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Factors influencing Grade 7 teachers' implementation of outcomes-based approaches in the national curriculum when teaching 'human reproduction'

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Appendix 3.3: Card game on male responses

CARD GAME

(Your cards can be constructed from the following. Attach the one half of each page to a strip of cardboard. Fold the answer over and stick it on to the back of the board, cut the cards or fold page in half and laminate.)

1. I want to look really good for my girlfriend, but I keep getting these pimples. What's causing them?

There are oil glands in your skin which produce oil. The oil moves to the surface of your skin through very small openings. During puberty, the sex hormones make the oil glands produce more oil. If too much oil is produced, it blocks up the openings in the skin. The oil glands then become swollen, causing pimples. Pimples occur mainly on the face, neck and shoulders, and they are worse in boys than in girls.

2. I'm so worried. My penis is much smaller than Thabo's and Patrick's. Are you more of a man if your penis is bigger?

Boys sometimes compare the size of their penis with other boys and worry about it being too small. Well, a boy's penis will grow during his teenage years, but the penis of adult men still differ in size. Some men have small penises, others have much bigger penises. But when they are erect there isn't such a difference in size and whatever size - they still transfer sperm! So for reproduction, size really doesn't matter. It depends on what is meant by being a man. Sexual satisfaction depends on all sorts of things and not just the size of a penis.

3 "What is an erection?"

This is when the penis gets bigger and moves upwards and away from the body.
We say the penis is erect ("standing up") and the person has an erection.
The penis is mostly made up of spongy tissue. If there is some sort of stimulus, the spongy tissue becomes filled with blood and swells and becomes erect.
Erections are important so that the man can transfer sperm to the woman.

4. I've heard that boys have erections even when they are not having sex. What causes these erections?

Erections can happen at any time. All males, from babies to old men, have erections while sleeping. After the start of puberty, erections can be caused by:

- mental stimulation eg thinking about a girl or looking at a picture of a sexy girl
- physical stimulation like touching and playing with the penis; or just the vibrations in a taxi on a bumpy road, or the pressure of water from a shower on the penis.

Don't worry, erections are normal. The erection will only last a few seconds, and as boys grow older, they are able to control these erections more easily.

5. I'm so embarrassed. I often have wet dreams.

What is a wet dream? Why does it happen? How often does it happen?

This is when boys wake up wet and sticky with their penis erect? The wet dream happens when they are asleep and dreaming of something or someone, e.g. dreaming of having sex with a film star. They have an erection and release semen. This is why they are wet and sticky. This is normal. Wet dreams are common for boys during puberty, but everyone is different. Some boys hardly ever get wet dreams; others get them several times a week.

6. If you have an erection, you must have sex or you'll go blind.

True or false?

False: There is no connection between the penis and the eyes. If a person has an erection because of some stimulus, the penis will return to its normal shape when the stimulus has gone.

7. I've heard that if you don't have sex and get rid of the sperm your testes will burst.

True or false?

False: A male does produce millions of sperm every day in his testes. If they are not released, they are simply reabsorbed back into the body then broken down and excreted as waste. The testes will not burst.

8. I've heard that people who masturbate eventually go mad.

What is masturbation? Is it normal? Will you go mad if you masturbate?

Masturbation is when a person rubs the penis or the area around the vagina to give sexual pleasure. Some people say this is normal - its part of discovering their body and dealing with strong sexual urges without involving another person. Other people believe its wrong and that sexual stimulation should only take place in marriage. Whatever your belief, masturbation will not harm your body. A person will not go blind or deaf or insane if they masturbate.

Appendix 4: Survey

Appendix 4.1: Survey questionnaire

GRADE 7 NATURAL SCIENCES EDUCATORS Workshop on teaching human reproduction to Grade 7's University of the Witwatersrand

Please complete the following questionnaire on your views on what activities you found useful at the workshop, and what factors you feel will influence your implementation of outcomes-based approaches to teaching human reproduction.

This questionnaire is voluntary and your responses will be confidential.

Please put a √ through the appropriate box i.e. ☐ or provide a written answer.

Your code number: ……..

1. **Workshop activities**

1.1 Which of the following teaching and learning activities that were discussed or demonstrated at the workshop, did you find useful? (Put a tick in the corresponding box.

Changes during puberty:

- Physical changes: analyzing diagrams ☐ card game ☐
- Emotional changes: role play ☐

Circumcision in different cultures: group discussions ☐

Menstruation: analyzing diagrams ☐ letters to Dr Naidoo ☐

Sexual intercourse & responsibility: group discussions ☐

Others: ..…….....

…….....…

…….....….....….

…….....……

1.2 Which of these activities would you be able to implement?

……

……

……

1.3 Which activities would you like to implement but would not be able to for reasons beyond your control? Please explain.

……

……

……

1.4 Which activities would you choose <u>not</u> to implement? Please give a reason for your decision.

……

……

……

2. School factors

Do any of the following school factors affect the teaching and learning of human reproduction in your school?

2.1 *Number of learners*:

Approximately how many learners do you have in your grade 7 classes? …….

Will the size of your grade 7 classes affect your teaching of human reproduction in any way? Please explain.

……

……

……

2.2 *Teaching and learning materials on human reproduction* :
Do you have the following materials?
textbooks ☐ charts or posters ☐ worksheets ☐ pamphlets ☐

others (please list)? …….....……

How will these resources or lack of resources affect your ability to teach human reproduction effectively? Please explain.

…….....……

…….....…

…….....…

2.3 *Physical conditions* :
Will the physical conditions of the classrooms in which you teach Natural Sciences to Grade 7's, help or hinder effective teaching in any way? Please discuss.

…….....…

…….

…….

2.4 District, school and other support:

2.4.1 District:
In what way does your District support you when you try to implement new outcomes-based approaches to teaching and learning? (e.g. workshops, cluster meetings, school visits, provision of teaching and learning materials)

…….

…….

…….

How does this support or lack of it make any difference to your teaching and learning? Please explain.

……

……

……

2.4.2 School principal:

Does your Principal support new teaching and learning activities. Yes ☐ No ☐

In what way does he/she support you? Does this support or lack of it make any difference to your teaching and learning? Please explain.

……

……

……

2.4.3 School organisation

Do you expect that the way in which your school is organized and managed will have any effect on your implementation of new teaching and learning activities?
Please explain.

……

……

……

*2.4.4 Colleagues from **other learning areas** in your school:*

What support do you receive from other colleagues in your school when you attempt new teaching and learning activities in the Natural Sciences?

……

……

……

2.4.5 Natural Sciences colleagues in your school:

Do your Natural Sciences colleagues support you when you attempt new teaching and learning activities? Yes ☐ No ☐

In what way do they support you? …….....……..

…….....

…….

Does this support or lack of it make any difference to your teaching and learning? Please explain.

…….

…….

2.4.6 Life Sciences colleagues from other schools:

Do you meet with other Life Sciences educators from your district, in clusters, or in other groups? Yes ☐ No ☐

If yes, how often do you meet during the year? ……

Do these meetings make any difference to your teaching and learning of new topics like human reproduction? Please explain.

…….

…….

…….

3. Other influences

Do you expect any response (support or opposition) to your proposed teaching of human reproduction to Grade 7 learners from any of the following groups of people? Please elaborate.

3.1 Parents ..…….

…….

…….

3.2 Religious leaders ……..……

……

……

……

3.3 *Other people not forming part of the school or GDE administration (please specify)*

……

……

……

4. Learners

What impact do you think each of the following "learner" factors could have on your implementation of the topic human reproduction? Please discuss briefly.

4.1 *Learners' prior knowledge* ……

……

……

……

4.2 *Religious beliefs/ traditions* ……

……

……

……

4.3 *Cultural beliefs/ traditions* ……

……

……

4.4 *Language:* Is English a first language (mother tongue) or second language for all or most of your learners?

First language ☐ Second language ☐

If you have English second language learners, how well do they understand you when you teach in English? Yes ☐ Partly ☐ No ☐

…….

What other language/s do you use to help your learners understand the concepts you are teaching?

…….

In what way do you use this (these) other language(s)?

……..

…….

5. You as an educator!

5.1 What professional/academic qualification do you have? …….

5.2 What did you specialize in when you studied for a diploma or degree?
Natural Sciences ☐ General Sciences ☐ Biology/ Life Sciences ☐

Other (please specify): ……..

5.3 Approximately how many years have you taught in a school? ……...

5.4 How many years have you taught Natural Sciences/ General Sciences? ……

5.5 Which grades have you taught Natural Sciences/ General Sciences to during your teaching career? ……..……..

5.6 What do you feel are the most effective approaches to teaching the “Life and Living” component of the Natural Sciences? What works best for you and your learners?

…….

…….

……..

5.7 When shown new approaches to teaching and learning, which do you prefer?

- Trying out new methods ☐
- Continuing to use methods that have always worked well ☐

5.8 Do you belong to any particular religion? Yes ☐ No ☐

If yes: which religion? ……..

In what way would your religious beliefs influence the way in which you teach human reproduction?

...…….. ……

……..

……

5.9 Do you have any particular cultural beliefs that influence the way in which you teach human reproduction? Yes ☐ No ☐

If yes, please explain what these are and how they impact on your teaching.

……

……

……

5.10 How confident do you feel about teaching human reproduction to Grade 7 learners?

……..

……..

……..

Thank you very much for your assistance.

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Appendix 4.2: Survey results – External factors

(question number refers to number on survey; section number refers to section in chapters)

4.2.1 Learning environment

- Physical conditions (Q2.3; Section 7.2.1)
- Number of learners (Q2.1; Section 7.2.2)
- Teaching and learning resources (Q2.2; Section 7.2.3)
- School organisation (Q2.4.3; Section 7.2.4)

4.2.2 Support structures

- School principal (Q2.4.2; Section 7.3.1)
- Natural Sciences colleagues and HOD (Q2.4.5; Section 7.3.2)
- Colleagues from other learning areas (Q 2.4.4; Section 7.3.2)
- Natural Sciences colleagues from other schools (Q2.4.6; Section 7.3.3)
- Friends and past colleagues (Q -; Section 7.3.4)
- District support and professional development (Q2.4.1; Section 7.3.5)
- Parents (Q 3.1; Section 7.4.1)
- Religious leaders (Q 3.2; Section 7.4.2)

4.2.3 Learner factors

- Learners' prior knowledge (Q4.1; Section 8.1)
- Religious beliefs and traditions (Q 4.2; Section 8.2)
- Cultural beliefs and traditions (Q 4.3; Section 8.2)
- Language (Q 4.4; Section 8.3)

Table 4.2.1 Learning environment

Category and Question item	Response (N=40)
Physical conditions (Q2.3)	
Will physical conditions support or hinder effective teaching? Support: 48% (n=19) Hinder: 23% (n=9) (rest of answers don't provide a clear answer to the question)	
Conditions support effective teaching: - large new classroom - part of new centre - large science lab – more space for group work - room enough to move, sit or play act activities - learners seated in groups/ enough space for group work	- T4 T32, 36 T9 T8, 12, 26
Anticipated problems: - lack of space, overcrowding (class size – 39, 64, 55) - not enough furniture (no desks for learners – observation) - classrooms have many windows; some learners may feel shy when others walk by. - can hinder moveability - there is nothing we can have on the walls as the classes have no burglar locks - there is no science class. I need to carry my things from class to class.	- T10, 14, 21 T15 T5 T26 T44 T49
One teacher's view – poor physical conditions will not affect teaching: I don't think so. I think I can do the teaching of human reproduction. Be it under the tree or wherever!	T23
Number of learners (Q 2.1)	
Size of class: - 1-9 learners (n=1) - 10-19 learners (n=2) - 20-29 learners (n=6) - 30-39 learners (n=3) - 40-49 learners (n=14) - 50-59 learners (n=3) - 60-69 learners (n=4) Incorrect information (number of grades taught) or no response (n=7)	- T25 T17, 47 T4, 5, 6, 7, 36, 43 T10, 32, 38 T3, 12, 15, 16, 26, 27, 28, 33, 34, 42, 44, 48, 49, 50 T19, 21, 30 T11, 14, 22, 35 T1, 8, 9, 23, 29, 40, 46
Expected effect on teaching human reproduction: - None (n=24): - enough furniture, you can group them - I will do my best regardless of numbers - the more the better – more receive this information - we have learnt to cope with these numbers - May have an effect, but one can reduce numbers by sharing class with LO educator and/or grade 6 teacher for example (n=1) - Yes (n=5): - big numbers (64/class), learners may easily be out of control, lack of space and poor attention - can't respond to personal/individual questions properly - can't get attention of all learners at the same time - come from different backgrounds and need special attention (n=5) - Problem – mixed classes, we would like to separate boys and girls (n=3) No response (n=7)	- - T15 T22 T23 T26 T11 - T7,14,19, 21, 29 T14 - T19 T21 T29 T5, 6, 12
Teaching and learning resources for teaching HR (Q 2.2)	
Teaching and learning materials available. (N=40)	no response from 2 teachers

Effect of resources or lack of them on teaching human reproduction. Textbooks: 73% (n=29) - assist in clarifying information - enhance the teaching of the topic, teaching &learning more effective - textbooks that I have don't have much – need to supplement from other textbooks - don't provide for all learning styles – only verbal linguistic and visual learner - will be very difficult without textbooks/ without enough textbooks	- - T3 T4, 23 T9, T26 T14, 19
Worksheets: 35% (n=14) - understand human anatomy better - children will do activities and show their parents	- T6 T17
Charts/posters: 23% (n=9) - learners respond well to good, appropriate visuals - don't have visuals, but are needed, would provide learners with more insight and understanding, they would be able to see what I'm talking about, help the right brain children who understand pictures - learners attracted by colourful pictures and will pay attention resulting in effective learning - pictures from textbooks are not enough	- T5 T10, 11, 22, 32, 38, 42, 47, 49, - T15 - T33
Pamphlets 15% (n=6)	-
Others: internet (n=2); smart board (n=1); videos (n=1); pictures (n=1); models (n=1); myself, children (n=1)	-
No resources 8% (n=3)	T14, 27 & 28
Effect of lack of or limited resources on teaching human reproduction - some learners may not know what is going on - scarcity of resources – not all activities shall be completed - need more support materials - lesson less effective - lack of "scientific" information will impact on her confidence in answering questions	- T16 T21 T29 T44 T12

Table 4.2.2: Support structures

Category and Question item	Response (N=40)
School principal (Q.2.4.2)	
Does your principal support new teaching and learning activities? Yes – 87.5% (n = 35) No – 7.5% (n=3) Unsure (n=1) No response (n=1) In what way does he/she support you?	
Attitude to change: (n=6) - innovative and progressive (n=1) - not resistant to change (n=1) - open to new ideas and concepts (n=2) - gives teachers freedom to, and encourages them to implement new ideas (n=2) - to proceed with anything that benefits learners (n=1) - supported teaching of human reproduction (n=1)	- T5 T11 T11& 28 T12 & 43 T28 T38
Personal: (n=1) - shows concern with how she copes with her learners "every day" (n=1)	- T11
Professional: (n=8) - keeps teachers informed of changes (NCS) (n=2) - shares information e.g. from workshops (n=3) - downloads subject matter & assists with lesson planning (n=1) - informing parents that they were teaching human reproduction (n=2) - supporting long term projects e.g. sugar baby project (n=1) - helped with discipline (n=1) - leads by example and is so much knowledge in our educational programmes and is a light and leader of the school.	- T9 & 48 T9, 21 & 48 T5 T14, 19 T17 T35 T50
Workshops and course: (n=11) - informs them of, and encourages them to attend workshops (n=9) - finances transport to and cost of workshops/courses (n=4) - called in expertise and INSET (n=2)	- T9, 15, 29, 33, 36, 42,47,49, 50 T9, 15,22,36, 47 T32, 42
Other: - found the finance to build a media centre (n=1) - purchases, obtains resources (n=6)	- T6 T4,10,14, 23, 25,26
Does the support or lack of it make any difference to your teaching?	
Effect of support: - gave him confidence as a teacher (n=1) - support for long-term project – "I know I am not alone" (n=1)	- T16 T17
School organisation (Q. 2.4.3)	
Effect of school organisation and management on implementation of new teaching and learning activities. No answers /irrelevant answers (n=19)	
Support implementation: 45% (n=18) - Good management and organisation supports attempts to innovate (n=6) - When they need resources, they get help (n=1) - Promotes working as teams within and across learning areas (n=3) - Does not hinder innovation (n=12)	- T4, 11, 22, 28, 32, 42 T11 T40, 47, 48 T7, 12, 15, 25, 26, 33, 35, 36, T40, 42, 48, 50
Hinder implementation: 8% (n=3) - Less time for teaching due to excessive administration and other school pressures e.g. extra-murals, fund-raising, marking, assessment, reports, etc (n=1) - Teaching four learning areas (n=1) - Constantly being moved from one grade to another (n=1)	- T5 - T9 T10

