The OCULUS Project:
- an international collaboration to enhance the quality and scope of optometry in Europe and beyond

Annemarie Brouwer[1], Joan Gispets[2], Ariela Gordon-Shaag[3], Hanan Maoz [4], Dinah Paritzky[3], Catherine Suttle[5], Ellen Svarverud[6], Bente Monica Aakre[6]

1) University of Applied Sciences Utrecht, The Netherlands

2) Polytechnic University of Catalonia, Spain

3) Hadassah Academic College, Israel

4) Sapir College, Sederot, Israel

5) City, University of London, United Kingdom

6) University College of Southeast Norway, Norway

Who is OCULUS:
Optometry CUrriculum for Lifelong learning through ErasmuS

- USN   University College of Southeast Norway
- UPC   Polytechnic University of Catalonia
- HU   University of Applied Science, Utrecht
- CUL   City University London
- BIU   Bar Ilan University
- HAC   Hadassah Academic College
- SAP   Sapir Academic College
- ICO   Israel College of Optometry
- UOH   University of Hyderabad
- CU   Chitkara University
- MU   Manipal University
- ASCO   Association of Schools and Colleges of India

Associated and external partners
- our important supporters!

- EAOO — European Academy of Optometry and Optics
- NOA — Norwegian Optometric Association

- ECOO — European Council of Optometry and Optics
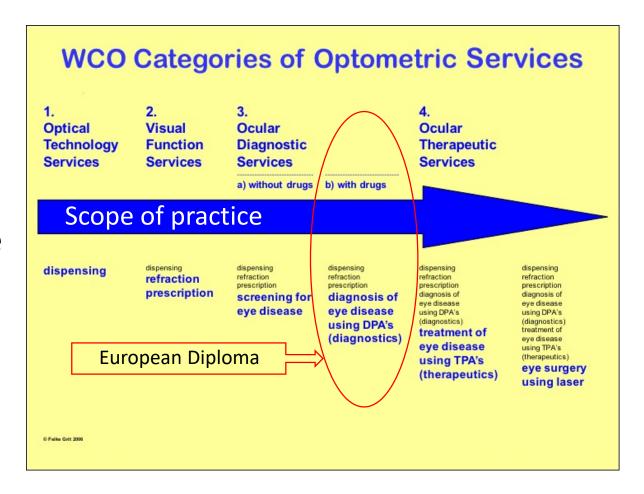- WCO — World Council of Optometry

A reminder….*

- There are 32,4 million blind people in the world
  - 65% are avoidable
  - 21 % due to uncorrected refractive errors (Western Europe: 14%)

- There are 191 million visually impaired
  - 76 % are avoidable
  - 51 % due to uncorrected refractive errors (Western Europe: 47,3%)

*Bourne et al. Lancet, 2013

WHO: optometrists have an important role in eye care service

- First line eye health professionals
- Optometry educations differ from country to country
- Different *scope of practice*
- Ocular Diagnostic services (with use of diagnostic drugs)
  - Detect eye disease early
  - Prevent and reduce unnecessary blindness and visual impairment
- European Diploma

WCO Categories of Optometric Services

1. Optical Technology Services
2. Visual Function Services
3. Ocular Diagnostic Services
   a) without drugs b) with drugs
4. Ocular Therapeutic Services
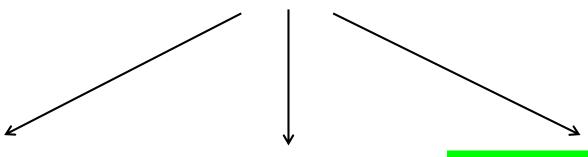
Scope of practice

European Diploma

© Feike Grit 2006

Our motivation

- Working with quality of study – easier when we have a big, common goal!
  - European Diploma (re-)accreditation, share learning/teaching resources, methods of assessments, curriculum
  - EBP: Evidence Based Practice: pedagogical methods for implementation
  - Learning platform and log-book: Electronically documentation of clinical practice
- Internationalisation
  - All HEIs are being measured on how well they perform on internationalisation
  - Good for students! And Staff.
- Curiosity
  - How do you do things at your institution? Do you meet the same challenges? How have you solved them? Can we help each other?
- Idealism
  - Better vision for all

What is OCULUS doing?

