

1	Interviewer	Good morning. Thank you so much for your time. I I really appreciate it so much. Uhm I'm busy with my PhD on how to support learners who are colour-blind within the school system. And I just want to ask you a few questions. Uhm is that okay with you?
3	Participant 7	Yes.
5	Participant 8	Yes.
7	Interviewer	Okay. My first, so I think just to make this this easier because it's a diad interview is taking turns answering so maybe Participant 7 you go first and then Participant 8 you go second each time and then afterwards if somebody wants to add something then they can. Is that okay with you?
9	Participant 7	Yes.
11	Participant 8	Yes.
13	Interviewer	Okay. So my first question is, what is your understanding of colour vision deficiency which is often referred to as colour-blindness?
15	Participant 7	According to me, as you can't see colours or specific colours so you see everything in a grey – white - black manner. That's what I know about it.
17	Interviewer	And if you're partly colour-blind?
19	Participant 7	Then you can only only see specific colours and some colours you can't see at all.
21	Interviewer	Okay, thank you for that and Participant 8 your understanding?
23	Participant 8	Uhm I think what I've read is it's more common amongst men. Also that there are there's a specific group of colours that they can't see the same way they see it in a different shade. So at a robot, they would maybe see the same colour for all three red, green and orange but the brightness would differ. So they do see a colour but it's different to what the normal side that people can see. But it's not the orange, for example, that we know is orange it's a different shade. I noticed on the board, for example, some learners would not see orange, for example, at all.
25	Interviewer	Sjo. That's interesting. Thank you so much. So tell me about your experiences teaching learners who are colour-blind.
27	Participant 7	So that's how I realized that the kid in my class is colour-blind. We have the interactive whiteboards at school. And whenever I did a calculation in orange, yellow or on a cloudy day, red, she could not see what I was doing on the board. And I could see on her face that she's squinting and usually she'll interact and say yes and not. And then when I use, I picked up when I use those colours, she only stared at the board. So that's how I picked up on it.
29	Interviewer	That's so interesting. So I just want to confirm so red and yellow were a general concern. But on a day where it was cloudy, so the lighting was a bit poorer. She struggled to see the red as well.
31	Participant 7	Yes, the red was then a problem.
33	Interviewer	Oh, wow. Did, was she aware that she was colour-blind? Or is this something that you picked up during your lessons?
35	Participant 7	Well according to me, she didn't. She didn't know there was a problem. She only realized that when I asked her okay, what colours can I use? Because why are you pulling your face like somebody is thinking.
37	Interviewer	Sjo that's so interesting.
39	Participant 7	And then she said I'm struggling to see. And then we realized it's, depending on the day, it's the colour.
41	Interviewer	That is so interesting. And tell me uhm in what grade is this?
43	Participant 7	She was grade 9 at that stage.
45	Interviewer	At grade 9? So about 15 years old?
47	Participant 7	Yes, yes.
49	Interviewer	Wow and and what was the process from there forward?
51	Participant 7	I went to Miss XXX at our school, a deputy because she was the only deputy available at that stage. And I asked her what can we do to help this child, and with the help of the school we went to Spec-Savers and they also realize that she's partially blind as well. And then they, the school bought glasses, and then they also send her to a counsellor. And now unfortunately she left the school so I am unsure how she's coping now.
53	Interviewer	Oh no, sjo that's so interesting. So the school went out of their way to uhm have her tested and get her the correct glasses to be able to see?
55	Participant 7	Yes and because they also didn't have a medical aid. So I told Miss XXX that I will even take her on my own account. I will take her to Spec-Savers just to find out what's going on. Because the kid is not, when we sit and work one on one she could do all the math but as soon as she went on a paper or when I did it on the board she didn't know what I was doing. So I realized there's something wrong. I didn't have and I still don't have the knowledge of exactly what was wrong, but I knew something was wrong. So luckily the school, I reported it, and the school paid for everything. And they handled everything very very nicely and promptly.
57	Interviewer	Okay. And with the glasses was there a a difference in performance?
59	Participant 7	Yes, yes. She went from just passing to I think 60 - 65.
61	Interviewer	Okay. And then the glasses did they address more the the uhm almost want to say far sighted seeing and the blindness or the colour vision?