Natural Sciences colleagues and HOD in your school (Q 2.4.5)	
Do they support you? Yes (n=28) No – (n=1) Yes/no - (n=2) Don't need them (n=1) Only NS teacher (n=3) No response (n=4) Response not relevant (n=1) In what way do they support you?	
NS colleagues and HOD help where necessary, more especially senior phase HOD	T9, 44
Planning (n=7): - Plan the teaching of new topics together, teamwork (n=6) - Plan as phase educators & split them in subtopics & have everybody be comfortable with what he/she can teach (n=1)	- T10, 14, 26, 29, 30, 35 T11
Encourage and help (n=3) Provide guidance/Explain what has to be done (n=2)	T7, 14, 34 T16, 27
Share information /new ideas/ approaches (n=15) We usually have learning area meetings to discuss matters (helpful) relating to Natural Sciences. (T42)	T1, 3, 4, 7, 10, 19, 22, 26, 29, 32, 35, 36, 40, 42, 49
Help find/ share resources e.g. worksheets, charts, assessment sheets, materials in newspapers and magazines (n=5)	T4, 6, 19, 36, 47
Set question papers together (n=1)	T32
Colleague observes lessons and gives feedback – enabled him to improve (n=1)	T4
Colleagues tried out her ideas in their grades and reports back on outcomes (n=1)	T23
NS colleagues emphasised to learners the importance of teaching about human reproduction (n=1)	T33
Ways in which support make a difference to teacher's teaching and learning :	
Support: - makes teaching and learning simple. - If I can't get help, learners will suffer. - Provides guidance. /Guidance helps a lot, makes it easy for me to go and look for more information.	- T1 T11 T3, 16
New ideas/methods: New ideas gained make a lot of difference/ you come across new ideas that you do not know, was not thinking of/ It makes me a better teacher. It provides other ways to explore in teaching./ help in formulating new methods and ways of teaching. We guide each other as well through IQMS. Yes, it improves the effectiveness of each educator.	- T26, 29, 40, 42, 49, 50
Confidence: Planning together and sharing ideas and resources gives them confidence to teach Natural Sciences learning area and to try out new ideas Feel better prepared	T6, 10, 36 - T6
Empowerment: Colleagues go to libraries or other schools to look for other information – makes a difference – become more empowered.	T22
As Natural Sciences educators, we meet regularly to discuss the new approaches of improving teaching and learning in this field./ Most of the learners find the subject to be a very interesting one.	T30
Ambiguous about support/ little or no support	
Ambiguous: HOD/ Deputy head concerning colleagues: Some really lack initiative and are resistant to change – especially if it means more work. Others are always ready to improve on things./ A lack of support can be frustrating and demotivating.	- T5
Some support: If I ask something from them, they give me an answer. The only problem is time and too much extramural activities after contact time. My teaching rarely impacts my colleagues in that there is not a lot of interference in my teaching	- T15 - T28
Don't need it: As an educator, you must be self-motivated.	T8
No - Lack support, breaks communication, difficulty to discuss some matter.	T9
N/A – teach all grade 7's/ only NS teacher	T12, 25, 43
Colleagues from other learning areas in your school (Q. 2.4.4)	
No response n = 13 ; No support n=2 ; Very little support n=2; Provide support 58% (n=23)	

- All the support I want!/ Good support/ Positive support - I receive a lot of support and interest. It also helps that I teach many LA's - The life orientation teachers assist and the SBST/full support like LO educator	T7, 12, 48 T28 T14, 47
Share information and ideas, knowledge, relevant material they have, - I have a good supportive group of colleagues in my school and we do share ideas. - We work as a group and help each other in all our teaching. We exchange and develop learning materials together. - I receive a great support more especially that they bring me new ideas that they were taught here at Wits.	- T3, 11, 19, 22, 23, T50 T40
Planning: We do the phase planning together.	T10, 33
Working as a team, everyone help where problem arises & the HOD also makes sure that everything is in order & the visitation to the library by learners comes handy in making the work easier for activities.	T32
Integration: - We do sit and discuss how to approach different topics at our school and also how to integrate them/ All teachers try and integrate learning content, work in a very supportive environment - We have grade meetings where we try to integrate our learning areas.	- T8, 29, 36, - - T49
Resource centres: - Media centre – always provides other books, poster, etc. - Computer centre – access to internet	- T4
Comments: I didn't get negative comments from any at the moment.	T38
Very little or no support: - Little! / Not much because they would think that I think I'm the boss or I know better than they. (n=2) - No support: due to work overload. We are all teaching 3 phases and there is not enough time to sit together & plan (hospital school) (n=2)	- 35, 43 - T25, 26

Natural Sciences colleagues from other schools: (Q2.4.6)

Do not meet with other NS colleagues 45% (n=18) No response (n=3)
Meet with other Natural Sciences educators from district , in clusters, or in other groups. 48% (n=19)
How often do you meet during the year? Responses from 13/19 teachers who said they do meet.
- 1x (n=4); 2x or so (n=1); maybe 3 or 4x (n=2)
- 2x in a month (n=1); 1x per term (n=1); sometimes 2x per term (n=2)
- usually at cluster meetings (n=2)

Do these meetings make any difference to your teaching and learning of new topics like human reproduction? (results combined with workshops on next page – same information)

District support and professional development (Q2.4.1)

District: In what way does your district support you? Effect of support on your teaching and learning? (No response - n=3)

No support (n=1) - They are not supportive./ If they give support, I will be more empowered in this particular subject.	- T22 -
Very little support (n=2) • very minimum / you lack information above learners level and you confuse content • The District does support us in the implementation of OBE, but the support is insufficient.	- T3 - T30
Support 85% (n=34) : • We get a full support from our district facilitator • There is no much lack of support. The District attempts to help all the teachers.	- T48 T50
Types and effect of support:	
Personal contact • meetings, phone calls, school visits, the district facilitator is always there for us *Concern* • Taking note of teachers views and experience. Makes me feel recognized and attended to. Gives me strength & ability to do my best everyday and be concerned about learners coz somebody ("district) is concerned on how I cope in a classroom	 T4 T11

everyday with my learners.	
Guidance • we're comfortable knowing we're on the right track • we are fortunate in having good support. X (name of senior education specialist) is very knowledgeable & passionate about what she does and will always help out or clarify issues./ It enhances planning and teaching as she is able to clarify issues and help us understand policy coming to us from DoE. • support makes me to understand more of what I need to teach (core knowledge)	- T4 T5 - - T47
District open to and responding to new ideas: - my district .... they don't have problems in embracing new ideas. - District listens and acts on our opinion in N.S. This is quite refreshing. It broadens horizon of both educator and parents in the learning of learners (i.e. all stakeholders involvement) - In our District, issues are discussed by the educators and those in charge of the district per learning area – particularly in NS and then that is then raised and requests that it be adopted as a circular if found to be functional.	- T23 T9 - - T50
Supply of teaching and learning materials and resources (n=9): • They at times supply us with learning materials and resources • It makes our teaching effective BUT not enough/ not in all cases • Lack of materials will affect the teaching and learning not to run smoothly. • Shortage of material is the problem. • They must provide teaching and learning materials such as charts; pamphlets and human models. The learners learn better if they come across the real pictures or models of what we are discussing. - I do not rely on dept support. I make my own material using various resources (textbooks, internet etc)	T11, 14, 21, 36, 42, 44, 46, 47, 48 T14 T44 - - T42 T18 - T29 - - T28
Workshops/ cluster meetings 48% (n=19) attend workshops, cluster meetings • The District does try to organize workshops when new approaches need to be practiced by educators.	
Value of workshops and/or cluster meetings: *Gaining new trends* • The support enables educators to keep in touch with current trends in education. • It gives more ways to effectively teach certain aspects. It opens up possibilities. *Support network* All our teachers work together and support each other/ Sharing experience with other teachers *Learning from others – sharing knowledge, ideas, approaches to teaching and learning* • Discuss and learn from each other, to keep on track/ Get new ideas/ Learning more ideas from peers and presenter / You share ideas and experience with other educators. / The more you meet with people teaching the same learning area as yours is the more you learn/ • It increases the level of knowledge that I have/ it improves it, widens knowledge and understanding/This gives you a new perspective and enhances your knowledge in some way/ They are informative / It empowers us. • Discuss the approaches that we need to attempt/ I did not know what approach can I use to teach human reproduction/ learn how to teach or approach these human reproduction/ Support makes me to understand more of what I need to teach (core knowledge) *Support promotes teaching and learning* • The support will assist for effective teaching & learning and learners will be guided a lot for the future.	- - - T6 T26 - T7, 35, 48, 50 - - T9, 11, 12, 25, 29, 33, 35, 36, 38, 42, 43, 47, 49, 50 - - - - - - - - - T6, 8, 14, 44

• Makes our teaching effective / creates more awareness of learner needs.	
Workshops: mixed response (n=4) • Some material is provided at workshops on certain occasions./ The workshops do help but the shortage of material is the problem. - Some meetings (like this one!) are really beneficial. Others are just a waste of our precious time. / There hasn't been any "worthwhile" meetings that have taught me anything! (except now!) • They are far and few! We need to have more meetings in Natural Sciences in order to meet and share ideas with other educators. • workshops/ Even if there is support there is still some difficulties because of assessment which is still a problem because different IQ level of learner and we are not trained about that.	- T18 - T5, 28 - T28 - T33 -
Workshops/cluster meetings: the negative (n=5) • No follow up on workshops/ cluster meetings.... as part of support • Changes made without consulting all stakeholders./ It demotivates. • One sometimes feels inadequately informed about expectations	- T10, 15 T10 T12
Parents (Q 3.1)	
Don't expect a response (n=7) • because most of our parents expect/believe that learners should get knowledge and empowered in all respects at school/ our context requires that kids be taught or else they are going to find out the hard way. • because they don't come to school when you call them.- not supportive/ Parents at our school (special school) are not actively involved because most of them live in other provinces. The ones around are not cooperative. They hardly attend meetings.	T7, 27, 40 T44, 50 - - T1, 25
Would like a response (n=5) • For the sake of respecting their culture & religion. I need response. • I want to hear the parents' point of view about sex education (human reproduction) at school. They play an important role for the future of their children. • I need parents support because this is the development and growth of a child. Belief and culture. • should be supportive for their learners education. When we are doing project they should be able to help their kids. - how they feel about their children been taught this concepts. Do they appreciate the information been passed to their children.	- T11 T38 - - T47 - T49 T42
Expect a response (n=7) Possibly because of perceptions/ they have to be aware of what is going to be covered in the module/ programme. *Expect that the response will be supportive* • Were informed at beginning of the year, no objections. Are willing to help. • I expect positive response • Our parent always supports the school in every venture as long as there is good explanation given. • Our parent body trusts us (I think) to do the best for our learners. *Most will be supportive* - Most will be okay with it / Yes some parents might support and some might oppose.	- T12, T43 - - T4 T22 T26 - T28 - T5
Not sure of parents' response: • I am not sure, but hoping to have a meeting one to one parent & get opinion, they listen to our opinions too & be informed as parents not to exclude them.	- T9
Possible objections/ opposition (n=8) • might be concerned regarding the extent to which sexual intercourse would be handled. • May not allow their learners (children) to learn about human reproduction at their age. • I think may oppose this move as SA is a multicultural society. • Some may object on religious grounds. • Some cultures they don't talk about this. Parents are not comfortable about this topic, may be afraid of talking about reproduction to their children. • not positive support from parents	- T6 - T14 T30 T5 T33, 34 - T35 T36

• have already had some negative feelings when we ran the FAMSA course on sex ed.	
Sort of response teacher would like to see from parent: • They should be involved by also talking about the issues they know to their kids. • Yes so that they can continue instilling it at home. • They need to learn what their learners are learning especially with the new curriculum. • They can give more support at home and also at school for clarification purposes.	- T16 T19 T10 T29
Meaning of response unclear/ no response: (n=6) • strong community influence • I haven't made a proposal yet. *(i.e. probably saying haven't talked to parents yet!*	- T8 T32
Religious leaders (Q3.2)	
Do you expect a response (support or opposition).. from religious leaders to your proposed teaching of HR) *Don't expect a response/ will not oppose the teaching of HR* (n=5) - have not played a vital role in the running of our school so I see no problem from them. - not actively involved. Most of our learners live in homes eg CHOC house and Marang house. *Don't know if I will get a response*(n=2) - I do not have any contact – personally – with any R.L. therefore I cannot comment. (I might after informing them (comm..) after this!) *May get a response* - It depend on different religions, at least mine is OK! *Expect a response* - Yes according to that belief and religions	 T6 T25 T28 T9 T47
Expectation of support - Yes. I expect support. If children know about this issue, they will be able to control themselves. T19	
Expectation of opposition - Not sure? But sex before marriage is a sin. - Yes *(expect support or opposition)* because they are also parents. Their fear is learners might learn to engage themselves in sex after the knowledge. - Some religions are not open to sex issues so they need to be more open as the teacher of LO or NS would be. - Some religion it a problem. Since other learners they are not free about these activities.	 T14 T15 T38 T33
Expectation of a mixed response Each religion is different from the other and I think religious leaders would have mixed feelings about human reproduction.	 T30
Ways in which religious leaders can suppport - Should also help and talk about it a lot. - They can also help on the religious point of view.	 T16 T29
Others (Q 3.3)	
No (n=5); N/A (n=7); No response (n= 19) - redress misconceptions - Community, since they are from different background. - There is a need. Social workers, for the sake of…. - Nurses and doctors are not so much involved in the education of their patients. - I really do not know but feel there should not be any problems. - The business people around the school community can come up with some ideas. - NGO – a lot of support - stakeholders are important for the teaching and learning to succeed.	 T8 T10 T11 T25 T28 T29 T35 T47

Table 4.2.3: Learner factors

Category and Question item	Response
Learners' prior knowledge (Q 4.1)	
Extent of prior knowledge? (n=12)	
• lack of knowledge (n=2) • limited, incorrect or "misunderstood" knowledge; clear misconceptions (n=5) • they know something (n=2) • might know a lot, some even relevant and true! (n=2) • "this might be an eye opener!" (n=1)	T1, 16 T3, 5, 30, 46,47 T14, 33 T28, 35 T26
Source of prior knowledge? (n=8)	
• beliefs and/or myths (n=3) • peer & media information (some of which is distorted) (n=3) • they see: e.g. women get pregnant, give birth; they see young ones around them (n=2) • practical knowledge about sex - some learners sexually active - (n=2)	T4, 36, 46 T6, 7, 38 T4, 33 T1, 33
Impact of prior knowledge on their teaching? The teachers will provide: (n=12)	
• correct information: will give learners the "correct scientific version" rather than peer information; undo bad/poor knowledge; correct wrong information obtained from peers and media; clarify confusing aspects; help learners to separate fact from fiction; respond to questions based on myths and everyday experiences; arouse learners' curiosity on issues they are not sure of, wanted to know more about; learners would be more empowered with facts; learners would know the truth! (n=9) • guidance: will challenge or instil norms and values; learners will know what to expect in the future, how to cope with development and how to make informed choices; be aware of what was expected of them as they started relationships, and of the consequences of "life". One teacher hoped knowledge would result in learners doing things correctly. (n=4) • trust: learners would trust you and be open to you since they cannot share with their parents (n=1)	T6, 7, 9, 11, 12, 22, 30, 36, 38 T8, 9, 15, 44 T11
What should teachers do in order to find out learners prior knowledge?(n=3)	
• conduct a baseline assessment to determine learners' ideas before teaching (n=2) • listening is important (n=1)	T12, 49 T34
Religious and/or cultural beliefs/ traditions (Q 4.2 and 4.3) What impact could learners cultural and/or religious beliefs/traditions have on your implementation of the topic human reproduction	
Impact of religious and cultural beliefs/traditions on teaching human reproduction	
• they will impact on the topic but <u>not</u> hinder the teaching and learning of it. (n=2) • Depends mostly on their cultural background, norms & values. (n=1) • Religious beliefs have an effect on their moral standard. / Challenge or instil various norms and values	T1, 28 T9 T8,36
Religious beliefs/ traditions: problems • Some of the religious beliefs might disturb the lessons. (n=1) • Some religions do not encourage or allow children to be taught human reproduction at school. (n=3) • Some (children) are too secretive and don't respond well to the lesson (n=1) • Might be in conflict with their religious beliefs & they might want to be removed from lessons (n=1)	 T29 T35, 46, 47 T1 T4
Cultural beliefs/ traditions: problems • We also come from different cultures where some of the things are not for learners but adults./ Some cultures not allow to talk about human reproduction with their young one. • With our culture we are not allowed to talk about this in public. • In some culture is not okay/ Some cultures are not open.	 T29, 47 T33 T35, T38

