KEY SYMBOLS INVOLVED IN TRANSCRIPT

- T/L – Indicates the speakers by means of T for teacher and L for learners;
- [ ] – Indicates teachers' action or disruption in class;
- [[ ]] – Indicates overlap of talk;
- … – Indicates long pause;
- (( )) – Indicates that the transcriber does not know what the utterance is (cannot hear properly)

LESSON 2 ACTIVITY 1	TRANSCRIPT	DESCRIPTION (Teacher mediation)
	Dialogue 1: [00:00:11.11]T: Homework sheet at the end of the lesson. (()) Homework is very simple, area and volume. If you need to know, volume is always the... [00:00:20.12]L: Outside. [00:00:21.02]T: …area of the base times the height. Ok, that's your clue for today. I want this done for tomorrow... area of the base times the height. [00:00:32.16]L: Ma'am... [[]] [00:00:35.26]T: What is a triangle, half base times height... well then Friday. Extra lesson this afternoon. It is on the test. I'm actually giving you a worksheet that looks very similar to Friday's test, like in exactly. All right? I've worked through it, I've done three examples. You'll work through it for vertices, faces and edges. I'll do volume with you and I'll do area with you and (()) Ok.	The teacher gives the learners homework. She also provides information for extra math lessons.
	Dialogue 2: [00:00:55.26]T: Take out your books please. Let's start. Congruency. We discussed something about congruency. Can you tell me some of these things we discussed so far... I asked you to take out your books. What have we discovered about congruency? Come, tell me about Congruency. [00:01:44.05]L: Isn't it when.... exactly the same? [00:01:48.07]T: **Congruency is when it is exactly the same.** So the shape is the same and the size the same. The orientation, its position, is that the same?	The teacher revises the meaning of congruency. She uses conventional IRF/E structure in the discussion. Very good learners' participation that shows understanding of the term. The teacher uses the move

	[00:01:57.13]L: No. [00:02:01.04]T: Is the orientation the same Rodney? [00:02:02.03]L: No [00:02:07.18]T: Could be in different position, remember? Remember when we had a little arrow, Charlotte? [00:02:14.21]L: (()) [00:02:20.24]T: No, Andy (()), why do you (()) a worksheet on a Wednesday. [00:02:27.14]L: Ma'am, Monique I can go to her, she needs to talk to me urgently... [00:02:30.06]T: Excuse me? [00:02:33.14]L: Monique needs to talk to me urgently... [00:02:36.13]T: Who? [00:02:40.12]Learner: Monique... [00:02:42.25]T: Please sit down, take out your book, and put your phone away. [00:02:48.26]T: Remember when we had the little arrows and they were facing out, the arrow heads, but when we cut them out, we could flip them in place on top of each other. So the orientation or their position was different, but when we placed them, flipped them, we could then identically place them onto each other. Right, what else have we learnt about congruency, Brandon? So far? [00:03:15.18]L: Ma'am, I wasn't here the whole week last week. [00:03:20.05]T: I called your name, you should.... No, pay attention to the lesson otherwise you'll fall behind. [00:03:27.17]L: Ok. [00:03:42.12]T: What else did we discover about congruency? When we took the triangles, could we only use two facts for our congruency? Could we? Rodney? [00:03:46.26]L: **Three.** [00:03:51.23]T: We needed three facts, and did we discover those facts? What did we discover in the triangles? We did certain things and we discovered certain steps. Yesterday we measured. What did we measure yesterday? How did we draw the triangles, what did we use? [00:04:13.08]L: Our compass and our protractor. [00:04:21.01]T: Ok, but did I give you size, angles, what did we discover? [00:04:25.24]L: Ma'am, [[]]you gave us centimetres and number (()) [00:04:27.27]T: Ok, how many did we [[]] yesterday?	**Confirm** and gives confidence to the learner. New learner comes to class and disrupts the lesson. The teacher handles the situation. The teacher continues the summary for congruency. **She explained what the class did in previous lesson.** Disciplinary issue. The teacher involves the

