

Chapter 7 – Appendix V Carol

7.5. Carol

7.5.1. Step 3: Planning Action

7.5.1.1. Learning task design

7.5.2.1. b. Learning task assessment

(i) Self-assessment

(ii) Peers

(iii) Teacher educator

(iv) Specialisation lecturer

7.5. Concept map

Learning Task Design 2: The human Skeleton

(3 Aug - 17 Aug)

Learning Subject	Biology
Learning phase	FET
Grade	10
Learning area	Human Skeleton
Time allocated	8 Periods (8 x 40min)

Programme Organisation
Problem statement
What is the most economical and effective prosthetic that can be produced for persons that a man that don't have enough funds for professional prosthetics?
Recourses
Text on the human skeleton
* Ken en verstaan Biologie Grade 10 (Van Resburg, Netshiomvani, Strydom and Van Wyk)
* Mind Action Series: Biology Textbook and Workbook 10 (Kuun and Rortje)
* Fisiologie van die mens. (Meyer en Meij)
* Verken Biologie: graad 10. Dilley, Doidge et al.
Websites
* www.reachoutmichigan.org
* www.body.com
Meta-learning
Each individual (in the cooperative-group) receive a page with parts of the skeleton. These sketches has been changed or altered. Individually the learners must identify the part of the skeleton and then the alteration. They must think about the effects these changes have on the function of this part of the skeleton.
Cooperative-learning
The sketches of the changes must be discussed in the cooperative-groups. Do all the cooperative-group members agree with the changes and effects on the skeleton?
The cooperative groups must bring materials and equipment to school and build the most effective and cost-effective prosthetic possible
The prosthetics will be on exhibition and the other cooperative-groups will assess the prosthetics

LTP

What is the most economical and effective prosthetic that can be produced for persons that don't have enough funds for professional prosthetics?

In your cooperative groups you must decide on a part of the skeleton you would like to simulate in a prosthesis. The prosthesis must be economical but of high standard with the same characteristics and functions of the part of the skeleton.

Materials and equipment that is needed must be collective and brought to class. You will build the prostheses in class time.

An exhibition of all the cooperative-groups prosthesis will be held and assessment will take place.

Class organisation

Class are divided into their cooperative groups

(heterogeneous groups are generated thought taking into consideration: marks, culture, gender etc)

Posters of human skeleton are put up on walls.

Different parts/bones of the human skeleton are on display

Product

Meta-learn identification and answers of modified sketches.

The prosthesis

Critical Outcomes

Problem identifying & solving skills	*	Effective use of science and technology	*
Effective cooperative-group work	*	Self-organisation skills	*
Communication skills	*	Cultural and aesthetically sensitive	
Collect, analyse, organise and evaluate information effectively	*	An understanding of the world as a set of related problems	
Education and career exploring	*	Explore strategies to learn more effectively	*
Responsible citizen participation	*	Entrepreneurial skills	*

Learning outcomes	Assessment Standards
Scientific Inquiry and Problem solving skills	When learners use appropriate materials for the building of the prostheses. Prostheses must be economically, but effective with the same functions as its counterpart
Construction and Application of life Sciences knowledge	Learners must have in-depth knowledge of the part of the skeleton they are making a prosthesis off in order to make it realistic and functional
Life Sciences, Technology, Environment and Society	Prostheses must be designed and build by learners for persons that cannot afford professional prosthesis

Specific outcomes
Knowledge of the anatomy and physiology of the human skeleton
The importance and function of the human skeleton
Knowledge of the appendicular and axial skeleton
Exploring of the different types of bones (classification) of the human skeleton

Assessment Criteria
Continual assessment during the project
Prosthesis (economical and effectiveness) (rubric)

Assessment Method	
Self assessment	*
Cooperative-group assessment	*
Peer assessment	*
Facilitator assessment	*

Gr.10 Biologie

Die Skelet

Wat is die mees ekonomiese en effektiese protese wat vervaardig kan word?