Benchmarking for European Diploma for Israel and India Schools of Optometry

Update optometry curriculum according to EBP (Evidence Based Practice)

Create a PLN (Personal Learning Network) for students and optometrists

dissemination

The European Diploma in Optometry

- Individual exams being phased out, replaced by accreditation of Schools of Optometry

- Accreditation process:

  - Stage 1: Complete **self-assessment document**

  - Stage 2: ECOO visit

Self-assessment document:

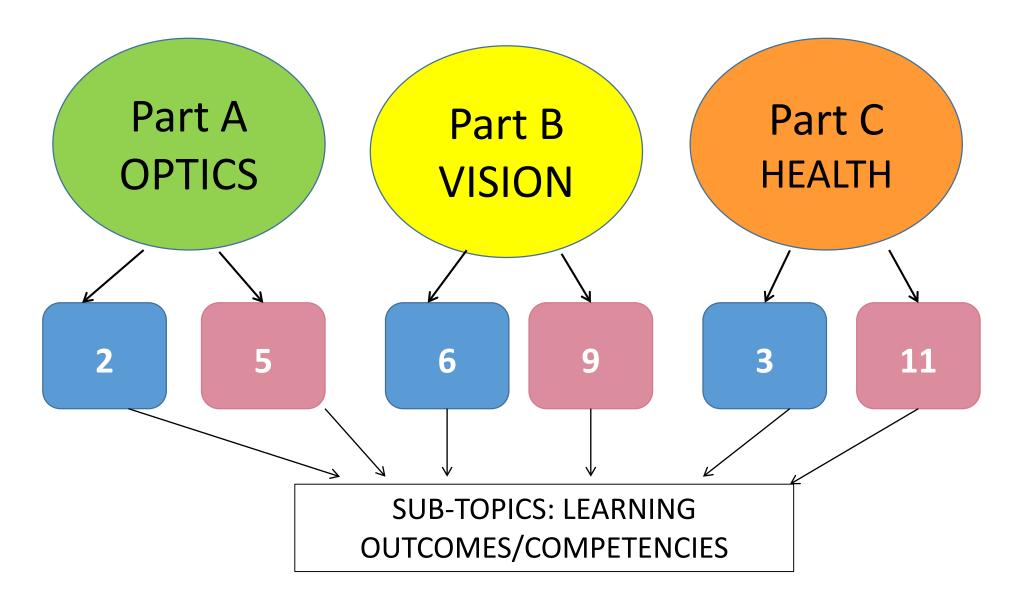**Clinical/practical competencies**

Knowledge based competencies

http://www.ecoo.info/wp-content/uploads/2012/10/Part-II-ECOO-Accreditation-Self-Assessment-Document-December-2016.pdf

Knowledge base for the European Diploma competencies Part A.

Subject 3: Visual Optics (European Diploma A2)

Learning outcomes: The candidates should demonstrate fundamental knowledge and insight into visual optics in order for the candidate to be able to understand and solve problems related to image formation, both qualitative and quantitative, for the candidate to investigate the optics of the human visual system and refractive correction. Knowledge and understanding should be demonstrated in the areas of: (1) schematic eye models, (2) dioptrics of the eye, (3) entopic phenomena, (4) quality of retinal image, (5) prismatic effect, and the manipulation of lens form and setting to obtain the desired control of prismatic effect, (6) radiation and the eye, (7) eye protection regulations, and relevant standards..

