



Optometry CURriculum for Lifelong Learning through ErasmUS (OCULUS):

Year one results of benchmarking towards the
European Diploma in Optometry in educations
given in Israel and India.

Ellen Svarverud, University College of Southeast Norway
on behalf of the **OCULUS consortium**

Co-funded by the
Erasmus+ Programme
of the European Union



Ellen Svarverud¹, Ariela Gordon-Shaag², Ramesh S Ve³,
Hanan Maoz⁴, Annemarie Brouwer⁵, Catherine Suttle⁶,
Joan Gispets⁷, Shamanna B Ramaswamy⁸, Preethi
Pradhan⁹, Uri Polat¹⁰, Bente Monica Aakre¹

1) University College of Southeast Norway, Norway

2) Hadassah Academic College, Israel

3) Manipal University, School of Allied Science, India

4) Sapir College, Sederot, Israel

5) University of Applied Sciences Utrecht, The Netherlands

6) City, University of London, United Kingdom

7) Polytechnic University of Catalonia, Spain

8) University of Hyderabad, India

9) Chitkara University, India

10) Bar Ilan University, Israel

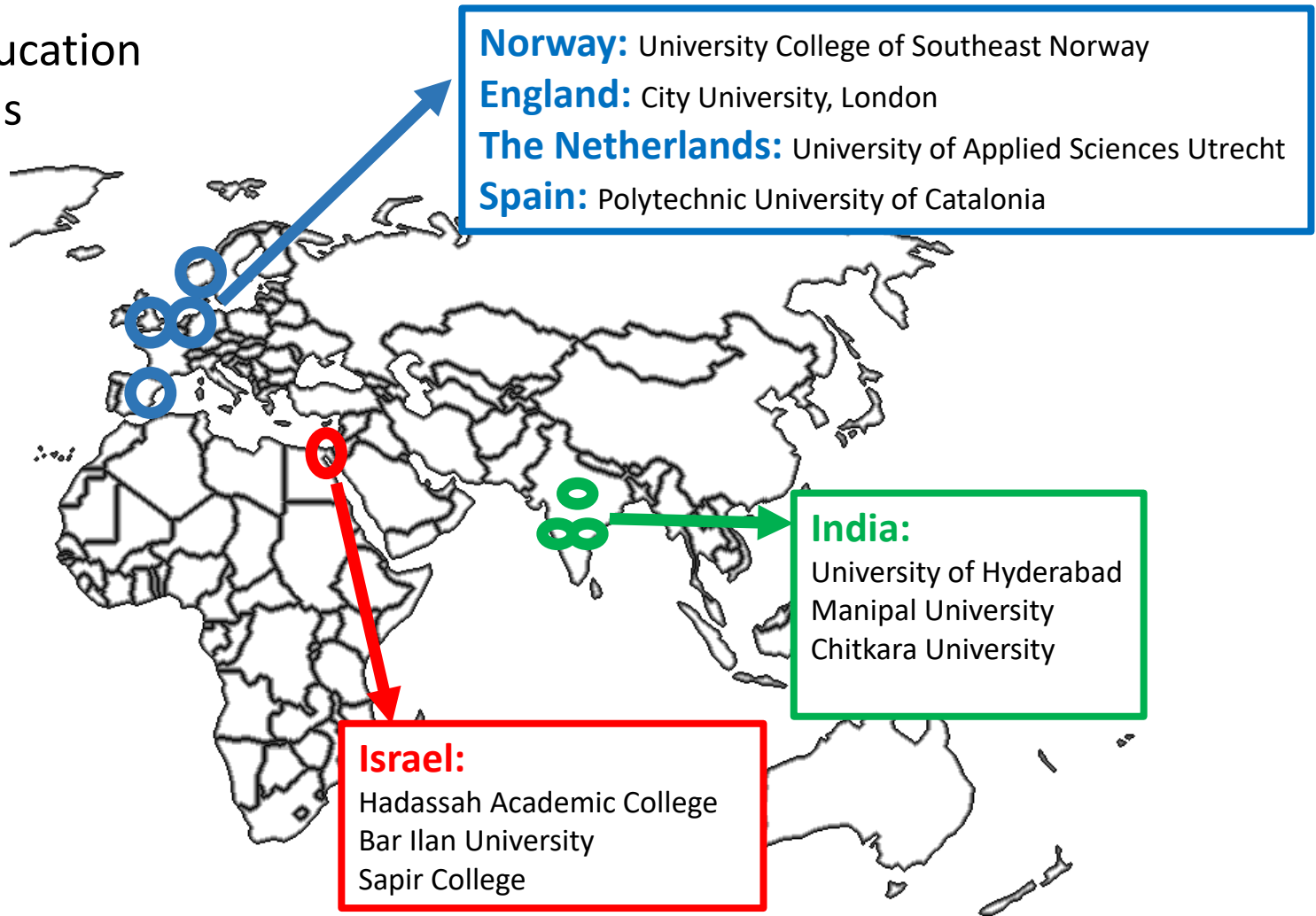
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- Erasmus+ funded project (3 years)
- Consortium of 10 higher education institutions
- 6 associated and external partners