Response of parents: problems • May result in some opposition from parents. (n=1) • They could be a problem but because working together with the parents, I think something will come out. (n=1) • They think this is against the religion and telling children about this will be sending them out to do it practically. (n=1)	 T5 T16 T38
Religious beliefs/ traditions – teacher's response: • Teachers should be careful not to transgress learners' religious beliefs and traditions. (n=1) • All beliefs should be treated with the same respect and dignity. None is important more than the other. (n=1)	 T12 T43
Cultural beliefs/ traditions – teacher's response: • Respect and discuss it in class in group work! Kids learn new traditions that they did not know of. I have! Every culture should be respected and no culture is important than the other • They provide information/ These are varied and I will have to get more information on all of them (that pertain to my learners) so as to provide facts and a balanced, unbiased view./ Teacher should become more informed about these	 T1, 7, 43 T3, 12, 46
Learning about human reproduction – learners' response • For healthy reasons for the learners and knowledge I think they will love to know. • Learners will share their knowledge with people from different backgrounds / tradition • Learners need to see differences in their beliefs and cultures and then taken forward by the educator and understand reproduction as a reality than something to be hidden. • There will be changes in their traditions and beliefs (n=1) • Mostly Christian kids. Not a major problem. (n=1)	 T16 T22 T50 T4 T6
Other responses - not relevant (n=5) No responses (n=14)	
Language (Q 4.4)	
Is English a first language (mother tongue) or second language for all or most of your learners? (N=40)	
• 1st language (mother tongue) 23% (n=9) • 2nd language 75% (n=30) • dual medium (Eng & Afrik) (n=1)	T1,4, 5, 6, 7, 27, 36, 38, 49, 50 T3,8-26, 28-35, 40-48 T3,8-26, 28-35, 40-48 T1
If you have English second language learners, how well do they understand when you teach in English? Yes - n=14 Partly - n=16 No - 0	
• Good understanding of English (n=2) • Most understand English very well as they have been taught in Eng since grade 1. (n=3) • Good understanding - except for new learners who come from the townships and not being exposed very well to English (n=1) • Fairly good understanding of English (n=1) • I think they do because ask questions (n=1)	T9, 42 T26, 28, 29 T17 T12 T11
• Some difficulty with English, teacher code switches/translates (n=3) mother tongue sometime used – Isizulu / if they don't understand *(English)*, I have to translate / code switch	T3, 10, T15/ code switch T3
• Most of them have learning disabilities e.g. cannot read well and do not comprehend what is written in English	(T25 special school)
What other language/s do you use to help your learners understand the concepts you are teaching?	
• mother tongue (n=7) • Setswana (n=1) / Sesotho (n=11) / N. Sotho – Sepedi (n=4) / Isizulu (n=19) Xhosa (n=3) / Tshivenda (n=1) / Tsonga (n=1) / Afrikaans (n=1) • Sign language (n=1)	
In what way do you use this (these) other language/s?	
Use English & then use mother tongue for explanations (n=2)	

• I prefer English, then if the child struggle, mother (tongue) is allowed e.g. Sotho, Zulu and explain better in English again • I use it as my last resort if the learners are really struggling to understand, to explain.	T38 T17
Translate (n=6) • Explain in English and translate to their mother tongue. • We use one word for English in different languages • to explain the terminology • explaining English words or terms • to explain difficult words. To explain new words and to understand effectively. • translation, multilingualism	 T25 T29 T27 T40 T44 T46
Code switching when they do not understand in order to explain, interpret, clarify (n=9) • Code switching • I am multilingual so code switching to other languages is not a problem. If I am explaining something and I see that my learners are lost, I always use other languages. • Code switching; clarifying some of the difficult concepts in other languages. T30 • When explaining something that they do not comprehend even if we went into the dictionary. • To interpret what they don't understand • Zulu/ Pedi/ Sotho where a learner cannot understand • When learners don't understand English or that I'm trying to explain (as part of remediation) • To explain if they don't understand. • Teacher can use the language or ask another learner to explain what is said or explained to other learners in their languages.	 T3 T23 T30 T9 T10 T11 T14 T15 T50
For emphasis (n=1) • Briefly on emphasis especially on the things they totally do not understand.	 T19
Help from others (n=2) • I get other educators or learners to assist me. • I allow peer teaching and explanation for those learners not coping.	 T12 T28
Use occasionally (n=1) • For certain learners, not all and sometimes, in certain occasions	 T42
Teaching & learning (n=1)	T1
Other ways of explaining – using pictures/ hands on approach and visuals (n=2)	T35, 43
Other type of languages: sign language	T47
Inappropriate responses/no responses:	
• I do not teach English. I am an EMS specialist • By encouraging me	T27 T34
No response (n=6):	T26, 32, 33, 36, 48, 49

Appendix 4.3: Survey results – Internal factors: Teacher factors

influencing their teaching of human reproduction in outcomes-based and learner-centred ways

(question number refers to number on survey; section number refers to section in chapters)

4.3.1 Professional and academic qualifications of teachers and the subjects they specialised in. (Q 5.1 - 5.2; Section 9.)

4.3.2 Biographical data for case study teachers (Q5.1-5.5; Section 9.)
Biographical data for case study teachers based on survey information and interviews

4.3.3: Confidence levels of teachers and Biology or Natural Sciences in their diploma or degree (Q5.10; Section 9.)

4.3.4: Length of teaching experience for survey teachers (Q 5.3; Section 9.)

4.3.5: Influence of religion and culture on teaching (Q 5.8 and 5.9; Section 9.)

4.3.6: Flexibility and confidence of teachers (Q 5.7 and 5.10; Section 9.)

4.3.7: Teachers' preferred teaching styles (Q 5.; Section 9.)

Table 4.3.1: Professional and academic qualifications of teachers and the subjects they specialised in. (Survey questions 5.1 - 5.2)

Qualifications (N=40) (response: n=37; no response: n = 3)									
Profess-ional	**No. of teachers**	**Specialisation**			**Academic**	**No. of teachers**	**Specialisation**		
		GS /NS	**Biol /LS**	**Other**			**GS /NS**	**Biol /LS**	**Other**
Diploma/ Professional					Degree/ Academic				
diploma/ educ. (no details)	5	3	1	Eng, Bib. Studs, Technology, Geog, Econ.Sc., Econ.Hist	degree (no details)	1	1	0	
Junior primary JPTD HOD JP	2	2	0	Art	BPaed (Prim)	2	2	0	
Senior primary SPTD SPED PTD NPDE HDE SP	12	7	3	Geog, SS, Eng, Maths, Phys. Sc.	BA Ed/ BEd	9	1	3	Geog, Hist Business Economics, Technology, English Health Education
Secon-dary STD HDE	6	0	3	Geog, Maths, Electronics Business studies	BA	3	0	0	Eng, Hist, Arabic, Educ.
TOTAL	**25**	**12**	**7**		**TOTAL**	**15**	**4**	**3**	
3 of the above – degree + diploma									
Further qualification									
ACE	3	3			Hons	1			hasn't specified
					BA Hons	1			Music
					B Ed Hons	4			Remedial/Psychology; Music, Curriculum Educational management
					MEd	1			Psycho Ed

Key:

Junior Primary teaching diploma:
JPTD = Junior Primary Teaching Diploma;
HOD JP = Higher Education Diploma Junior Primary

Senior Primary Teachers' Diploma
HDE = Higher Diploma in Education;
HDE SP = Higher Diploma in Education Senior Primary
NPDE = National Primary Diploma of Education?;
PTD = Primary Teachers Diploma?;
SPTD = Senior Primary Teaching Diploma;
SPED = Senior Primary Education Diploma
HDE IV = 4 yrs Higher Diploma in Education

Secondary teacher's diploma
STD = Secondary Teachers Diploma;
HDE = Higher Diploma in Education

Undergraduate
BPaed (Prim) = Bachelor of Pedagogics primary education
BA = Bachelor of Arts;
B Ed = Bachelor of Education
BA Ed = Bachelor of Arts in Education;

Postgraduate
B Ed Hons = Bachelor of Education Honours
M Ed = Masters of Education;

Postgraduate
ACE = Advanced Certificate of Education

Table 4.3.2: Biographical data for case study teachers based on survey information and interviews

Teacher	Qualifications	Specialisation tertiary	Years of teaching	Years of teaching NS/ GS	Grades taught NS	new teacher at school?
Sipho	HDE Business Studies B Ed Hons (Studying for an M Ed Educational Leadership & Management)	Accounting, Economics, Business Studies	8	5 months	7	yes
Jackie	BPaed (Prim Ed) UDW	4 yr degree majoring in science education	9	9	3-7	no
Gogodi	NPDE	Natural Sciences	30	10	6 & 7	no
Samkele	PTD	Biology	6	3	4-7	no
Mphety	SPTD, ACE (Maths & Science)	Biology Nat. Sci.	11	4	6	yes
Zama	STD	Geography	6 months	6 months	7	yes
Thobz	BA Ed	Geography	6	2? 3?	6 & 8	no
Nsuku	STD, ACE, B Ed Hons (Curriculum)	Natural Sciences Biology	9	6 months	7	no
Rennie	BA Hons SPED (El Maths)	Music Ed Elementary Maths	26	3	7	no
Riana	HOD JP	Life Sciences & Natural Sciences	7	7	6-9	yes
Yaseen	Honours	Life Sciences English, Maths	9	4	4, 6-8	no

Table 4.3.3: Confidence levels of teachers and Biology or Natural Sciences in their diploma or degree (Survey question 5.10)

Response (n=31)	Biology/NS in diploma or degree	No Biology/NS in diploma or degree
Not confident	0	2
Fairly confident	2	2
Confident	9	4
Very confident	9	3
TOTAL	**20**	**11**
No response (n=6); Inappropriate response (n=3)		

Table 4.3.4: Length of teaching experience for survey teachers (Survey question 5.3)

Number of years of teaching	Up to 1 yr	2-5 yrs	6-10 yrs	11-31 yrs	no response
Years taught	3	4	17	15	1
Years of teaching Natural Sciences	6	16	9	8	1

Table 4.3.5: Influence of religion and culture on teaching (Survey question 5.8 and 5.9)

Category and Question item	**Response**
***Teacher factors* - Personal factors (N=40)**	
Religious values (Q. 5.8) ***Do you belong to any particular religion? (Yes/No)*** ***If yes, which religion?*** No response (n=5) No (n=5) + Universal belief in God (n=1) Yes (n=29): Christian (n=25) Hindu (n=1) Islam (n=2) Traditional (n=1)	
Influence of religious beliefs on the way you teach reproduction? (n=22) Yes?	
Hindu – will be more objective	6
Islam – I will not be able to show pictures. I will have to encourage no sex before marriage./ I'm extremely conservative in my thinking about this topic.	4, 12
Christian	
Some taboo topics: It is difficult to teach aspects such as sexual intercourse and contraceptives. Only married couples can be taught about this (1Corinthians 7: 1-7)	30
Will teach learners to abstain (n=3) No sex before marriage/ to abstain before getting married. (Anglican)	11, 19, 22
Abstain till older (n=1)	5
Morals/a message (n=3) I will teach my learners morals, good behaviour (Anglican)/ The learners must know the right things or know the correct way of doing things. (R. Catholic) We don't have secrets but we need to get a language of passing the message. (Presbyterian)	22, 29, 44
No problem with teaching about human reproduction (n=4) It *(religious beliefs)* will only help me! / we are not anti-sexual teaching. People are invited sometimes to discuss these with the youth at church. / In my religion there's no problem with human reproduction as long as it is addressed well and outcomes achieved/ Not in anyway. My religion is in no way a hindrance to what I teach.	7, 9, 38, 50
Stick to facts (n=2) I believe it is better to focus on facts and avoid imposing my religious beliefs on learners (Catholic)	46
Will partly influence teaching: Partly, although I am a realist and believe that learners need to be taught this to be kept safe.	36
Need to talk about human reproduction (n=4) because life is about reality/ will be open and helpful to our learners I will teach human reproduction as a professional teacher. (n=1)	15, 33, 35, 47, 49
Universal: Not really/ It would not. I have a universal belief in God and Values! I 'value' knowledge!	28
Cultural values (Q. 5.9) ***Do you have any particular cultural beliefs that influence the way you teach human reproduction. (Yes/no)*** Yes (n=8) ; No (n=23); No response(n=9)	
If yes, what are they/ how do they impact on your teaching?	
Will be difficult to talk about it (n=2) Being Indian, we're conservative and sex is not something easily spoken about./ "Sex" is sacred	4, 12
Avoid certain topics: (n=2) Boy children are not suppose to know about how females goes for birth! Circumcision is not allow to be talk about or discuss it is forbidden.	35, 47
Moral response: I believe that two people should be in a committed monogamous relationship before having sex.	36

Table 4.3.6: Flexibility and confidence of teachers (Survey questions 5.7 and 5.10)

Category and Question item	Response
Teacher factors	
Flexibility and open-mindedness (5.7?) ***Self –efficacy/congruence?***	
When shown new approaches to teaching, which do you prefer? (Q5.7) Trying out new methods Continuing to use methods that have always worked well Both No response	 62.5% (n=25) 2.5% (n=1) 22.5% (n=9) 12.5% (n=5)
Confidence (5.10) *How confident do you feel about teaching human reproduction to Grade 7 learners?*	
Very confident (n=12) Confident (n=13) *Elaboration:* *Sense of responsibility:* - if I don't teach them they will/ might get the wrong information from friends. - I believe it is important! *Content claim:* - To be honest I always link topics when I teach. So when I teach reproduction of vertebrates I always do a comparison with other animals. - this include high rate of HIV/AIDS and they know about it so I don't have any problem with this activity. - (because of) the knowledge I have and .. the help of other educators *Approach:* - I teach facts to learners and I do not allow vague comments. - Most of my learners understand that I am an open person when discussing our topics - Being sensitive: have to take religious beliefs into consideration - I will be sensitive and deal with it respectfully. *Confidence claim:* - I have NO problem teaching this section. - I love my "job"! My children want to <u>know</u> and have great insight themselves. I think it will be great. - more confident because I am a parent with two girls. - I am looking forward to the 3rd term. *Gained confidence :* - I have gained confidence and methods that could be used. - since I have attended the workshop, I feel confident. - confident, looking forward to it. - Much more now.	T4,9,17,22,23,26, 28,32,35,38,44,47 T3,5,7,10,15,16,19 29,33,36,48,49,50 - T17 T5 - T23 - T38 - T16 - T48 T29 - T4 T49 - T26 T28 - T15 T22 - T50 T33 T36 T10
Fairly confident (n=4) - Fairly/ 60% confident/ I try to confident every time./ I do have the knowledge, its just going to be a matter of presentation.	T 6, 8, 30, 34 - T8
Not very confident (n=2) - Not very because of my <u>own</u> beliefs – but I do see the value of adjusting my thinking. - With methodology as well as background knowledge I am very sorry I cannot help here (referring to commerce background)	T12, 27 T12 T 27
Inappropriate response (n=3) - This is an opportunity for me to trace how far do they know and iron out all preknowledge since they may think they are all-knowing. - This will assist most of learners for example, teenage pregnancy, STD's and poverty. - I haven't taught human reproduction	T11, 14, 43 T11 - T14 - T43
No response (n=6)	T1, 21,25,40,42,46

Table 4.3.7: Teachers' preferred teaching styles

Responses: Category and Question item	Response
- most of them (n=1)	T10
• to keep it simple, on the facts and scientific. (n=1)	T7
- practical work – investigation, observation & experimentation, demonstrations/ seeing and feeling animals/The best method is to allow learners to work within the environment where they live and around the school to observe the nature. (n=12)	T1, 3, 6, 9, 12, 15, 28, 36, 38, 40, 44, 47
- hands on approach. hands-on learning (n=3)	T5, T26, T43
- visual: models, diagrams, illustrations, posters, charts, worksheets (n=5)	T4, 36, 28, 43, 44
• computer generated lessons (n=1)	T4
• talking: question & answer sessions (n=1)	T50
• talking: discussion & debate, brainstorming, reporting back (n=5)	T5, 8, 15, 28, 48
- role plays, simulations. (n=1)	T50
• assignments (n=1)	T40
• constructivist approach (n=1)	T5
- Using cooperative learning (n=1)	T33
- Attitude: be real/ open and helpful to our learners (n=2)	T11, 35
- Clear understanding & good planning and presentation (n=1)	T32
- Approach the strand according to their context. (n=1)	T25
• Inappropriate response: When dealing with learners who understand what we are doing and what we are going to achieve (n=1)	T29
• no response (n=12)	T14, 16, 17, 19, 21, 23, 27, 30, 34, 42, 46, 49

Appendix 5: Case studies – Interview guide

GRADE 7 NATURAL SCIENCES EDUCATORS
Interviews - Grade 7's teachers

Good morning/ afternoon!
Thank the teacher for agreeing to be interviewed.
Ask permission to audio-record our conversation and ask teacher to read and complete the information and consent form.
Explain that

- this interview is a discussion between us in which they can discuss their interpretation of their experiences when teaching human reproduction and I can ask questions to clarify this.
- this interview will help me to understand their context, and how that affects their teaching.
- there are no right or wrong answers – just their insight and interpretation of events – expressing how they understand events from their point of view.