Where in the programme?	Credit weighting?	Method of assessment?

http://www.ecoo.info/wp-content/uploads/2012/10/Part-II-ECOO-Accreditation-Self-Assessment-Document-December-2016.pdf

Subject 11: Contact lenses (European Diploma Section B3)

	Clinical/practical competencies:	Competency assessment		Clinical ex...	Record kept?
		How assessed?	Where in the programme?	Number of patients examined?	
1	The ability to insert and remove contact lenses and instruct patients in these procedures.				
2	The ability to fit soft contact lenses.				
3	The ability to manage the aftercare of patients wearing soft contact lenses.				
4	The ability to advise on contact lens materials and care regimes.				
5	The ability to manage the aftercare of patients wearing rigid gas permeable contact lenses.				
6	The ability to fit rigid gas permeable contact lenses.				
7	The ability to fit contact lenses to patients with astigmatism.				

http://www.ecoo.info/wp-content/uploads/2012/10/Part-II-ECOO-Accreditation-Self-Assessment-Document-December-2016.pdf

Self-assessment document and Hadassah College:

- Current format is Word File

- Division of subjects into sub-topics does **not** reflect our curriculum

- The format does not cover needs for periodical assessment, and process control (data entry, data validation, *information unification*)

- **Stage 1**: Hadassah Academic College together with Oculus created an Excel file

Self-assessment document and Hadassah College:

Subject 3: __Visual Optics__ Learning outcomes: The candidates should demonstrate fundamental knowledge and insight into visual optics in order for the candidate to be able to understand and solve problems related to image formation, both qualitative and quantitative, for the candidate to investigate the optics of the human visual system and refractive correction. Knowledge and understanding should be demonstrated in the areas of:

Learning outcome	Name of Course	Course Code	Lecturer	Total duration course	duration topic	Method of assessment?
schematic eye models	Visual Optics	B1visO	Dinah Paritzky	42	4.5	Weekly quizzes and final exam
dioptrics of the eye	Visual Optics	B1visO	Dinah Paritzky	42	6	Weekly quizzes and final exam
entopic phenomena	Clinical Optometry A	B2clinoptA	Dinah Paritzky	42	0.5	Weekly quizzes and final exam
quality of retinal image	Visual Optics	B1visO	Dinah Paritzky	42	22.5	Weekly quizzes and final exam
prismatic effect, and the manipulation of lens form and setting to obtain the desired control of prismatic effect	Dispensing Optics B	B1dispB	Ibrahim Saadeh	42	2	homework + exam
radiation and the eye	Dispensing Optics A	B1dispA	Rinat Carmi	42	6	final exam
eye protection regulations, and relevant standards	Dispensing Optics A	B1dispA	Rinat Carmi	42	3	final exam
Total					44.5	

Self-assessment document and Hadassah College:

Subject 11: Contact lenses (European Diploma Section B3)							
Clinical/practical competencies:	**Competency assessment**		**Clinical experience**				**Comments**
	Name of Course	**Course Code**	**Number of patients examined?**	**Number of patients where student is assessed**	**How assessed?**	**Record kept?**	
The ability to insert and remove contact lenses and instruct patients in these procedures.	Contact Lenses Laboratory A	BL3clA	28	30	grade that goes to average of final grade	MVE	
	Contact lens clinic	BC4cl	10	3			
The ability to fit soft contact lenses.	Contact Lenses Laboratory A	BL3clA	15	15	supervisor assessment and feedback + fin	Lab book	
	Contact lens clinic	BC4cl	6	6	grade that goes to average of final grade	MVE	
The ability to manage the aftercare of patients wearing soft contact lenses.	Contact lens clinic	BC4cl	3	3	grade that goes to average of final grade	MVE	
The ability to advise on contact lens materials and care regimes.	Contact lens clinic	BC4cl	7	7	grade that goes to average of final grade	MVE	
	Contact Lenses Laboratory A	BL3clA	0	0			
The ability to manage the aftercare of patients wearing rigid gas permeable contact lenses.	Contact lens clinic	BC4cl	1	1	grade that goes to average of final grade	MVE	
The ability to fit rigid gas permeable contact lenses.	Contact Lenses Laboratory A	BL3clA	15	15	supervisor assessment and feedback + fin	Lab Book	
	Contact lens clinic	BC4cl	3	3	grade that goes to average of final grade	MVE	
The ability to fit contact lenses to patients with astigmatism.	Contact lens clinic	BC4cl	2	2	grade that goes to average of final grade	MVE	
	Contact Lenses Laboratory A	BL3clA	3	3	supervisor assessment and feedback	Lab Book	