Meta-leer

Sketse van ortopediese gemodifiseerde dele van die menslike skelet.

Beantwoord die volgende vrae individueel en handig in.

- Identifiseer die gedeeltes (a en b) van die skelet.
- Wat is die funksies van die dele (a en b) van die skelet?
- Watter verandering is aan die gedeelte (a en b) van die skelet aangebring?
- Is die verandering tot voordeel of tot nadeel van die skelet?
- Watter invloed het die veranderinge op die funksie van die deel van die skelet (a en b)

Koöperatiewe Leer

Elke lid van die kooperatiewe groep kry die geleetheid om sy bevinge met die res van die lede te deel. Stem die kooperatiewe groep saam met die bevinge? Is daar nog veranderinge wat raaks gesien word? Bespreek dit breekvoerig in die kooperatiewe groep.

Besluit in die kooperatiewe groep watter deel van die skelet gebou gaan word as 'n protese? Materiale en toerusting moet bymekaar gemaak word en skool toe gebring word..

'n Uitstalling en assessering van kooperatiewe groeps-lede se protese sal plaasvind.

Gr.10 Biologie

Die Skelet

Wat is die mees ekonomiese en effektiese prostese wat vervaardig kan word vir persone wat nie noodwendig die nodige fondse het vir professionele prosteses nie?

Meta-leer

- Identifisering van ortopediese veranderinge wat aan die skelet aangebring is.

Koöperatiewe Leer

- ❖ Elke koöperatiewe-groep kry die geleetheid om 'n prostese te ontwerp en te bou. Dit moet ekonomies wees, maar van hoogstaande gehalte en met dieselfde kenmerke en funksies van die werklike deel van die skelet.
- ❖ Besluit in die koöperatiewe-groep watter deel van die skelet gebou gaan word as 'n prostese? Materiale en toerusting moet bymekaar gemaak word en skool toe gebring word.
- ❖ Kooperatiewe-groepe moet die prostese self-bou.
- ❖ 'n Uitstalling en assessering van koöperatiewe-groepe se prostese sal plaasvind.

Datums

- 6 Aug: Materiale wat gebruik gaan word vir die bou van die prostese moet saam gebring word.
- 17 Aug: Uitstalling van alle koöperatiewe-groepe se prosteses.

Meta-leer

Sketse van ortopediese gemodifiseerde dele van die menslike skelet. Lede van die kooperatiewe-groep ontvang verskillende gemodifiseerde sketse van die skelet.

Beantwoord die volgende vrae oor die skets **individueel!!!**
Handig die antwoordstel en die sketse aan die einde van die periode in.

- Identifiseer die gedeeltes (a en b) van die skelet.
- Wat is die funksies van die dele (a en b) van die skelet?
- Watter veranderinge is aan die gedeelte (a en b) van die skelet aangebring?
- Is die verandering tot voordeel of tot nadeel van die skelet?
- Watter invloed het die veranderinge op die funksie van die deel van die skelet (a en b).

Koöperatiewe-Leer

- ❖ Elke lid van die kooperatiewe-groep lê sy bevindinge aan die res van die lede voor.
- ❖ Stem die kooperatiewe groep saam met die bevindinge? Is daar nog veranderinge wat raaks gesien word?
- ❖ Bespreek dit breedvoerig in die kooperatiewe-groep.

SKOOLGEBASEERDE ONDEWRWYSASSESSERING
 SCHOOL BASED EDUCATION ASSESSMENT
 Fasilitering van Leer / Facilitating Learning

