References

“Knowledge is of two kinds: we know a subject ourselves, or we know where we can find information upon it.”

(Johnson, Samuel. 1775)

References

- Alessi, Stephen M. & Trollip, Stanley R. 1991. ***Computer-Based Instruction: Methods and Development.*** Prentice Hall, Englewood Cliffs, New Jersey.

- Davis, M.H. & Harden, R.M. 1999. ***Problem-based Learning: a practical guide.*** AMEE Education Guide no.15.

- Bender, Bill and Remancus, Sandy. 2001. ***Anthropometric Tutorial.*** Anthropometry Resource Center. Online at: http://www.odc.com/anthro/ (accessed 17 January 2001).

- Carr, Alan. February 2001. ***ITFORUM discussion.*** Online at: http://www.listserv.uga.edu/cgi-bin/wa?A2=ind0102&L=itforum&F=&S=&P=10208

- Clark, R.E. 1994. ***Media will never influence Learning.*** Educational Technology, Research and Development. 42(2): 21-30.
  A summary is available online at: cite.telecampus.com/olt/clark.html

- de Lisle, Peter. 1997. ***What is Instructional Design Theory?*** Online at: http://hagar.up.ac.za/catts/learner/peterdl/IDTheory.htm

- Department of Education. 1995. White Paper on Education and Training. Online at: http://www.polity.org.za/govdocs/white_papers/educ1.html

- Dills, Charles R. & Romiszowski, Alexander J. (editors) 1997. ***Instructional Development Paradigms.*** Educational Technology Publications, Inc., Englewood Cliffs, New Jersey.

- Friedland, Carsten. 2001. ***The Application of Information and Communication Technologies in Learning and Training in Developing Countries.*** Master of Computer Science, Karlsruhe University of Applied Sciences.

- Gagné, Robert M. (editor) 1987. ***Instructional Technology: Foundations.*** Lawrence Erlbaum Associates, Inc.

- Gleick, James. 1999. ***Faster. The Acceleration of Just About Everything.*** Little, Brown and Company (UK).

- Hajre-Chapman, March. February 2001. ***ITFORUM discussion.*** Online at: http://www.listserv.uga.edu/cgi-bin/wa?A2=ind0102&L=itforum&F=&S=&P=12757

- Johnson, Samuel. 1775. ***The Samuel Johnson Sound Bite Page.*** Online at: http://www.samueljohnson.com/knowledg.html

- Lefrancois, Guy R. 1997. ***Psychology for Teaching.*** Wadsworth Publishing Company.

- Maricopa Center for Learning and Instruction. 199? ***PBL Overview.*** Online at: http://www.mcli.dist.maricopa.edu/pbl/info.html

- McMillan, James H. and Schumacher, Sally. 1993. ***Research in Education. A Conceptual Introduction.*** HarperCollinsCollegePublishers.

- Mergel, Brenda. 1998. ***Instructional Design & Learning Theory.*** Online at: http://www.usask.ca/education/coursework/802papers/mergel/brenda.htm

- Merrill, M. David. 1997. ***Instructional Strategies that Teach. CBT Solutions.*** Nov./Dec. 1997 01-11

- Merrill, M. David. 2001. ***First Principles of Instruction.*** Online at: http://www.id2.usu.edu/Papers/5FirstPrinciples.PDF

- Merrill, M. David. 2001. ***Components of Instruction. Toward a Theoretical Tool for Instructional Design.*** Workshop notes.

- Pajak, Artie. The Design Cycle: ***What to Expect When Expecting Multimedia.*** Online at: http://its.sdsu.edu/production/multimedia/designcycle/implementation.html

- Reeves, Thomas C. 2000. ***Enhancing the Worth of Instructional Technology Research through "Design Experiments" and Other Development Research Strategies.*** Online at: http://it.coe.uga.edu/~treeves/AERA2000Reeves.pdf

- Reigeluth, Charles M. (editor). 1999. ***Instructional Design Theories and Models. A new Paradigm of Instructional Theory.*** Volume II. Lawrence Erlbaum Associates, Inc.

- Russell, T.L. 1999. ***The no significant difference phenomenon.*** Raleigh. North Carolina State University.
  An extract is available online at: http://www.krwebdesign.com/data/nosigdif.htm

- SAQA 2001. ***The NQF and Curriculum 2005.*** Online at: http://www.saqa.org.za/publications/index.htm

- Schubert, William H. 1986. ***Curriculum, Perspective, Paradigm, and Possibility.*** Macmillan Publishing Company, New York.

- Shorts, Greg. 1996. ***Project Design Models.*** Was accessed on 11 November 1998 online at: http:// edweb.sdsu.edu/people/gshorts/Multimedia/Project.html

- Strehler, Anne. 1994. ***Care of the ventilated Patient: A CAI Program for Nursing Students.*** MEd thesis, University of Pretoria.