6:1 According to...	Awareness
	Understanding

6:3 Uhm I think what I've rea...	Awareness
	Understanding

6:4 So that's how I realized that the kid in my class is colo...	Awareness	6:2 So that's how I re...	Awareness
	Becoming aware of learners who are colour blind		Becoming aware of
	Challenges for learners who are CVD		Challenges for learr
			physical barriers in
			Practical examples

6:6 Well according to me,...	Awareness
	Challenges for learr

6:...	Challenges for learners who are CVD
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6:7 I went to Miss...	Accommodate learners who are colour blind
	Learner support
	Practical examples of ho...rs who are colour blind
	Working with learners w...olour blind/ experience

6:8 Yes and because they also...	Awareness
	Becoming aware of learners who are colour blind
	Challenges for learners who are CVD

6:9 O...	Awareness
	Becoming aware of learners who are colour blind

63	Participant 7	Yeah, as far as I know ja they were very thick for somebody that didn't wear any glasses. That was very thick. And the doctor even said that he cannot believe that she went 15 years without anybody picking up on it.
65	Interviewer	Sjo and passing school uhm and passing grades?
67	Participant 7	And getting to grade nine and still passing without being able to see some colours and basically see.
69	Interviewer	Okay, and is it is it was a due to financial implications that that this wasn't picked up before or do you think?
71	Participant 7	Yes, I think so.
73	Interviewer	Uhm, then Participant 8 will you be so kind to share your experiences of teaching learners who are colour-blind.
75	Participant 8	I've had one boy, the story is very similar to Participant 7's story, I just didn't have an interactive whiteboard I had a normal whiteboard. And I made notes on the board that they had to copy, I think it was, it was Grade 9 also and they had to make notes on congruency and similarity with geometry. And I gave them a few minutes to copy the notes. And some of it I did in orange and some in green. And he asked me what must he write down and I said what I wrote on the board, and he said but there's nothing. The green he could kind of see but very faint, the orange he couldn't see at all. And that's when he also only realized that he's colour-blind. He came from Zimbabwe so the financial circumstances was not that good. So the school also took him to an optometrist and they got him glasses also very thick. And he was an excellent athlete so the optometrist gave him contacts that he could use in his athletics, and that also helped him a lot with the running. I don't know if it's something about the grass. He was a very good hurdle runner. And it didn't just help his his school performance but his confidence in himself because when he got to Grade 12 he was head boy. He was overall a lot more confident in himself, it was from another school, previous school I was at.
77	Interviewer	Oh wow Participant 8 this is so interesting. So in what grade did you pick up? So you say you picked it up in grade nine, and then from there, he just flourished?
79	Participant 7	And Heloise, I also want to add, funny enough my girl was also a athlete and she even, she was a long distance athlete, and even her performance improved after she could actually after the glasses.
81	Participant 8	He was a hurdle athlete, a sprinter and he did long jump and his performances in the athletics, he also played rugby yes and everything improved, not just the school work.
83	Interviewer	Wow. This is phenomenal. Well, so because the schoolwork improved and the sports improved the confidence and the uhm self-esteem has also increased. Do I understand you correctly?
85	Participant 8	Yes.
87	Interviewer	Oh, wow. This is phenomenal. So tell me a bit how do you use colour when teaching and also how is colour involved in after school activities you are involved in?
89	Participant 7	Okay, while teaching I use different colours especially. I'm going to use but I use colours. For example, in grade nine when you did the algebra the bombing into the bracket. Then each time I bomb into a letter inside the bracket I will use a different colour. And the step where I make the little rainbow on top. I will write it in that colour. So let's say it's three outside the bracket and inside the brackets x plus y then I'll take green and I'll say make the rainbow and so three times x and then I'll write 3x in the green. Then I take purple for example do the three to the Y and write plus three y in purple then they can see the rainbow colour. I like to use colour when I explain it. And that's how you realize that the kids can see it because they'll ask where did that come from now?
91	Interviewer	That's so interesting. So, so you use it almost as if coding strategy so that they can follow the different steps.
93	Participant 7	Yes, for the different steps. And for geometry as well, the different angles when you do the 'FUN' angles you'll know about that now, the fun angles, then you show them you draw the picture in black, and then you show them the 'F' in a colour and also write that reason and statement in that colour. Then you'll use a different colour, you show the 'U' and you use that for the whatever is equal to whatever and the statement.
95	Interviewer	That makes so much sense. I used to do it the same way so don't worry, I'm following you.
97	Participant 7	Yes, yes that's why I said you will know because you used to teach maths with us.
99	Interviewer	And then any other places where you do use colour?
101	Participant 7	Actually, for example, for Netball, we will pack cones and then the first cone is for example where you do lunges and then from the orange to the pink cone you do high knees and from the pink to the green you'll do burpees and, so I colour code my activities and my warm ups and my drills in netball for example. So if you are colour-blind that's going to be an issue because you will just see grey grey grey grey so then you must focus so much harder to remember what to do where, because you can't see the colour. So I think it's more tiring for you that's a colour-blind netball player then what it is for the colour seeing netball players.
103	Interviewer	Any other places in netball where you make use of colour?
105	Participant 7	For netball?
107	Interviewer	Yes.