The teacher writes on the board the following: 3 ways → three sides two sides and included angle two angles and corresponding side.	[00:04:28.25]Ls: [[]]Seven, eight, twelve ... [00:04:32.02]T: **I gave you two degrees and I gave you a centimetre which was the side.** Could we construct congruent triangles? ...We didn't. (()) We drew triangles and placed them on top of each other. What did we discover? Jordan? [00:04:59.01]L: [[]] [00:04:59.54]T: They weren't exactly the same. Then we took two sides and we (()) remember? We drew two triangles with sides seven and nine and an angle of fifty, I think and what did we discover with that one? Sarah, when you drew yours and (()) you drew yours and you put it on top of each other? [00:05:24.20]L: They didn't fit. [00:05:27.00]T: They didn't? [00:05:28.07]L: (()) [00:05:31.01]T: Jordan, Rodney when you placed yours on top of each other? [00:05:33.17]Ls: They were the same. [00:05:35.01]T: They were exactly the same. **So we came to the conclusion that there were three ways that we could prove that a triangle was congruent. What were the three ways...** [00:05:48.26][The teacher writes on the board.] [00:05:58.28]T: We had three sides and we had two angles and a corresponding side, correct? [00:06:07.03]L: Ja. [00:06:12.06]T: And then we had two sides and an included angle, correct? [00:06:20.27]L: Yes.	learners in conversation about three conditions for congruency. She uses informal language to encourage the learners to participate. **Good example for classroom discussion. Most of the time the teacher asks the questions and different learners try to answer. She uses the elicit information from the learner to make conclusion. She is good leader of these exchanges. The teacher uses two tools of mediation, writing on the board and discussing the problems.**
	Dialogue 3: [00:06:25.28]T: So we learnt that, if we have any of these three conditions we can prove that our triangle is congruent. Correct? Yesterday I showed you how to prove congruency, how we write it down. [00:06:46.23][The teacher shows some summary using overhead projector.] [00:06:48.17]T: I just want to remind you how we write it down. Then I will do an example. Firstly we got to get the reason for each (()) action. Remember you have your two triangles and you're going to label your two triangles. So you can't just say that A equals E (()) you got give me a reason why they ..., hey?	The teacher shows something using the overhead projector. She reads the information and explains in detail.

There is the summary that the teacher reads: REMEMBER • Give a reason for each statement you make; • Mark each new piece of information on a copy of the sketch; • Always start with the information that is given on the sketch; • You need at least three pieces of information to prove congruency.	[00:07:12.10]T: You've got to mark each new piece of information on the copy of the sketch. So if you've used the information, you mark off that you've used it, but you can't use it twice, ok? And always start with the information that is given on the sketch. Lastly, you need at least three pieces of information to prove congruency. So I'm going to have three sides, I'm going to have two angles and a corresponding side or I'm going to have two sides and the included angle. [00:07:50.03]L: Angle. Dialogue 4: [00:07:57.24]T: Angle. So, I give you two triangles... Let's make this one A, B,C and let's use the example from yesterday…We had ... fifty and eighty, didn't we and five centimetres. [00:08:08.02]L: Sixty and eighty. [00:08:18.02]T: Sixty and eighty. [00:08:20.27]L: Yes Ma'am. [00:08:22.25]T: Ok, let's use sixty and eighty. And now we're gonna have another triangle. (()) What shall be... [00:08:28.11]L: Seven and nine. [00:08:30.22]L: Seven centimetres. [00:08:34.08]T: Let's make it, let's make it F,G and H and this one's sixty centimetres and this one's eighty degrees and that is five centimetres. Can we prove that this triangle is congruent to this triangle? How we going to start? According to our recipe, I always have to start ... [00:09:09.26]L: (())A, B [00:09:15.12]T: So we're going to start by saying in triangle ...A,B,C and [00:09:19.29]L: FGH. [00:09:22.01]T: ...and F, G, H. Right, can we find one of these three? [00:09:33.02]T: Look at the triangles. What are we given? [00:09:35.13]L: Yes. [[]] [00:09:36.23]T; Which one? [00:09:40.22]L: Two angles and corresponding… [00:09:44.04]T: Do you think we can prove it, can I help you? **Where can we start?** …Jonathan, pay attention ... time to do this now...where I am going to start? Shall we start with A? Ok, so A equals... [00:09:59.07]L: Six.	The teacher provides a nice example. She draws on the white board two triangles ABC and FGH. She indicates for each of them two angles (sixty and eighty degrees) and one side (5 cm). Together with learners she illustrates formal proof of congruency. The teacher involves the learners in the process of

