



## Chapter 7 – Appendix V – Bernice

### APPENDIX V: Chapter 7

#### 7.4. Bernice Learning task – Human Blood Circulatory system- Blood Transfusion

##### 7.4.1. Step 3: Planning Action -

7.4.1.1. *Learning task design (See Appendix for a copy of the learning task designed).*

##### 7.4.2.1. b. *Learning task assessment*

(i) *Specialisation lecturer*

(ii) *Researcher*

##### 7.4. *Concept map*



**Leertaak ontwerp deur \_\_\_\_\_ vir uitvoering tydens die derde kwartaal van Hoërskool Silwerfontein se gr 11 Biologie: Bloedoortappings.**

**Leerarea/dissepline/vak:** Lewenswetenskap: Biologie

**Vlak of fase:** VOO: Gr 11

**Leeruitkomst en assesserings standaarde:**

*Soos uiteengesit in die "National Curriculum Statement Grades 10-12" vir lewenswetenskappe.*

<b>Leeruitkomst</b>	<b>Asseserings standaard</b>
Scientific inquiry and problem-solving skills	<ol style="list-style-type: none"><li>1. The learner identifies and questions phenomena and plans an investigation.</li><li>2. The learner conducts an investigation by collecting and manipulating data.</li><li>3. The learner analyses, synthesizes and evaluates data and communicates findings.</li></ol>
Construction and application of life sciences knowledge	<ol style="list-style-type: none"><li>1. The learner accesses knowledge</li><li>2. The learner interprets and makes meaning of knowledge in life sciences</li><li>3. The learner shows understanding of how life sciences knowledge is applied in everyday life.</li></ol>
Life sciences, technology, environment and society	<ol style="list-style-type: none"><li>1. The learner explores and evaluates the scientific ideas of past and present cultures</li><li>2. The learner compares and evaluates the uses and development of resources and products and their impact on the environment and society.</li><li>3. The learner compares the influence of different beliefs, attitudes and values on scientific knowledge.</li></ol>



### **Probleem gestel aan leerders:**

(Leerders ontvang hierdie probleemstelling skriftelik)

Almal van ons is bewus van die toenemende gevaar wat gepaardgaan met die oordrag van MIV VIGS en ook ander bloedverwante siektes.

Jou taak (en jul taak as groep) gaan wees om na die beste van jou vermoë en van die hoogste moontlike standaard, aan 'n oplossing te werk vir die krisis wat gepaardgaan met VIGS oordrag tydens bloedoortappings.

Hoe gaan jy verseker dat JY skoon bloed kry?

Dink nou op jou eie aan die beste oplossing en daarna sal ek geleentheid gee vir julle om in groepe julle idees te deel, die beste een te kies en dit te vervolmaak.

### **Tyd toegeken:**

Die leertaak word geïnisieer op 30 Augustus 2004 en eindig die dag daarna met die inhandiging van die finale produk aan die einde van die periode. Leerders behoort slegs een periode aan die leertaak te spandeer, aangesien bloedsiektes 'n baie klein deel van die sillabus uitmaak.

Leerders kry 10 minute kans vir metaleer en daarna die res van die periode om die leertaak in hul leergroepe af te handel.

### **Leertaak voorbereiding:**

Ter voorbereiding van die uitvoer van die leertaak moet die klas verdeel word in koöperatiewe leergroepe (indien daar nie reeds groepe bestaan nie). Dit word gedoen deur die groepe saam te stel in terme van prestasie, geslag, kultuur, en heel laaste, deur vriendekringe te skei.

In elk van hierdie katagorië word gepoog om so 'n groot verskeidenheid as moontlik in een groep te plaas (heterogene groepe). Neem die vorige termynpunt wanneer daar na prestasie gekyk word.

Daar moet te alle tye gestreef word na 'n idiale groepgrootte van slegs vier leerders.

