

A Bernsteinian Analysis of the Recontextualisation of Knowledge in the 5090 Biology Syllabus in Zambia

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APPENDIX

The following table shows the “Scope and Sequence” of Biology syllabus from G10 to G12.

Table 1. Scope and sequencing (Biology 5090, 2013:60).

Grade 10		Grade 11		Grade 12	
Unit/Topic	Sub-topic	Unit/topic	Sub-topic	Unit/topic	Sub-topic
Living organisms and life processes	Characteristics of living organisms	Transport and storage in Plants	Transport in plants	Asexual reproduction	Reproduction in fungi, amoeba and bacteria
Cells	Microscopes	Transport in Human	Blood		Sexual Reproduction in Flowering Plants
	Cell Structure and Function		Blood Groups	Reproduction in plants	
	Cell Organisation		Blood disorders	Pollination	
	Tissues		The heart	Reproduction in animals	
	Organs		Lymphatic system	Birth Control	

	Diffusion, osmosis and Active transport		Circulatory systems	Genetics	Variation in plant and animal species
Enzymes	Characteristics of enzymes	Excretion	Excretion		Cell division and Chromosomes
Nutrients	Classes of nutrients		The kidney		Inheritance
	Disorders		The lungs		Mutation
	Dietary needs		The human skin	Classification of Plants and Animals	Classification

Appendix 1: Indicators for analysing the 5090 biology syllabus

Grading scales used to analyse the 5090 biology syllabus. The document was analysed for the discursive rules (Selection, sequencing, pacing and criteria) and for the discursive relations (Inter-disciplinary, intra-disciplinary and inter-discursive).

Indicators for the discursive rules and discursive relations were developed to guide the analysis of the document. The indicators developed to guide the analysis are shown in the tables.

Discursive rule SELECTION

To what extent does the teacher and the learner have control in the selection of instructional knowledge? The extent to which the teacher and the learner have the control in the selection of knowledge was determined by the extent to which a sentence or a statement indicated the content or the knowledge to be taught.

F++	F+	F-	F--
Teachers have the control in the selection of the knowledge taught, learners don't decided on what to learn.	Teachers have the control in the selection of the knowledge taught, though in some instances, learners decide on the knowledge to learn.	Learners have control in the selection of the knowledge taught, though in some instances, teachers decide on the knowledge taught and learnt.	Learners have more control in the selection of the knowledge taught. Teachers don't decide on the knowledge to be taught.
The sentence/statement clearly indicate the knowledge to be taught and learnt	The sentence/statement indicate the knowledge to be taught, but leaves room for learners to make additions	The sentence/statement make suggestions of the knowledge to be taught,	The sentence/statement does not indicate the knowledge to be taught

Discursive rule SEQUENCING

To what extent do the teacher and the learner have control in the sequencing of the instructional knowledge? The extent to which the teacher and the learner have the control in the sequencing of the knowledge was determined by the extent to which a sentence or a statement indicated the sequence in which the topics were to be taught.

F++	F+	F-	F--
Teachers have the control in the sequencing of the knowledge.	Teachers have the control in the sequencing of the topics, though learners sometimes also control the sequencing of the knowledge.	Learners have control in the sequencing of the knowledge though the teachers sometimes control the sequencing of the knowledge/topics	Learners have more control in the sequencing of the knowledge/topics.
The sentence/statement clearly indicate the sequence in which the topics are to be taught	The sentence/statement suggests the sequence in which the topics are to be taught, but leaves room for learners to make additions	The sentence/statement does not indicate the sequence in which the topics are to be taught, but gives a suggestion.	The sentence/statement does not indicate the sequence in which the topics are to be taught.

Discursive rule PACING

To what extent does the teacher and the learner have control in the pacing of the learning? The extent to which the teacher and the learner have the control in the pacing of the learning was determined by the extent to which a sentence or a statement indicated the time required to teach and learn the topic.

F++	F+	F-	F--
Teachers have the control in the pacing of the learning.	Teachers have the control in the pacing of the learning, though learners sometimes also controlled the pace at which the knowledge was taught.	Learners have the control in the pacing of the learning, though teachers sometimes also controlled the pace at which the knowledge was taught.	Learners have the control in the pacing of the learning.
The sentence/statement clearly indicate the time at which the topics are to be taught	The sentence/statement suggests the time at which the topics are to be taught, but leaves room for learners to decide on the time required for learning	The sentence/statement suggests the time at which a topic has to be taught.	The sentence/statement does not indicate the time required for teaching and learning.

Discursive rule EVALUATION CRITERIA

To what extent does the document explicate the criteria? The extent to which the document explicate the criteria is determined by the extent to which a sentence or a statement explicitly indicate the concepts to be learnt and assessed.

F++	F+	F-	F--
Evaluative criteria very clear and explicit	Evaluative criteria clear and explicit	Evaluative criteria mostly not explicit	Evaluative criteria not explicit
The sentence/statement clearly indicates the evaluative rules by clearly indicating the concepts to be taught and learnt.	The sentence/statement indicates the evaluative rules by clearly indicating the concepts to be taught and learnt.	The sentence/statement mostly does not indicate the evaluative rules. The concepts to be learnt are suggested.	The sentence/statement does not indicate the evaluative rules. The concepts to be learnt are not indicated in the sentence.

Discursive relations

Inter-discipline relations (Between disciplines)

The extent to which a sentence/statement indicates an integration of knowledge from other disciplines.

C++	C+	C-	C--
No indication of the knowledge from other disciplines	Very little indication of the knowledge from other disciplines	little indication of the knowledge from other disciplines	A very clear indication of the knowledge from other disciplines
There is no indication of the knowledge from other disciplines in the sentence/statement	There is little indication of the knowledge from other disciplines in the sentence/statement	There is clear indication of the knowledge from other disciplines in the sentence/statement	There is a very clear indication of the knowledge from other disciplines in the sentence/statement

Inter-discursive relations (Between school knowledge and everyday knowledge)

The extent to which a sentence/statement indicates everyday knowledge

C++	C+	C-	C--
No indication of everyday knowledge in a sentence/statement	Very little indication of everyday knowledge in a sentence/statement	little indication of everyday knowledge in a sentence/statement	Very clear indication of everyday knowledge in a sentence/statement
There is no indication of everyday knowledge in the sentence/statement	There is little indication of everyday knowledge in the sentence/statement	There is clear indication of everyday knowledge in the sentence/statement	There is a very clear indication of everyday knowledge in the sentence/statement

Intra-disciplinary relations (Between the topics)

The extent to which a topic/sentence/statement indicate a relation in knowledge between the topics

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C++	C+	C-	C--
No relationship indicated	Very weak relationship indicated	Weak relationship indicated	Very strong relationship indicated
There is no indication of a relationship in knowledge in the topics in a sentence/statement	There is a very weak indication of a relationship in knowledge in the topics in a sentence/statement	There is a weak indication of a relationship in knowledge in the topics in a sentence/statement	There is a very strong indication of a relationship in knowledge in the topics in a sentence/statement