The teacher record the following solution on the board: In ΔABC and ΔFGH 1) A = F (both 600) 2) C = G (both 800) 3) AC = FG (both 5cm) : Δ ABC ≡ ΔFGH	[00:10:06.13]T: That will equal? [00:10:07.27]L: F. [00:10:11.25]T: F. And then it tells me to give the statement. **Why, (()) why do I say A is equal to F?** [00:10:17.07]L: Because A is sixty. [The teacher stars to record the solution on the board.] [00:10:21.21]T: Correct? [00:10:23.14]L: Yes. [00:10:26.27]T: Right, now what else can I do? [00:10:29.21]L: C and G. [00:10:33.00]T: C and ... [00:10:33.24]L: G [00:10:34.14]T: G, why? [00:10:36.28]L: Because they're both eighty degrees. [00:10:39.07]T: They're both eighty, so I'm going to write angle G is equal ... no wrong side. It's angle C equals angle [00:10:48.05]Ls: G. [00:10:50.14]T: **Reason.** [00:10:53.19]Ls: Both eighty degrees. [00:10:57.04]T: Both eighty degrees. Now [[]] [00:11:02.14]L: AC is equal to FG. [00:11:08.28]T: Going to write AC is equal to FG. Is this correct? [00:11:10.02]Ls: Yes. [[]] [00:11:14.27]T: (()) I show that it is lines... ok and my reason being? [00:11:18.19]Ls: Both five centimetres. [00:11:22.09]T: Both five centimetres. Right, have I now proven congruency? [00:11:25.26]L: Yes. [00:11:28.02]T: (()) one of the conditions. Ok, so therefore, triangle ABC. [00:11:37.22]L: (()) [00:11:39.20]T: equals, what was the sign we used. [00:11:43.02]L: **Congruent.** [00:11:44.08]T: Congruent to triangle FGH. Do you see the rule I gave you to remember there, do you see how (()) here? [00:11:56.23]L: Yes.	solving problems. The learners' participation in example is good. They provide right answers. **The teacher emphasizes the important part in formal proof, starting from given information, always proved reason for given statement, how to write new sign for congruency.**

	[00:12:03.01]T: No you don’t. There's one step left out. (()) mark each new piece of information? So A is equal to F so A is equal to F (writes on the board). There's that. C is equal to G, C is equal to G, and this one is equal to that one. It's so that you don't use your information more that... [00:12:32.15]L: Once. [00:12:33.27]T: Once. Ok. Five minutes to copy down the examples and a note that shows how to prove congruency. [00:12:40.23]L: Ma'am (()) Second file Dialogue 5: [00:00:09.18]T: What is there? Hers on top of yours. There you go, it should be... congruent. (()) That's not nine. (()) Oh, hers is twelve. She's measured hers differently. She's used different, she's used three different sides ... [00:00:41.02]L: (()) [00:00:48.21]T: Just make sure you put it into your book. [00:00:55.15]L: So, you paste them. [00:01:00.21]T: Sinhle. Where is your homework book? [00:01:03.06]T: It is not done. [00:01:07.19]T: Njobula, where is your homework book. No, no, no, no. [00:01:18.44]L: [[]] [00:01:24.04]T: Uhm, no talking (()) There's a whole worksheet to do before the end of the lesson. [00:01:32.01]L: (()) [00:01:42.10]T: Where you want it? [00:01:46.22]L: (()) [00:01:49.21]T: So you measure your centimetres first and then you measure your angle and your angle (()). [00:01:53.16]L: (()) [00:01:54.17]T: You do, always need a compass... [00:01:57.17]L: Do we have a test on this on Friday? [00:02:02.20]T... can I give you a test on the topics?	Time management. The teacher provides instruction. The teacher compares two triangles. She concludes that they are not congruent because the learners used different measurement. The teacher check for homework. She finds out that many learners did not do homework.

