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## ANNEXURE 1 – LESSON TRANSCRIPTION – SCHOOL A

This lesson took place at school A. The outcomes of the lesson were as follows: Learning outcome number three: space, shape and measurement.

To find out whether learners have achieved the above outcome, we will see them when they are able to measure using appropriate instruments, to estimate and calculate physical quantities and to interpret, describe and represent properties of and relationships between two dimensional shape and three dimensional objects in a variety of orientation and positions. The lesson therefore was aimed at finding out whether learners have achieved the above outcome by measuring different angles and comparing them.

### Lesson transcriptions

#### School A: Lesson A

#### Learning Area: Mathematics

Teacher: (introduces the lesson) Hey class, what I am doing now, I have already done it in another class. (The teacher says something which is unintelligible) which one is it?

Learner: E and F

Teacher: E and F? No. (Silence) G and H ... I said O is equal to H, reason because they are corresponding angles. As I said corresponding angles are equal. Find out all other corresponding angles that are equal. If angle A equal H, those angles are equal, therefore are they are corresponding angles. Other angles are equal.

Learners: (coughing)

Teacher: (calling a name of a learner)

Teacher: D is equal to G. D is equal to G. I said they are equal

A.C.d. Make sure that they are equal because yesterday I said that when parallel lines are cut by transversal lines, corresponding angles are equal. That is an angle B is equal to G, B is equal to G. G is equal to H.

Learner: A is equal to H

Teacher: (agreeing with the learner) A is equal to H. Angle A is equal to angle H (writing on the board). A is equal to F. A is equal to F. All...the ...the reason why all of them are equal is because they are corresponding angle. (Silence) They are corresponding angles. All of them. Even here the same reason –they are corresponding angles. Here-the same reason-they are corresponding angles. Now all you do is you must go and identify what type of angles. What are the types? I said five are corresponding angles and... (Calling out the name of a student—not clear)

Learner: (Not responding)

Teacher: (another learner)

Learner: (Not responding)

Teacher: (calls out the name of another learner)

Learner: (respond but not clear) coordinating angles.

Teacher: coordinating angles. Coordinating angles (repeating). I said you must the value of coordinating angles. Which angles is equal to which angel, because they are coordinating angles (silence). You have—you have in your books. I can see the first one. (The teacher says something but is not clear. He calls out the name of a learner). Euphodia! Give us the first answer one. (The teacher again says something which is not clear)

Euphodia: (She says something even thou she is not clear)

Teacher: Is equal A, is equal to B, and is equal to C. (he calls out the name of another learner)

Learner B:  $8+X=14$

Teacher: Because they are corresponding angles. Joe (another learner)

Joe : D is equal to E

Teacher: D is equal to E. Angle d is equal to E. Remember, how do you know corresponding angles? How do you identify them? *Le di tseba bjang? Le di tseba bjang gore ke di corresponding angles?* I said Mathematics is fun. I said Mathematics is fun. It is fun.

Learner: (a learner tries to respond but is not clear)

Teacher: Ke eng? (The teacher got disturbed by a learner entering the class and wanted to know whether she is a registered student or

Teacher: Now, alternative angles, (the teacher introduces another set of angles) as I said is, Mathematics is fun. Of these three angles F, U and H. *Ke efe?*

Stephen: U

Teacher: U, Z Hee! U, Z Hee! Z or H. I said you must look for an angle that.... what is angles? We--- what else?

Learner: E is equal to F

Teacher: E is equal to F. These are all alternative angles

Teacher: *A re yeng. Ke rile di corresponding angles di di ya Bjang?* I said corresponding angles we know them because of F. Those angles that I said are equal, two angle, and we said this angle is equal to that angle; with F, it means they are corresponding angles. Come on class. *O dio lebelelela nto yeuwe, wa re e tshwana le Z. E bothata go ba e...* (Not complete and not clear) (*You just look at it and say it like*) *O dio e lebelelela. Wena wa bona gore ke 'S' go ba ke' F'. Is it an S or an X? Is it an S or an X? Are these angles lying? Like this? No, it is not. This is an alternating angle, co-interior angle. Then*

why? Are they lying like a scissor? I eme bjalo ka sekero? Eh! Le a se tseba sekero?

Learners: No

Teacher: *Le a se tseba?*

Learners: *Ee! Aowa!*

Teacher: *Le a se tseba? Di eme bjalo ka sekero dilo tseo.Eeh! (silence) Meno a sekero a ema ka mokgwa wan a wouwe.Then ke angle efe ya go ema bjalo ka sekero?* I said when two straight lines intersect, they produce a pair of, a pair of an alternating angles or we have got three angles, three lines intersect to produce a "A" pair of vertically opposite angles, which are always equal, to produce a pair of vertically opposite angles which are always equal. Then F is equal to 106, the reason is they are vertically opposite angles. Vertically opposite angles. Then if I can say Y is equal to X, Y is equal to Z, what is the reason?

Learners: (not clear)

Teacher: Y is equal to X. Why?