Higher education institutions



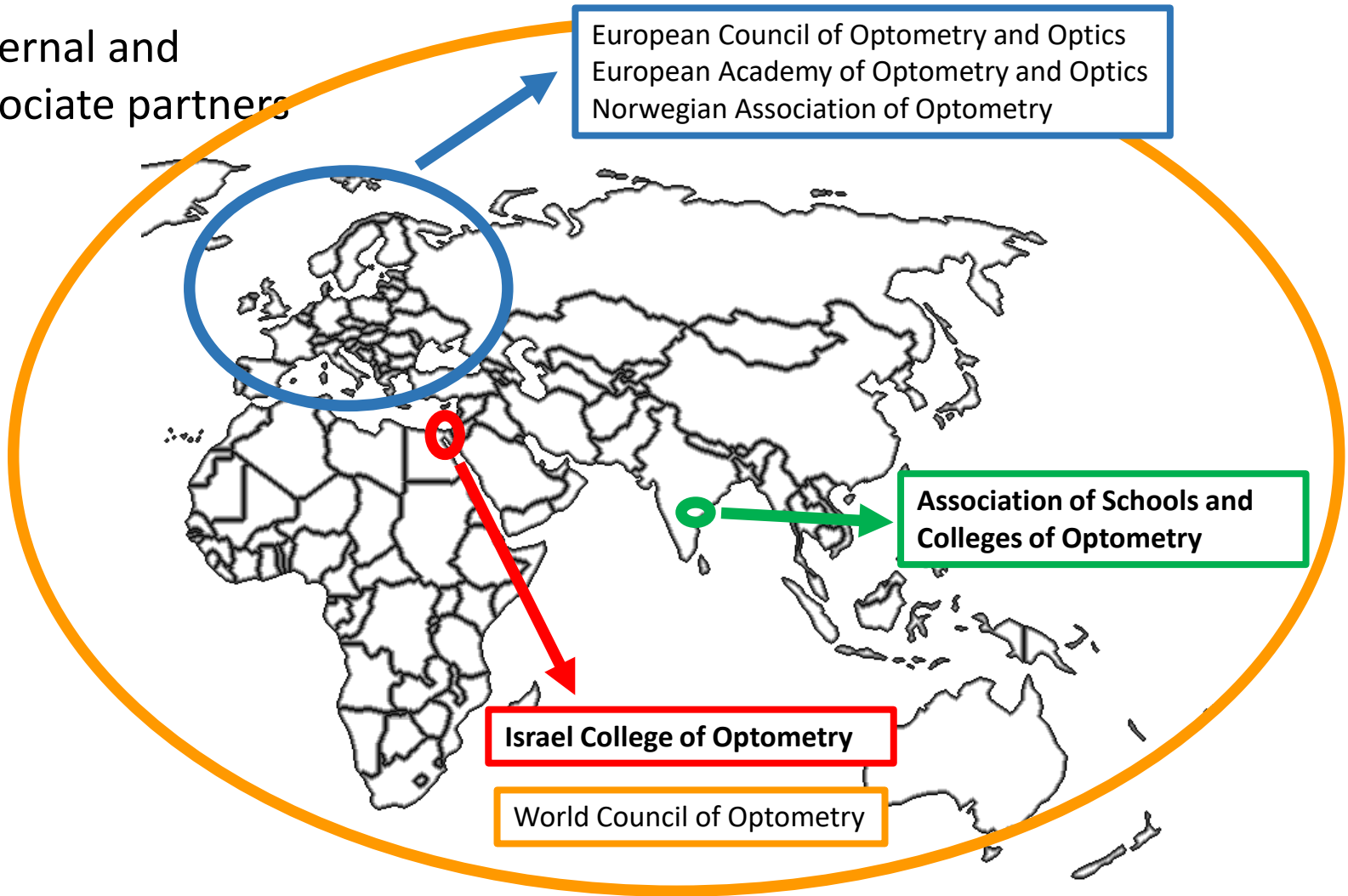
External and
associate partners

European Council of Optometry and Optics
European Academy of Optometry and Optics
Norwegian Association of Optometry

Association of Schools and
Colleges of Optometry

Israel College of Optometry

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%)