6:9 Okay...	Awareness
	Becoming aware of learners who are colour blind

6:10 I've had one boy, the story is very similar to Participant 7's...	Accommodate learners who are colour blind
	Awareness
	Becoming aware of learners who are colour blind
	Challenges for learners who are CVD
	Emotional/ social impact
	Extra murals
	Learner support
	physical barriers in scholastic resources
	Practical examples of ho...rs who are colour blind
	use of colour during instruction
	Working with learners w...olour blind/ experience

6:11 And Heloise, I...	Accommodate learners who are colour blind
	Emotional/ social impact
	Learner support

6:12 Okay, while teaching I use differe...	Challenges for learners who are CVD
	physical barriers in scholastic resources
	use of colour during instruction

6:13 Yes, for the di...	physical barriers in scholastic resources
	use of colour during instruction

6:14 for Netball, we will pack co...	Challenges for learners who are CVD
	Emotional/ social impact
	Extra murals
	physical barriers in scholastic resources

109	Participant 7	Ja, the bibs and a lot of times the positions on the bib are in colour so you won't be able to see the other schools positions.
111	Interviewer	Sjo, that's interesting a lot of people have mentioned the bibs, but I haven't actually thought about it that the writing on the bibs are in also in colour so differentiating which position they play. That's so interesting.
113	Participant	Yes, because a lot of schools don't do black on a colour, they will do colour on a colour. For me as an Netball ref even that is colour seeing will sometimes wonder what is the position, I can't see if the sun is on a certain angle. So what even if you're colour-blind as well. You'll only see a blur.
115	Interviewer	Sjo that is so so interesting thank you for that. Participant 8 , uhm uhm tell me about how you use colour in teaching an extracurricular activities.
117	Participant 8	Everything Participant 7 said, because I'm also a math teacher uhm with algebra I would underline like terms the same colour and like terms each one a different colour so that they know pink goes with pink and green in yellow and orange you cannot calculate with them when you add and subtract. Also, I need if I send the notes especially now with COVID when we do a lot of WhatsApp teaching or sending notes or putting it on Google classroom I would CamScan my notes and post it on the WhatsApp group or on Google Classroom and other. I will do an example and then for every step I would make an arrow and then write the step next to the sum and explain it in a colour and put it a cloud around it so that they can follow exactly what's happening. So I could think that a learner that's colour-blind can't see some of those colours and if the camera on the phone isn't good quality would also be blurry for them. But also like Participant 7 said with geometry you use colour a lot that's how they actually learn all their proofs and how to see the different angles and how to calculate, and especially with highlighters majority highlighters do come in orange, yellow and green. So I can maybe think it's difficult for them then because I've noticed those are the majority colours that they can't see, or that they can't differentiate between them they can maybe see a colour but they all look the same. And I don't do sport so I can't help you there. But everything Participant 7 said made sense.
119	Interviewer	That's so interesting. Are you involved in any culture or anything else at school that involves colour?
121	Participant 8	Extra lessons for mathematics.