You have recently finished teaching human reproduction to Grade 7's.

1. **Feelings about teaching human reproduction**
   1.1 How did you feel about teaching human reproduction before teaching this section?
   (prompts: afraid, excited, cautious, worried, confident?).

   1.2 Did your feelings change while you were teaching the topic?

2. **Background knowledge:**
   I'm interested in knowing what background knowledge you had on this topic before teaching it.:

   2.1 Did you study this topic (human reproduction) during your degree/ diploma
   (make reference to their professional/academic qualification and the subjects in which they specialised, as recorded in their survey questionnaire)

   2.2 Did you read further on the topic before teaching it?
   (prompts: books, internet, any other source?)

3. **Resources**:

3.1 What resources did you use:

a) in your preparation?

(prompts: textbooks (which ones?), books, internet, magazines, teacher's guide and module on reproduction from workshop, others).

b) while teaching?

OR: (Case study teachers)

I noticed that you used the following

(e.g. name of a textbook or chart, overhead transparencies).

Did you use any other teaching aids?

3.2 Did each person in the class have their own textbook/ set of worksheets or was there a classroom set that learners borrowed?

(if known – leave out or ask for more information)

3.3 How did you use your resources e.g. worksheets, textbooks?

(an elaboration on what was observed)

3.4 Did you feel that you had adequate resources to teach this topic?

(probe further – for example, why was there a lack of textbooks, what resources did you need/ would you have liked to have?*)*

3.5 Did you manage to obtain any resources from other members of staff, and other providers e.g. the health department?

4. Planning the work:

4.1 a) Who planned this section of work?

(prompt: yourself, another teacher, the HOD etc)?

How did you do your planning?

b) *(If you did not do the planning)*

Were you satisfied with the materials provided or would you improve them? How?

4.2 a) How many Grade 7 NS teachers taught this topic?

b) *(If more than one teacher) …..*

Did you and other Grade 7 Natural Sciences teachers talk about your lessons, and help each other in any way?

4.3 Did you plan and work with the Life Orientation teachers in any way.

4.4 Have you met with or phoned other Natural Sciences teachers from your district since the workshop to discuss the teaching of this module.
Probe- If yes: What support did you give each other?

5. Previous coverage of topic in LO and other programmes

Has this human reproduction been taught previously

5.1 in Life Orientation?

5.2 special school programme given by organizations like Family Life, or by nurses or teachers

6. District administration

Were there any district matters for example meetings or requests for information which had to be attended to during your school day?
Probe: Did this affect your teaching of human reproduction in any way?

7. **School administration**

Did you feel supported or frustrated by the school management and administration in any way? How did this affect your teaching?

7.1 School personnel:
a) the Principal?
b) your Head of Department (HOD)?
c) other teachers?
d) admin staff?

7.2 Events: Sports or other school events that resulted in changes to the timetable?

7.3 Facilities for teaching?
(prompt: e.g. photostatting facilities)

7.4 Management of the school?

7.5 Classroom environment ?
(prompt: size of room, enough desks and chairs)

7.6 Size of class?
(*probe: How many learners did you have in your classes? Did this have any impact on the way in which you taught this section?)*

8. Parents

8.1 a) Did you obtain permission from the parents for their children to participate in your lessons on human reproduction?
(at parents' meetings, letters/ consent forms)

b) Did any parents express support?

c) Did any parents object to their children participating?
(probe: If so, what did you do with these learners?)

8.2 Do parents talk to their children about human reproduction/sex?

9. Teaching – content, approaches, and activities

9.1 Which aspects of human reproduction did you teach?
(prompt: for example, physical and emotional changes during puberty, circumcision in different cultures, menstruation, sexual intercourse, pregnancy and birth)

9.2 How did you teach this topic?
Probe: (teaching and learning approaches)
What did you do?
What did your learners do? *(prompt: group discussions? what else?)*

9.3 Which were the most effective approaches?

9.4 Which topics or activities did you leave out?
Probe: What was your reason for doing so?

9.5 Did you draw up a code of conduct with the class?
Probe: If so,

a) Was it useful?

b) How did you ensure your learners stuck to it?

9.6 Did you create boundaries on what could be discussed (in addition to the code of conduct)?
Probe: If so, how did you do so?

a) Did you control the subject content that learners could ask about or discuss?

b) How did you deal with awkward personal questions?

9.7 How did you organise your groups? Why?

9.8 How was your teaching:

a) Outcomes-based?

b) Learner-centred?

9.9 Are outcomes-based and learner-centred approaches useful in your context? Explain.

9.10 Did you receive training from the GDE on how to use these approaches?

10. Learners

10.1 How did your learners respond to this topic and to the different activities? Were they embarrassed, interested, excited?

10.2 Please tell me about your learners' **prior knowledge** of the topics you covered in class in human reproduction?

a) Did they appear very knowledgeable/ did they have very limited knowledge, did they have misconceptions?

b) How did you respond to a lack of knowledge/ misconceptions?

10.3 What was your learners' **source of prior knowledge**?
(prompt: friends, TV, cell phones, the internet?)

10.4 What **personal factors** influenced their response to this topic?
(*probe:* their age, home background, family, their own personality?)

10.5 Did learners' **religious beliefs and traditions** influence their response to the teaching of this topic?)

10.6 Did learners' **cultural beliefs/ traditions** influence their response to the teaching of this topic?)

10.7 **Language***: Build on comments from survey questionnaire*

a) Is English the home language or an additional language for most of your learners?

Probe:

b) *(If English is an additional language)*
How well do your learners understand English ?

c) (*If their understanding of English, the language of learning and teaching, is weak)*
How does this affect their understanding of the content?

d) How did you helped your learners overcome language barriers?

(prompt: code switching, use of home languages?)

11. Teacher

Did any of the following factors influence the content you taught and your approach to the teaching of human reproduction? Explain.

11.1 (Your personality)

a) *Probe:* How would you describe your personality?
(*prompt: outgoing, quiet, sensitive, flexible, open-minded, confident?)*

b) *Probe:* What impact do you think this had on your approach to teaching human reproduction?

11.2 Your own upbringing or home environment; family/children?

11.3 Your cultural, religious or personal beliefs?

11.4 Your relationship with your learners?

12. Effect of topic on learners

12.1 Was it important to teach human reproduction to Grade 7's?

12.2 Do you think that teaching this topic encouraged sexual activity?

12.3 Was there a change of attitude in learners between the start and finish? Explain.

Thank you very much for your assistance.

Appendix 6: Case studies - teacher's profiles – outcomes-based and learner-centred approaches

Shaded blocks represent where teachers were positioned in each category

6.1 Teacher: Sipho

Table 6.1a: Sipho's profile Outcomes-based approaches

	Not achieved	Partially/ superficial-ly achieved	Achieved	High level of achieve-ment
Critical outcomes				
CO 1: identify and solve problems and make decisions using critical and creative thinking		■		
CO 2: work effectively with others as members of a team, group, organisation and community			■	
CO 3: organise and manage themselves and their activities responsibly and effectively		■		
CO 4: collect, analyse, organise and critically evaluate information		■		
CO 5: communicate effectively using visual and/or language skills in various modes			■	
Natural Sciences learning outcomes & assessment standards				
LO 1: Scientific investigations				
Planning investigations	■			
Conducting investigations and collecting data Evaluating data and communicating findings		■		
LO 2: Constructing science knowledge				
Recalling meaningful information when needed			■	
Categorising and interpreting information			■	
Applying knowledge to new problems		■		
LO 3: Science, society and the environment				
Understanding science as a human endeavour in cultural contexts			■	

Table 6.1b: Sipho's profile: Learner-centred approaches

Feature	**less ----------->more learner-centred**			
Teacher facilitates learning using constructivist approaches				
Finds out prior/everyday knowledge/ ideas and beliefs of learners	*Never*	*Sometimes*	*Often*	*Always*
Design of activities: Teacher provides challenging and appropriate new experiences/activities - just ahead of learners' level of development - ZPD	*Activities repetition of what they know,*	*Some extension of knowledge & skills/ challenge their conceptions*	*Extend learner's knowledge & skills, challenge their conceptions*	*Challenge learners' conceptions, create cognitive conflict.*

Teacher scaffolds the learning: Soft, through explanations, demonstrations Soft, through questioning Hard, using teaching aids and material	*Never* *Teachers looking for specific answers* *Never*	*Limited* *Teachers mostly looking for specific answers* *Sometimes*	*Frequent* *Questioning for understanding, probing* *Often*	*Extensive* *Socratic questioning, learners justify their ideas* *Always*
During activities - **learners talk about and work together** to solve problems and, complete tasks (to move through ZPD) e,g, debate, reflection, problem-solving.	*occasional interaction*	*some interaction*	*frequent interaction*	*always/ almost always*
Teacher/school provides suitable learning environment:				
Physical: classroom pleasant, stimulating environment to work in	*Poor*	*Fair*	*Good*	*Excellent*
Intellectual: range of resources available	*Poor*	*Fair*	*Good*	*Excellent*
Social: Uses mixed groups/ presence of 'more capable peers'	*Never*	*Sometimes*	*Often*	*Always*
Emotional: good interpersonal relationships – a safe environment.	*Poor*	*Fair*	*Good*	*Excellent*
Needs and interests of learners				
…determine the content of the curriculum Hybrid approach: teacher has plan, learners needs and interests influence lessons	*Teacher decides on content to be covered*	*Hybrid: teacher 's plan most influential*	*Hybrid: learners' interests more influential*	*Needs and interests determine the curriculum*
curriculum relevant and interesting	*Never*	*Sometimes*	*Often*	*Always*
Caters for different intelligences and learning styles				
Verbal/linguistic – learn by hearing: reading, speaking, writing, discussion **(Auditory)** – oral presentations, debates, discussions, question and answer	*Never*	*Sometimes*	*Often*	*Always*
Visual-spatial – learn by seeing: working with pictures, visualising & drawing **(Visual)** – (posters, charts, models, pictures)	*Never*	*Sometimes*	*Often*	*Always*
Bodily kinesthetic - learn by doing – **(Kinesthetic)** using body to convey ideas and emotions, movement - **Tactile** – learn by touching	*Never*	*Sometimes*	*Often*	*Always*
Personal differences amongst learners accommodated				
Personal: learners ideas and interests respected	*Never*	*Sometimes*	*Often*	*Always*
Cultural & religious beliefs and practices	*Never*	*Sometimes*	*Often*	*Always*
Language: takes into account language difficulties in multilingual classrooms, provides assistance, allows code switching	*Never*	*Sometimes*	*Often*	*Always*
Developmental level of learners i.e. physical, intellectual, emotional and social	*Never*	*Sometimes*	*Often*	*Always*

6.2 Teacher: Jackie

Table 6.2a: Jackie's profile: Outcomes-based approaches

	Not achieved	Partially/ superficial-ly achieved	Achieved	High level of achieve-ment
Critical outcomes				
CO 1: identify and solve problems and make decisions using critical and creative thinking				
CO 2: work effectively with others as members of a team, group, organisation and community				
CO 3: organise and manage themselves and their activities responsibly and effectively				
CO 4: collect, analyse, organise and critically evaluate information				
CO 5: communicate effectively using visual and/or language skills in various modes				
Natural Sciences learning outcomes & assessment standards				
LO 1: Scientific investigations				
Planning investigations				
Conducting investigations and collecting data Evaluating data and communicating findings				
LO 2: Constructing science knowledge				
Recalling meaningful information when needed				
Categorising and interpreting information				
Applying knowledge to new problems				
LO 3: Science, society and the environment				
Understanding science as a human endeavour in cultural contexts				

Table 6.2b: Jackie's profile: Learner-centred approaches

Feature	**less ----------->more learner-centred**			
Teacher facilitates learning using constructivist approaches				
Finds out prior/everyday knowledge/ ideas and beliefs of learners	*Never*	*Sometimes*	*Often*	*Always*
Design of activities: Teacher provides challenging and appropriate new experiences/activities - just ahead of learners' level of development - ZPD	*Activities repetition of what they know,*	*Some extension of knowledge & skills/ challenge their conceptions*	*Extend learner's knowledge & skills, challenge their conceptions*	*Challenge learners' conceptions, create cognitive conflict.*

Teacher scaffolds the learning:				
Soft, through explanations, demonstrations	*Never*	*Limited*	*Frequent*	*Extensive*
Soft, through questioning	*Teachers looking for specific answers*	*Teachers mostly looking for specific answers*	*Questioning for understanding, probing*	*Socratic questioning, learners justify their ideas*
Hard, using teaching aids and material	*Never*	*Sometimes*	*Often*	*Always*
During activities - **learners talk about and work together** to solve problems and, complete tasks (to move through ZPD) e,g, debate, reflection, problem-solving.	*occasional interaction*	*some interaction*	*frequent interaction*	*always/ almost always*
Teacher/school provides suitable learning environment:				
Physical: classroom pleasant, stimulating environment to work in	*Poor*	*Fair*	*Good*	*Excellent*
Intellectual: range of resources available	*Poor*	*Fair*	*Good*	*Excellent*
Social: Uses mixed groups/ presence of 'more capable peers'	*Never*	*Sometimes*	*Often*	*Always*
Emotional: good interpersonal relationships – a safe environment.	*Poor*	*Fair*	*Good*	*Excellent*
Needs and interests of learners				
…determine the content of the curriculum Hybrid approach: teacher has plan, learners needs and interests influence lessons	*Teacher decides on content to be covered*	*Hybrid: teacher 's plan most influential*	*Hybrid: learners' interests more influential*	*Needs and interests determine the curriculum*
curriculum relevant and interesting	*Never*	*Sometimes*	*Often*	*Always*
Caters for different intelligences and learning styles				
Verbal/linguistic – learn by hearing: reading, speaking, writing, discussion **(Auditory)** – oral presentations, debates, discussions, question and answer	*Never*	*Sometimes*	*Often*	*Always*
Visual-spatial – learn by seeing: working with pictures, visualising & drawing **(Visual)** – (posters, charts, models, pictures)	*Never*	*Sometimes*	*Often*	*Always*
Bodily kinesthetic - learn by doing – **(Kinesthetic)** using body to convey ideas and emotions, movement - **Tactile** – learn by touching	*Never*	*Sometimes*	*Often*	*Always*
Personal differences amongst learners accommodated				
Personal: learners ideas and interests respected	*Never*	*Sometimes*	*Often*	*Always*
Cultural & religious beliefs and practices	*Never*	*Sometimes*	*Often*	*Always*
Language: takes into account language difficulties in multilingual classrooms, provides assistance, allows code switching	*Never*	*Sometimes*	*Often*	*Always*
Developmental level of learners i.e. physical, intellectual, emotional and social	*Never*	*Sometimes*	*Often*	*Always*