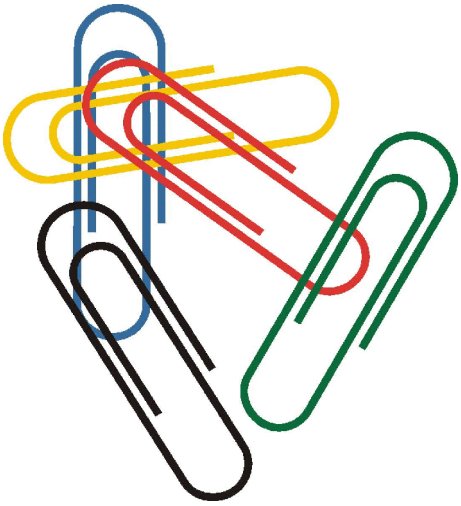
- TLEI. 2002. ***Telematic Learning and Education Innovation - Overview.*** Online at: http://www.up.ac.za/telematic/services/overview.htm

- Viljoen, Johan. 2002. ***Who's Who of Instructional Technology.*** Online at: http://hagar.up.ac.za/catts/learner/m1g1/whointro.html

- Wenhold, Friede. 1993. ***Continuing Professional Learning Needs of South African Dietitians: Relationship with selected Variables.*** Masters in Dietetics - University of Pretoria.

- Woods, Donald R. 1994. ***How to gain the most from Problem-based Learning. Instructor's guide.***

Appendixes



List of Appendices

Universiteit van Pretoria

Fakulteit Gesondheidswetenskappe
Afdeling Mensvoeding

Aansoek om befondsing van ’n navorsingsprojek vir 'n Rekenaargesteunde Onderrig (RGO) Program vir Dieetkunde

1. Projekbesonderhede

1.1 Titel ***Voedingstatusevaluering: ’n RGO Program vir Dieetkunde***

Titel (in Engels) ***“Nutritional assessment: A CAI Program for Dietetics”***

1.2 Beskrywing van projek

Die navorsingsprojek is gemik op die herontwerp van dele van vier modules in die vak “Voedingstatusevaluering” in die pas aanvaarde nuwe kurrikulum vir B Dieetkunde, naamlik: NTA 311, NTA 312, NTA 321 en NTA 322.
Daar word voorsien dat dié modules in toekoms ook in multi-professionele voor- en nagraadse opleiding van ander gesondheid(sorg)-werkers (bv. geneeshere en die aanvullende gesondheidssorg-professies), asook vir die verpligte voortgesette professionele opleiding ("*CPD - Continuing Professional Development*") van afgestudeerde dieetkundiges gebruik kan word.

1.3 Departement betrokke

Afdeling Mensvoeding (Fakulteit Gesondheidswetenskappe)

1.4 Projekleiding

Die navorsingsprojek vorm deel van die MEd (RGO) mini-skripsie van Helga Nordhoff binne die Departement Didaktiek, met Prof. Johannes Cronjé (Departement Inligtingwetenskappe, x 3884 / jcronje@up.ac.za) as studieleier.

2. Motivering vir projek

Die twee huidige vakke DTE310 en DTE 321 (toekomstige modules NTA 311, NTA 312, NTA 321 en NTA 322) word tans d.m.v. drie lesings per week en een praktikum van twee uur aangebied. Daar word nie beplan om dié onderwysmodus te verander nie, maar om dele van die vakinhoud as webgebaseerde tutoriale aan te bied.
In die Fakulteit Gesondheidswetenskappe word deurgaans ’n probleemgebaseerde onderrigbenadering gevolg. Aan studente in dieetkunde word ge-

woonlik gevalstudies voorgelê waaruit hulle dan (in bogenoemde vakke) die nodige informasie moet haal om met behulp van verwysingsmateriaal tot 'n voedingdiagnose te kom.
Die gevalstudies is normaalweg 'n geskrewe oorsig van die gesondheids-geskiedenis van die pasiënt. Met behulp van die rekenaar kan hierdie geval-studies in 'n multimedia formaat aangebied word, wat veel eerder 'n lewens-getroue situasie sou kon uitbeeld. Die student word dan die geleentheid gebied om visuele en dalk ook ouditiewe seine te moet interpreteer.
Die verwysingsmateriaal wat die studente normaalweg benodig is versprei oor 'n verskeidenheid bronne, waaronder vakhandboeke, naslaanwerke, joernale, ens. wat voortdurend wêreldwyd opdateer word. Daar word beoog om hierdie materiaal so vêr as moontlik in elektroniese formaat aan die studente beskikbaar te stel, wat die leergeleentheid kan optimaliseer.