123	Interviewer	That is, I almost believe like a sport on its own. I just don't think it's always that fun. Uhm, just an interesting question with that with COVID and lockdown. I hear that the the way of teaching has changed to WhatsApp groups and Google Classroom and that that, you, you actually use a lot of colour on those platforms as well? Participant 7 do you relate to this?
125	Participant 8	Say again.
127	Participant 7	Say again.
129	Interviewer	Participant 7 do you relate to this? How was COVID influenced teaching for you? And how did it influence the use of colour in your teaching?
131	Participant 7	I always use a lot of colour, and I was on maternity leave with COVID. So I didn't really teach this intense WhatsApp online teaching. When I came back I only had Math Lit classes. And with that I won't say you really use a lot of colour because it's more reading everything black and white. So all I can say is that when I came back, we also I didn't use my interactive board that much, I use the visualizer. And usually with Maths Lit I did it in black or blue.
133	Interviewer	Okay, which made it much easier and much simpler?
135	Participant 7	Which made it easier yes. And I think out of my experience with the girl, I I'm forcing myself to use, you know, the basic colours to use more basic colours then highlighters, like Participant 8 said, I forgot about that. And highlighter. So I'll focus on the black, the blue and then the red. More primary colours.
137	Interviewer	Yes. Interesting. Which colours did you use to use or use in in normal Maths uhm when teaching?
139	Participant 7	I must say the reds and the orange and the yellows and purple and green and all of it. And I must say my way of teaching has changed because of that girl. Because there's a lot of kids in Maths Lit that will sit there and like we always say they can't even read, and it's maybe because they can't see.
141	Interviewer	That's so interesting.
143	Participant 7	So the only thing I change and what I do now with COVID is I make them sit in my class and Maths Lit is a lot of definitions and stuff. So I forced them that every day they each read a definition. So I'll put the definitions on the board and then I'll say, okay, the the first row today it's your turn then they read the definition and explanation. So then then the next day the next row they know even they must remember where to stop, because I am because I'm aware of the problem now then you can also see if they can see or not. So I incorporate that that's what I can maybe say that I incorporated that into my into my teaching more, the kids must read more to, 'jy weet', must read more out loud in class, and I don't care if they like it or not. We just do it.
145	Interviewer	So you almost using it as a screening tool to identify children with visual problems?

6:15 Ja, the bibs and a lot of tim...

Challenges for learners who are CVD
Extra murals

6:16 with algebra I would underline like terms the same C...

Challenges for learners who are CVD
use of colour during instruction

6:17 So I...

Challenges for learners who are CVD
Emotional/ social impact

6:19 ..

Challenges for learners who are CVD
use of colour during instruction

6:19 ..

Challenges for learners who are CVD
physical barriers
use of colour during instruction

6:20 I think out...

Accommodate learners who are colour blind
Awareness
Colour perceptions by teachers
use of colour during instruction
Working with learners w...olour blind/ experience

6:21 I must s...

Accommodate learners who are colour blind
Awareness
Becoming aware of learners who are colour blind
use of colour during instruction
Working with learners w...olour blind/ experience

6:22 So the only thing I change and what I d...

Awareness
Becoming aware of learners who are colour blind
Challenges for learners who are CVD