Changes to Self-assessment document: Knowledge base

- Every sub-topic is addressed individually

- Courses are linked to syllabi

- Lecturer's names added and linked to CV

Changes to Self-assessment document: Clinical base

- Clinical competencies divided between labs and clinics

- Patients divided into number examined by student and number where student is *assessed*

Best Practice for Self Assessment:

- Mentoring from a previously accredited School of Optometry

- Preliminary visit from ECOO

- Appoint faculty member responsible for each section: knowledge and clinical/practical

- Patient logbook eg Meditrek essential for clinical competencies

- **When in doubt: ASK!**

Preliminary Results of Self-assessment process at HAC:

- Invaluable tool for curriculum review

- Quality assurance and quality control

- Knowledge competencies: very few gaps, some redundancies?

- Clinical competencies: several gaps - pathology, diagnostics and low vision

Self-assessment document and Oculus:

- **Stage 2**: Hadassah Academic College together with Oculus Partners (Sapir College) created Set of "NEW Excel Files" to be embedded in a "Web-Portal" (data Entry Forms)

- This will be made available to other schools of Optometry on completion

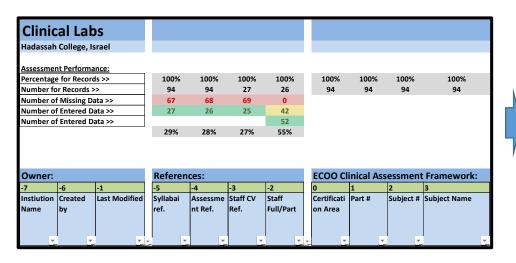# Self-assessment document and OCULUS:

- The new digital tool allows simultaneous input of information: "one single source of truth"

- Can input and track competencies that do not appear in European Diploma

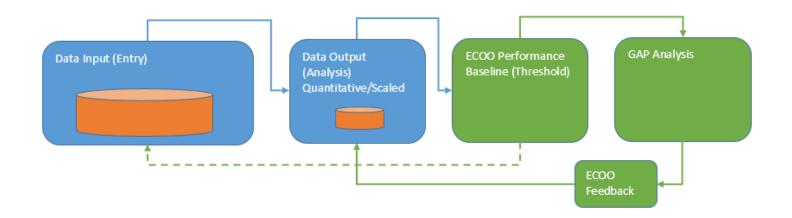- Enables tracking and analysis of data

New Process and Data Modelling
for Self-Assessment

OCULUS
Optometry CUrriculum for Lifelong Learning through ErasmUS

Erasmus+

New Process Model

Clinical Labs
Hadassah College, Israel

Assessment Performance:

Percentage for Records >>		100%	100%	100%	100%	100%	100%	100%	100%
Number for Records >>		94	94	27	26	94	94	94	94
Number of Missing Data >>		67	68	69	0				
Number of Entered Data >>		27	26	25	42				
Number of Entered Data >>					52				
		29%	28%	27%	55%				

Owner:			References:				ECOO Clinical Assessment Framework:		
-7	-6	-1	-5	-4	-3	-2	0	1	2	3
Instiution Name	Created by	Last Modified	Syllabai ref.	Assessme nt Ref.	Staff CV Ref.	Staff Full/Part	Certificati on Area	Part #	Subject #	Subject Name

Benchmark Dashboard

Performance and Gaps Dashboard

100%	100%	100%	100%	100%	100%
94	94	94	94	94	94
32	32	42	32	94	42
62	54	44	62	0	52
	8	8		0	
66%	9%	9%	66%	0%	55%

Analysis (Qualitative-To-Qauntitative)

10	11c	12c	13c	14c	15c
Course Code	Number of patients	Number of patients	How assessed?	Number of Patients	Record kept?