3. Beoogde leweringsisteem

Die beoogde leweringsisteem is multimedia gevalstudies binne 'n probleem-gebaseerde onderrigbenadering deur middel van die rekenaar en die Internet.

Vir "CPD" sou die onderwysmodus verander na web-gebaseerd met CD-ondersteuning en moontlike kontakgeleenthede van een tot twee dae elk aan die begin en aan die einde van elke module. Die eerste kontakgeleent-heid kan moontlik beplan word vir ander (geskikte) leersentra. Die finale kontakgeleentheid sou beplan kon word vir die "Vaardigheidslaboratorium" (VALAB) op die mediese kampus. Gehaltemonitering sou op hierdie wyse verseker kon word.

4. Lewensvatbaarheid

4.1 Teikenmark

Die projek word gemik op ingeskrewe voorgraadse studente in Dieet-kunde. Dit kan egter in die toekoms gebruik word vir die opleiding van gesondheids(sorg)werkers asook vir "CPD" van dieetkundiges.

Voedingstatusevaluering verteenwoordig volgens die Beroepsraad vir Dieetkunde 'n kernbevoegdheid vir dieetkundiges en dit word geken-merk deur voortdurend ontwikkeling en verandering. Benewens die sowat 30-35 voorgraadse studente in dieetkunde wat jaarliks die modules deurloop, sal afgestudeerde dieetkundiges baat kan vind by die program, met verwysing na volgehoue professionele ontwikkeling. Die Afdeling Mensvoeding wil egter die modules eers op voltyds ingeskrewe studente toets voordat dit vir die opleiding van gesond-heids(sorg)werkers asook vir "CPD" van dieetkundiges ge-implemen-teer word.

5. Datum van implementering

Die program sal in die tweede semester 2001 getoets word.

6. Begroting

Hierdie begroting weerspieël die addisionele bedryfsuitgawes, gebaseer op jaarlikse onderrigaktiwiteite vir Afdeling Mensvoeding, bo-en-behalwe die normale.

6.1 Uitgawes

Begrotingsitem	2000	2001
Bedryfsbegroting		
Skryfbehoeftes, CD's, diskettes, ens.	R 400	R 500
Internet	R 1,000	R 1,500
Opleiding - Web-CT,	R 0	
Sagteware: "Dreamweaver" & "CourseBuilder", ...	R 3,500	
Drukwerk/duplisering	R 500	R 300
Aankoop van bestaande programme	R 2,000	R 500
Kopiereg vir verwysingsmateriaal, fotos, grafika ens.	R 2,000	R 500
Diverse	R 500	R 500
Totaal:	**R 9,900**	**R 3,800**
Groottotaal:		**R 13,700**

6.2 Inkomste (addisionele inkomste)

Geen addisionele inkomste word verwag nie. Addisionele inkomste sal gegenereer word as die program vir die opleiding van gesondheids(sorg)werkers, asook vir "CPD" van dieetkundiges gebruik gaan word.

7. Projekskedulering

Die volgende makroskedulering, met teikendatums vir voltooiing van take, word voorgestel met die oog op die beplanning en voorbereiding vir die program:

Voorlegging van befondsingsaansoek	16 September 2000
Besluit deur Stuurkomitee	27 September 2000?
Samestelling van projekspan	30 September 2000?
Ontwerp van leeromgewing (makro instruksionele ontwerp)	30 Januarie 2001

Ontwerp van studiemateriaal (mikro instruksionele ontwerp)	28 Feburarie 2001
Ontwikkeling van studiemateriaal	31 Maart 2001

8. Ondersteuning en opleiding benodig

Die Afdeling Mensvoeding beskik oor genoegsame mensekrag om die eerste fase van die navorsingsprojek ten opsigte van die vakinhoudelike te begelei (F Wenhold). Die rekenaarkundigheid sal deur H Nordhoff as deel van MEd (RGO) voorsien word. Daar word voorsien dat die kundigheid van 'n eksterne vakkundige benodig gaan word in die samestelling en ontwikkeling van die volledige projek. Hiervoor sal aansoek gedoen word as dit blyk dat die eerste fase van die projek suksesvol is.

Onderwyskundige ondersteuning word as 'n prioriteit beskou met die oog op doeltreffende leeromgewingontwerp en studiemateriaalontwikkeling. In hierdie verband word die ondersteuning wat Telematiese Onderwys kan lewer hoog op prys gestel.

Opleiding van personeel in die Afdeling Mensvoeding ten opsigte van telematiese onderwys en veral in die gebruik van projekbestuursagteware word voorsien.

9. Kundigheid en ervaring met telematiese onderwys

Die projekleier het ervaring met die ontwikkeling van telematiese programme, maar vir die personeel van die Afdeling Mensvoeding sal dit 'n eerste kennismaking met hierdie aanbiedingswyse wees.