147	Participant 7	Yes, yes that's a better word. So that and because you can't go that you can't go to them with COVID. So the only way that I can pick up there's a problem now because you need to keep your distance is for them to read out loud.
149	Interviewer	This is so interesting. Thank you for sharing. Participant 8 which colours do you often use when teaching?
151	Participant 8	I didn't stop, I also use all the colours available, every colour I can get I use. It's I'm also more aware of colour-blindness after this boy. I do ask the learners if they can see the specific colours. I do make a point of asking can you all see this? Because I do know that most of the time they are not aware that they can't, that they're colour-blind, that they can't see the colour. It's not that I really changed my methods or not. I stray away from using specific colour, but I do pay attention to asking them can you see the colour and I will sometimes plan and then I'll say but some people don't see the colour. That's why I'm asking you.
153	Interviewer	And has there been children that were open enough to come tell you that they cannot see a specific colour or they struggling to see?
155	Participant 8	No, no.
157	Interviewer	Not really. Do you think it's because there aren't any challenges? Or do you think there might be other reasons for not being open to?
159	Participant 8	I think it's, I think it's a very rare thing. I think people adapt, I think many people see colours differently but they learn. It's rare, they don't see the same red I see, they see a different shade. I've spoken to my dad recently and he told me that he is colour-blind to some level. He can't see the colours on a robot, but he has learned the brightness if it is this brightness then it is red. He can't distinguish between red, orange and green. But he pays attention to where the light is and the brightness level. And I mean, it's my dad, I never knew this and only recently he told me. So I think people just adapt and get used to it or they don't know.
161	Interviewer	So not picking up that they actually experiencing this challenge. Or they, they just find another way to cope, like you say your father looks at where the light is at the top or the bottom and what shade or brightness it is, that is so interesting. Thank you for sharing.
163	Participant 7	Then like somebody just said now, a lot of kids are ashamed. They don't want to say that they see it differently than what others do. Because of bullying and everything they're scared they're going to be mocked because they don't see orange. Yeah, you don't want to be different, because it's already so difficult just to belong.
165	Interviewer	So are you saying that that being colour-blind can have an emotional impact as well?
167	Participant 8	Definitely. Yes.
169	Participant 7	Definitely.
171	Interviewer	Okay. In the in what to? Sorry, let me go to the next question. The next question is, how is colour used in resources for learning, for example, textbooks and posters?
173	Participant 7	I think that it's okay, because most textbooks are black and white. Uhm I only in my life seen one textbook ,funny enough with Participant 8, that a textbook that's in colour, where they explain each step in colour next to it. I was only before that aware of textbooks that's black and white. Well black on white.
175	Interviewer	And this is now specifically for maths hey?
177	Participant 7	Yes.
179	Participant 8	Ja. That's math specifically. Like geography and other subjects I think would have colour in it ja. But also I agree, most majority of the math textbooks would be black and white or a grey scale. Very boring.
181	Interviewer	And the posters in class?
183	Participant 8	I have lots of colour.
185	Participant 7	"Ja ek het ook baie" colours. I have lot of colour as well.
187	Participant 7	So at this moment in Participant 8's class, and it's just colour even her steps, her quadratic formula is in different colours. Linear sequence, everything is in colour. My class, all the posters is colour.
189	Interviewer	So all the, all the almost the writing decoration on the wall posters, all of that is done in colour. Do I understand you correctly?
191	Participant 7	Yes.
193	Participant 8	Yes.
195	Interviewer	Sjo. And then any other resources that you use in mathematics, maybe uhm abacus or anything else that you can think of that you might use.
197	Participant 7	We have 3D shapes, we just said it now, 3D shapes and nets. And all of that is in colour, different colours. So it's not just black and white. It's it's different colours. And when we show the volume, you obviously add a coloured liquid to show them the volume of the whatever the triangular prism or the cylinder and or whatever, then you add water with a little bit of colour in it, for them to see, you don't just put water because then they won't be able to see. So yes, you use colour in all your resources.
199	Interviewer	That's so interesting. Thank you for sharing. So according to you, which challenges and I know we've spoken about this already, but if you can just elaborate a bit according to you which challenges are faced by learners who are colour-blind

6:23 I didn't stop, I also use all...

- Accommodate learners who are colour blind
- Awareness
- Becoming aware of learners who are colour blind

6:24 I think it's, I think it's a ver...

- Awareness
- Becoming aware of learners who are colour blind

6:25 Then like somebody...

- Challenges for learners who are CVD
- Emotional/ social impact

6:26 I think that it's okay, becau...

- Challenges for learners who are CVD
- physical barriers in scholastic resources

6:27 Interviewer And the post...

- physical barriers in scholastic resources

6:28 We have 3D sha...