	[00:02:06.28]L: No. [00:02:10.15]T: Ok, yes, you got tests on solids. Solids, naming solids, no not liquids. Naming solids, naming faces ages and vertexes of a solid, correct? Roxanne, you asked me and you're not listening. And then the volume. I have worked on volume of a cylinder and the volume of a cone, so you need to learn the formulas. Not paying attention, Brandon. (()) [00:02:42.02]L: (()) [00:02:42.02]T: ... you haven't started. [00:02:53.26]L: I have started. [00:03:11.15]T: You haven't started. You (()) [00:03:27.20]T: ... Right, are we ready? [00:03:29.07]L: Ma'am [00:03:34.26]T: Vertexes is a very strong word. That's a sketch, draw it. I'm going to take my ruler. I am going to measure this line. [00:03:51.00]L: (()) [00:04:01.00]T: Yes, where did you put your compass? I will be there now, thank you. [The teacher goes out for a few minutes.] [00:04:11.00]L: [[]] Where is she going to? [[]] [00:04:16.15]T: Sinhle, are you paying attention to what you're doing or are you socialising? [00:04:31.19]L: (()) [00:04:35.14]T: Measure it now. Next time you measure, use your compass. Where's your compass? [00:04:40.15]L: (()) [00:04:40.15]T: Jonathan, may I please use your compass? [00:04:51.08]L: Yes Ma'am. [00:04:53.10]T: Thank you. To be accurate, you have to be accurate, so measure like this. Measure one half...? There is talking. Roxanne is you finished? [00:05:10.16]L: Yes. [00:05:12.21]T: Bring me your book. And I'm going to measure. That is my first angle, sixty, so if I (()) naught (()) sixty (()) And I'm going to measure from here to across and you must tell me how much this time. [00:05:40.23]L: Eighty.	The teacher explains what is going to be on the test on Friday. The teacher pays individual attention to the learner who was absent in the previous lesson. She shows him how to draw a triangle with two angles of 60 and 80 degrees and a side of 5 cm. The rest of the class work.

	[00:05:46.26]T: So you're going to start from naught draw from naught and you must measure eighty, where's the eighty degrees on the protractor? [00:05:54.12]L: There. [00:06:05.06]T: There you go (()).Put your arc. [00:06:08.10]L: (()) [00:06:08.10]T: Here. [00:06:15.06]L: (()) [00:06:20.28]T: Charlotte, I need to make it go further up. [00:06:25.28]L: (()) [00:06:26.27]T: and then now fill in this is sixty degrees and that is eighty. So write in sixty and how do we indicate that it's a ... [00:06:35.28]L: (()) [00:06:38.19]T: How will indicate that is ...good boy. [00:06:47.02]T: That's right. And we measured that... What is that? [00:06:49.25]L: It was five. [00:07:00.17]T: Inside… Good boy, right. That's how we draw this triangle. Ok?	
	Dialogue 6: [00:07:04.05]T: All right, can I put up today's activity? I'm giving you six triangles and in these six triangles you must show me if they are congruent. How would you show me or how we would you prove to me that they are... using what you've learnt today. [00:07:19.11]L: The formula. [00:07:25.25]T: The little formula. Ok, so the first one we've got triangle ABC with four, seven and six and I've got triangle MNO with six, seven , four. Prove! [00:07:39.09]L:[[]] [00:07:42.10]T: Prove it to me in your books. Which ... which of the rules are we going to use for number one? Have we got any of these? [00:07:59.18]L: [[]] [00:08:01.00]L: Isn't it three sides? [00:08:03.25]T: Well done, Sarah. We're going to use three sides. Prove it in your books. You don't need to draw the little triangles. [00:08:10.15]L: Just do it? [00:08:12.15]T: Just prove it.	The teacher explains what they have to do next. By giving one example the learners have to solve the next three questions. The teacher asks a question and one learner gives the answer.