10. Samewerkingsooreenkomste

Soos alreeds in 1.2 genoem word daar voorsien dat van die modules in toekoms in multi-professionele voor- en nagraadse opleiding van ander gesondheids(sorg)werkers (bv. geneeshere en die aanvullende gesondheidssorgprofessies), asook die verpligte voortgesette opleiding("CPD") van afgestudeerde dieetkundiges gebruik kan word.

Aansoek saamgestel deur Helga Nordhoff (hnordhoff@postino.up.ac.za) en Friede Wenhold (fwenhold@postillion.up.ac.za) op 16 September 2000.

_____	_____
Hoof: Afdeling Mensvoeding G.J. Gericke	Dekaan: Fakulteit Geneeskunde Prof. D. du Plessis

COURSE CONTENT OUTLINE AND REFERENCES

Nutritional assessment - Anthropometry and body composition				Obj	Tell	Show	Ask	Do
1.Anthropometry	1.1Whole Body	1.1.1Infants & Children	Weight for age		Growth monitoring Value and use of growth monitoring (1:229 – 230) What is Weight for age, and Why is it important (2:368 – 369) Indices: * Percentiles: Meaning of concept, interpretation * Percent of median: What it is used for (5:7) * Z-score (5:7-8): calculation Additional source: Bender: (http:www.odc.com/anthro/deskref/desktoc.html) Indicators: Interpretation of: * Percentiles * % of reference value * Z-score (cut-off's)	Show apparatus: *Drawings/photos* Scales: * Electronic baby scale (SECA 734: brochure) * Baby scale with sliding weights (=Paediatric beam balance scale) (SECA 725: brochure; King and Burgess p184; Lee & Nieman p229); DoH p16 * Spring scales: -Standing (=Pan scale): (DoH p17) -Hanging (King & Burgess p183; DoH p18) - Dial for spring scales (DoH p17) -Direct recording (= TALC scale (Jeliffe & Jeliffe; or own photo) Height/length meters: * Measuring rod (SECA 207: brochure) * Measuring mat (SECA 210: brochure) * Lee & Nieman p 226; 227 * Horizontal measuring board for recumbent length (DoH p 25) Demonstrate measurement techniques: *Slides/video* Weight (- Dial for spring scales (DoH p17) Height [supine and standing]; (DoH p26) Frankfort plane (Lee & Nieman p225 ; 227; DoH p30) TALC: DoH p66 + p70 Text: Jeliffe & Jeliffe; King and Burgess p177; Lee & Nieman; Whitney & Cataldo E-12) Show: * WHO Road to Health * CDC (http:www.cdc.gov/growthcharts) * SA Dept Health growth charts (DoH p35) * "Mastercard" (Jeliffe & Jeliffe; King & Burgess; DoH p38) Demonstrate: How to plot (Vertical axis: DoH p36; Horizontal axis DoH p37; Plotting weight according to birth day and month DoH p39; Plotting a child's weight according to successive months: DoH p40), record and interpret (King & Burgess p177, 183) Types of growth curves/slopes (Jeliffe & Jeliffe fig 2.15 and fig 2.7) Healthy growth: (DoH p53) Fast rising (DoH p54) Slow growth (DoH p55) Flat growth (DoH p56) Losing weight (DoH p57) Fast weight gain (DoH p58) Composite growth (DoH p59 + p60) CD Rom: Welcome Trust	Guided calculations/ Interpretation of indices Sources: Bender: (http:www.odc.com/anthro/deskref/desktoc.html) King & Burgess p192-4.	Case study Fill in growth chart Identify and interpret (segments of) growth curve Calculate and interpret indices CD Rom: Haschke F, Van't Hof, Eurogrowth Study Group: CD Program for monitoring the growth of children

Nutritional assessment - Anthropometry and body composition				Obj	Tell	Show	Ask	Do
					<u>Wellcome classification:</u> Harvard standard (% of median weight for age) Oedema Kwashiorkor Marasmus Undernutrition Marasmic kwashiorkor	Slides Oedema: McLaren p19 Moon face: McLaren p22 Marasmus: McLaren p 13; 15; Kwashiorkor: Mclaren p 19 Marasmic kwashiorkor: Mclaren p21 Wellcome Trust CD King & Burgess p222/3 Burgess 1994: 208		
					<u>Gomez weight for age classification</u> (Bender; Waterlow)			
			Waterlow classification		<u>Wasting</u> Weight for height Indices and indicators * Percentiles * % of median * Z-score Cut-off's	Refer back to weight and height Difference between wasting and stunting: (Photo: McLaren p11); Drawing: Waterlow p189 (fig 13.1) Nabarro wall chart = "Thinness chart" (Jeliffe & Jeliffe p19; King & Burgess p188) CDC growth charts (http:www.cdc.gov/growthcharts)	Guided calculations Guided interpretation of limited given data	Paper case study: On own
					<u>Stunting</u> Height for age Indices and indicators * Percentiles * % of median * Z-score Cut-off's	<u>Demonstrate:</u> How to plot on growth charts How to interpret data Wellcome Trust CD	Guided calculations Guided interpretation of limited given data	Paper case study: On own
			BMI for age		Interpretation guidelines * Percentiles * % of median * Z-score	<u>Show:</u> Apparatus <u>Demonstrate:</u> Measurement technique Formula: Calculation of BMI Show: CDC chart (=reference data)		EuroGrowth CD