6.3 Teacher: Gogodi

Table 6.3a: Gogodi's profile: Outcomes-based approaches

	Not achieved	Partially/ superficial-ly achieved	Achieved	High level of achieve-ment
Critical outcomes				
CO 1: identify and solve problems and make decisions using critical and creative thinking				
CO 2: work effectively with others as members of a team, group, organisation and community				
CO 3: organise and manage themselves and their activities responsibly and effectively				
CO 4: collect, analyse, organise and critically evaluate information				
CO 5: communicate effectively using visual and/or language skills in various modes				
Natural Sciences learning outcomes & assessment standards				
LO 1: Scientific investigations				
Planning investigations				
Conducting investigations and collecting data Evaluating data and communicating findings				
LO 2: Constructing science knowledge				
Recalling meaningful information when needed				
Categorising and interpreting information				
Applying knowledge to new problems				
LO 3: Science, society and the environment				
Understanding science as a human endeavour in cultural contexts				

Table 6.3b: Gogodi's profile: Learner-centred approaches

Feature	**less ----------->more learner-centred**			
Teacher facilitates learning using constructivist approaches				
Finds out prior/everyday knowledge/ ideas and beliefs of learners	*Never*	*Sometimes*	*Often*	*Always*
Design of activities: Teacher provides challenging and appropriate new experiences/activities - just ahead of learners' level of development - ZPD	*Activities repetition of what they know,*	*Some extension of knowledge & skills/ challenge their conceptions*	*Extend learner's knowledge & skills, challenge their conceptions*	*Challenge learners' conceptions, create cognitive conflict.*

Teacher scaffolds the learning: Soft, through explanations, demonstrations Soft, through questioning Hard, using teaching aids and material	*Never* *Teachers looking for specific answers* *Never*	*Limited* *Teachers mostly looking for specific answers* *Sometimes*	*Frequent* *Questioning for understanding, probing* *Often*	*Extensive* *Socratic questioning, learners justify their ideas* *Always*
During activities - **learners talk about and work together** to solve problems and, complete tasks (to move through ZPD) e,g, debate, reflection, problem-solving.	*occasional interaction*	*some interaction*	*frequent interaction*	*always/ almost always*
Teacher/school provides suitable learning environment:				
Physical: classroom pleasant, stimulating environment to work in	*Poor*	*Fair*	*Good*	*Excellent*
Intellectual: range of resources available	*Poor*	*Fair*	*Good*	*Excellent*
Social: Uses mixed groups/ presence of 'more capable peers'	*Never*	*Sometimes*	*Often*	*Always*
Emotional: good interpersonal relationships – a safe environment.	*Poor*	*Fair*	*Good*	*Excellent*
Needs and interests of learners				
…determine the content of the curriculum Hybrid approach: teacher has plan, learners needs and interests influence lessons	*Teacher decides on content to be covered*	*Hybrid: teacher 's plan most influential*	*Hybrid: learners' interests more influential*	*Needs and interests determine the curriculum*
curriculum relevant and interesting	*Never*	*Sometimes*	*Often*	*Always*
Caters for different intelligences and learning styles				
Verbal/linguistic – learn by hearing: reading, speaking, writing, discussion **(Auditory)** – oral presentations, debates, discussions, question and answer	*Never*	*Sometimes*	*Often*	*Always*
Visual-spatial – learn by seeing: working with pictures, visualising & drawing **(Visual)** – (posters, charts, models, pictures)	*Never*	*Sometimes*	*Often*	*Always*
Bodily kinesthetic - learn by doing – **(Kinesthetic)** using body to convey ideas and emotions, movement - **Tactile** – learn by touching	*Never*	*Sometimes*	*Often*	*Always*
Personal differences amongst learners accommodated				
Personal: learners ideas and interests respected	*Never*	*Sometimes*	*Often*	*Always*
Cultural & religious beliefs and practices	*Never*	*Sometimes*	*Often*	*Always*
Language: takes into account language difficulties in multilingual classrooms, provides assistance, allows code switching	*Never*	*Sometimes*	*Often*	*Always*
Developmental level of learners i.e. physical, intellectual, emotional and social	*Never*	*Sometimes*	*Often*	*Always*

6.4 Teacher: Samkele

Table 6.4a: Samkele's profile: Outcomes-based approaches

	Not achieved	Partially/ superficial-ly achieved	Achieved	High level of achieve-ment
Critical outcomes				
CO 1: identify and solve problems and make decisions using critical and creative thinking				
CO 2: work effectively with others as members of a team, group, organisation and community				
CO 3: organise and manage themselves and their activities responsibly and effectively				
CO 4: collect, analyse, organise and critically evaluate information				
CO 5: communicate effectively using visual and/or language skills in various modes				
Natural Sciences learning outcomes & assessment standards				
LO 1: Scientific investigations				
Planning investigations				
Conducting investigations and collecting data Evaluating data and communicating findings				
LO 2: Constructing science knowledge				
Recalling meaningful information when needed				
Categorising and interpreting information				
Applying knowledge to new problems				
LO 3: Science, society and the environment				
Understanding science as a human endeavour in cultural contexts				

Table 6.4b: Samkele's profile: Learner-centred approaches

Feature	**less ----------->more learner-centred**			
Teacher facilitates learning using constructivist approaches				
Finds out prior/everyday knowledge/ ideas and beliefs of learners	*Never*	*Sometimes*	*Often*	*Always*
Design of activities: Teacher provides challenging and appropriate new experiences/activities - just ahead of learners' level of development - ZPD	*Activities repetition of what they know,*	*Some extension of knowledge & skills/ challenge their conceptions*	*Extend learner's knowledge & skills, challenge their conceptions*	*Challenge learners' conceptions, create cognitive conflict.*

Teacher scaffolds the learning: Soft, through explanations, demonstrations Soft, through questioning Hard, using teaching aids and material	*Never* *Teachers looking for specific answers* *Never*	*Limited* *Teachers mostly looking for specific answers* *Sometimes*	*Frequent* *Questioning for understanding, probing* *Often*	*Extensive* *Socratic questioning, learners justify their ideas* *Always*
During activities - **learners talk about and work together** to solve problems and, complete tasks (to move through ZPD) e,g, debate, reflection, problem-solving.	*occasional interaction*	*some interaction*	*frequent interaction*	*always/ almost always*
Teacher/school provides suitable learning environment:				
Physical: classroom pleasant, stimulating environment to work in	*Poor*	*Fair*	*Good*	*Excellent*
Intellectual: range of resources available	*Poor*	*Fair*	*Good*	*Excellent*
Social: Uses mixed groups/ presence of 'more capable peers'	*Never*	*Sometimes*	*Often*	*Always*
Emotional: good interpersonal relationships – a safe environment.	*Poor*	*Fair*	*Good*	*Excellent*
Needs and interests of learners				
…determine the content of the curriculum Hybrid approach: teacher has plan, learners needs and interests influence lessons	*Teacher decides on content to be covered*	*Hybrid: teacher 's plan most influential*	*Hybrid: learners' interests more influential*	*Needs and interests determine the curriculum*
curriculum relevant and interesting	*Never*	*Sometimes*	*Often*	*Always*
Caters for different intelligences and learning styles				
Verbal/linguistic – learn by hearing: reading, speaking, writing, discussion **(Auditory)** – oral presentations, debates, discussions, question and answer	*Never*	*Sometimes*	*Often*	*Always*
Visual-spatial – learn by seeing: working with pictures, visualising & drawing **(Visual)** – (posters, charts, models, pictures)	*Never*	*Sometimes*	*Often*	*Always*
Bodily kinesthetic - learn by doing – **(Kinesthetic)** using body to convey ideas and emotions, movement - **Tactile** – learn by touching	*Never*	*Sometimes*	*Often*	*Always*
Personal differences amongst learners accommodated				
Personal: learners ideas and interests respected	*Never*	*Sometimes*	*Often*	*Always*
Cultural & religious beliefs and practices	*Never*	*Sometimes*	*Often*	*Always*
Language: takes into account language difficulties in multilingual classrooms, provides assistance, allows code switching	*Never*	*Sometimes*	*Often*	*Always*
Developmental level of learners i.e. physical, intellectual, emotional and social	*Never*	*Sometimes*	*Often*	*Always*

6.5 Teacher: Mphety

Table 6.5a: Mphety's profile: Outcomes-based approaches

	Not achieved	Partially/ superficial-ly achieved	Achieved	High level of achieve-ment
Critical outcomes				
CO 1: identify and solve problems and make decisions using critical and creative thinking	■			
CO 2: work effectively with others as members of a team, group, organisation and community			■	
CO 3: organise and manage themselves and their activities responsibly and effectively	■			
CO 4: collect, analyse, organise and critically evaluate information	■			
CO 5: communicate effectively using visual and/or language skills in various modes			■	
Natural Sciences learning outcomes & assessment standards				
LO 1: Scientific investigations				
Planning investigations	■			
Conducting investigations and collecting data Evaluating data and communicating findings	■			
LO 2: Constructing science knowledge				
Recalling meaningful information when needed		■		
Categorising and interpreting information		■		
Applying knowledge to new problems		■		
LO 3: Science, society and the environment				
Understanding science as a human endeavour in cultural contexts		■		

Table 6.5b: Mphety's profile: Learner-centred approaches

Feature	**less ----------->more learner-centred**			
Teacher facilitates learning using constructivist approaches				
Finds out prior/everyday knowledge/ ideas and beliefs of learners	*Never*	*Sometimes*	*Often*	*Always*
Design of activities: Teacher provides challenging and appropriate new experiences/activities - just ahead of learners' level of development - ZPD	*Activities repetition of what they know,*	*Some extension of knowledge & skills/ challenge their conceptions*	*Extend learner's knowledge & skills, challenge their conceptions*	*Challenge learners' conceptions, create cognitive conflict.*

Teacher scaffolds the learning: Soft, through explanations, demonstrations Soft, through questioning Hard, using teaching aids and material	*Never* *Teachers looking for specific answers* *Never*	*Limited* *Teachers mostly looking for specific answers* *Sometimes*	*Frequent* *Questioning for understanding, probing* *Often*	*Extensive* *Socratic questioning, learners justify their ideas* *Always*
During activities - **learners talk about and work together** to solve problems and, complete tasks (to move through ZPD) e,g, debate, reflection, problem-solving.	*occasional interaction*	*some interaction*	*frequent interaction*	*always/ almost always*
Teacher/school provides suitable learning environment:				
Physical: classroom pleasant, stimulating environment to work in	*Poor*	*Fair*	*Good*	*Excellent*
Intellectual: range of resources available	*Poor*	*Fair*	*Good*	*Excellent*
Social: Uses mixed groups/ presence of 'more capable peers'	*Never*	*Sometimes*	*Often*	*Always*
Emotional: good interpersonal relationships – a safe environment.	*Poor*	*Fair*	*Good*	*Excellent*
Needs and interests of learners				
…determine the content of the curriculum Hybrid approach: teacher has plan, learners needs and interests influence lessons	*Teacher decides on content to be covered*	*Hybrid: teacher 's plan most influential*	*Hybrid: learners' interests more influential*	*Needs and interests determine the curriculum*
curriculum relevant and interesting	*Never*	*Sometimes*	*Often*	*Always*
Caters for different intelligences and learning styles				
Verbal/linguistic – learn by hearing: reading, speaking, writing, discussion **(Auditory)** – oral presentations, debates, discussions, question and answer	*Never*	*Sometimes*	*Often*	*Always*
Visual-spatial – learn by seeing: working with pictures, visualising & drawing **(Visual)** – (posters, charts, models, pictures)	*Never*	*Sometimes*	*Often*	*Always*
Bodily kinesthetic - learn by doing – **(Kinesthetic)** using body to convey ideas and emotions, movement - **Tactile** – learn by touching	*Never*	*Sometimes*	*Often*	*Always*
Personal differences amongst learners accommodated				
Personal: learners ideas and interests respected	*Never*	*Sometimes*	*Often*	*Always*
Cultural & religious beliefs and practices	*Never*	*Sometimes*	*Often*	*Always*
Language: takes into account language difficulties in multilingual classrooms, provides assistance, allows code switching	*Never*	*Sometimes*	*Often*	*Always*
Developmental level of learners i.e. physical, intellectual, emotional and social	*Never*	*Sometimes*	*Often*	*Always*

6.6 Teacher: Zama

Table 6.6a: Zama's profile: Outcomes-based approaches

	Not achieved	Partially/ superficial-ly achieved	Achieved	High level of achieve-ment
Critical outcomes				
CO 1: identify and solve problems and make decisions using critical and creative thinking				
CO 2: work effectively with others as members of a team, group, organisation and community				
CO 3: organise and manage themselves and their activities responsibly and effectively				
CO 4: collect, analyse, organise and critically evaluate information				
CO 5: communicate effectively using visual and/or language skills in various modes				
Natural Sciences learning outcomes & assessment standards				
LO 1: Scientific investigations				
Planning investigations				
Conducting investigations and collecting data Evaluating data and communicating findings				
LO 2: Constructing science knowledge				
Recalling meaningful information when needed				
Categorising and interpreting information				
Applying knowledge to new problems				
LO 3: Science, society and the environment				
Understanding science as a human endeavour in cultural contexts				

Table 6.6b: Zama's profile: Learner-centred approaches

Feature	**less ----------->more learner-centred**			
Teacher facilitates learning using constructivist approaches				
Finds out prior/everyday knowledge/ ideas and beliefs of learners	*Never*	*Sometimes*	*Often*	*Always*
Design of activities: Teacher provides challenging and appropriate new experiences/activities - just ahead of learners' level of development - ZPD	*Activities repetition of what they know,*	*Some extension of knowledge & skills/ challenge their*	*Extend learner's knowledge & skills, challenge their*	*Challenge learners' conceptions, create cognitive*

		conceptions	*conceptions*	*conflict.*
Teacher scaffolds the learning: Soft, through explanations, demonstrations Soft, through questioning Hard, using teaching aids and material	*Never* *Teachers looking for specific answers* *Never*	*Limited* *Teachers mostly looking for specific answers* *Sometimes*	*Frequent* *Questioning for understanding, probing* *Often*	*Extensive* *Socratic questioning, learners justify their ideas* *Always*
During activities - **learners talk about and work together** to solve problems and, complete tasks (to move through ZPD) e,g, debate, reflection, problem-solving.	*occasional interaction*	*some interaction*	*frequent interaction*	*always/ almost always*
Teacher/school provides suitable learning environment:				
Physical: classroom pleasant, stimulating environment to work in	*Poor*	*Fair*	*Good*	*Excellent*
Intellectual: range of resources available	*Poor*	*Fair*	*Good*	*Excellent*
Social: Uses mixed groups/ presence of 'more capable peers'	*Never*	*Sometimes*	*Often*	*Always*
Emotional: good interpersonal relationships – a safe environment.	*Poor*	*Fair*	*Good*	*Excellent*
Needs and interests of learners				
…determine the content of the curriculum Hybrid approach: teacher has plan, learners needs and interests influence lessons	*Teacher decides on content to be covered*	*Hybrid: teacher 's plan most influential*	*Hybrid: learners' interests more influential*	*Needs and interests determine the curriculum*
curriculum relevant and interesting	*Never*	*Sometimes*	*Often*	*Always*
Caters for different intelligences and learning styles				
Verbal/linguistic – learn by hearing: reading, speaking, writing, discussion **(Auditory)** – oral presentations, debates, discussions, question and answer	*Never*	*Sometimes*	*Often*	*Always*
Visual-spatial – learn by seeing: working with pictures, visualising & drawing **(Visual)** – (posters, charts, models, pictures)	*Never*	*Sometimes*	*Often*	*Always*
Bodily kinesthetic - learn by doing – **(Kinesthetic)** using body to convey ideas and emotions, movement - **Tactile** – learn by touching	*Never*	*Sometimes*	*Often*	*Always*
Personal differences amongst learners accommodated				
Personal: learners ideas and interests respected	*Never*	*Sometimes*	*Often*	*Always*
Cultural & religious beliefs and practices	*Never*	*Sometimes*	*Often*	*Always*
Language: takes into account language difficulties in multilingual classrooms, provides assistance, allows code switching	*Never*	*Sometimes*	*Often*	*Always*
Developmental level of learners i.e. physical, intellectual, emotional and social	*Never*	*Sometimes*	*Often*	*Always*