### **Klasorganisasie:**

Leerders sit op hulle gewone plekke voor in die laboratorium totdat hulle in hul leergroepe verdeel, waarna hulle mag sit waar hulle as groep gemaklik voel in die klas.





Wanneer die leerders individuele werk verrig, word daar geen kommunikasie toegelaat nie.

**Ware leeromstandighede:**

Aangesien dit 'n ware lewensprobleem is, bly die leerders hulleself, en bly die fasiliteerder ook hom-/haarself. Daar is dus geen rolspel nie, en die oplossing van die probleem is tot voordeel van die leerders self.

**Bronne en benodighede vir die leertaak:**

- Bronne van enige aard wat in die klaskamer is of deur die leerders self verskaf word, word toegelaat.

**Finale resultate van die leertaak:**

Wat word verwag van elke leerder?

- Die finale produk uitkoms: Sien aageheg
- Kennis bekom: Leerders moet beseft dat daar 'n toenemende gevaar bestaan rondom die kwessie van "skoon bloed". Hulle moet beseft dat dit elkeen van ons raak en dat ons netsowel self daarvoor verantwoordelikheid kan meen om te verseker dat ons skoon bloed gaan ontvang wanneer ons dit sou benodig!

**Metodes van assessering:**

Elke groep se finale produk word aan die volgende kriteria gemeet:

• Is die oplossing realisties?	2
• Is die oplossing uitvoerbaar?	2
• Is die oplossing in detail beskryf?	2
• Is die oplossing sistematies uiteengesit?	2
• Het alle groeplede 'n bydrae tot die oplossing gelewer? (Groeplede ontvang die geleentheid om te sê of almal in die groep hul deel gedoen het. Wanneer daar iemand was wat nie 'n bydrae gelewer het nie, verloor hy/sy dienooreenkomstig punte.)	2

Elke leerder ontvang 'n punt uit 10 vir die opdrag, asook die terugvoer op hierdie kriteria.



### **Proses gevolg om die probleem op te los**

Leerders moet eers op hulle eie besluit wat volgens hulle die heel beste manier is om die probleem op te los.

Hulle moet die logieka en uitvoerbaarheid van hulle besluit deeglik in oorweging neem.

Daarna kom hulle in leergroepe byeen en deel hulle idees. Hulle kan of besluit om 'n samestelling van idees te maak of om die beste idee te kies en dit te vervolmaak tot in die fynste detail.

### **Finale produk uitkoms**

Leerders kan by voorbeeld besluit om van hulle eie bloed in 'n bloedbank te laat bewaar.

Hulle sal dus sê dat hulle sal hospitaal toe gaan op 'n gereelde basis, van hulle eie bloed laat trek (as hulle bloed skoon is, dit sal eers getoets moet word), dit duidelik laat merk en in die hospitaal se bloedbank laat bewaar vir wanneer hulle dit mag benodig. Hulle kan dalk dieselfde doen met 'n familielid se bloed as hulle nie self kan of mag skenk nie.

Laastens moet die leerders noem dat hulle sal laat aanteken dat slegs hulle eie bloed aan hulle oorgetap mag word in geval van nood. Dit sal in 'n pasiënte lêer aangeteken moet word deur die hospitaal asook die huisdokter en enige ander betrokke partye.



**Learning Task developed by . . . . . to be implemented  
during the third term at Silverton High School in Grade 11 Biology.**

**Blood Transfusions**

**Learning Area/ Discipline/ Subject:** Life Science: Biology

**Level or Phase:** FET: Gr 11

**Learning Outcomes and Assessment Standards**

*As set out in the "National Curriculum Statement Grades 10-12" for the Life Sciences.*

*( See document)*



**Problem put to learners:**

(Learners receive the problem statement in writing)

We are all aware of the increasing danger of the transmission of HIV/AIDS, as well as other blood related diseases.

Your task as a group, is to find a solution, to the best of your ability and of the highest quality, to the problem associated with the transmission of HIV during blood transfusions.