Nutritional assessment - Anthropometry and body composition				Obj	Tell	Show	Ask	Do
			Upper arm circumference		Chart: King & Burgess p189 Indices and indicators MUAC cutpoints for field work MUAC for age tables (=reference data: gender and non-gender-specific) Interpretation: * Percentiles * % of median * Z score	Show: Apparatus *Pictures: Bands/tapes* * Tape measure Jeliffe & Jeliffe: fig 2-4; 2-5 * Insertion (TALC) tape: (King & Burgess p191: ; DoH p 32; Burgess, 1994:255) * Shakir strip: King & Burgess p190 * "Finger and thumb" King & Burgess p195 Werner & Bower 25-15/6*; Burgess, 1994:255* Demonstrate: Measurement technique (Bender; King and Burgess p190-1; DoH p31) MUAC for age tables (de Onis; King & Burgess 1995:189)	"Paper case" Guided interpretation using different indices	Taking measurement in real life "Calibrating" own finger and thumb Devising own strip Group work: Survey + experiment: Assess children in a hospital ward/creche with tape and finger/thumb. Compare results; Calculate correlation coefficient between results from the two methods Determine prevalence of malnutrition

Nutritional assessment - Anthropometry and body composition				Obj	Tell	Show	Ask	Do
		1.1.2Adults	Weight - Height tables		Advantages/limitations of WHT How to determine frame size using * Elbow breadth * Wrist circumference	Show apparatus : *Drawings/photos* Scales: * Flat bathroom scales Mechanical seca 762 Electronic seca 882/770/881 * Column scales Mechanical = Balance beam (seca 710/712; Lee & Nieman p229; DoH p20) Electronic (seca 705) Zero-balancing of and reading arms of platform beam balance scale: DoH p21) * Chair scales Mechanical (seca 941) Electronic (seca 940/921) *Bed scales seca 784 Lee & Nieman p 229 Height meters: * Electronic stadiometer with cableless data transmission (seca 245) * Telescopic measuring rod (seca 222/1 * Tape measure for wall mounting Calipers: * Sliding (Lee & Nieman p240) * Spreading (Photo) Demonstrate: Measurement techniques Weight Height (DoH p28) Frankfurt plane (DoH p29) Elbow breadth Wrist circumference Show: WHT (Metropolitan '59, '83; Age specific) Lee & Nieman p 234; 235; 237	Guided case study: Weight evaluation	Independent case study: weight evaluation Perform measurement and evaluation of weight (fellow student VALAB) or hospital patient

Nutritional assessment - Anthropometry and body composition				Obj	Tell	Show	Ask	Do
			Relative weight		Interpretation Lee & Nieman p241;	Formula for calculation Lee & Nieman p241	Guided case study: Calculate and interpret given data	
			BMI		Cutpoints Cormic Index	Formula for calculation Table/Calculator (Web) <u>Demonstrate:</u> Measurement of sitting height Formula/ Interpretation	Guided case study: Perform calculations and interpretation	
	1.2Body composition	1.2.1Fat component	Fat distribution		Waist circumference Cutpoints Sex-specific Age-specific	<u>Demonstrate:</u> Measurement: Waist	Guided case study Perform calculations Interpret	Independent case study Perform measurements and interpret on fellow students (VALAB) or in real life (hospital patients)
					Waist hip ratio Cutpoints	<u>Demonstrate:</u> Measurement Waist Hip		
			Single skin folds		Triceps Interpretation: Indices * Percentile * % median * Z-score	<u>Show:</u> Apparatus *Photos/diagrams* * Harpenden caliper * Holtain caliper * Lange caliper * Slimguide <u>Demonstrate:</u> Measurement principle (slides: Bosch/Loedolff; Lee & Nieman p250) <u>Demonstrate:</u> Site selection (Bosch Loedolff; Lee & Nieman p254) <u>Show:</u> Percentile charts (Lee & Nieman Appendix O p 633-6)	Guided case study: Perform calculations Interpret	Independent case study Perform measurements and interpret on fellow students (VALAB) or in real life (hospital patients)