6.7 Teacher: Thobz

Table 6.7a: Thobz's profile: Outcomes-based approaches

	Not achieved	Partially/ superficial-ly achieved	Achieved	High level of achieve-ment
Critical outcomes				
CO 1: identify and solve problems and make decisions using critical and creative thinking				
CO 2: work effectively with others as members of a team, group, organisation and community				
CO 3: organise and manage themselves and their activities responsibly and effectively				
CO 4: collect, analyse, organise and critically evaluate information				
CO 5: communicate effectively using visual and/or language skills in various modes				
Natural Sciences learning outcomes & assessment standards				
LO 1: Scientific investigations				
Planning investigations				
Conducting investigations and collecting data Evaluating data and communicating findings				
LO 2: Constructing science knowledge				
Recalling meaningful information when needed				
Categorising and interpreting information				
Applying knowledge to new problems				
LO 3: Science, society and the environment				
Understanding science as a human endeavour in cultural contexts				

Table 6.7b: Thobz's profile: Learner-centred approaches

Feature	**less ----------->more learner-centred**			
Teacher facilitates learning using constructivist approaches				
Finds out prior/everyday knowledge/ ideas and beliefs of learners	*Never*	*Sometimes*	*Often*	*Always*
Design of activities: Teacher provides challenging and appropriate new experiences/activities - just ahead of learners' level of development - ZPD	*Activities repetition of what they know,*	*Some extension of knowledge & skills/ challenge their conceptions*	*Extend learner's knowledge & skills, challenge their conceptions*	*Challenge learners' conceptions, create cognitive conflict.*

Teacher scaffolds the learning:				
Soft, through explanations, demonstrations	*Never*	*Limited*	*Frequent*	*Extensive*
Soft, through questioning	*Teachers looking for specific answers*	*Teachers mostly looking for specific answers*	*Questioning for understanding, probing*	*Socratic questioning, learners justify their ideas*
Hard, using teaching aids and material	*Never*	*Sometimes*	*Often*	*Always*
During activities - **learners talk about and work together** to solve problems and, complete tasks (to move through ZPD) e,g, debate, reflection, problem-solving.	*occasional interaction*	*some interaction*	*frequent interaction*	*always/ almost always*
Teacher/school provides suitable learning environment:				
Physical: classroom pleasant, stimulating environment to work in	*Poor*	*Fair*	*Good*	*Excellent*
Intellectual: range of resources available	*Poor*	*Fair*	*Good*	*Excellent*
Social: Uses mixed groups/ presence of 'more capable peers'	*Never*	*Sometimes*	*Often*	*Always*
Emotional: good interpersonal relationships – a safe environment.	*Poor*	*Fair*	*Good*	*Excellent*
Needs and interests of learners				
…determine the content of the curriculum Hybrid approach: teacher has plan, learners needs and interests influence lessons	*Teacher decides on content to be covered*	*Hybrid: teacher 's plan most influential*	*Hybrid: learners' interests more influential*	*Needs and interests determine the curriculum*
curriculum relevant and interesting	*Never*	*Sometimes*	*Often*	*Always*
Caters for different intelligences and learning styles				
Verbal/linguistic – learn by hearing: reading, speaking, writing, discussion **(Auditory)** – oral presentations, debates, discussions, question and answer	*Never*	*Sometimes*	*Often*	*Always*
Visual-spatial – learn by seeing: working with pictures, visualising & drawing **(Visual)** – (posters, charts, models, pictures)	*Never*	*Sometimes*	*Often*	*Always*
Bodily kinesthetic - learn by doing – **(Kinesthetic)** using body to convey ideas and emotions, movement - **Tactile** – learn by touching	*Never*	*Sometimes*	*Often*	*Always*
Personal differences amongst learners accommodated				
Personal: learners ideas and interests respected	*Never*	*Sometimes*	*Often*	*Always*
Cultural & religious beliefs and practices	*Never*	*Sometimes*	*Often*	*Always*
Language: takes into account language difficulties in multilingual classrooms, provides assistance, allows code switching	*Never*	*Sometimes*	*Often*	*Always*
Developmental level of learners i.e. physical, intellectual, emotional and social	*Never*	*Sometimes*	*Often*	*Always*

6.8 Teacher: Nsuku

Table 6.8a: Nsuku's profile: Outcomes-based approaches

	Not achieved	Partially/ superficial-ly achieved	Achieved	High level of achieve-ment
Critical outcomes				
CO 1: identify and solve problems and make decisions using critical and creative thinking				
CO 2: work effectively with others as members of a team, group, organisation and community				
CO 3: organise and manage themselves and their activities responsibly and effectively				
CO 4: collect, analyse, organise and critically evaluate information				
CO 5: communicate effectively using visual and/or language skills in various modes				
Natural Sciences learning outcomes & assessment standards				
LO 1: Scientific investigations				
Planning investigations				
Conducting investigations and collecting data Evaluating data and communicating findings				
LO 2: Constructing science knowledge				
Recalling meaningful information when needed				
Categorising and interpreting information				
Applying knowledge to new problems				
LO 3: Science, society and the environment				
Understanding science as a human endeavour in cultural contexts				

Table 6.8b: Nsuku's profile: Learner-centred approaches

Feature	**less ----------->more learner-centred**			
Teacher facilitates learning using constructivist approaches				
Finds out prior/everyday knowledge/ ideas and beliefs of learners	*Never*	*Sometimes*	*Often*	*Always*
Design of activities: Teacher provides challenging and appropriate new experiences/activities - just ahead of learners' level of development - ZPD	*Activities repetition of what they know,*	*Some extension of knowledge & skills/ challenge their*	*Extend learner's knowledge & skills, challenge their*	*Challenge learners' conceptions, create cognitive*

		conceptions	*conceptions*	*conflict.*
Teacher scaffolds the learning: Soft, through explanations, demonstrations Soft, through questioning Hard, using teaching aids and material	*Never* *Teachers looking for specific answers* *Never*	*Limited* *Teachers mostly looking for specific answers* *Sometimes*	*Frequent* *Questioning for understanding, probing* *Often*	*Extensive* *Socratic questioning, learners justify their ideas* *Always*
During activities - **learners talk about and work together** to solve problems and, complete tasks (to move through ZPD) e,g, debate, reflection, problem-solving.	*occasional interaction*	*some interaction*	*frequent interaction*	*always/ almost always*
Teacher/school provides suitable learning environment:				
Physical: classroom pleasant, stimulating environment to work in	*Poor*	*Fair*	*Good*	*Excellent*
Intellectual: range of resources available	*Poor*	*Fair*	*Good*	*Excellent*
Social: Uses mixed groups/ presence of 'more capable peers'	*Never*	*Sometimes*	*Often*	*Always*
Emotional: good interpersonal relationships – a safe environment.	*Poor*	*Fair*	*Good*	*Excellent*
Needs and interests of learners				
…determine the content of the curriculum Hybrid approach: teacher has plan, learners needs and interests influence lessons	*Teacher decides on content to be covered*	*Hybrid: teacher 's plan most influential*	*Hybrid: learners' interests more influential*	*Needs and interests determine the curriculum*
curriculum relevant and interesting	*Never*	*Sometimes*	*Often*	*Always*
Caters for different intelligences and learning styles				
Verbal/linguistic – learn by hearing: reading, speaking, writing, discussion **(Auditory)** – oral presentations, debates, discussions, question and answer	*Never*	*Sometimes*	*Often*	*Always*
Visual-spatial – learn by seeing: working with pictures, visualising & drawing **(Visual)** – (posters, charts, models, pictures)	*Never*	*Sometimes*	*Often*	*Always*
Bodily kinesthetic - learn by doing – **(Kinesthetic)** using body to convey ideas and emotions, movement - **Tactile** – learn by touching	*Never*	*Sometimes*	*Often*	*Always*
Personal differences amongst learners accommodated				
Personal: learners ideas and interests respected	*Never*	*Sometimes*	*Often*	*Always*
Cultural & religious beliefs and practices	*Never*	*Sometimes*	*Often*	*Always*
Language: takes into account language difficulties in multilingual classrooms, provides assistance, allows code switching	*Never*	*Sometimes*	*Often*	*Always*
Developmental level of learners i.e. physical, intellectual, emotional and social	*Never*	*Sometimes*	*Often*	*Always*

6.9 Teacher: Rennie

Table 6.9a: Rennie's profile: Outcomes-based approaches

	Not achieved	Partially/ superficial-ly achieved	Achieved	High level of achieve-ment
Critical outcomes				
CO 1: identify and solve problems and make decisions using critical and creative thinking				
CO 2: work effectively with others as members of a team, group, organisation and community				
CO 3: organise and manage themselves and their activities responsibly and effectively				
CO 4: collect, analyse, organise and critically evaluate information				
CO 5: communicate effectively using visual and/or language skills in various modes				
Natural Sciences learning outcomes & assessment standards				
LO 1: Scientific investigations				
Planning investigations				
Conducting investigations and collecting data Evaluating data and communicating findings				
LO 2: Constructing science knowledge				
Recalling meaningful information when needed				
Categorising and interpreting information				
Applying knowledge to new problems				
LO 3: Science, society and the environment				
Understanding science as a human endeavour in cultural contexts				

Table 6.9b: Rennie's profile: Learner-centred approaches

Feature	**less ----------->more learner-centred**			
Teacher facilitates learning using constructivist approaches				
Finds out prior/everyday knowledge/ ideas and beliefs of learners	*Never*	*Sometimes*	*Often*	*Always*
Design of activities: Teacher provides challenging and appropriate new experiences/activities - just ahead of learners' level of development - ZPD	*Activities repetition of what they know,*	*Some extension of knowledge & skills/ challenge their*	*Extend learner's knowledge & skills, challenge their*	*Challenge learners' conceptions, create cognitive*

		conceptions	*conceptions*	*conflict.*
Teacher scaffolds the learning:				
Soft, through explanations, demonstrations	*Never*	*Limited*	*Frequent*	*Extensive*
Soft, through questioning	*Teachers looking for specific answers*	*Teachers mostly looking for specific answers*	*Questioning for understanding, probing*	*Socratic questioning, learners justify their ideas*
Hard, using teaching aids and material	*Never*	*Sometimes*	*Often*	*Always*
During activities - **learners talk about and work together** to solve problems and, complete tasks (to move through ZPD) e,g, debate, reflection, problem-solving.	*occasional interaction*	*some interaction*	*frequent interaction*	*always/ almost always*
Teacher/school provides suitable learning environment:				
Physical: classroom pleasant, stimulating environment to work in	*Poor*	*Fair*	*Good*	*Excellent*
Intellectual: range of resources available	*Poor*	*Fair*	*Good*	*Excellent*
Social: Uses mixed groups/ presence of 'more capable peers'	*Never*	*Sometimes*	*Often*	*Always*
Emotional: good interpersonal relationships – a safe environment.	*Poor*	*Fair*	*Good*	*Excellent*
Needs and interests of learners				
…determine the content of the curriculum Hybrid approach: teacher has plan, learners needs and interests influence lessons	*Teacher decides on content to be covered*	*Hybrid: teacher 's plan most influential*	*Hybrid: learners' interests more influential*	*Needs and interests determine the curriculum*
curriculum relevant and interesting	*Never*	*Sometimes*	*Often*	*Always*
Caters for different intelligences and learning styles				
Verbal/linguistic – learn by hearing: reading, speaking, writing, discussion **(Auditory)** – oral presentations, debates, discussions, question and answer	*Never*	*Sometimes*	*Often*	*Always*
Visual-spatial – learn by seeing: working with pictures, visualising & drawing **(Visual)** – (posters, charts, models, pictures)	*Never*	*Sometimes*	*Often*	*Always*
Bodily kinesthetic - learn by doing – **(Kinesthetic)** using body to convey ideas and emotions, movement - **Tactile** – learn by touching	*Never*	*Sometimes*	*Often*	*Always*
Personal differences amongst learners accommodated				
Personal: learners ideas and interests respected	*Never*	*Sometimes*	*Often*	*Always*
Cultural & religious beliefs and practices	*Never*	*Sometimes*	*Often*	*Always*
Language: takes into account language difficulties in multilingual classrooms, provides assistance, allows code switching	*Never*	*Sometimes*	*Often*	*Always*
Developmental level of learners i.e. physical, intellectual, emotional and social	*Never*	*Sometimes*	*Often*	*Always*

6.10 Teacher: Riana

Table 6.10a: Riana's profile: Outcomes-based approaches

	Not achieved	Partially/ superficial-ly achieved	Achieved	High level of achieve-ment
Critical outcomes				
CO 1: identify and solve problems and make decisions using critical and creative thinking				
CO 2: work effectively with others as members of a team, group, organisation and community				
CO 3: organise and manage themselves and their activities responsibly and effectively				
CO 4: collect, analyse, organise and critically evaluate information				
CO 5: communicate effectively using visual and/or language skills in various modes				
Natural Sciences learning outcomes & assessment standards				
LO 1: Scientific investigations				
Planning investigations				
Conducting investigations and collecting data Evaluating data and communicating findings				
LO 2: Constructing science knowledge				
Recalling meaningful information when needed				
Categorising and interpreting information				
Applying knowledge to new problems				
LO 3: Science, society and the environment				
Understanding science as a human endeavour in cultural contexts				

Table 6.10: Riana's profile: Learner-centred approaches

Feature	**less ----------->more learner-centred**			
Teacher facilitates learning using constructivist approaches				
Finds out prior/everyday knowledge/ ideas and beliefs of learners	*Never*	*Sometimes*	*Often*	*Always*
Design of activities: Teacher provides challenging and appropriate new experiences/activities - just ahead of learners' level of development - ZPD	*Activities repetition of what they know,*	*Some extension of knowledge & skills/ challenge their*	*Extend learner's knowledge & skills, challenge their*	*Challenge learners' conceptions, create cognitive*

		conceptions	*conceptions*	*conflict.*
Teacher scaffolds the learning: Soft, through explanations, demonstrations Soft, through questioning Hard, using teaching aids and material	*Never* *Teachers looking for specific answers* *Never*	*Limited* *Teachers mostly looking for specific answers* *Sometimes*	*Frequent* *Questioning for understanding, probing* *Often*	*Extensive* *Socratic questioning, learners justify their ideas* *Always*
During activities - **learners talk about and work together** to solve problems and, complete tasks (to move through ZPD) e,g, debate, reflection, problem-solving.	*occasional interaction*	*some interaction*	*frequent interaction*	*always/ almost always*
Teacher/school provides suitable learning environment:				
Physical: classroom pleasant, stimulating environment to work in	*Poor*	*Fair*	*Good*	*Excellent*
Intellectual: range of resources available	*Poor*	*Fair*	*Good*	*Excellent*
Social: Uses mixed groups/ presence of 'more capable peers'	*Never*	*Sometimes*	*Often*	*Always*
Emotional: good interpersonal relationships – a safe environment.	*Poor*	*Fair*	*Good*	*Excellent*
Needs and interests of learners				
…determine the content of the curriculum Hybrid approach: teacher has plan, learners needs and interests influence lessons	*Teacher decides on content to be covered*	*Hybrid: teacher 's plan most influential*	*Hybrid: learners' interests more influential*	*Needs and interests determine the curriculum*
curriculum relevant and interesting	*Never*	*Sometimes*	*Often*	*Always*
Caters for different intelligences and learning styles				
Verbal/linguistic – learn by hearing: reading, speaking, writing, discussion **(Auditory)** – oral presentations, debates, discussions, question and answer	*Never*	*Sometimes*	*Often*	*Always*
Visual-spatial – learn by seeing: working with pictures, visualising & drawing **(Visual)** – (posters, charts, models, pictures)	*Never*	*Sometimes*	*Often*	*Always*
Bodily kinesthetic - learn by doing – **(Kinesthetic)** using body to convey ideas and emotions, movement - **Tactile** – learn by touching	*Never*	*Sometimes*	*Often*	*Always*
Personal differences amongst learners accommodated				
Personal: learners ideas and interests respected	*Never*	*Sometimes*	*Often*	*Always*
Cultural & religious beliefs and practices	*Never*	*Sometimes*	*Often*	*Always*
Language: takes into account language difficulties in multilingual classrooms, provides assistance, allows code switching	*Never*	*Sometimes*	*Often*	*Always*
Developmental level of learners i.e. physical, intellectual, emotional and social	*Never*	*Sometimes*	*Often*	*Always*

Appendix 7: Ethics – request for permission

Appendix 7.1: Letters to district director

Ms M. Doidge, Rm GH 46, (011) 717-3262,
megan.doidge@wits.ac.za
Date: 2007-04-17

Mr XXX
District Director
XXXXX
Gauteng Department of Education

Dear Sir

Research in schools in XXX

I would like to request permission to carry out research amongst Grade 7 Natural Sciences teachers in your district. This research will be towards a PhD qualification. The title of my research will be

Factors influencing Grade 7 Natural Sciences educators' implementation of outcomes-based approaches when teaching human reproduction.

In 1999, I designed a module on human reproduction for Grade 7 Natural Sciences teachers for the GIED/GDE and presented the activities in these modules during several workshops in Gauteng and Limpopo province. I also tested the module in two classes in two different schools in order to see how it was used by educators and learners. I would like to update this module and once again present the activities to Natural Sciences educators in your district at the end of May. I would therefore like to invite your Grade 7 Natural Sciences educators to a one day workshop on a Saturday (May 26th) for this purpose. In addition, educators will have an opportunity to present their own good ideas on teaching this topic. A 'sex education' expert will also address the educators on how to teach this sensitive topic. A module of activities that Natural Sciences educators found useful at the workshop, will be compiled and fully referenced. This will be delivered to the educators from participating schools at the start of the 3rd term as a source of teaching and learning materials.

I have been in contact with the Mrs ..... (Natural Sciences facilitator) from your district in connection with this proposed workshop and research.

My intended research will involve the following:

- Situational analysis – questionnaire sent to 20 (-30) teachers at approximately 10 schools to find out how they have taught human reproduction previously to Grade 7's (if they have done so), what has been covered on this topic in other learning areas and by visiting speakers and what they would like covered in their

workshop. This will simply provide information which will help with the design of appropriate activities for the workshop.

- Survey questionnaire – to be completed at the end of the workshop by participating educators in which they comment on the workshop and describe the factors that they anticipate will affect their teaching of human reproduction in outcomes-based ways.
- Case studies in 4-5 schools (2-3 in the 3rd term of this year and 2-3 in the 3rd term of 2008) in order to observe how educators teach human reproduction.
- Interviews with both the case study teachers and about 12-20 other teachers (from 8-10 schools) who had attended the workshop to find out if the factors that they anticipated would affect their teaching of human reproduction did in fact influence their teaching.

The names of respondents and the schools they teach at, will not be divulged at any stage of this research. All questionnaires and interview schedules will be submitted to the Wits ethics committee and the GDE for approval before being used.

The two questionnaires, research proposal and the application to the GDE have been included here. The interview schedule will be developed during the 3rd term and submitted to the GDE for approval. However the interviews will be based on the survey questionnaire but the questions will be in retrospect i.e not – *what do you think will happen*?, but *what did happen*?

I have already submitted my application to the GDE to conduct this research. In this application and in my research proposal, I have outlined ways in which I believe my research can contribute to an understanding of factors influencing the way in which educators teach. I hope that my research will contribute in some way to informing Natural Sciences facilitators so that they can assist educators in teaching Natural Sciences, and in particular human reproduction, in more effective ways.

I look forward to hearing from you.

Yours sincerely

M.C. Doidge
(Lecturer in Science Education)

Ms M. Doidge, Rm GH 46, (011) 717-3262,
megan.doidge@wits.ac.za
Fax: 011 7173259; Cell: 083 4083249
10 June 2007

Mr XXX
District Director, District XXX, Gauteng Department of Education

Dear Sir

Research in schools in District XXX

I wrote to you in April requesting permission to carry out research amongst Grade 7 Natural Sciences educators in your district. The title of my research is

Factors influencing Grade 7 Natural Sciences educators' implementation of outcomes-based approaches when teaching human reproduction.

A document containing this letter and my research proposal were given to you personally. I now have a list of the schools that I would like to conduct my research in. You indicated that you needed this list before granting me permission.

Schools were selected in the following way. I ran a workshop for educators on teaching Human Reproduction on the 26 May. This was well attended by 54 Grade 7 Natural Sciences and LO educators and one Principal from 31 schools. I asked the Natural Sciences educators if I could visit their school to observe their teaching of human reproduction and to conduct interviews at the end of this section. Schools in which at least one of the Grade 7 Natural Sciences educators (and sometimes 2 or 3 NS teachers) indicated they would be prepared to participate in this research, were selected. The five schools selected for the case studies were chosen as representative of a range of city, township and suburban schools. The schools selected for interviews represent a similar range.

Case studies in 5 schools (observation of & interviews with Grade 7 Natural Sciences educators):
(Names of 5 schools listed – permission gained later for a further two schools)
Interviews of Grade 7 Natural Sciences educators in a further 10 schools:
(Names of 10 schools provided)
I would now like to contact Principals to obtain their permission but need a letter from you indicating that you have given me permission to conduct research in their schools during the 3rd term.

I look forward to hearing from you. Please contact me on my cell or fax me your reply. If you would like to chat about this research, I am available over the next 3 days at any time you specify.

Yours sincerely

M.C. Doidge
(Lecturer in Science Education)

Appendix 7.2: Subject information sheet for teachers - Situational analysis

Research Study on factors affecting the teaching of human reproduction to Grade 7 Natural Sciences classes using outcomes-based approaches.

My name is Meg Doidge. I'm a member of staff in the School of Education at the University of the Witwatersrand and also a Doctor of Philosophy student at the same institution.

I am carrying out a study that investigates how teachers teach human reproduction to Grade 7 Natural Sciences classes and what factors influence their choice of content and their teaching approaches

I will be running a workshop on the 26th May 2007. The workshop will explore ways of teaching human reproduction and dealing with sensitive aspects of this topic as a Natural Sciences educator. In order to prepare for this workshop and ensure that it addresses the needs, concerns and interests of educators, I need some background information about the teaching of human reproduction from a few schools in your district. I selected your school as representative of some of the schools in the XXX district for this survey. You are therefore invited to participate in the preparatory stages of this research by providing some information.

I would like to know whether or not you have taught human reproduction to Grade 7 Natural Sciences classes previously and, if you have taught human reproduction, which aspects you have taught previously and how you have taught this material. In addition, I would like some information on what has been taught by other learning areas and by visiting speakers, and what topics you would like covered at a workshop on teaching human reproduction to Grade 7 classes. The information supplied in your responses will contribute to developing appropriate material for the workshop.

My research will benefit you in several ways:

- You can participate in a workshop in which you will obtain insight on approaches to teaching human reproduction by a sexuality education expert, a Life Sciences tertiary educator i.e. myself, and your colleagues.
- You will receive workshop materials from which you can select teaching and learning materials for teaching human reproduction in the 3rd term.
- You will have an opportunity to reflect on your own teaching.
- Your responses will contribute to an understanding of the factors affecting the teaching of human reproduction by Natural Sciences educators and will hopefully assist Natural Sciences educators, learning area facilitators and others to address any issues or difficulties associated with teaching this sensitive topic at a Grade 7 level.

The questionnaire will take 15-20 minutes to complete and I will collect it from your school.

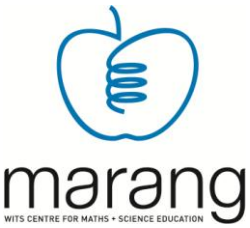
If you agree to take part in my study, I'd like to make it clear that your participation is entirely voluntary, no negative consequences will result from your participation, and all information will be treated with confidentiality. If you do choose to participate, you may decline to answer any questions, and you may withdraw from the study at any time. I hope to publish the results of my study in academic journals. In order to protect confidentiality, all names I use will be fictitious.

Thank You.

Meg Doidge, School of Education, University of Witwatersrand

Email: megan.doidge@wits.ac.za Tel: 011 7173262 Fax: 011 7173259

Appendix 7.3: Informed consent for teachers - Situational analysis



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Ms Megan Doidge
phone: 717 3262; fax: 717 3259
e-mail: megan.doidge@wits.ac.za

Informed Consent Form for Grade 7 Natural Sciences Educators

Pre-workshop questionnaire

Teaching human reproduction to Grade 7 Natural Sciences classes

I, _____ consent to participate in this study conducted by Ms M. Doidge of the University of Witwatersrand for her research on the teaching of human reproduction to Grade 7 Natural Sciences classes. I realise that no negative consequences will result from my participation in this study, and that the study is being conducted for purposes of improving the teaching of Natural Sciences in our schools. I give permission for the material to be used for research or teaching only.

I participate voluntarily and understand that I may withdraw from the study at any time. I understand I have the right to review the questionnaires I complete before these are used for analysis if I so choose. I can delete or amend any material or retract or revise any of my remarks. Everything I say will be kept confidential by the researcher. I will only be identified by a number in the questionnaire. In addition, any persons I refer to in the questionnaire will be kept confidential.

Verbatim quotes from me may be used in the research report, but they will be reported so that my identity is anonymous. Any specific individuals or courses I refer to will be given pseudonyms. I understand that the results of the study may be published, but my identity will be anonymous.

Name: _____

Signature: _____

Date: _____

Appendix 7.4: Informed consent for Natural Sciences teachers – Survey questionnaire

Information Sheet for Grade 7 Natural Sciences educators: Questionnaire

Research Study on factors affecting the teaching of human reproduction to Grade 7 Natural Sciences classes using outcomes-based approaches.

My name is Meg Doidge. I'm a member of staff in the School of Education at the University of the Witwatersrand and also a Doctor of Philosophy student at the same institution.
I am carrying out a study that investigates how teachers teach human reproduction to Grade 7 Natural Sciences classes and what factors influence their choice of content and their teaching approaches. I invite you to participate in this study.

You have just completed a workshop in which a number of ideas have been put forward on the teaching of human reproduction to Grade 7 Natural Sciences learners. You may feel that some of these ideas are very useful, whilst others cannot be implemented in your classroom. You work in a particular context, in which you, your learners, other educators, the school administration, parents and the associated community are unique. These and other factors will all contribute to what and how you teach when selecting materials for human reproduction. I am interested in your particular situation.

Could you please complete the following questionnaire which will provide me with some idea of which activities you found useful at the workshop, and which factors you feel will influence your implementation of outcomes-based approaches to teaching human reproduction.
My research will benefit you in several ways:

- You have participated in a workshop in which you have obtained insight on approaches to teaching human reproduction by a sexuality education expert, a Life Sciences tertiary educator i.e. myself, and your colleagues.
- You will receive workshop materials from which you can select teaching and learning materials for teaching human reproduction in the 3rd term.
- You will have an opportunity to reflect on your own teaching.
- Your responses will contribute to an understanding of the factors affecting the teaching of human reproduction by Natural Sciences educators and will hopefully assist Natural Sciences educators, learning area facilitators and others to address any issues or difficulties associated with teaching this sensitive topic at a Grade 7 level.

The questionnaire will take 30 minutes to complete.
If you agree to take part in my study, I'd like to make it clear that your participation is entirely voluntary, no negative consequences will result from your participation, and all information will be treated with confidentiality. If you do choose to participate, you may decline to answer any questions, and you may withdraw from the study at any time. I hope to publish the results of my study in academic journals. In order to protect confidentiality, all names I use will be fictitious.
I will provide you with a summary of my research results on completion if you would like me to.

Thank You.

Meg Doidge
School of Education, University of Witwatersrand
Email: megan.doidge@wits.ac.za Tel: 011 7173262 Fax: 011 7173259

Appendix 7.5: Informed consent for Natural Sciences teachers - Survey

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university of the witwatersrand private bag 3 wits 2050 Johannesburg sa t+27 11 7173414 f+2711 7173259

Ms Megan Doidge
phone: 717 3262; fax: 717 3259
e-mail: megan.doidge@wits.ac.za

Informed Consent Form for Grade 7 Natural Sciences Educators

Survey Questionnaire

Teaching human reproduction to Grade 7 Natural Sciences classes

I, _____ consent to participate in this study conducted by Ms M. Doidge of the University of Witwatersrand for her research on the teaching of human reproduction to Grade 7 Natural Sciences classes. I realise that no negative consequences will result from my participation in this study, and that the study is being conducted for purposes of improving the teaching of Natural Sciences in our schools. I give permission for the material to be used for research or teaching only.

I participate voluntarily and understand that I may withdraw from the study at any time. I understand I have the right to review the questionnaires I complete before these are used for analysis if I so choose. I can delete or amend any material or retract or revise any of my remarks. Everything I say will be kept confidential by the researcher. I will only be identified by a number in the questionnaire. In addition, any persons I refer to in the questionnaire will be kept confidential.

Verbatim quotes from me may be used in the research report, but they will be reported so that my identity is anonymous. Any specific individuals or courses I refer to will be given pseudonyms. I understand that the results of the study may be published, but my identity will be anonymous.

Name: _____

Signature: _____

Date: _____

Appendix 7.6: Letter to Principal – Multiple Case Study

Ms M. Doidge, Rm GH 46, (011) 717-3262,
megan.doidge@wits.ac.za
Date: 2007-07-11
Fax: 011 7173259; Cell: 083 4083249

Mr / Ms XXX
XXX Primary
Fax: XXX

Dear Sir/ Madam

Research in your school: XXX Primary

I am carrying out research amongst Grade 7 Natural Sciences educators in district XXX. The title of my research is
Factors influencing Grade 7 Natural Sciences educators' implementation of outcomes-based approaches when teaching human reproduction.

Grade 7 Natural Sciences educators from district XXX were invited to a workshop on the 26 May at Wits. During the workshop we explored a number of activities that could be used to teach human reproduction; and teaching and learning materials were distributed that educators could adapt for their use. At the end of the workshop, I asked those present to indicate whether I could visit their school and observe some of their Natural Sciences classes in the third term when they were teaching human reproduction, and whether I could interview them at the end of their teaching of this section of work. The teachers in your school who attended the workshop (XXX) indicated that she/he would be prepared to participate in this research.

I have selected 5 schools for both observation and interviews (and a further 10 for interviews only). The schools have been carefully selected to represent a range of schools characteristic of Gauteng, Your school is one of these schools.

This letter is therefore a request that I can conduct research in your school. I have attached an information sheet that provides more information on the research. The research involves visiting classes of your Grade 7 Natural Sciences educators at least once a week in the 3rd term, and making field notes of my observations of their teaching and then interviewing them.

I have been given permission from the GDE for this research and have ethics clearance from both the GDE and Wits University.

I look forward to hearing from you. Please contact me on my cell, or email or fax me your reply. If you would like to chat about this research, I am available until the 17th July and after the 22nd July.

Yours sincerely

M.C. Doidge (Lecturer in Science Education)

Appendix 7.7: Subject information sheet for Principals – Case Studies

Research study on factors affecting the teaching of human reproduction to Grade 7 Natural Sciences classes using outcomes-based approaches.

My name is Meg Doidge. I'm a member of staff in the School of Education at the University of the Witwatersrand and also a Doctor of Philosophy student at the same institution.
I am carrying out a study that investigates how educators teach human reproduction to Grade 7 Natural Sciences classes and what factors influence their choice of content and their teaching approaches. The context in which the educators teach i.e. the learners, other educators, the school administration, parents and the associated community are unique. These and other factors will all contribute to what materials educators select and how they teach human reproduction. I would like to gather information about their teaching approaches and their perceptions of the factors that have influenced their teaching, and will be using case studies in 5 schools and interviews of Grade 7 Natural Sciences educators in 15 schools.

I would like to invite your school to participate in this study. Your participation means that your school will participate in the following:

- Case studies: You will allow me to visit your school and observe Natural Sciences classes during the 3rd term (pending the consent of the educators). I will record my observations of classroom activities using field notes.
- Interviews; You will allow me to interview your Grade 7 Natural Sciences educators (pending their consent) after they have completed their teaching of human reproduction.

My research will benefit your school in several ways:

- Your Grade 7 Natural Sciences educators participate in a workshop in which they could gain insight on approaches to teaching human reproduction with contributions from a sexuality education expert, a Life Sciences tertiary educator i.e. myself, and colleagues.
- Your school received workshop materials from which the Natural Sciences educators can select teaching and learning materials for teaching human reproduction in the 3rd term.
- The responses from your school will contribute to an understanding of the factors affecting the teaching of human reproduction by Natural Sciences educators and will hopefully assist Natural Sciences educators, learning area facilitators and others to address any issues or difficulties associated with teaching this sensitive topic at a Grade 7 level.

If you agree to take part in my study, I'd like to make it clear that your participation is entirely voluntary, no negative consequences will result from your participation, and all information will be treated with confidentiality. If you do choose to participate, your Grade 7 Natural Sciences educators may decline to answer any questions, and you may withdraw from the study at any time. I hope to publish the results of my study in academic journals. In order to protect confidentiality, all names I use will be fictitious.

I will provide you with a summary of my research results on completion if you would like me to.

Thank you.

Meg Doidge

School of Education, University of Witwatersrand

Email: megan.doidge@wits.ac.za Tel: 011 7173262 Fax: 011 7173259

Appendix 7.8: Informed consent for Principals – Case Studies; Observations

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Ms Megan Doidge
phone: 717 3262; fax: 717 3259
e-mail: megan.doidge@wits.ac.za

Informed Consent Form for Principals: Case Studies

Teaching human reproduction to Grade 7 Natural Sciences classes

I, _____, consent to the participation of my Grade 7 Natural Sciences educators and their Grade 7 Natural Sciences classes in this study conducted by Ms M. Doidge of the University of Witwatersrand for her research on the teaching of human reproduction to Grade 7 Natural Sciences classes. I realise that no negative consequences will arise as a result of my school's participation in this study, and that the study is being conducted for purposes of improving the teaching of Natural Sciences in South African schools. I give permission for the material to be used for research or teaching only. My school participates voluntarily and I understand that my school may withdraw from the study at any time.

Case studies:
I further consent to the researcher observing Grade 7 Natural Sciences classes during the 3rd term and recording her observations using field-notes. I understand that the Grade 7 Natural Sciences educators have the right to review the field notes before these are used for analysis if they so choose. All recorded observations will be kept confidential by the researcher. Educators and learners will only be identified by a pseudonym or a number in the transcript.

I understand that the results of the study may be published, but the school, the educators' and the learners' identity will be kept confidential.

Name: _____
School: _____
Signature: _____
Date: _____

I **do/ do not consent** (please delete whichever is not applicable) to digital recording of lessons which serve to support the field notes. As with the field notes, these will be kept confidential.

Signature: _____ Date: _____

I **do/ do not consent** (please delete whichever is not applicable) to photographs of the class at work which may be used to illustrate the doctoral thesis and may be used at research and teaching conferences to illustrate class activities in different schools. The names of the schools will be kept confidential.

Signature: _____ Date: _____

Appendix 7.9: Subject information sheets for Principals – Interviews (additional cases)

Research study on factors affecting the teaching of human reproduction to Grade 7 Natural Sciences classes using outcomes-based approaches.

My name is Meg Doidge. I'm a member of staff in the School of Education at the University of the Witwatersrand and also a Doctor of Philosophy student at the same institution.

I am carrying out a study that investigates how educators teach human reproduction to Grade 7 Natural Sciences classes and what factors influence their choice of content and their teaching approaches. The context in which the educators teach i.e. the learners, other educators, the school administration, parents and the associated community are unique. These and other factors will all contribute to what materials educators select and how they teach human reproduction. I would like to gather information about their teaching approaches and their perceptions of the factors that have influenced their teaching, and will be using case studies in 5 schools and interviews of Grade 7 Natural Sciences educators in 15 schools.

I would like to invite your school to participate in this study. Your participation means that you will allow me to interview your Grade 7 Natural Sciences educators (pending their consent) after they have completed their teaching of human reproduction.
My research will benefit your school in several ways:

- Your Grade 7 Natural Sciences educators have participated in a workshop in which they could gain insight on approaches to teaching human reproduction with contributions from a sexuality education expert, a Life Sciences tertiary educator i.e. myself, and colleagues.
- Your school received workshop materials from which the Natural Sciences educators can select teaching and learning materials for teaching human reproduction in the 3rd term.
- The responses from your school will contribute to an understanding of the factors affecting the teaching of human reproduction by Natural Sciences educators and will hopefully assist Natural Sciences educators, learning area facilitators and others to address any issues or difficulties associated with teaching this sensitive topic at a Grade 7 level.

If you agree to take part in my study, I'd like to make it clear that your participation is entirely voluntary, no negative consequences will result from your participation, and all information will be treated with confidentiality. If you do choose to participate, your Grade 7 Natural Sciences educators may decline to answer any questions, and you may withdraw from the study at any time. I hope to publish the results of my study in academic journals. In order to protect confidentiality, all names I use will be fictitious.

I will provide you with a summary of my research results on completion if you would like me to.

Thank you.

Meg Doidge

School of Education, University of Witwatersrand

Email: megan.doidge@wits.ac.za Tel: 011 7173262 Fax: 011 7173259

Appendix 7.10: Informed consent for Principals – Interviews (Case studies & additional cases)

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Ms Megan Doidge
phone: 717 3262; fax: 717 3259
e-mail: megan.doidge@wits.ac.za

Informed Consent Form for Principals: Interviews

Teaching human reproduction to Grade 7 Natural Sciences classes

I, _____ consent to the participation of my Grade 7 Natural Sciences educators in this study conducted by Ms M. Doidge of the University of Witwatersrand for her research on the teaching of human reproduction to Grade 7 Natural Sciences classes. I realise that no negative consequences will arise as a result of my school's participation in this study, and that the study is being conducted for purposes of improving the teaching of Natural Sciences in South African schools. I give permission for the material to be used for research or teaching only. My school participates voluntarily and I understand that my school may withdraw from the study at any time.

Interviews:

I further consent to my Grade 7 Natural Sciences educators being interviewed as part of the study. I also understand they have the right to review the transcripts made of the interview before these are used for analysis if they so choose. They can delete or amend any material or retract or revise any of their remarks. Everything they say will be kept confidential by the interviewer. They will only be identified by a pseudonym in the transcript. In addition, any persons they refer to in the interview will be kept confidential.

Verbatim quotes from the educators may be used in the research report, but they will be reported so that their identity is anonymous. Any specific individuals or courses they refer to will be given pseudonyms. I understand that the results of the study may be published, but the school and the educators' identity will be anonymous.

Name: _____

Signature: _____

Date: _____

Audiorecording:

I further consent to audio-recordings being made of the interviews. I understand the educators have the right to review the transcripts made from these audiorecordings before these are used for analysis if they so choose. The educators can delete or amend any material or retract or revise any of their remarks. Everything the educators say will be kept confidential by the interviewer. They will only be identified by a pseudonym in the transcript. In addition, any persons they refer to in the interview will be kept confidential.

Name: _____

Signature: _____

Date: _____

Appendix 7.11: Letter to Natural Sciences teachers – Interviews (Additional cases)

Ms M. Doidge, Rm GH 46, (011) 717-3262,
megan.doidge@wits.ac.za
Date: 2007-07-11
Fax: 011 7173259
Cell: 083 4083249

Dear

Research (interviews) in your classroom

At the Grade 7 Natural Sciences educators' workshop on human reproduction, you indicated your willingness to be interviewed after teaching the content area *human reproduction* to your Grade 7 Natural Sciences classes. This letter is therefore a request that I can interview you at the end of your teaching of this content area. I have been given permission from the GDE and from district XXX for this research and have ethics clearance from both the GDE, and Wits University.

In the 30 min – 1 hour interview, I will ask you what content you taught, how you taught human reproduction and why you chose to teach this topic in that way. I am not expecting you to use the materials presented at the workshop if you feel these are inappropriate. I am rather interested in what works best for you in your context and why. The interviews will provide your perspective on what factors influence your teaching of human reproduction.

I would like to discuss the above request with you some time in August and will contact your Principal for permission. Thankyou for indicating your willingness to participate in my research.

Yours sincerely

M.C. Doidge
(Lecturer in Science Education)

Appendix 7.12: Letter to Grade 7 Natural Sciences teachers – Case studies

Ms M. Doidge, Rm GH 46, (011) 717-3262,
megan.doidge@wits.ac.za
Date: 2007-07-11
Fax: 011 7173259
Cell: 083 4083249

Dear

Research (observation and interviews) in your classroom

At the Grade 7 Natural Sciences educators' workshop on human reproduction, you indicated your willingness to be observed while you are teaching the content area *human reproduction* to your Grade 7 Natural Sciences classes and then to be interviewed at the end of this section of work.

My observations involve sitting at the back of the class and taking notes of what I observe in the lesson, i.e. how you teach human reproduction and which factors influence your approach to teaching human reproduction. I will not interfere with teaching in any way and I will not expect you to use the workshop materials if you don't wish to or to use any particular approach. I am interested in what works best for you in your context and why. The interviews will provide your perspective on what factors influence your teaching of human reproduction.

This letter is therefore a request that I can conduct research in your classroom.
I have been given permission from the GDE and from district D9 for this research and have ethics clearance from both the GDE, and Wits University.

I look forward to hearing from you. I would like to either talk to you on the phone or visit you next week to discuss this research. I will be away until the 22nd July and will then contact you.

Yours sincerely

M.C. Doidge
(Lecturer in Science Education)

Appendix 7.13: Information Sheet for Grade 7 Natural Sciences teachers (Case Studies)

Research study on factors affecting the teaching of human reproduction to Grade 7 Natural Sciences classes using outcomes-based approaches.

My name is Meg Doidge. I'm a member of staff in the School of Education at the University of the Witwatersrand and also a Doctor of Philosophy student at the same institution.

I am carrying out a study that investigates how educators teach human reproduction to Grade 7 Natural Sciences classes and what factors influence their choice of content and their teaching approaches. The context in which you as an educator teach i.e. the learners, other educators, the school administration, parents and the associated community is unique. This context and other factors will all contribute to what materials you select and how you teach human reproduction. I would like to gather information about your teaching approaches and your perceptions of the factors that have influenced your teaching. I will be carrying out case studies in 5 schools and interviews of Grade 7 Natural Sciences educators in 15 schools.

I would like to invite your school to participate in this study. Your participation means that your school will participate in the following:

- Case studies - observations: You will allow me to visit your school and observe your Natural Sciences classes during the 3rd term. I will record my observations of classroom activities using field notes (and digital recordings).
- Interviews: You will allow me to interview you after you have completed your teaching of human reproduction.

My research will benefit you in several ways:

- You have had an opportunity to participate in a workshop in which you could gain insight regarding approaches to teaching human reproduction with contributions from a sexuality education expert, a Life Sciences tertiary educator i.e. myself, and colleagues.
- You received workshop materials from which you can select teaching and learning materials for teaching human reproduction in the 3rd term.
- Your responses will contribute to an understanding of the factors affecting the teaching of human reproduction by Natural Sciences educators and will hopefully assist Natural Sciences educators, learning area facilitators and others to address any issues or difficulties associated with teaching this sensitive topic at a Grade 7 level.

If you agree to take part in my study, I'd like to make it clear that your participation is entirely voluntary, no negative consequences will result from your participation, and all information will be treated with confidentiality. If you do choose to participate, you may decline to answer any questions, and you may withdraw from the study at any time. I hope to publish the results of my study in academic journals. In order to protect confidentiality, all names I use will be fictitious.

I will provide you with a summary of my research results on completion if you would like me to.

Thank You.

Meg Doidge

School of Education, University of Witwatersrand

Email: megan.doidge@wits.ac.za Tel: 011 7173262 Fax: 011 7173259

Appendix 7.14: Information Sheet for Gr. 7 Natural Sciences teachers (Interviews only)

Research study on factors affecting the teaching of human reproduction to Grade 7 Natural Sciences classes using outcomes-based approaches.

My name is Meg Doidge. I'm a member of staff in the School of Education at the University of the Witwatersrand and also a Doctor of Philosophy student at the same institution.

I am carrying out a study that investigates how educators teach human reproduction to Grade 7 Natural Sciences classes and what factors influence their choice of content and their teaching approaches. The context in which you as an educator teach i.e. the learners, other educators, the school administration, parents and the associated community is unique. This context and other factors will all contribute to what materials you select and how you teach human reproduction. I would like to gather information about your teaching approaches and your perceptions of the factors that have influenced your teaching. I will be carrying out case studies in 5 schools and interviews of Grade 7 Natural Sciences educators in 15 schools.

I would like to invite you to participate in the interviews. This means that you will allow me to interview you after you have completed your teaching of human reproduction.

My research will benefit you in several ways:

- You have had an opportunity to participate in a workshop in which you could gain insight regarding approaches to teaching human reproduction with contributions from a sexuality education expert, a Life Sciences tertiary educator i.e. myself, and colleagues.
- You received workshop materials from which you can select teaching and learning materials for teaching human reproduction in the 3rd term.
- Your responses will contribute to an understanding of the factors affecting the teaching of human reproduction by Natural Sciences educators and will hopefully assist Natural Sciences educators, learning area facilitators and others to address any issues or difficulties associated with teaching this sensitive topic at a Grade 7 level.

If you agree to take part in my study, I'd like to make it clear that your participation is entirely voluntary, no negative consequences will result from your participation, and all information will be treated with confidentiality. If you do choose to participate, you may decline to answer any questions, and you may withdraw from the study at any time. I hope to publish the results of my study in academic journals. In order to protect confidentiality, all names I use will be fictitious.

I will provide you with a summary of my research results on completion if you would like me to.

Thank You.

Meg Doidge

School of Education, University of Witwatersrand

Email: megan.doidge@wits.ac.za Tel: 011 7173262 Fax: 011 7173259

Appendix 7.15: Informed consent - Observations (Case study teachers)

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Ms Megan Doidge
phone: 717 3262; fax: 717 3259 cell no : 083 4083249
e-mail: megan.doidge@wits.ac.za

Informed Consent Form for Grade 7 Natural Sciences Educators

Observation

Teaching human reproduction to Grade 7 Natural Sciences classes

I, _____ consent to participate in this study conducted by Ms M. Doidge of the University of Witwatersrand for her research on the teaching of human reproduction to Grade 7 Natural Sciences classes. I realise that no negative consequences will result from my participation in this study, and that the study is being conducted for purposes of improving the teaching of Natural Sciences in our schools. I give permission for the material to be used for research or teaching only.

I participate voluntarily and understand that I may withdraw from the study at any time.

Observations:
I consent to the researcher observing my grade 7 Natural Sciences classes on human reproduction and I consent to field-notes being made during classroom observation. I also understand I have the right to review these field-notes before these are used for analysis if I so choose. Everything I say will be kept confidential by the researcher. I will only be identified by a pseudonym in the transcript.

Name: _____

Signature: _____ Date: _____

Digital recording and photographs:
I **do/ do not consent** (please delete whichever is not applicable) to digital recording of my lessons which serve to support the field notes. As with the field notes, these will be kept confidential.

Signature: _____ Date: _____

I **do/ do not consent** (please delete whichever is not applicable) to photographs of the class at work which may be used to illustrate the doctoral thesis and may be used at research and teaching conferences to illustrate class activities in different schools. The names of the school will be kept confidential.

Signature: _____ Date: _____

Appendix 7.16: Informed consent - Interviews (Additional cases)

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Ms Megan Doidge
phone: 717 3262; fax: 717 3259
e-mail: megan.doidge@wits.ac.za

Informed Consent Form for Grade 7 Natural Sciences Educators: Interviews

Teaching human reproduction to Grade 7 Natural Sciences classes

I, _____ consent to participate in this study conducted by Ms M. Doidge of the University of Witwatersrand for her research on the teaching of human reproduction to Grade 7 Natural Sciences classes. I realise that no negative consequences will result from my participation in this study, and that the study is being conducted for purposes of improving the teaching of Natural Sciences in our schools. I give permission for the material to be used for research or teaching only.

I participate voluntarily and understand that I may withdraw from the study at any time.

Interviews:
I further consent to being interviewed as part of the study. I also understand I have the right to review the transcripts made of our conversations before these are used for analysis if I so choose. I can delete or amend any material or retract or revise any of my remarks. Everything I say will be kept confidential by the interviewer. I will only be identified by a pseudonym in the transcript. In addition, any persons I refer to in the interview will be kept confidential.

Verbatim quotes from me may be used in the research report, but they will be reported so that my identity is anonymous. Any specific individuals or courses I refer to will be given pseudonyms. I understand that the results of the study may be published, but my identity will be anonymous.

Name: _____
Signature: _____
Date: _____

Audiorecording:
I further consent to audio-recordings to be made of the interview. I understand I have the right to review the transcripts made from these audiorecordings before these are used for analysis if I so choose. I can delete or amend any material or retract or revise any of my remarks. Everything I say will be kept confidential by the interviewer. I will only be identified by a pseudonym in the transcript. In addition, any persons I refer to in the interview will be kept confidential.

Name: _____
Signature: _____
Date: _____

Appendix 8: Ethics – permission from GDE and Wits