	[00:08:23.10]L: (()) [00:08:28.02]T: **We're not drawing them today, grade nines, we're proving using the little recipe and we're proving them.** Ok? ... [00:08:51.19]T: Do you understand it? [00:09:04.17]L: If you draw a triangle it doesn't matter what letters you use. [00:09:11.26]T: It depends if you think given the information you've got to label it according to the information, all right? So today I've given you the triangle, so you must label it exactly the same. [00:09:16.24]L: Must we draw them in our books? [00:09:22.00]T: You don't need to draw the first one in your books. The other two you'll draw in your books. [00:09:25.20]L: Oh... [00:09:29.20]T: The other two you'll draw in your books (learner enters the class). Good evening**. [The new learner comes in the classroom.]** [00:09:32.09]L: Hum, (()) I was with Mr Pila(()) [00:09:44.13]L: Ma'am, do you have a sharpener? [00:09:51.20]T: No, sweetheart. Somebody got a sharpener for Roxanne, please? ... Why angle? [00:09:58.23]L: Excuse me ma'am?	The teacher gives time to the learners to solve the problem. She emphasizes the main point of the lesson. The learner asks an important question. The teacher tries to answer. She doesn't answer in depth. Then she gives instructions to the learner.
	Dialogue 7: [00:10:10.02][The teacher talks to particular learner.] [00:10:10.08]T: Why are you using an angle? [00:10:15.04]L: Because it's (()) [00:10:19.27]T: You haven't been given an angle. [00:10:21.19]L: Oh ... angle? [00:10:23.10]T: Because I was given an angle in my diagram. [00:10:25.00]L: Oh. [00:10:26.00]T: What am I given in my diagram this time? [00:10:32.33]L: Side. [00:10:34.23]T: Side, we're given a side. [00:10:36.29]L: Ok. [00:10:40.06]T: Ok, if we're given a side, we name the side, not the angle.	The teacher communicates with a separate learner. She leads the discussion and helps him to prove congruency.

	[00:10:44.28]L: Ma'am, I can't see any of the label thingies... [00:10:46.24]T: A, B, C. And then it's M, N, O. [00:10:53.10]L: Ma'am, (()) [00:11:00.23]T: Grade Nines, have a look what we're given. We are given sides and that side is AC and CB and AB. Don't use angles, I wasn't given angles in this one. So you can't just say A, angle A. I haven't been given an angle in the first one, so how can you use angles for number one? What are we going to need to use? Njombula, what are we going to use for number one to prove congruency? [00:11:47.08]L: The measurements. [00:11:58.19]T: We're going to use the sides, so it's gonna be AB, or BC, so it's going to be two letters, not just one letter. It's going to go from one point to another point. Ok? You done with... [00:12:09.17]L: [[]] I just copying it down... [00:12:14.16]T: That is not (()) It's A... what? [00:12:19.24]L: A, B, C. [00:12:32.22]T: But which line? You said that both are four centimetres. So, where does A go to make four centimetres? [00:12:42.16]L: (()) [00:12:51.22]T: AB. Supposed to go AB. Ok, so now you've used O, so O goes there. Goes to N, so it's ON. Good, now do the next one, what's the next one? You're on the right track Well done. (()) two different triangles and (()) those two different triangles and prove it. [00:13:18.18][The teacher goes to the next learner to help with proof.] [00:13:32.00]L: (()) [00:13:35.08]T: You can do it. If you want to draw it, draw it if it makes it easier. If it makes it easier to draw it, draw it in your book. [00:13:41.01]T: That's not a proof. [00:13:42.12][The teacher goes around the class and facilitates learners work.] [00:13:44.11]L: Which one (()) [00:13:49.02]T: Why? What's the reason it's congruent? [00:13:54.04]L: 'Cause all sides are equal. [00:13:58.26]T: Yes, they're the same (()) Ok so now (())... You're on the right track. [00:14:19.05]L: (()) the other one. [00:14:22.27]T: Yes, yes. What is this and what is that? [The teacher shows the angles on	The teacher explains to the whole class that they need to use the given information. The teacher goes back to the learner and together writes the number one of the proof. The teacher pays attention to individual learner.