Nutritional assessment - Anthropometry and body composition				Obj	Tell	Show	Ask	Do
					Subscapular Interpretation: Indices * Percentile * % median * Z-score	Show: Apparatus *Photos/diagrams* * Harpenden caliper * Holtain caliper * Lange caliper * Slimguide Demonstrate: Measurement principle (slides: Bosch/Loedolff; Lee & Nieman p250) Demonstrate: Site selection (Bosch Loedolff; Lee & Nieman p255) Show percentiles: Lee & Nieman Appendix P p638-640)	Guided case study: Perform calculations Interpret	Independent case study Perform measurements and interpret on fellow students (VALAB) or in real life (hospital patients)
			Combination of skinfolds		TSF + SSF Interpretation: Indices * Percentile * % median * Z-score + Classification	Show: Apparatus *Photos/diagrams* * Harpenden caliper * Holtain caliper * Lange caliper * Slimguide Demonstrate: Measurement principle (slides: Bosch/Loedolff; Lee & Nieman p250) Demonstrate: Site selection (Bosch Loedolff; Lee & Nieman p255) Show percentiles: Lee & Nieman Appendix Q p641-3)	Guided case study: Perform calculations Interpret	Independent case study Perform measurements and interpret on fellow students (VALAB) or in real life (hospital patients)

Nutritional assessment - Anthropometry and body composition				Obj	Tell	Show	Ask	Do
			Total body fat		Combinations of folds Converting body density to %BF (Lee& Nieman p260) Interpretation = classification of % body fat (Lee& Nieman p264) Calculation of total fat weight	Site selection (Bosch & Loedolff): Biceps Chest (Lee & Nieman p254) Midaxillar (Lee & Nieman p255) Supra-illial (Lee& Nieman p 256) Abdominal (Lee & Nieman p257) Thigh (Lee & Nieman p257-8) Calf (Lee& Nieman p258) Formulae: Calculations Lee& Nieman p261 Nomogram Lee& Nieman p262 Classification of %BF Formula to calculate total fat weight (Lee & Nieman p264	Guided case study: Perform calculations Interpret	Independent case study Perform measurements and interpret on fellow students (VALAB) or in real life (hospital patients)
			Arm fat area (AFA)		Interpretation Mahan p373; Appendix 29)	Formula (Mahan p373) How to calculate How to use nomogram Percentiles (Appendix 29 of Mahan) <u>Show:</u> Apparatus for taking TSF *Photos/diagrams* * Harpenden caliper * Holtain caliper * Lange caliper * Slimguide <u>Demonstrate:</u> Measurement principle TSF (slides: Bosch/Loedolff; Lee & Nieman p250) <u>Demonstrate:</u> Site selection TSF (Bosch Loedolff; Lee & Nieman p254) Site selection MUAC (How to take MUAC	Guided case study: Perform calculations Interpret	Independent case study Perform measurements and interpret on fellow students (VALAB) or in real life (hospital patients)
		1.2.2Fat free component	Arm muscle area (AMA)		Interpretation of (c)AMA Lee& Nieman	Formula AMA (Lee & Nieman p304) Formula cAMA (Lee& Nieman p304) Nomogram (Lee& Nieman p305) Percentiles (Appendix R Lee & Nieman p644-6) Interpretation guidelines of AMA (Lee & Nieman p306 Table 7-6)	Guided case study: Perform calculations Interpret	Independent case study Perform measurements and interpret on fellow students (VALAB) or in real life (hospital patients)

Nutritional assessment - Anthropometry and body composition				Obj	Tell	Show	Ask	Do
			Total fat free weight			Formula to calculate fat free weight (refer to total body fat)		
2.Electrical conductance	BIA				Theoretical/underlying principle	Show apparatus Pictures form manufacturers Diagrams Demonstrate Placement of electrodes		
3.Densitometry	Underwater weighing				Theoretical principles	Formula	Formulae & calculations Density %Body fat Classification	Case study
4.Other methods for assessing body composition					Computed tomography Magnetic resonance imaging DEXA	Show: Images		

REFERENCES

1. Nieman, D C & Lee, R D (1996): Nutritional Assessment. 2nd Edition. WCB McGraw-Hill. New York.
2. Mahan, L K & Escott-Stump, S (2000): Krause's Food, Nutrition and Diet Therapy. W.B. Saunders Company. Philadelphia.
3. Whitney, E N; Cataldo, C B ; Rolfes, S R (1998): Understanding Normal and Clinical Nutrition. 5th edition. West/Wadsworth. Belmont, CA.
4. Bosch, H M (2000): Prosedurehandleiding vir die opleiding van veldwerkers: Bepaling van antropometriese aanwysers. Universiteit van Pretoria.
5. WHO Technical Report Series: Report of a WHO Expert Committee (1995): Physical Status: The use and interpretation of anthropometry. Geneva.
6. World Health Organisation (1983): Measuring Change in Nutritional status: Guidelines for assessing the nutritional impact of supplementary feeding programmes for vulnerable groups. Geneva.
7. Jelliffe, B D & Jelliffe, E F (1990): Growth monitoring and promotion in young children: Guidelines for the selection of methods and training techniques. Oxford University Press. New York.