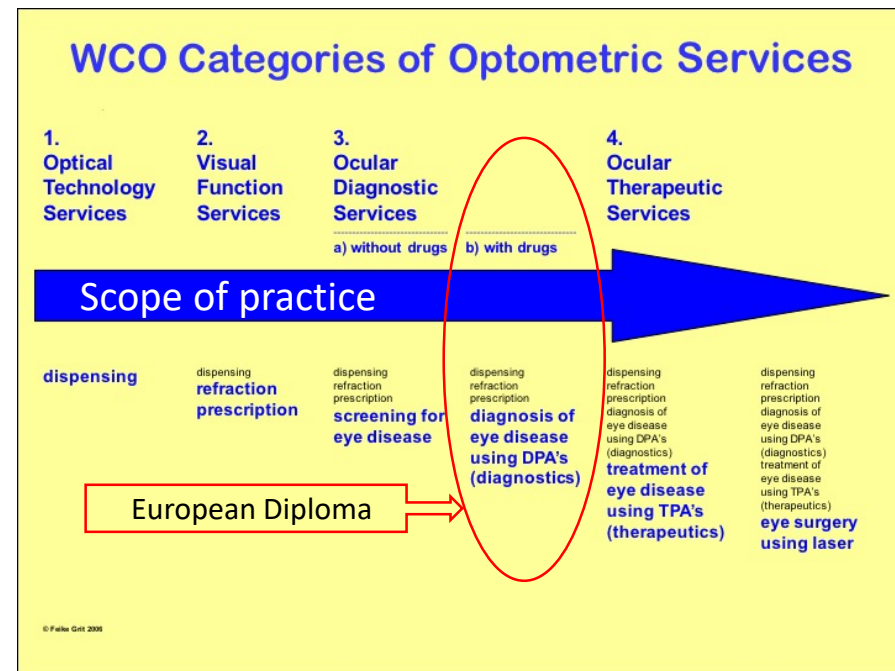
Vision is our most important sense!
Vision is health
Good vision promotes good health

MOTOR skills



WHO: optometrists have an important role in eye care service

- First line eye health professionals
- Optometry educations differ from country to country and within countries
- 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 in Optometry



Goals for OCULUS

- To harmonise optometry education by benchmarking two educations in Israel and three in India towards the European Diploma
- Reaching the level of the European Diploma has the potential to
 - increase knowledge and skills
 - facilitate an increased scope of practice for optometrists
- Harmonised education will promote student mobility and enhance training of future eye-care practitioners
- Ultimate goal is improving patient care

European Diploma in Optometry and ECOO

About ECOO

The European Council of Optometry and Optics (ECOO) is the European organisation which represents the interests of optometrists and opticians from 25 countries. It aims to promote eye health to the public across borders and to harmonise clinical and educational standards of optometric and optical practice throughout Europe.

Our vision

To improve vision and eye health by providing high-quality, cost-effective optometric and optical services across Europe.

Our mission

- *To improve eye health and vision for all and eliminate avoidable blindness and visual impairment in Europe.*
- *To create a harmonised professional and educational system for optometry and optics based on the European Diploma in Optometry and Optics.*
- *To develop the scope of practice for optometrists and opticians to the degree that the same high standards apply and are mutually recognised in all European countries*



<http://www.ecoo.info/>

European Diploma in Optometry

What is the idea behind the European Diploma in Optometry?

The legal scope of practice within the countries of ECOO varies from assembling spectacles to the autonomous management of eye disease. In the spirit of the **Bologna declaration** ECOO established the **European Diploma in Optometry A Global Competency-Based Model of Scope of Practice in Optometry** as a stimulus to the **harmonization of European optometric education and clinical practice**. The European Diploma is set at least at the **Bachelor level in European Higher Education or equivalent** and provides a qualification appropriate for Optometric practice at **Category 3 of the World Council of Optometry's four categories model**. The countries of ECOO have adopted the Diploma as the "Gold Standard" for European Optometry.

Should you be interested in accreditation or wish to ask questions, please contact Bob Chappell: bob@theipractice.co.uk

<http://www.ecoo.info/european-diploma/educational-institutions/>

European optometry and optics programmes

- Around 100 optometry and optics training programmes
- Large differences in training and scopes of practice.

- Five fully ECOO accredited schools

- Switzerland; Fachhochschule Nordwestschweiz
- Norway; University College of Southeast Norway
- Germany; Beuth University, Berlin
- The Netherlands; University of Applied Sciences Utrecht
- Sweden; Karolinska Institutet, Stockholm



ED is close to the principles of the Bologna declaration

Bologna declaration is the main guiding document of the Bologna process (1999) which means:

- Harmonization and compatibility of higher education systems
- Easier recognition of higher education qualifications
- Modernisation of higher education
- Job mobility – fostering employability of graduates
- Ensure the increased international competitiveness of the European system of higher education
- The agreement is between both EU and non-EU countries

Funding from Erasmus+



Funded by the
Erasmus+ Programme
of the European Union

- Bologna declaration is a top down process – Ministry of Education decides to get on board and all HEIs have to comply
- Erasmus+ encourages bottom up-oriented projects – the HEI comply with the Bologna declaration with the goal to impact on Ministry of education

Countries signed the Bologna declaration

European Union – all 27 countries

Austria	Latvia
Belgium	Lithuania
Bulgaria	Luxembourg
Cyprus	Malta
Czech Republic	The Netherlands
Denmark	Poland
Estonia	Portugal
Finland	Romania
France	Slovakia
Germany	Slovenia
Greece	Spain
Hungary	Sweden
Ireland	United Kingdom
Italy	

Non-European Union

Albania	
Andorra	
Armenia	
Azerbaijan	
Bosnia and Herzegovina	
Croatia	
Georgia	
Holy See	
Iceland	Russia
Liechtenstein	Serbia
Montenegro	Switzerland
Moldova	Turkey
Norway	Ukraine
Macedonia	