Grade awarded

Beginneronderwyser:
 Beginner Educator: _____

Student No: _____
 Student Nu: _____

Skool: _____
 School: _____

Graad: _____ Datum: _____
 Grade: 10 Date: 5 Aug

Spesialiseringsarea:
 Specialising area: FET Biologie

Tema:
 Theme: Menslike Skelet

LEERTAAKONTWERP / LEARNING TASK DESIGN

LEVEL VLAK	Alle items teenwoordig maar die verband daartussen nie aangredui of irrelevant / All items present but relationship between them not indicated or irrelevant	Alle items teenwoordig en die verband tussen LU'e, AS'e, Uitdaging, LTA en LT aangredui en relevant / All items present and the relationship between the LO's, AS's, Challenge, LTP and LT indicated and relevant	Alle items teenwoordig en die verband tussen LU'e, AS'e, Uitdaging, LTA, LT, Outentieke Leeromgewing, Materiale en Toerusting/ Apparaat en Leeraksie-organisasie aangredui en relevant / All items present and the relationship between the LO's, AS's, Challenge, LTP LT, Authentic Learning Environment, Materials and Equipment/ apparatus, and Learning Action Organisation indicated and relevant	Alle items teenwoordig en die verband tussen LU'e, AS'e, Uitdaging, LTA, LT, Outentieke Leeromgewing, Materiale en Toerusting/ Apparaat, Leeraksie-organisasie en Resultaat van LT aangredui en relevant / All items present and the relationship between the LO's, AS's, Challenge, LTP LT, Authentic Learning Environment, Materials and Equipment/ apparatus, Learning action organisation, and Result of LT indicated and relevant
CRITERION KRITERIUM				
Ontwerp/ Design				✗

ADDISIONELE KOMMENTAAR / ADDITIONAL COMMENTARY

• Ek dink dit het goed gegaan In die een klas het meta-leer verander in bietjie meer "vra-en-antwoord" van my af
 → Let op na Meta-leer vrae!

Assessor:

Self	Mede BO/Peer BE	Mentor	Dosent/Lecturer
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Naam: _____ Handtekening: _____
 Name: _____ Signature: _____

LEERTAAKOPERASIONERING (LTOP) / LEARNING TASK OPERATION (LTOP)

PUNTE/ GRADE Toeken Award	LTK / LTC		LTT / LTF		LTU / LTE		LTA / LTP	
					Koop leer / Coop learn	Metaleer / Metalearn	Aanbied / Present	Uitdaging / Challenge
	Onaanvaanbaar/ Unacceptable	Ontoereikend / Inadequate	Goed / Good	Uitstekend/ Excellent	<p>Die uitdaging is nie 'n werklêerskonteks (werklike of realistiese probleem) nie / The challenge is not a problem in real life context (real life or realistic problem)</p> <p>Aanbieding is duidelik / Presentation is clear</p>	<p>Die uitdaging is 'n probleem in werklêerskonteks (werklike of realistiese probleem), maar voldoen aan stegs enkele kriteria / The challenge is a problem in real life context (real life or realistic problem) but adheres to only singular problem and LTD criteria</p> <p>Aanbieding is duidelik en spel belangrikheid uit / Presentation is clear and explicates importance</p>	<p>Die uitdaging is 'n probleem in werklêerskonteks (werklike of realistiese probleem) en voldoen aan die meeste kriteria / The challenge is a problem in real life context (real life or realistic problem) and adheres to most criteria</p> <p>Aanbieding is duidelik, spel belangrikheid uit en beklemtoon dringendheid / Presentation is clear, explicates importance and emphasises urgency</p>	<p>Die uitdaging is 'n probleem in werklêerskonteks (werklike of realistiese probleem) en voldoen al die kriteria / The challenge is a problem in real life context (real life or realistic problem) and adheres to all criteria</p> <p>Aanbieding is duidelik, spel belangrikheid uit, beklemtoon dringendheid en verlei onmiddellike leerderaksie / Presentation is clear, explicates importance, emphasises urgency and demands immediate learner action</p>
0-24	<p>Kl.G'e voorsien terugvoer met stegs sommige lede wat bydra / CLG's provide feedback with only some members contributing</p>	<p>Kl.G'e voorsien terugvoer met al die lede wat bydra / CLG's provide feedback with all members contributing</p>	<p>Kl.G'e voorsien terugvoer met al die lede wat bydra en word gassesseer sonder die eis op kwaliteit / CLG's provide feedback with all members contributing and is assessed without a demand for quality</p>	<p>Kl.G'e voorsien terugvoer met al die lede wat bydra en word gassesseer op die kwaliteit van hulle produk en aanbieding deur eweknie en BE / CLG's provide feedback with all members contributing and is critically assessed on the quality of their product and presentation by peers and BE</p>	<p>Groepe bestaan uit heterogene groepe van optimale grootte / Groups consist of heterogeneous groups of optimal size</p>	<p>Groepe bestaan uit heterogene groepe van optimale grootte en lede is individueel aanspreeklik / Groups consist of heterogeneous groups of optimal size and members are individually accountable</p>	<p>Groepe bestaan uit heterogene groepe van optimale grootte, lede is individueel aanspreeklik en positief interafhanklik / Groups consist of heterogeneous groups of optimal size and members are individually accountable and positively interdependent</p>	<p>Groepe bestaan uit heterogene groepe van optimale grootte, lede is individueel aanspreeklik en verlei vanselfsprekend spesifieke interpersoonlike lewensvaardighede / Groups consist of heterogeneous groups of optimal size and members are individually accountable and obviously acquires particular intrapersonal life skills</p>
25-49			50-74	75-100				