Learners: (no answer)

Teacher: *Peggy.ge ke re Peggy k era wena*

Peggy; (Says something, but is not clear)

Teacher: Eh!

Peggy: They are corresponding angels.

Teacher: They are corresponding angels. The lines are equal. Then how much is Y.You said how many degrees? You said F is 106 then Y is equal to Z.Then how much is Y?  
Peter.

Peter: 63

Teacher: Y is equal to 63.Mpho?

Mpho: 10

Teacher: 10 How much is Y? You do not know. Class Portia *o na le mengwaga ye mekae?*

Portia: 16

Teacher: 16.Portia is sixteen years old. Portia is sixteen years old.Euphodia o lekana le Portia. Portia o na le sixteen years. Paul o lekana le Euphodia.Ke gore Paul o na le mengwaga e mekae? I know Portia o na le sixteen years, and Portia o lekana le Euphodia. Wena ge o lebeletse Portia o lekana le Paul. Paul o na le mengwaga e mekae? (Euphodia is sixteen years old .Euphodia I of the same age as Portia. Paul is of the same age as

Euphodia.how old is Paul?)

Learner: 16

Teacher: that is it.H is equal to Y, X is equal to y X is 106.how much is Y?

Learner: 16

Teacher: *Y ke bokae? Wena o nagana gore ke bokae? (How much do you think it is?)*

Learner: 93:

Teacher: 93

Learner: 37

Learner: 97

Teacher: 97! (With amazement)*Mpotsene class, dinomoro tse le na le tsona kae? Le di Tseere kae? Hector. How did you get this 42? I am saying they are wrong. You just tell me ke 42 ya go tlhaha mo kae, Mpho/*

Mpho: *Ke e khumane kua letlapeng.*

Teacher: You said 37.*O e khumane bjane? Euphodia, you said 37, o ikhumane bjang? (How did you find it?)*

Euphodia: *ke dio ke sa* (I have just guessed) Teacher: *O dio kesa. (You have just guessed)*

## ANNEXURE 2 – LESSON TRANSCRIPTION -SCHOOL B

### Learning Area: Mathematics

#### Lesson B:

The lesson starts by the teacher introducing the researcher. The purpose of introducing the researcher is for learners to feel relaxed, not to be threatened by the researcher's presence.

Teacher: Substitutes are (not clear). You have seen—you have got A. You have seen how we substitute a number in a given exponent. We have got A again, you must be reminded of how we substitute if we are given a poly-nominal number. If you substitute again, you are given some numbers, so that I just put them in the given expansion. Are we together?

Learners: Yes (a big one)

Teacher: So let us have examples of poly-nominal. According to the given poly-nominal, you must be able to count to the number of ten in such a poly-nomial. Are we together?

Learners: Yes

Teacher: and we must know the degree of such a poly-nomial. So what is the degree? Writing some number on the board). What is the highest exponent of the variable? And – (not complete) any answer?

Learner: 4

Teacher: 4. Any other one? A different answer. Violet.

Violet : Minus 1.

Teacher: You know a variable? You know what is a variable? Any other variable? What is your variable? What is the variable that expresses this? Between X and 2, which one is a variable? Which one is a variable between X and 2?

Learner : X

Teacher : X is a variable. So what is the degree of this X? What is the exponent? For you to know the degree, you must know the exponent of all the given variables. So what is the exponent of X? What is the exponent of X? Petrus.

Petrus : Zero

Teacher: Zero.89. Last time we said, if you want to add, (unintelligible).what do we call it? What do we call it?

Learner: No response

Teacher: Shoo! You learn to forget. We said (not clear) and inside the power, there is an exponent. There is an exponent here. These are the two things which constitute a power. Are we together?

Learners: Yes

Teacher: So, everything we have got here, we call it an exponent. If you look at it, we have the variable X.Are we together? So if it is without an exponent, it means that the exponent must be 1.Mathematically, any number, any given article. You must raise the exponent 1.Are we together?

Learners: Yes.

Teacher: That is why when we said the exponent of this will be 4. It is because we got an X X P.Are we together? So it means you rise x to the power of 1. The number that is given is 2.You raise it to the exponent. It means two must be raised to how much? It must be raised to exponent 1. But that is like this. And within the two exponents you compare which one is the highest. Then between X and 2, these are in different axis. They are not same. Are we together?

Learners: Yes

Teacher: So, the variable which we have is expression. So it means that that is an exponent for X. are we together?

Learners: Yes

Teacher: So it means even if (not clear) we must be able to (not clear) two, which is a given poly-nominal .Suppose we are given: If  $X=2$ , calculate  $X+2$ , if  $X=2$ . What will be  $X+2$   $X+2=4$ .How do we get the answer 4? When you add X-Axes we together? You must substitute the value of X by 2.So it means, you remain with  $x+2=2+2=4$ . Are we together? That is what we mean by substitution. You must substitute the given number with the given expression. Then let us, suppose we have got a2 -2, what is the degree of the poly-nominal? (Silence)

Learners: No response (learners remained quite and this shows that they did not understand.)