- Challenges for learners who are CVD
- physical barriers in scholastic resources
- use of colour during instruction

201	Participant 7	Say your question again, sorry.
203	Interviewer	No problem. According to you which challenges are faced by learners who are colour-blind within the school context?
205	Participant 7	Okay, I'm going to answer it in two parts; the actual physical scene and the emotional part. Okay, the emotional part is the bullying and the not want to be different. And just keeping quiet because you don't want to be the weird one. The physical part is like we just said the explaining on the board is usually in colour. Then like we said the resources, colour. The only thing that's not in colour is the textbook and it's very difficult to go teach yourself something from a textbook. We all know that, especially math. So I think it's quite challenging because there's the two way street, the emotional and the physical that's going to cost you because you are colour-blind.
207	Interviewer	And then on the physical level, what we spoke about earlier I just want to make sure I understand correctly. Because we struggled to differentiate colours we struggled to follow on the board. In sports we struggled to follow and differentiated, it influence our performance. Am I correct?
209	Participant 7	Yes.
211	Participant 8	Yes, definitely. And I think what I'm going to add to what Participant 7 said is, it depends on their social economic background of the child also. If the parents are very involved both parents or maybe both is working, not helping with homework, they also don't pick up on this. Or maybe they can't afford to take the child yearly or at a age of 12 for an eye check-up, it's not picked up or they don't have the resources to get glasses or contact lenses, or I think that also is a struggle.
213	Interviewer	Sjo Participant 8 that's such a valid point you're making. Uhm Participant 8 according to you, what challenges do learners face?
215	Participant 8	Like Participant 7 said, I think they're scared of being different and being bullied and being looked at differently. Maybe stop doing sport completely, because they can't see what's going on. Or they don't want to participate, because there're scared to ask for help. And then then they social and they may not even notice that they have a problem.
217	Interviewer	Mmm so almost,
219	Participant 7	I'm thinking, I'm sorry, I'm interrupting.
221	Interviewer	No problem.
223	Participant 7	Is that also playing sport, you need to pick a shirt and a pants. And you must, if you can't see colour, how do you know what pants and top you're wearing? So maybe they'll dress weirdly and people would mock them for that?
225	Interviewer	That's interesting. Yeah, it's got such a ripple effect. It influences so many aspects of life.
227	Participant 7	Yes, again the emotional.
229	Interviewer	And then my next question is how can schools accommodate learners who are colour-blind within the school system, and if you can provide me with some practical examples or suggestions?
231	Participant 8	Um, I think like, with my previous school and that Participant 7 said about the girl she had, having someone in management you can go to where you can report this and have a contact in the community like an optometrist. Spec-Savers I know they do give glasses or they do eye tests for learners under the age of 12. If that's just I think, advertised more at schools and we encourage the parents to take the kids or ask Spec-Savers if they can maybe come do an eye test every year at a school for a certain grade, not even all the grades, just Grade 8, for example, to pick up this and not just have a cut off at age 12. Because the kids are really young in primary school and you don't trust strangers around them. So if the community can maybe help, and also if you have someone in management you can go too. And we are very pleased we have counsellors at school. So if we pick up a problem we can refer our children to counsellors and the counsellors can help them. Not all schools are this privileged though.
233	Interviewer	Yes. And apart from apart from from drawing on external resources and referring to counsellors, if you think of the colour-blind learner in your classroom, how can you accommodate them in your class?
235	Participant 7	So as soon as you are aware you adjust your way, like I said, you adjust your way of teaching because all of a sudden now I'm using more black where I never used to use black in my sums, in the calculation. So now I'll incorporate black like I said more primary colours, the black, the blue and it's not so common, so you can adjust for just that class you can approach the whole colour thing differently because you're aware of it, but the problem still remains you're not always aware of this.
237	Interviewer	Okay, so basically adjusting the way you teaching by limiting the use of colours when you are aware of that learner.
239	Participant 7	I would rather use then different handwriting styles. So I'll write something in bold something with a thinner black pen, then maybe put a twirly wirily underlining thing. I'll add more symbols I don't know how to say more symbols or graphic. More graphic in black then use colours. That Italic bold underline from Word. Yes, put it in a block. Like you said shapes and that's how I change it now, or that's when she was in my class. That's how I changed it.
241	Interviewer	Sjo, so you had to be very creative to think of alternatives