How will you ensure that you get uncontaminated blood?

On your own, think about the best solution. This will be followed by an opportunity to share your ideas in groups; select the best idea and develop it fully.

**Time allocation:**

This LT was initiated on 30<sup>th</sup> August 2004 and ended the next day when the final product was submitted when the lesson ended. Learners spent only one period on the learning task as blood related diseases constitutes a very small section of the syllabus.

Learners are given 10 minutes for meta-cognition and the rest of the lesson to complete the learning task in their groups.

**Learning Task Preparation:**

As preparation for implementing the LT, the class should be divided into co-operative learning groups ( if no such groups exist yet).The following criteria are taken into account when forming groups: performance, gender, culture, and finally, by separating friends.

In each of the above categories, an effort is made to include as wide a variety in each group ( heterogenous groups). Consider the previous semester marks when grouping according to performance.

Avoid forming groups larger than four learners

**Class Organisation:**

Learners take up position in the front of the lab,till they start to work in their groups. They may work wherever the group feels comfortable.

When learners are busy with individual work, no communication is allowed.





**Authentic learning conditions:**

As this is an authentic problem, the learners are themselves and the facilitator her-/ himself. No role play occurs and the solution to the problem is to the advantage of the learners themselves.

**Sources:**

- Any resources from the classroom or provided by the learners, are allowed.

**Final results of the Learning Task:**

What is expected of each learner?

- The final product outcomes ( see table)
- Knowledge gained: Learners should realize that it has become increasingly difficult to ensure that all blood is uncontaminated. They should be aware of the fact that this affects all of us and we may as well take responsibility to ensure that we receive uncontaminated blood should we require it.

**Methods of assessment:**

The final product should meet the following criteria:

Is the solution realistic?	2
Is the solution practical ?	2
Is the solution described in detail?	2
Is the solution set out systematically?	2
Did all group members contribute? ( Group members get an opportunity to say if all members contributed. If someone has not contributed, the marks will not be allocated to this person)	2

Each learner may be allocated 10 marks for the task, as well as feedback on the criteria.

**Process followed to solve the problem:**

Learners decide individually what the best solution to the problem is.

They should consider the logic and practicality of their solution thoroughly.

Then they meet in groups and pool their ideas. They may decide to present a composite of ideas or to select the best idea and to refine it to the last detail.





### **Final product outcome**

Learners may decide to store their own blood in a blood bank.

They would explain that they would visit a hospital regularly, have blood extracted ( it would have to be tested first) , mark it clearly and have it stored in the hospital blood bank till they need it. They may do the same with the blood of a family member if they cannot donate blood themselves.

They would then stipulate that only their own blood be given to them in an emergency. This will be entered in a patient register by the hospital and family doctor.

( See Angela's TP report on p 111)



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

Punt toegeken  
Grade awarded

60%

Beginneronderwyser

Beginner Educator:

Skool:

School:

Spesialiseringsarea:

Specialising area: Biologie

Student No:

Student Nu:

Graad:

Grade: 11

Datum:

Date: 30/08/04

Tema:

Theme: Bloedtoetappings

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				

ADDITIONELE KOMMENTAAR / ADDITIONAL COMMENTARY

You have some ~~scientific~~ <sup>innovative</sup> ideas - great as set. Great - you presented the learners with a problem <sup>Use it more extensively</sup> relevant & personal. Have they experienced any relatives or friends dying from mismanaged blood donations.

The individual task - good idea - it is important that each learner thinks about the problem and writes down his/her idea. The group session later was good - could you manage your time management & be clear about the output for each group - what about the biological aspects? - draw blood & regulation, as well as storage.

A general group discussion was lacking - this could really place a good cap on this experience.

We discussed these ideas.