	the sketch.] [00:14:32.03]L: Oh, I didn't see them, but then (()) angle (()) Super. [00:14:42.08]T: (Thumbs up). Roxanne's already done the next one and she's proved it correctly. [00:14:48.29]L: Next one (()) [00:14:50.03]L: [[]] all sides (()) equal? [00:14:52.06]T: Which one did you use, which law? [00:14:55.27]L: full congruent (()) Two sides and included angle. [00:14:58.15]T: [Nods head]. Good, so what would my reason be? [00:15:02.02]L: Two sides and included angle. [00:15:06.23]T: [Nods head]. What is the reason for congruency? [00:15:08.23]L: Oh, three sides. [00:15:12.29]T: Good. Go to the next one. [00:15:23.01]T: (()) ABC and MNO then (()) AC. And then you take CB (()) which one would it equal? [00:15:46.19]L: (()) [00:15:50.03]T: Good. And then I need (()) three sides... Are they congruent? [00:16:02.00]L: Yes. [00:16:10.23]T: So triangle ABC is congruent to triangle MNO and the sides. Understand? So you're going to write it our similar to this. Use your three sides.	The teacher has a conversation with another learner. At the end she says that the learner solved the problem. The teacher explains to another learner how to prove congruency in the first question.
	Dialogue 8: [00:16:17.12]L: Ma'am, how...? [00:16:19.28]T: You've confused yourself. [00:16:23.36]L: Yes, (()) AB (())C and N and but what about ... [00:16:33.06]T: Now look up there. Which ones are the same? Have a look at BC. So write BC equals. Ok, now look at the other triangle. What does BC equal? [00:16:45.09]L: BC is the, that one there, the one that... [00:16:51.28]T: Yes? [00:16:54.21]L: ... equals. [00:16:56.17]T: Six, and where is the six on the other side? [00:16:59.05]L: MN. [00:16:59.06]T: M	The teacher provides individual help to another