6:29...	Challenges for learners who are CVD
	Emotional/ social impact
6:30 he expli...	Challenges for learners who are CVD
	physical barriers in scholastic resources
	use of colour during instruction
6:31 S...	Challenges for learners who are CVD
	Emotional/ social impact

6:32	Becoming aware of learners who are colour blind
Yes, definitely, A...	Challenges for learners who are CVD
	Emotional/ social impact
	Learner support
	physical barriers in scholastic resources

6:33 I think the...	Challenges for learners who are CVD
	Emotional/ social impact

6:3...	Extra murals
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6:35 is th...	Challenges for learners who are CVD
	Emotional/ social impact

6:36 having someone in management you can g...	Becoming aware of learners who are colour blind
	Learner support
	Teacher support (training)

6:37 So as soon as yo...	Accommodate learners who are colour blind
	Awareness
	Learner support

6:38 I would rather us...	Accommodate learners who are colour blind
	Learner support

243	Participant 7	Yes. Yes, be more creative, write bigger. I started writing bigger. For example I will usually do two sums next to each other to show them when you did factorisation this is when what to do if there's a negative in the middle and when there's a plus and a minus. I would do the two next to each other so that they can compare. Now we can't anymore because I have to write so big. One calculation will fill the whole board.
245	Interviewer	Sjo, that's so interesting. So really accommodating a lot in the way you teaching to accommodate these learners.
247	Participant 7	Yes, yes, and you would move him or her to the front.
249	Interviewer	How come?
251	Participant 7	Because then it is as, remember mine was a little bit blind as well. So to accommodate, to work with and especially while she was waiting for her glasses. And also the glare on the board from the windows.
253	Interviewer	Ja, that's another thing to consider hey, all the glare. And then Participant 7 in extra-curricular activities?
255	Participant 7	I will not colour code my cones anymore. I would say we work from line to line on the netball court. I won't really add cones and stuff like that, and luckily for us, the bibs is black with white on. And when we play against a school I will tell her to look at the faces and the position.
257	Interviewer	Okay, so almost using a different technique to identify who goes where.
259	Participant 7	Yes, a different technique. Yes, yes, I would say focus on the face not on the bib, but then the masks make it a little bit more difficult, then we focused on hairstyles.
261	Interviewer	Sjo, that's a challenge hey. I think our world has created a lot of different challenges, but I'm hearing you're very creative in the way you approach it. Participant 8, uhm in your teaching style, how how would you accommodate learners who are colour-blind?
263	Participant 8	I also moved the boy a bit closer, uhm something we did is, we made all his notes and test papers and we printed it on a A3 and we made it a larger font, I think it was 18 or 20 because he also had some sight problems besides the colour-blindness. So all his teachers knew that they had to print him a separate one on A3 and with a larger font.
265	Interviewer	Okay, and then I assume black and white? Am I correct?
267	Participant 8	Yes.
269	Interviewer	Okay so no colour.
271	Participant 8	And also like Participant 7 said instead of those specific colours I use colours that he could see. I would ask him which colours do you prefer so those would be the colours, and then I would also use more shapes rather than colours to make notes or different shapes between the steps or so.
273	Interviewer	That's so interesting, thank you for sharing. And then my last question is: How can teachers be supported to better accommodate learners who are colour-blind?
275	Participant 7	I think because it's not so common, you should have a structure in place that when you are, as soon as you become aware of it you have this plan that you going to follow. And it would be different for each teacher. The problem is that not every teacher is passionate and willing to help those kids, they will just say ahg that kid is dumb, they can't take my subject. For example I really don't know, you can call XXX in here, how do they take Geography because they use maps, colour maps. So that might prevent that kid from taking Geography because she, maybe that is her best subject but she can't take it because she won't be able to see the colours on the map. That for me is a problem.
277	Interviewer	So you say that colour can influence their subject they chose in Grade 10?
279	Participant 7	Yes, because she won't be able to take it, because how do you help her to see a map? How do you help her see the lines on the contours and the features and what what. Wat is 'die goed in die lug'? 'Wolke' Clouds. Sorry I wanted to say 'wolke'.
281	Interviewer	Hehe, that's okay. That's so interesting.
283	Participant 7	The clouds on a picture, if they must identify the different clouds and they give it to them in colour. And also Gr. 8 and 9 they have arts and crafts. She won't be able to take art in Grade 10, 11, 12. I'm talking about a she because I have a she, but the person.
285	Interviewer	But the person, so if you think about teachers what what do teachers need, or how can we equip teachers better so that they can accommodate these learners in all subjects?
287	Participant 8	I think awareness. I don't think people are aware of it. So if you communicate, people like you that do for example, doing a PhD in this specific area to discuss the different barriers of learning and this is something you need to be aware of and its more common than what we think and there are different ways that we can identify it. If you educate people, especially educators, because not everyone is aware of it. I am, because I had one learner, and I had barriers to learning as one of my major subjects so I know about the different barriers. But not everyone does. So I think educate the educators on this.