Assessor:

Self

Mede BO/Peer BE

Mentor

Dosent/Lecturer

Naam:

Name:

A A James

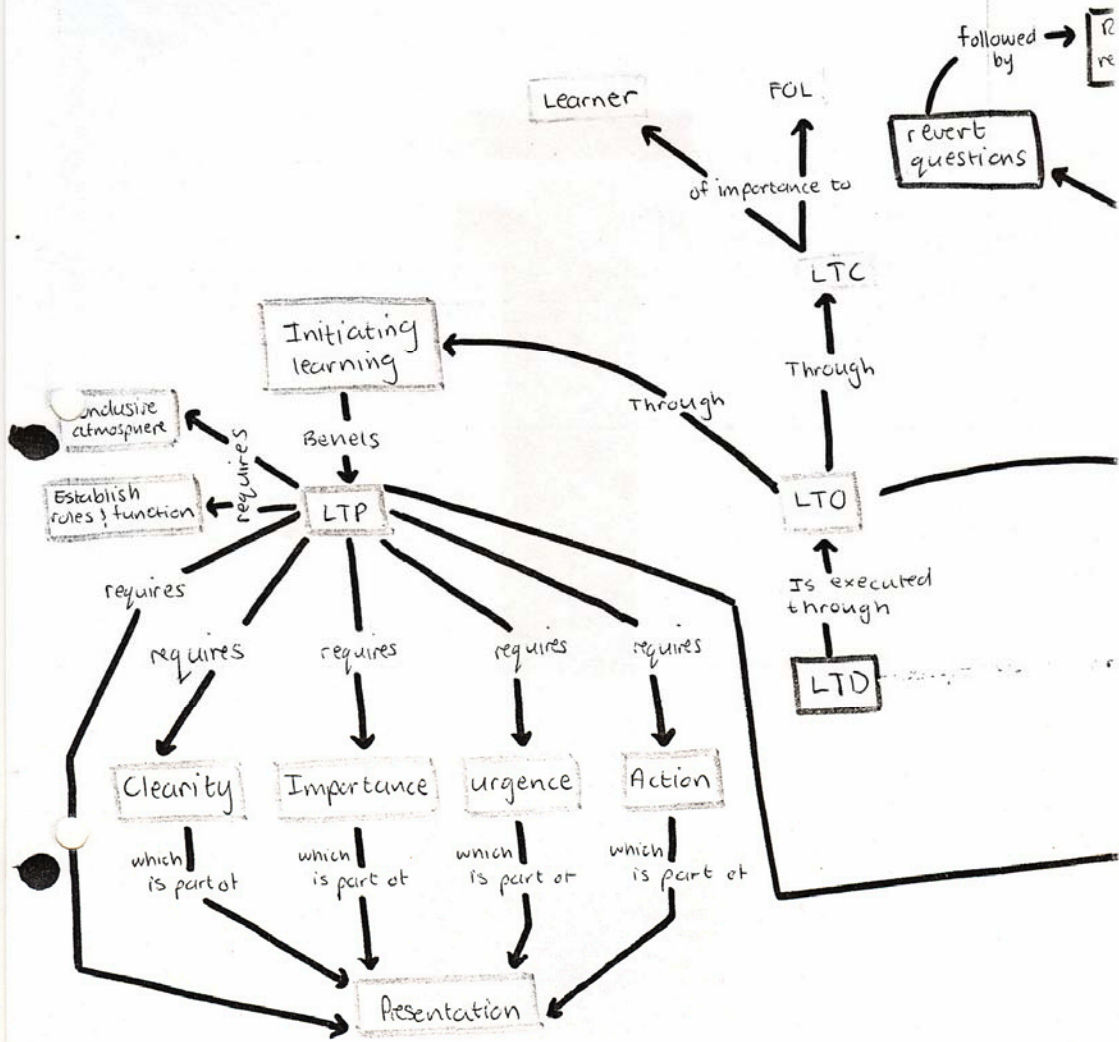
Handtekening:

Signature:

A A James











JCF