DoH = Department of Health

King & Burgess = King FS & Burgess A. Nutrition for developing countries2nd ed. Oxford University Press 1995.

Consent form to participate in the evaluation of a Multimedia Program for Anthropometry

1. Research study

I, _____ willingly agree to participate in the evaluation of a multimedia computer program. The evaluation is part of the research done for a MEd (CIE) in the Faculty of Education, University of Pretoria by Helga Nordhoff.

2. Purpose of Evaluation

A computer-based program on Nutritional Assessment to be used by future dietetics students is being developed by Telematic Learning and Education Innovation at the University of Pretoria. The first phase of the development is nearing completion and the evaluation of the program at this stage is important to ensure a user-friendly final program.

3. Description of Procedures

The computer program has been installed on the computers in the computer lab. You are requested to test the program for approximately one hour. Critically look at it as another resource from which you could learn more about Anthropometry. Read the instructions, follow the links, check the resources, etc.
If you need assistance, request help from Ms. Friede Wenhold (your lecturer), Ms. Henriette Wolmarans (the designer) or Ms. Helga Nordhoff (the researcher). Please do not consult your fellow students, since your own opinion is needed in this evaluation.
After an hour, you will be given a questionnaire to complete. Please answer all questions honestly. The evaluation will end with a short group discussion. The group discussion will be captured on video, for record purposes only.

4. Voluntary participation

Participation in this evaluation is voluntary.

5. Confidentiality

All information provided by you during this evaluation will be kept confidential.
No information by which you can be identified will be released or published.

I have read all of the above, had time to ask questions, received answers concerning areas I did not understand and I willingly give my consent to participate in this evaluation.
Upon signing this form, I will receive a copy.

Name: _____

Signature: _____ Date: _____

Witness 1: _____ Date: _____

Witness 2: _____ Date: _____

Toestemmingsvorm vir die Deelname aan die Evaluasie van ’n Multimedia Program vir Anthropometrie

1. Navorsingstudie

Ek, _____ stem hiermee gewillig in tot die deelname aan die evaluasie van ’n multimedia-rekenaarprogram. Die evaluasie is deel van die navorsing wat vir ’n MEd (CIE) in die Fakulteit Opvoedkunde, Universiteit van Pretoria, deur Helga Nordhoff gedoen word.

2. Doel van die Evaluasie

’n Rekenaarprogram oor Voedingstatus-evaluering vir toekomstige dieëtkundestudente word tans deur die Departement Telematiese Leer en Onderwysinnovasie aan die Universiteit van Pretoria ontwikkel. Die eerste fase van die ontwikkeling nader voltoïng en die evaluasie van die program op hierdie stadium is belangrik om te verseker dat die finale produk ’n gebruikersvriendelike program sal wees.

3. Beskrywing van die Prosedures

Die rekenaarprogram is alreeds op die rekenaars in die rekenaarlaboratorium ge-installeer. U word versoek om die program vir omtrent ’n uur te toets. Kyk krities na die program as ’n additionele bron waar u meer oor Anthropometrie kan leer. Lees die instruksies, volg die skakels (links), kyk na hulpmiddele, ens.
Indien u iets nie verstaan nie, versoek Me. Friede Wenhold (u dosent), Me. Henriette Wolmarans (die ontwerper) of Me. Helga Nordhoff (die navorser) om u te help. Moet asseblief nie u mede-studente raadpleeg nie, aangesien ons u eie opinie oor die program wil inwin.
Na een uur sal u ’n vraelys kry om te antwoord. Antwoord asseblief alle vrae eerlik. Die evaluasie sal met ’n kort groepsbespreking afgesluit word. Die bespreking sal vir rekorddoeleindes op videoband vasgelê word.

4. Vrywillige Deelname

Deelname aan hierdie evaluasie is vrywillig.

5. Vertroulikheid

Alle inligting deur u tydens die evaluasie verskaf sal vertroulik gehou word. Geen inligting waardeur u geïdentifiseer kan word, sal gepubliseer word nie.

Ek verklaar hiermee dat ek hierdie dokument gelees het, tyd gegun is om vrae te stel, antwoorde op my vrae rakende onduidelike aspekte oor hierde evaluasie ontvang het en vrywillig toestemming gee om deel te neem aan hierdie evaluasie.
By weë van ondertekening van hierdie vorm, sal ek ’n kopie ontvang.