6:40 Yes, Yes, be more creative, write bigger....	Learner support
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6:39 Yes, Yes, be...	Accommodate learn
	Challenges for learn
	Learner support

6:41 I will no...	Accommodate learners who are colour blind
	Extra murals
	Learner support

6:42 differen...	Accommodate learners who are colour blind
	Extra murals
	Learner support

6:43 I also mov...	Accommodate learners who are colour blind
	Learner support

6:44 Instead...	Accommodate learners who are colour blind
	Learner support

6:45 I think because it's not so co...	Accommodate learners who are colour blind
	Challenges for learners who are CVD
	Emotional/ social impact
	Teacher support (training)

6:46 I think awareness. I do...	Awareness
	Teacher support (training)

289	Participant 7	I want to chip in here, I never had barriers to learning whatever, so for me it was luckily, I'm not saying I'm cool, but luckily I picked up on it because I care about the kids and then I went and I read and asked people how to. I educated myself because I cared enough. The problem we face today is that people don't have the time, and people don't care enough anymore, to actually change their way of teaching. Because a lot of people will say there's 30 kids in my class, so why must I change my whole way of teaching for one kid, and then make it more difficult for 29. Because people are weird like that. So the problem is that people, the passion I know it is not what you want to hear but it's the passion the lack of passion in teachers. It's costing kids. From primary school they don't pick up on problems, and then it becomes a main stream problem and then it kinda disappeared in high school, because like we said they learn how to cope with it. And then they fall through the system like Participant 8 is saying. That why I think people need to educate themselves more or they must create awareness with this barrier to learning, it's not just dyscalculia or dyslexia or all of that but colour-blindness can cost them a lot, marks and friends.
291	Interviewer	So firstly awareness and then equipping and educating teachers to identify and support these learners not only for colour vision deficiency for colour-blindness, but for other areas other barriers to learning as well?
293	Participant 7	Yes, and the third thing I would add is to, while creating awareness to also educate the kids that they don't feel like the odd one out when they can't see orange. Don't let them feel that they not special or something wrong with them because again it opens up for bullying and being, normalise it somehow. That's what I was trying to say.
295	Interviewer	Sjo, that's such a valid point. Well that's all my questions. Is there anything else you would like to add?
297	Participant 7	No I think we said everything.
299	Interviewer	You have said a lot, I actually appreciate it so much. Participant 7 and Participant 8 thank you so much for your time. I really appreciate it, and thank you for sharing your experiences and your knowledge it really makes it valuable input. Thank you so so much.
301	Participant 7	It's a pleasure and good luck.
303	Participant 8	It's a pleasure.

6:47 I want to chip in here, I never had barriers to learning what...	Awareness
	Challenges for learners who are CVD
	Emotional/ social impact
	Teacher support (training)

6:48 I would ad...	Awareness
	Emotional/ social impact
	Learner support