Declan Kennedy, with permission

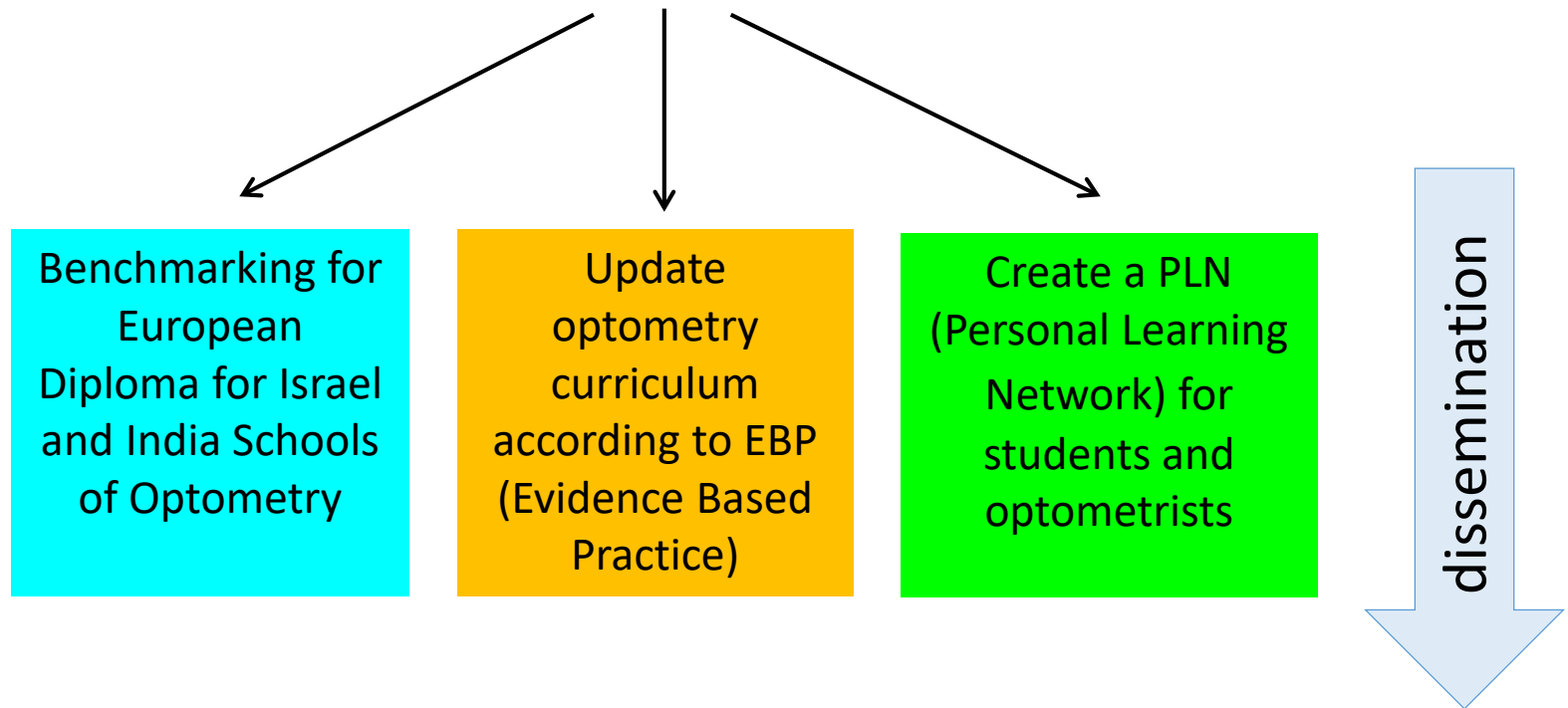
Goals for OCULUS

- To harmonize optometry education by benchmarking two educations in Israel and three in India towards the European Diploma
- Reaching the level of the European Diploma has the potential to
 - increase knowledge and skills
 - facilitate an increased scope of practice for optometrists
- Harmonised education will promote student mobility and enhance training of future eye-care practitioners
- Ultimate goal is improving patient care in both these countries and in the European countries participating

What else will we all gain?

- Collaboration, sharing, mentoring and learning
- Increase quality of our programmes
 - European Diploma (re-)accreditation
 - Share resources/methods of teaching and assessment, curricula
 - Evidence Based Practice: pedagogical methods for implementation
 - Learning platform and log-book: documentation of clinical practice
 - GOAL: Students who bring their competencies into their professional life
- Internationalisation
 - All HEIs are being measured on how well they perform on internationalisation
 - Good for students! And Staff

What is OCULUS doing?



What have we done in year 1?

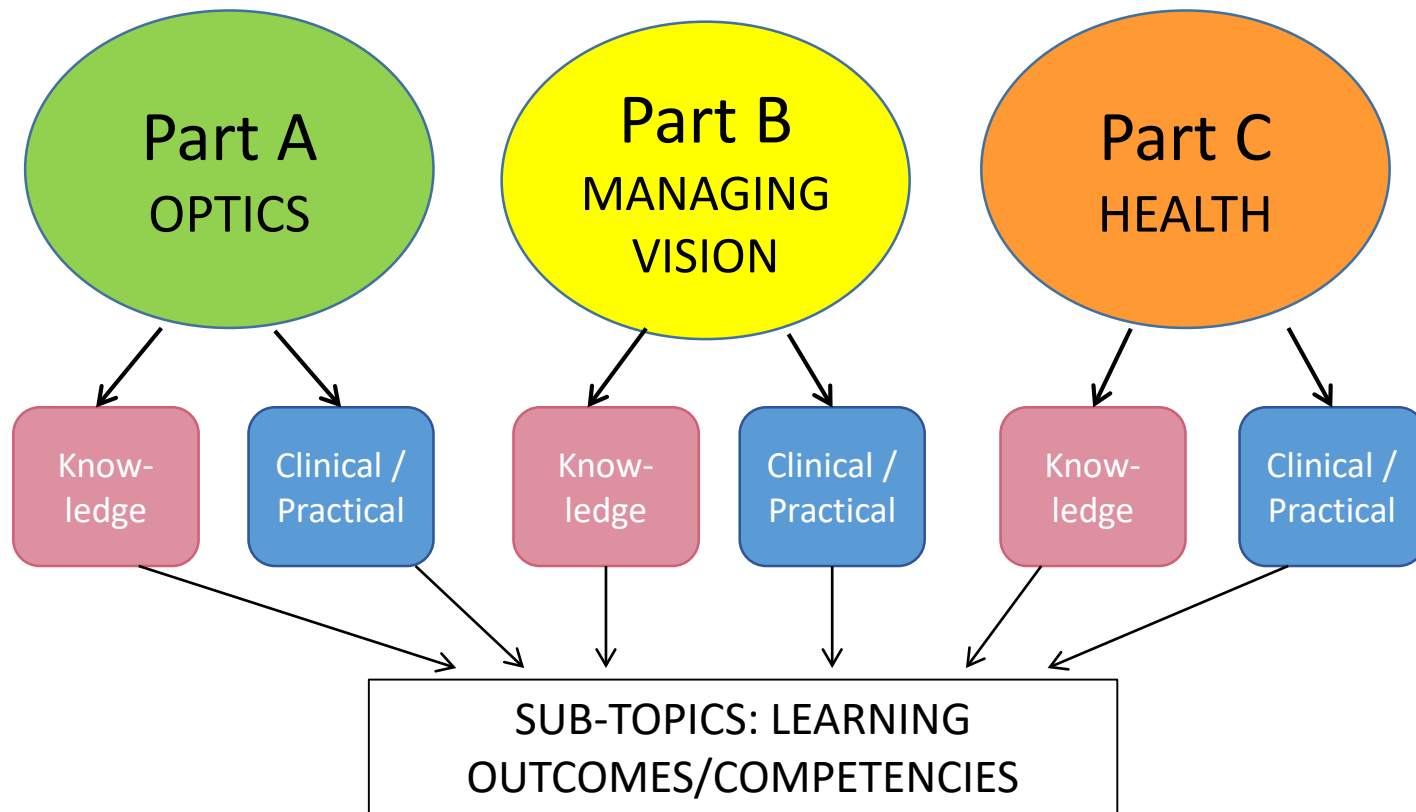
- 1st consortium meeting, Barcelona november 2016
 - Workshop consortium meeting, London June 2017 (EBP and PTP)
-
- 1) India and Israel filled in the self-assessment document for the ED
 - 2) Digital self-assessment tool is under development
 - 3) Representatives from ECOO have visited India and Israel
 - 4) Gaps in the curricula have been identified and a pedagogical transformation plan is under development
 - 5) Evidence-based practice teaching strategies is under development
 - 6) Quality monitoring is ongoing
 - 7) Project portal has been developed
 - 8) Disseminated nationally and internationally

European Diploma self-assessment document

**Knowledge based
competencies**

**Clinical/practical
competencies**

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



Portfolio of Clinical Experience (150 patients)

Knowledge base for the European Diploma competencies Part A.

Subject 5: Optical Appliances (European Diploma Section A1&A2)

Learning outcomes: The candidates should demonstrate knowledge and skills of optical appliances and dispensing and how visual correction interact with the eye. Knowledge and skills should be demonstrated in the areas of: (1) physical characteristics of ophthalmic lenses, (2) optical characteristics of ophthalmic lenses, (3) ophthalmic prisms and prismatic effect of lenses, (4) multifocal lenses, (5) physical characteristics and biological compatibility of frame materials, (6) specification and nomenclature of spectacle frame components, (7) optical and spectacle frame considerations of high-powered lenses, (8) spectacle magnification, (9) absorptive lenses, (10) impact resistance, (11) optical tolerances and physical requirements of ophthalmic lenses and frame materials (EN), and (12) spectacle applications.

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

Subject 6: Occupational Optics (European Diploma A2)

Learning outcomes: The candidates should demonstrate knowledge and understanding and be able to discuss and test visual function in relation occupational optics. Knowledge, understanding and testing skills should be demonstrated in the areas of : (1) visual performance, (2) ocular injuries, (3) eye protection and its regulations, (4) lamps and lighting and regulations regarding lighting, (5) visual display units, and (6) regulations related to vision and driving.

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>

Clinical/practical European Diploma Competencies Part A.

Subject 5: Optical appliances (European Diploma Section A1 & A2)

<i>Clinical/practical competencies:</i>		Competency assessment		Clinical experience	
		How assessed?	Where in the programme?	Number of patients examined?	Record kept?
1	The ability to advise on and to dispense the most suitable form of optical correction taking into account durability, comfort, cosmetic appearance and lifestyle.				
2	The ability to measure and verify optical appliances, taking into account relevant standards.				
3	The ability to fit, adjust and repair optical appliances. Identifies current and absolute frame materials and considers and applies their properties when handling, adjusting, repairing and dispensing. Demonstrates knowledge of frame and lens manufacturing and the application of special lens treatments.				
4	The ability to manage non-tolerance cases.				

Experiences doing self-assessment

- The self-assessment document is a invaluable tool for curriculum review
- Helps with quality assurance and quality control

Challenges we experienced

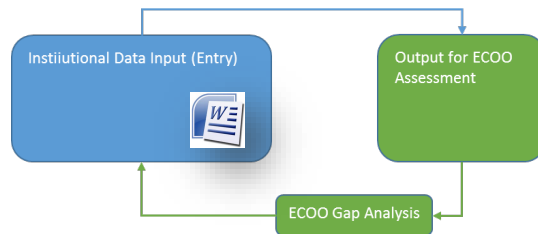
- Word format requires one master copy and a strict control on document versions
- With several people involved there is a risk of overwriting or losing information
- Extensive document without easy access to get an overview of gaps or redundancies, or the extent of gaps
- Does not give opportunity to systematize issues that are relevant (e.g. practice on students vs real patient encounters)
- Division of subjects into sub-topics does not reflect institutions' curricula

Our wish list for a self-assessment tool

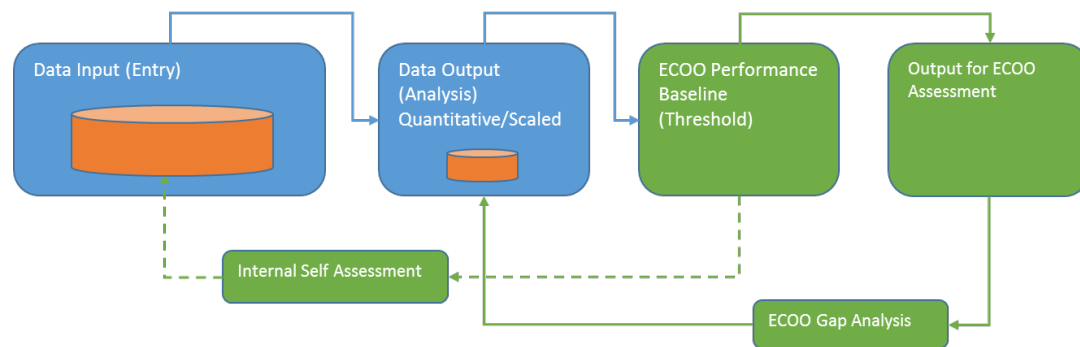
- Web based tool allowing for easy data entry in real time
- Easy use among staff members (for data entry, editing and reporting)
- Possible to easily single out redundancies or gaps in the curriculum
- Direct links to relevant information (course syllabi, assessment documents etc)
- Gather information over time (stats, trend analyses, benchmark capability)
- Information unification - using standardized language (types of assessment, full exam vs observation)
- Self assessment and reflection based on independent internal benchmark
- Quantitative scale of institution thresholds (creating a local benchmark)
- Input and track competencies that do not appear in European Diploma
- Curricula to be digitally shared among institutions for the purpose of identifying exchange opportunities for students and staff
- **More than what ECOO needs, but valuable tool for institutions**

New Process and Data Modelling for Self-Assessment

Current Process Model



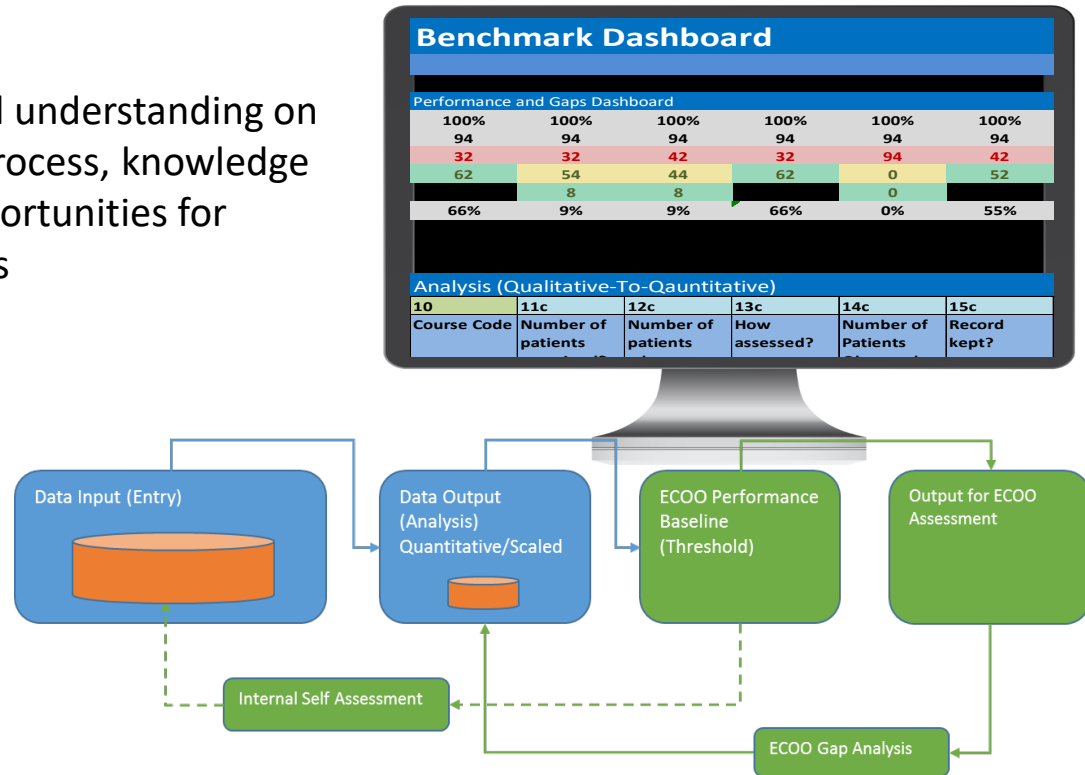
New Process Model



New Process and Data Modelling for Self-Assessment

New Process Model

New potential understanding on assessment process, knowledge gaps, and opportunities for improvements



Benchmarking – preliminary visits from ECOO



Benchmarking – preliminary visits from ECOO

- Departmental structure (faculty, facilities)
- Syllabus and module specification
- General refraction clinic
- Contact lens clinic
- Dispensing clinic
- Binocular vision and visual training
- Low vision
- External clinics and placements
- Assessment (knowledge and clinical/practical competencies)
- Self-assessment document
- Portfolio of clinical experience

Benchmarking – preliminary visits from ECOO

- Each institution have their issues which need to be addressed
- Knowledge competencies
 - In general few gaps but occasional redundancies
- Clinical/practical competence
 - Gaps typically for RGP contact lens fitting, pathology, low vision, use of diagnostic drugs and certain diagnostic procedures (indirect bicromicroscopy) and visual field testing
 - Important to have documentation of patient/student encounters
 - Important to have clear patient records
- Assessment
 - Important to have clear specifications to how competencies are assessed
 - Important to have the appropriate type of assessment



Knowledge base for the European Diploma competencies Part A.

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

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

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Clinical/practical European Diploma Competencies Part A.

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4	The ability to manage non-tolerance cases.				

Examination Sections	Competency Areas	Provisional Opinion	
Part B 1. Refraction 2. Binocular Vision 3. Contact lenses 4. Visual Perception	Subject 4: Visual Perception		
	Subject 7: Vision and Ageing		Subject 7(3) developmental milestones should be included. Subject 7(4) not included
	Subject 8: Refraction		
	Subject 9: Low Vision		

	Satisfactory
	Some weaknesses
	Inadequate

Part B 1. Refraction 2. Binocular Vision 3. Contact lenses 4. Visual Perception	Subject 8: Refraction		
	Subject 9: Low Vision		All students should have direct experience
	Subject 10: Ocular Motility and BV		Record keeping is unclear and ambiguous
	Subject 11: Contact Lenses		Not clear if all students fit RGP lenses on real patients
	Subject 12: Invest. Techniques		Not clear where the final competency assessment takes place. No visual field experience
	Subject 13: Paediatric Optom.		No evidence of assessment using diagnostic drugs

GAP-analyses and Pedagogical Transformation Plan

- By ECOO
- By institutions
- Pedagogical transformational plan for each institution to remove duplication and fill gaps

Development of Educational Resources for Evidence-based Practice (EBP)

- Clinical practice at a high level is warranted in European Diploma, with the expectation of evidence based teaching and learning
- EBP is addressed in the Portfolio of clinical experience, but not in the Self-assessment document
- OCULUS group aims to integrate EBP in the curricula
- European Qualifications Framework
<https://ec.europa.eu/ploteus/en/content/descriptors-page>

Descriptors defining levels in the European Qualifications Framework (EQF)

Each of the 8 levels is defined by a set of descriptors indicating the **learning outcomes** relevant to qualifications at that level in any system of qualifications

EQF Level	Knowledge	Skills	Competence
	In the context of EQF, knowledge is described as <i>theoretical and/or factual</i>.	In the context of EQF, skills are described as <i>cognitive</i> (involving the use of logical, intuitive and creative thinking), and <i>practical</i> (involving manual dexterity and the use of methods, materials, tools and instruments)	In the context of EQF, competence is described in terms of <i>responsibility and autonomy</i>.
Level 1	Basic general knowledge	Basic skills required to carry out simple tasks	Work or study under direct supervision in a structured context



Level 6 ^[2]	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups
Level 7 ^[3]	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research Critical awareness of knowledge issues in a field and at the interface between different fields	Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields	Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams

Descriptors defining levels in the European Qualifications Framework (EQF)

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EQF Lev			
	Level 6 ^[2]	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	EQF, competence is described in terms of <i>autonomy</i> .
Level			er direct supervision in a structured context
	Level 6	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research	technical or professional activities or projects, ty for decision-making in unpredictable work or ke responsibility for managing professional dividuals and groups
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Evidence-based Practice (EBP)

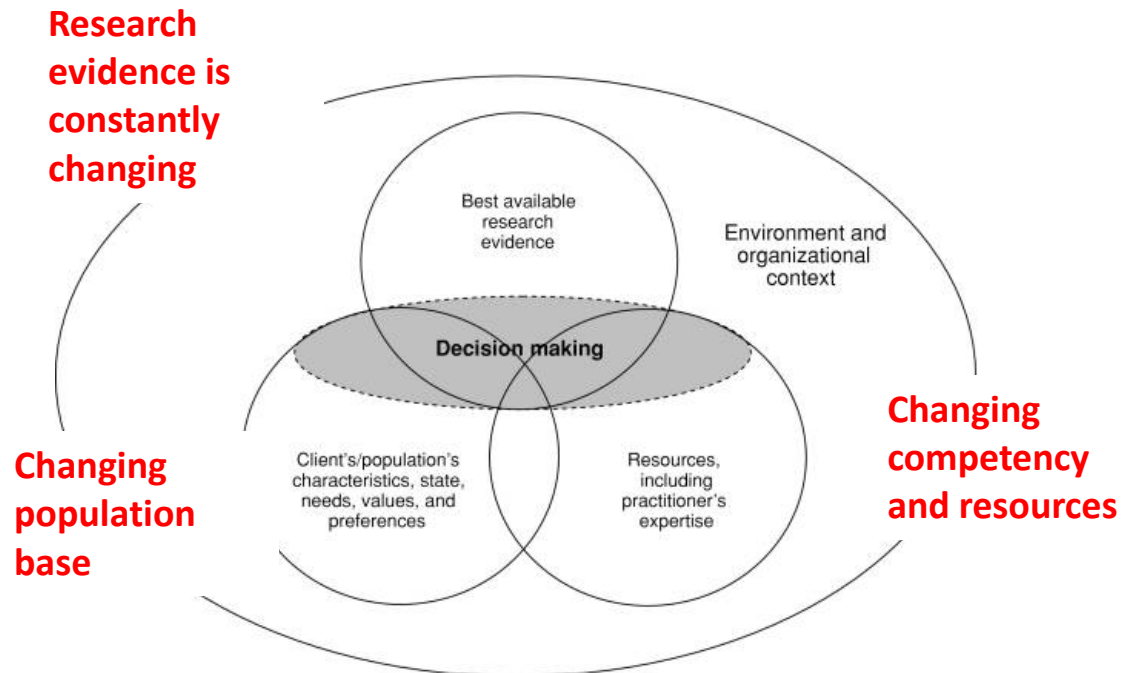
Evidence based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients.

Sackett, Rosenberg, Gray, Haynes, Richardson (1996)

OCULUS and EBP

- Aim is to train optometry educators at each institution
- Ensure that all have the knowledge, skills and attitudes required
 - to apply the resources and teach EBP effectively
 - to teach students to work evidence-based
- Each institution has analysed EBP in their curriculum using a EBP assessment tool
- Workshop on EBP addressing issues and clarifying concepts

Evidence Based Practice - **process**



Milbank Q. 2009 June; 87(2): 368–390.

5 steps in assessing EBP



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

EBP assessment 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 of EBP

- Comparing all strategies with best evidence
- Modifying strategies and implement in curricula as part of the Pedagogical transformation plan
- Working on development of pedagogical resources and planning Train the Trainers-sessions in India and Israel

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

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OCULUS
Optometry CUrriculum for
Lifelong Learning through ErasmUS





FINANCIAL REPORTS



WORK PACKAGES



PROJECT REPORTS



DOCUMENT REPOSITORY



What next?

- Purchase instruments for institutions in India and Israel
- Develop educational resources required for the transformational plan (including EBP)
- Implement the plan, including embedding and piloting of resources.
- Train optometry educators at each institution, to ensure that all have the knowledge, skills and attitudes required to apply the resources and teach EBP effectively
- Follow-up benchmarking against the ECOO criteria and the European Qualification Framework, to verify that gaps have been closed and the ECOO standard has been reached
- Disseminate





Thank you for your attention!
ellen.svarverud@usn.no



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