Naam: _____

Handtekening: _____ Datum: _____

Getuie 1: _____ Datum: _____

Getuie 2: _____ Datum: _____

Questionnaire for the Evaluation of a Multimedia Program for Anthropometry

	My impressions of the "look & feel" of the program	Strongly Agree	Agree	Disagree	Strongly Disagree
1.	I like the screen backgrounds used in the program	13	11	1	
2.	I like the colour scheme used in the program	10	11	4	
3.	The text was easily readable	10	9	6	
4.	The text was free of spelling mistakes	7	9	6	3
5.	The navigation was clear and understandable	1	18	4	2
6.	The quality of the photos was good	17	7	1	
7.	I would like more photos / drawings in this tutorial	4	10	10	1
8.	The quality of the videos was good	13	10	1	
9.	I would like more videos in this tutorial	10	10	4	
10.	I would like sound (background music) in this tutorial	9	5	10	1
11.	I would like sound (somebody talking and explaining) in this tutorial	8	8	5	4

	Finding my way around the tutorial	Strongly Agree	Agree	Disagree	Strongly Disagree
12.	The objectives of the tutorial were clear	4	17	3	1
13.	The instructions for progressing through the tutorial were clear	3	8	12	2
14.	I always got to where I wanted to go		8	16	1
15.	I got lost in the program	3	10	12	
16.	It was easy to return to the section I wanted to repeat	2	11	11	1
17.	I had to ask for help with the program	1	10	11	3
18.	The page explaining the tutorial's objectives was helpful	1	19	4	1
19.	The design of the tutorial motivated me to explore all aspects of it	5	15	5	
20.	I was bored with the tutorial		4	16	4

	My impressions of the subject matter in the tutorial	Strongly Agree	Agree	Disagree	Strongly Disagree
21.	The content was easy to understand	7	18		
22.	The case studies are relevant, real life situations	15	10		
23.	I would like to have more case studies in this tutorial	7	12	6	
24.	The problems (case studies) are too difficult to solve	1		19	4
25.	There is not enough information in the program		4	14	7
26.	There is too much information in the program			19	6
27.	I did not know which information I needed to solve the case	2	9	10	4
28.	I knew what I had to do without asking for help		16	6	3
29.	The photos helped me to understand the content	13	11	1	
30.	The videos helped me to understand the content	13	11	1	
31.	The resources are very helpful	7	16		
32.	Enough and the most important terms are explained in the glossary	6	14	3	2
33.	I learned something new from this tutorial	1	15	9	
34.	I can apply what I learned in this tutorial in a practical situation	4	19	2	

How and where I would like to use this program		Strongly Agree	Agree	Disagree	Strongly Disagree
35.	I would like to use this program again	9	15	1	
36.	I would recommend this program to others	10	12	3	
37.	I would like to use this program at home in my own time (if you have a computer at home)	9	15	1	
38.	I would prefer to use this program in a group with other students		5	19	1
39.	I would prefer to have this program in Afrikaans	6	7	7	5
40.	I would like to use similar programs in other subjects	9	14	2	

Overview of my opinion about this program	
41.	What I liked ***most*** about this program:
42.	What I liked ***least*** about this program:
43.	How I would ***improve*** this program:
44.	I would prefer to receive more computer-based instructions in place of lectures / practicals (explain your answer).

My access to computers		Yes	No
45.	I am computer literate	21	3
46.	I have a computer at home / at my residence	22	2
47.	I like to work on the computer	17	6
48.	I am afraid of the computer	3	21
49.	I have Internet access	19	5
50.	I am familiar with instructional software (tutorials, simulations, etc.)	15	9

My use of computers		daily	at least once a week	occasionally (a few times a year)	never
51.	I use the computer	12	11	1	
52.	I use a word processor (ie. MS Word, WordPerfect)	11	11	2	
53.	I use spreadsheets (MS Excel, QuatroPro)	4	4	11	5
54.	I use a graphics program (state which one)	1	1	6	14
55.	I play games on the computer - name your favourite game(s)	3	3	5	13

My internet access		home	University	Internet café	other (specify)
56.	My Internet access is at	17	3		1

I use the Internet to:		Yes	No
57.	send and receive e-mail	19	6
58.	read newsletters from newsgroups and talk in chat groups	4	15
59.	look for information / do research	20	2
60.	download files, i.e. MP3's, software, pictures	10	10
61.	other (please specify)	1	3

Personal information					
62.	Name (optional):				
63.	Age:				
64.	Home language	Afr. 15	Eng. 6	Afr. / Eng 1	other (specify) 1
65.	Which language do you prefer to receive your instruction in?	Afr 11	Eng 7	Afr. / Eng 5	other (specify)

Other comments I would like to make: