = 30$ ✓ $x = 6$ ✓		
6.5. $2^{x+1} = 32$ (2)	$2^{x+1} = 2^5$ ✓ $\therefore x + 1 = 5$ $x = 4$ ✓		
6.6. $(x-2)^2 + 7 = (x+5)(x-2)$ (4)	$x^2 - 4x + 4 + 7$ ✓$= x^2 + 3x - 10$ ✓ $21 = 7x$ ✓ So, $x = 3$ ✓		

STEP 2: <u>Record the topics have been covered by the questions in the exam</u>.

Work with your small group.

- Use the table showing the Grade 9 Time Allocation per Term to analyse the exam questions.
- Write down the topic being covered by each question in the allocated column of Paper 1 of the June Exam.

TIME ALLOCATION PER TERM: GRADE 9							
TERM 1		**TERM 2**		**TERM 3**		**TERM 4**	
Topic	**Time**	**Topic**	**Time**	**Topic**	**Time**	**Topic**	**Time**
Whole numbers	**4,5 hours**	Construction of geometric figures	**9 hours**	Functions and relationships	**5 hours**	Transformation geometry	**9 hours**
Integers	**4,5 hours**	Geometry of 2D shapes	**9 hours**	Algebraic expressions	**9 hours**	Geometry of 3D objects	**9 hours**
Common fractions	**4,5 hours**	Geometry of straight-lines	**9 hours**	Algebraic equations	**9 hours**	Collect, organize and summarize data	**4 hours**
Decimal fractions	**4,5 hours**	Theorem of Pythagoras	**5 hours**	Graphs	**12 hours**	Represent data	**3 hours**
Exponents	**5 hours**	Area and Perimeter of 2D shapes	**5 hours**	Surface Area and volume of 3D objects	**5 hours**	Interpret, analyse and report data	**3,5 hours**
Numeric and geometric patterns	**4,5 hours**					Probability	**4,5 hours**
Functions and relationships	**4 hours**						
Algebraic expressions	**4,5 hours**						
Algebraic equations	**4 hours**						
Revision/ Assessment	**5 hours**	**Revision/ Assessment**	**8 hours**	**Revision/ Assessment**	**5 hours**	**Revision/ Assessment**	**12 hours**
TOTAL: 45 hours		**TOTAL: 45 hours**		**TOTAL: 45 hours**		**TOTAL: 45 hours**	

- Report back on your findings to the whole group.

STEP 3: Allocate cognitive levels to the questions

Work together with the whole group: Read through the Table giving the Description and Examples of Cognitive Levels given below. Make sure you know how many levels there are, the names of the cognitive levels and the type of questions that fall under each level.

DESCRIPTION AND EXAMPLES OF COGNITIVE LEVELS		
Cognitive levels	**Description of skills to be demonstrated**	**Examples**
Knowledge (≈25%)	• Estimation and appropriate rounding of numbers • Straight recall • Identification and direct use of correct formula • Use of mathematical facts • Appropriate use of mathematical vocabulary	1. Estimate the answer and then calculate with a calculator: $\frac{62\,816}{325 + 279}$ **[Grade 7]** 2. Use the formula $A = \pi r^2$ to calculate the area of a circle if the diameter is equal to 10 cm. **[Grade 8]** 3. Write down the y-intercept of the function $y = 2x + 1$ **[Grade 9]**
Routine procedures (≈45%)	• Perform well-known procedures • Simple applications and calculations which might involve many steps • Derivation from given information may be involved • Identification and use (after changing the subject) of correct formula • Generally similar to those encountered in class	1. Determine the mean of 5 Grade 7 learners' marks if they have respectively achieved 25; 40; 21; 85; 14 out of 50. **[Grade 7]** 2. Solve x in $x - 6 = 9$ **[Grade 8]** 3. R600 invested at r% per annum for a period of 3 years yields R150 interest. Calculate the value of r if $SI = \frac{P.n.r}{100}$. **[Grade 9]**
Complex procedures (≈20%)	• Problems involving complex calculations and/or higher order reasoning • Investigate elementary axioms to generalize them into proofs for straight line geometry, congruence and similarity • No obvious route to the solution • Problems not necessarily based on real world contexts • Making significant connections between different representations • Require conceptual understanding	1. Mr Mnisi pays R75 for a book which he marks up to provide 20% profit. He then sells it for cash at 4% discount. Calculate the selling price. **[Grade 7]** 2. A car travelling at a constant speed travels 60 km in 18 minutes. How far, travelling at the same constant speed, will the car travel in 1 hour 12 minutes? **[Grade 8]** 3. Use investigation skills to prove that the angles on a straight line are supplementary. **[Grade 9]**
Problem solving (≈10%)	• Unseen, non-routine problems (which are not necessarily difficult) • Higher order understanding and processes are often involved • Might require the ability to break the problem down into its constituent parts	1. The sum of three consecutive numbers is 87. Find the numbers. **[Grade 7]** 2. Mary travels a distance of km in 6 hours if she travels at an average speed of 20 km/h on her bicycle. What should be her average speed if she wants to cover the same distance in 5 hours? **[Grade 8]** 3. The combined age of a father and son is 84 years old. In 6 years time the father will be twice as old as the son was 3 years ago. How old are they now? **[Grade 9]**

Work with your small group
Go back to the exam. Write down what you think the cognitive level is for each question in the "Level" column.

Work with your whole group
Discuss your answers with the whole group.

STEP 4: For each question fill in the marks allocated to the content area and cognitive level in the following table:

Work with your small group.
Use the answers written in the two columns on the exam to fill in the number of marks in the appropriate cells of the following table. Find the total for each column.

	Numbers, Operations and Relationships	Patterns, Functions and Algebra	Space ad Shape	Measurement	Data Handling	Knowledge (~ 25%)	Routine Procedures (~45%)	Complex Procedures (~20%)	Problem Solving(~10%)	TOTAL
1.1										
1.2										
1.3										
1.4										
1.5										
2.1										
2.2										
2.3.1										
2.3.2										
2.4										
3.1										
3.2										
3.3										
4.1.1										
4.1.2										
4.1.3										
4.1.4										
4.1.5										
4.1.6										
4.2.1										
4.2.2										
4.3										
4.4.1										
4.4.2										
5.1										
5.2										
5.3										
5.4										
6.1										
6.2										
6.3										
6.4										
6.5										
6.6										
TOTAL										

STEP 5: <u>Decide whether the cognitive levels are correctly covered by this exam</u>

<u>Work with your small group</u>

1) Work out the number of marks that <u>should be</u> allocated to each level in an exam of 75 marks.

2) Use your table on the previous page to write down the <u>actual marks</u> allocated to each level in this Paper 1 of an exam.

	Marks according to levels in an exam out of 75	**Actual marks allocated to each level in this exam**
Knowledge (≈ 25%)	25% × 75 = …….	
Routine Procedures (≈ 45%)	45% × 75 = …….	
Complex Procedures (≈ 20%)	20% × 75 = …….	
Problem Solving (≈ 10%)	10% × 75 = …….	
TOTAL	75	75

3) Analyse your table. Do the questions in the exam have the correct number of marks at each cognitive level?

STEP 6: Decide whether the content areas are correctly covered by this exam

Work with your small group

1) Use the Grade 9 Time Allocation Per Term Table to calculate the number of hours that should be spent on each topic in Paper 1.

2) Use your table where you calculated the actual marks allocated to each topic in the exam to fill in in the last column.

	Number of hours allocated to topics in Paper 1 in the Gr 9 CAPS	**Marks that should be allocated to each topic in this 75-mark exam**	**Actual marks allocated to each topic in this exam**
Numbers, Operations and Relationships	23	$\frac{23}{40} \times 75 =$ …….	
Patterns, Functions and Algebra	17	$\frac{17}{40} \times 75 =$ …….	
Space and Shape	0		
Measurement	0		
Data Handling	0		
TOTAL	40	75 marks	75 marks

3) Analyse your table. Do the questions in the exam have the correct number of marks at each topic?