Data Input (Entry)

Data Output (Analysis) Quantitative/Scaled

ECOO Performance Baseline (Threshold)

GAP Analysis

ECOO Feedback

Evidence Based Practice: EBP

Presenter
Annemarie Brouwer
Utrecht University of Applied Sciences
the Netherlands

EBP:

- *"Evidence based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients."*
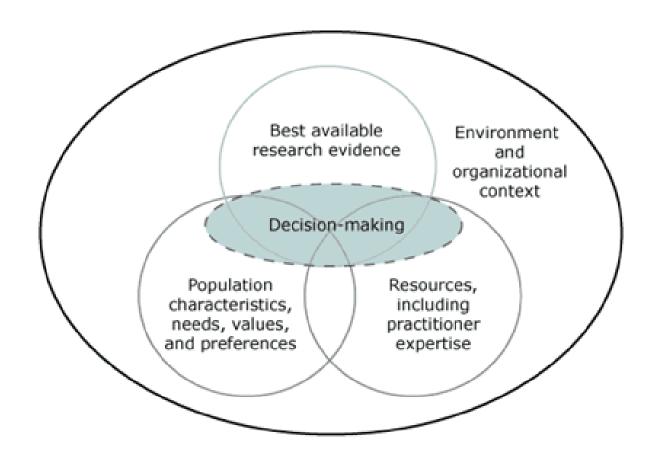
Sackett, Rosenberg, Gray, Haynes, Richardson (1996)

OCULUS and EBP

- No EBP in current European diploma

- Analysis

- Development

- Implementation

EBP

5 steps

5 steps

- Asking a clinical question
  - Putting together words that capture the clinical situation and can be used in the next step
- Acquiring relevant evidence
  - Finding evidence – starting with sources that provide evidence of high reliability, moving to other sources if necessary
- Appraising the evidence
  - Reading or listening to the evidence critically
- Applying the evidence
  - Making a clinical decision on the basis of best available evidence, patient's preferences and clinician's expertise/experience
- Auditing its effectiveness
  - Reflecting on whether EBP is being applied effectively

EBP assessment tool

- identify learning and teaching strategies that aim to teach aspects of EBP

- compare each of these against strategies that are based on the best available research evidence ('best practice')

- where needed, modify existing strategies to meet best practice

Tool

Assessment Category	Type of Assessment	Steps of EBP				
Benefit to Patients	Patient-Oriented Outcomes	Given the clinical outcome(s) identified, are patients experiencing better outcomes in association with a specific EBP learning initiative.				
Behaviors	Activity Monitoring	How frequently do learners ask questions about patients?	How frequently and to what extent are searches conducted related to patient care?	How frequently do learners critically appraise evidence related to patient care?	How frequently do learners consciously choose or reject evidence related to patient care?	Have learners reflected on their EBP behavior and identified areas for improvement?
Skills	Performance Assessment	How complete and relevant are the learners' PICO/PIO questions?	How thoroughly and efficiently do learners conduct searches?	Can learners complete critical appraisals, both of singular items and collections?	Can learners come to a reasonable interpretation of how to apply the evidence?	Have learners been able to reflect on their skills and take action to improve them?
Knowledge	Cognitive Testing	Can learners structure answerable questions?	Can learners identify appropriate databases to search?	Can learners select appropriate methods of critical appraisal?	Can learners identify situations where it is feasible and appropriate to apply EBP?	Can learners identify successful approaches to translating EB knowledge

Adapted from: (Tilson et al., 2011)

Current state

- Data collection

- Compare all strategies with best evidence

- Modify strategies and implement in curricula

https://oculus.erasmus-plus.org.il/

Thank you for your attention!
annemarie.brouwer@hu.nl
dinah@hadassah.ac.il
Bente.m.aakre@usn.no

Questions?