SKOOLGEBASEERDE ONDEWRWYSASSESSERING
SCHOOL BASED EDUCATION ASSESSMENT
Tradisioneel / Traditional

Punt toegeken
 Grade awarded
78%

Beginneronderwyser: _____ Student No: _____
 Beginner Educator: _____ Student Nu: _____
 Skool: _____ Graad: _____ Datum: _____
 School: _____ Grade: 10 Date: 5 Aug
 Spesialiseringsarea: _____ Tema: _____
 Specialising area: Biologie Theme: Skelet

LEERTAAKONTWERP / LEARNING TASK DESIGN

LEVEL VLAK	Alle items teenwoordig maar die verband daartussen nie aangredui of irrelevant / <i>All items present but relationship between them not indicated or irrelevant</i>	Alle items teenwoordig en die verband tussen LU'e, AS'e, Uitdaging, LTA en LT aangredui en relevant / <i>All items present and the relationship between the LO's, AS's, Challenge, LTP and LT indicated and relevant</i>	Alle items teenwoordig en die verband tussen LU'e, AS'e, Uitdaging, LTA, LT, Outentieke Leeromgewing, Materiale en Toerusting/ Apparaat en Leeraksie-organisasie aangredui en relevant / <i>All items present and the relationship between the LO's, AS's, Challenge, LTP LT, Authentic Learning Environment, Materials and Equipment/ apparatus, and Learning Action Organisation indicated and relevant</i>	Alle items teenwoordig en die verband tussen LU'e, AS'e, Uitdaging, LTA, LT, Outentieke Leeromgewing, Materiale en Toerusting/ Apparaat, Leeraksie-organisasie en Resultaat van LT aangredui en relevant / <i>All items present and the relationship between the LO's, AS's, Challenge, LTP LT, Authentic Learning Environment, Materials and Equipment/ apparatus, Learning action organisation, and Result of LT indicated and relevant</i>
CRITERION KRITERIUM				
Design				X

ADDISIONELE KOMMENTAAR / ADDITIONAL COMMENTARY

Jou LT was oorspronklike en baie goed beplan.
 Jou metaleer was veral goed. Dit was uitdagend!
 Ek hou van die feit dat jy die LTP en veral die real life problem verander het ten opsigte daarvan dat die leerders eerder 'n prestase moet maak.
 Jou metaleer vrae was weerrens baie goed.
 Dis altyd lekker om jou klasse by te woon, en ek leer ook altyd iets by jou.