	[00:17:00.01]L: O [00:17:01.02]T: MO. [00:17:03.03]T: So it will equal MO. And my reason? [00:17:11.07]L: Both are six. [00:17:12.26]T: Both equal six centimetres. Ok, now the next one. Which one are we left with? ... Now we're left with AC. [00:17:23.08]L: AC and... [00:17:25.17]T: Look up there, check yourself. Is it NM, its MN. [00:17:35.09]L: Ja. [00:17:37.18]T: Ok, so what're you gonna write? [00:17:41.04]L: BC. [00:17:42.09]T: Ja? [00:17:44.12]L: Equals MN. [00:17:49.08]T: Yes. Wait, wait, wait. MN. [00:17:54.03]L: MN [00:17:56.29]T: AC is four. So you need to find the one that is equal to four. [00:18:00.23]L: It's NO [00:18:02.08]T: It's? NO, good. [00:18:05.07]L: Four centimetres. [00:18:17.10]T: Ok. I need you to go back and I need you to check AB [00:18:19.06]L: Ja. [00:18:23.18]T: Which one is the same as AB? No that was right, AB was right. It's just the ON that is wrong. [00:18:29.26]L: It's uhm... [00:18:32.25]T: What you wrote there? [00:18:34.08]L: MN... [00:18:37.27]T: MN should be there and ON should be there. [00:18:40.23]L: It's fine huh? [00:18:44.00]T: Stop that, Sinhle. Rodney, can you move up the transparency that we can draw the last one? I want you to draw the last one to do at home please. You prove both of them, Jordan? Move it up a little bit more. If you haven't done the two last ones copy the sketches into your book and finish at home. Ok and now. Therefore ... [00:19:19.18]L: (())	learner. She gives him step by step directions on how to write the proof. One example is not enough for these learners.

	[00:19:23.29]T: do the same (()) triangle. [00:19:26.27]L: (()) [00:19:30.06]T: Njobulo... [00:19:30.28]L: Yes. [00:19:31.28]T: Draw your sketches. (()) triangle. [00:19:35.16]L: (()) [00:19:42.05]T: And the reason? Which reason did we use? [00:19:50.26]L: The three sides. [00:19:53.19]T: Good. Next to it in brackets. Three sides... Well done. Now draw the sketches of the other two and you can try those. I'll go over it this afternoon in extra lessons if you are coming as well. Right, have you copied it down, Alex? [00:19:58.24]L: Yes Ma'am.	The teacher gives homework to the class.
ACTIVITY 2	Dialogue 1: [00:20:12.24]T: I've got a question to ask you. Are you ready? [00:20:16.19]L: For what? [00:20:20.27]T: I want to put up a problem for you. [00:20:23.16]Ls: [[]] [00:20:29.02]T: Njobulo... Take the centimetres... Rodney. An angle is a point there. A side has to points, so it must go from A to B. Now you're telling me that I've got a side, but you're writing it as an angle. Fix it. How do I write it as a side? Must have two letters. So it would be AB. [00:21:12.06]L: (()) [00:21:13.26]T: No, AB is a line. It's going from A all the way to B. Ok? That measuring is just an angle A then I just write A. Do you understand? Right, here we've got a little teaser for you today. Are you ready? Oh, come on. It's not that hard. Now if you think about everything that you've learnt about congruency. Does the line m passing through the vertex C at the middle of the opposite side AB ... sorry, triangle ABC divide the given triangle into two congruent triangles? If yes, I want you to prove it to me and if it's not what conditions are needed to make these two triangles congruent? Think about it. [00:22:18.14]L: ... side of the…	The teacher finishes with this particular learner. The teacher introduces the second activity. She explains the conditions of the problem.

	Dialogue 2: [00:22:23.22]T: Ok, Sarah's talking. [00:22:28.05]L: Isn't the one side can try to move on... [00:22:32.21]T: That's what I'm asking you. Think of everything that I've taught you, everything we've done the last few lessons. Think back to the conditions. Are those two triangles congruent? [00:22:45.15]L: No. [00:22:52.19]T: Brandon says no and he wasn't even here. [00:22:52.13]L: Yes. [00:22:53.23]T: Can you tell me why? [00:22:54.16]L: If you look at it, it's not equal ...[[]] [00:22:56.28]T: What is (()) in half (()) [00:23:00.28]L: **They won't fit on each other.** [00:23:03.23]T: But why? [00:23:03.55]L: **It's not symmetrical**. [00:23:07.12]T: **It's not symmetrical**, you say. And. Ok. You're not thinking on what we did in the lessons before. [00:23:12.29]L: They're not the same shape. [00:23:17.20]T: It's a triangle. [00:23:18.28]L: It's a triangle. [00:23:19.28]T: Triangle is triangle is a triangle. Alex... [00:23:27.07]L: Triangle (()) similar (()) different sides, ma'am. [00:23:28.07]T: They're similar he said. [00:23:31.00]L: Yes Ma'am. [00:23:32.16]T: And they're different sizes. [00:23:34.21]L: Yes Ma'am. [00:23:38.01]T: Ok. I said to you. So you are telling me that their not congruent? [00:23:40.26]L: No they're not. [00:23:43.12]T: But there's a reason why they are not congruent. [00:23:45.09]L: They are not similar. [00:23:49.13]L: **One has an obtuse angle one has an acute angle?** [00:23:51.23]T: **That's very clever, I didn't even see that. Right, there is an obtuse angle in there is an acute angle.** In the other triangle is all made up of acute angles and if we look	The teacher initiates discussion. The learners raise their opinion. They start to think. With their participation they show that they do not use the condition for congruency. **They still use the knowledge of the first lesson of congruency**. In the discussion the learners raise valuable points.

	at C and B there's an obtuse angle at the top there by N. You see that? [00:24:13.06]L: Ja [00:24:15.16]T: You're not looking at this. When we started off our lessons, right in the beginning. What did we start with, **how many bits of information did I give you to draw a triangle?** I only gave you two....Two. Ok. And what did we discover when we only had two measurements? [00:24:32.08]L: [[]] [00:24:42.23]T: That they weren't congruent, they were. [00:24:42.26]Ls: Similar. [00:24:48.25]T: Similar. Ok, have a look at this triangle. What have I given you? [00:24:50.22]L: Two sides. [00:24:51.23]T: I've given you that one and that one. [00:24:52.23]L: ... equal... [00:24:55.07]T: Yes, equal. And this one is equal because it's ... Why is it equal? Because it belongs to both triangles. It's the same edge. Correct? [00:25:07.10]Ls: Yes. [00:25:10.19]T: **Have I given you any more information?** [00:25:13.02]Ls: No. [00:25:14.04]T: **Can I prove congruency?** [00:25:14.44]Ls: No. [00:25:15.04]T**: What more do I need?** [00:25:17.12]L: Numbers. [00:25:19.20]T: Numbers. [00:25:23.09]L: Degrees [00:25:28.05]T: I need to either be given another side or I need to be given some angles. Ok. Could you make it? How could you make it? [00:25:38.19]L: Can't we measure in centimetres? [00:25:40.22]T: I did. I actually drew that, measuring it. [00:25:45.14]L: So, can't you (()) and measure it and see... [00:25:48.12]T: Whichever one I look at first I first have to find another angle, the corresponding angle, ok? There's a piece of information missing. [00:26:00.28]L: Why don't you just take a ruler and measure all the sides? [00:26:05.07]T: We cannot just take a ruler and measure all the sides? (laughs) 'Cause I can	

	tell you that it wouldn't necessarily be the same, 'cause my angles are different inside. Brandon just had a very good point. He said to you but I can see in triangle ACM they're all acute angles. But in triangle CNB I have an obtuse and two acute angles. Do you see why it's so important that you have to have three measurements to be able to measure or determine congruency? Ok, I tricked you didn't I? Right, what is your homework this afternoon? [00:26:49.09]Ls: Draw two... Ma'am ... [[]]] [00:26:53.21]T: Where did you put them? Ok. So there are extra lessons this afternoon ... I can give you the worksheet. [00:26:58.18]L: Ma'am what time is break? [00:27:04.01]T: I'm sorry, I've kept you five minutes longer than your break. [00:27:07.22]L: Really? [00:27:15.13]T: I have, yes. [00:27:19.07]L: Then can we get permission to have another five minutes during Afrikaans...? [00:27:23.21]T: (laughs) You don't need twenty minutes. This is an exemplar of the test. Right...	The teacher leads the discussion very well. She gives a very good explanation of the metal-level question.