STEP 7: Write a brief report that you would give to the person who set this exam.

SESSION 3: TRANSITIONING BETWEEN GRADES 7 AND 8

3.1 What transitioning means.

Definition of 'transition" from the online Merriam Webster Dictionary
(https://www.merriam-webster.com/)

Definition of *transition*

1a: passage from one state, stage, subject, or place to another **:** *change*
b: a movement, development, or evolution from one form, stage, or style to another
2a: a musical modulation
b: a musical passage leading from one section of a piece to another
3: an abrupt change in energy state or level (as of an atomic nucleus or a molecule) usually accompanied by loss or gain of a single quantum of energy

Examples of *transition* in a sentence or phrase

- We want to have a smooth *transition* when the new owners take control of the company.
- the sometimes-difficult *transition* from childhood to adulthood

Online references you might find useful to read before you run teacher workshops:

Grade 3 to 4: Why is it a rough transition? https://www.news24.com/You/Archive/grade-3-to-4-why-is-it-a-rough-transition-20170728-2

The transition of Grade 4 learners to English as medium of instruction, an MEd thesis by Guida Steyn https://repository.up.ac.za/bitstream/handle/2263/65469/Steyn_Transition_2018.pdf?sequence=1&isAllowed=y

Transition from Primary to Secondary School: https://www.ero.govt.nz/publications/evaluation-at-a-glance-transitions-from-primary-to-secondary-school/6-transition-from-primary-to-secondary-school/

3.2 What the situation is

"Most learners make many transitions in their school lives.
They do so when they

- *Begin early childhood education like creche, or nursery school*
- *Start school*
- *Change year levels within a school*
- *Transfer from one school to another*
- *Shift from Foundation Phase to Intermediate Phase and on to high school or secondary school*
- *Move from secondary school to further education, training or employment*

(New Zealand Ministry of Education, 2010)

When learners change grades within or between schools, they must adjust to new surroundings, become familiar with new teachers and peers (i.e. fellow learners), learn new ways of working, and make sense of the rules and routines that operate in their new classes.

Teachers need to be aware of the learners needs at the beginning of the year. Each school and teacher is going to have a different set of problems, but it is a good idea to discuss the situation with your colleagues and to discuss solutions with them.

Research has found that there is a strong correlation between the extent to which learners experience difficulties following transition and their likelihood of dropping out of school (McGee et al, 2003).

Other research has shown that poor transitions impact on their learner's wellbeing and on their achievements in the future (West et al, 2008).

Where learners experience multiple transitions because of movements around the country, there are identifiable negative impacts on their achievement.

3.3 Talking about Transitioning

Your small group will be given one of these topics to discuss.

i) How can teachers make the transition from Grade 7 to Grade 8 as easy as possible?
ii) What can teachers do if they find gaps in their learners' knowledge?
iii) The learners in Grade 8 generally come from many different feeder schools. What can teachers do about the differences in the learners' maths knowledge?

1) Discuss your topic with your small group and write a summary of your discussions and conclusions on flip chart paper.

2) One person from each small group then presents their findings to the large group. They invite everyone to make comments on their group's conclusions and to add more points to the list.

3) After all the groups have presented, each person writes down the points from the flip chart paper in the spaces provided below.

4) Each person then thinks about how they are going to change their teaching when they get back to class and writes it down on the last page.

Write down the points from the flip-chart paper here:

i) How can teachers make the transition from Grade 7 to Grade 8 as easy as possible?

ii) What teachers can do if they find gaps in their learners' knowledge?

iii) The learners in Grade 8 generally come from many different feeder schools. What can teachers do about the differences in the learners' maths knowledge?

Think about how you are going to change your teaching when you get back to class and write it down here.