Assessor:

Self	Mede BO Peer BO	Mentor	Dosent/Lecturer
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Naam: _____ Handtekening: _____
 Name: _____ Signature: _____

LEERTAAKOPERASIONERING / LEARNING TASK OPERATION

VLAK / LEVEL	Onaanvaarbare uitvoering met ernstige tekortkominge/ <i>Unacceptable performance with major weaknesses</i>	Ontoereikende uitvoering met geringe tekortkominge/ <i>Inadequate performance with minor weaknesses</i>	Goeie uitvoering met geen tekortkominge/ <i>Good performance with no weaknesses</i>	Uitstekende uitvoering van hoogstaande kwaliteit/ <i>Excellent performance of outstanding quality</i>
KRITERIUM / CRITERION				
Leerkonteks / Learning context (Skepping en instandhouding van die mees bevorderlike leeratmosfeer / <i>Creating and maintaining the most conducive learning atmosphere</i>)				X
Verbale kommunikasie / Verbal communication (Is alle verbale kommunikasie hoorbaar, duidelik en met die mees geskikte stemintonasie / <i>Is all verbal communication audible, clear and with the most appropriate voice intonation</i>)			X	
Nie-verbale kommunikasie / Non-verbal communication (Is alle nie-verbale kommunikasie gevul met entoesiasme en 'n positiewe houding/ <i>Is all non-verbal communication filled with enthusiasm and a positive attitude</i>)				X
Mediagebruik / Use of media (Word die media wat gebruik word korrek gebruik en is dit die mees geskikte om leer ten beste te ondersteun / <i>Is the media being used, used correctly and is it the most appropriate to best support learning</i>)			X	
Demonstrasie, illustrasie, vertelling, verduideliking Demonstration, illustration, narrative, explanation (Kan alles deur almal duidelik gesien word, is die ordening logies, die kommentaar besonder ondersteunend en die tempo die mees geskikte / <i>Is everything clearly visible to everyone, is the sequence logical, the commentary particularly supportive and the tempo the most appropriate</i>)			X	
Leerder aksie / Learner action (Is die leerders voortdurend besig met aktiewe leer – metaleer voor kooperatiewe leer / <i>Are the learners continually busy with active learning – metalearning before cooperative learning</i>)				X
Leerkwaliteit / Learning quality (Word die mees geskikte interaksiedeur die FOL bewerkstellig met effektiewe vraagstelling veral deur the metaleervrae / <i>Is the most appropriate interaction accomplished by effective questioning especially through the metalearning questions</i>)				X
Dissipliene / Discipline (Instandhouding van gefokusde aandag en betrokkenheid by leeraktiwiteiete alleenlik – een waarskuwing dan konsekwensie / <i>Maintaining focused attention and involvement with learning activities only – one warning then a consequence</i>)				X
Konsolodasie / Consolodation (Word leerders se terugvoer deur almal geassesseer vir kwaliteit en tel dit / <i>Are learners' feedback assessed by all for quality and does it count</i>)				X
OORKOEPELEND / OVER ALL	0-24	25-49	50-74	75-100
Punt toegeken - dra oor na bladsy 1 <i>Grade awarded – transfer to page 1</i>				

SKOOLGEBASEERDE ONDEWRWYSASSESSERING
SCHOOL BASED EDUCATION ASSESSMENT
Facilitering van Leer / Facilitating Learning

Punt toegeken
 Grade awarded
 80

Beginneronderwyser:
 Beginner Educator:
 Skool:
 School:
 Spesialiseringsarea:
 Specialising area:

Student No:
 Student Nu:
 Graad:
 Grade: 10
 Datum:
 Date: 3 Aug
 Tema:
 Theme: LT 2: Skelet

LEERTAAKONTWERP / LEARNING TASK DESIGN

LEVEL VLAK	Minimum vereistes teenwoordig maar die verband daartussen nie aangredui of irrelevant / Minimum requirements present but relationship between them not indicated or irrelevant	Minimum vereistes teenwoordig en die verband tussen LU'e, AS'e, Uitdaging, LTA en LT aangredui en relevant / Minimum requirements present and the relationship between the LO's, AS's, Challenge, LTP and LT indicated and relevant	Minimum vereistes teenwoordig en die verband tussen LU'e, AS'e, Uitdaging, LTA, LT, Outentieke Leeromgewing, Materiale en Toerusting/ Apparaat en Leeraksie-organisasie aangredui en relevant / Minimum requirements present and the relationship between the LO's, AS's, Challenge, LTP, LT, Authentic Learning Environment, Materials and Equipment/ apparatus, and Learning Action Organisation indicated and relevant	Minimum vereistes teenwoordig en die verband tussen LU'e, AS'e, Uitdaging, LTA, LT, Outentieke Leeromgewing, Materiale en Toerusting/ Apparaat, Leeraksie-organisasie en Resultaat van LT aangredui en relevant / Minimum requirements present and the relationship between the LO's, AS's, Challenge, LTP, LT, Authentic Learning Environment, Materials and Equipment/ apparatus, Learning Action Organisation, and Result of LT indicated and relevant
CRITERION KRITERIUM				
ontwerp/ design				

ADDISIONELE KOMMENTAAR / ADDITIONAL COMMENTARY

Eksel en die leerders het die leertaak goed en genotvol gemaak.
 Die leerders se vaardighede is goed getoets en baie mooi modelle het navore gekom.

Assessor:

Self	Mede BO/Peer BE	Mentor	Dosent/Lecturer
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Naam: _____ Handtekening: _____
 Name: _____ Signature: _____

VOOLGEBASEERDE ONDEWRWYSASSESSERING
SCHOOL BASED EDUCATION ASSESSMENT
Assessing van Leer / Facilitating Learning

Grade awarded
70

Beginnende onderwyser: _____ Student No: _____
 Beginnende Educator: _____ Student Nu: _____
 Skool: _____ Graad: _____ Datum: _____
 School: _____ Grade: _____ Date: 5 Aug 2004
 Spesialiseringsarea: _____ Tema: _____
 Specialising area: Biologie Theme: SECRET

LEERTAAKONTWERP / LEARNING TASK DESIGN

LEVEL VLAK	Minimum vereistes teenwoordig maar die verband daartussen nie aangredui of irrelevant / Minimum requirements present but relationship between them not indicated or irrelevant	Minimum vereistes teenwoordig en die verband tussen LU'e, AS'e, Uitdaging, LTA en LT aangredui en relevant / Minimum requirements present and the relationship between the LO's, AS's, Challenge, LTP and LT indicated and relevant	Minimum vereistes teenwoordig en die verband tussen LU'e, AS'e, Uitdaging, LTA, LT, Outentieke Leeromgewing, Materiale en Toerusting/ Apparaat en Leeraksie-organisasie aangredui en relevant / Minimum requirements present and the relationship between the LO's, AS's, Challenge, LTP, LT, Authentic Learning Environment, Materials and Equipment/ apparatus, and Learning Action Organisation indicated and relevant	Minimum vereistes teenwoordig en die verband tussen LU'e, AS'e, Uitdaging, LTA, LT, Outentieke Leeromgewing, Materiale en Toerusting/ Apparaat, Leeraksie-organisasie en Resultaat van LT aangredui en relevant / Minimum requirements present and the relationship between the LO's, AS's, Challenge, LTP, LT, Authentic Learning Environment, Materials and Equipment/ apparatus, Learning Action Organisation, and Result of LT indicated and relevant
CRITERION KRITERIUM				
Ontwerp/ Design				

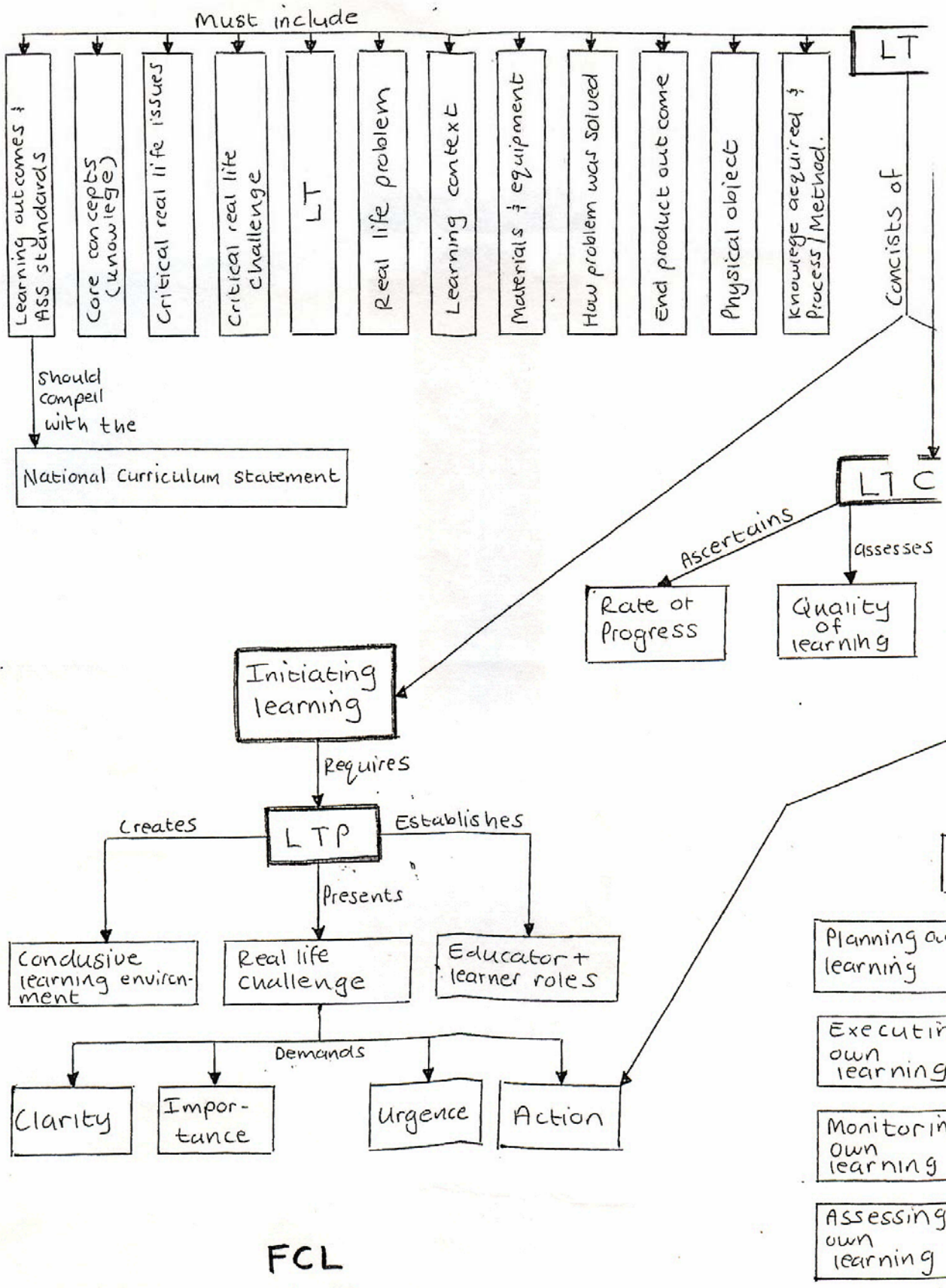
ADDISIONELE KOMMENTAAR / ADDITIONAL COMMENTARY

Eh nou nou van jou idee. Die begin en jou motiverings is die belangrikste en die suwewes daaronder is baie. Ek sien jy het sulke versterker. Individuele werk - metaleer. Daar is veranderinge aangakking - die rede hiervan daag individue is - elke individue moet ontseel for hugh - Probeer in honden van reeng.

Assessor: _____

Self	Mede BO/Peer BE	Mentor	Onseant/ertrij
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 Naam: _____ Handtekening _____
 Name: _____ Signature: _____



FCL
Final

