GUIDE TO EUROPEAN OPTOMETRY DIPLOMA ACCREDITATION

A Pedagogical Transformation Plan handbook

The present guide has been developed during the OCULUS (*Optometry CUrriculum for Lifelong Learning through ErasmUS*) project to serve as a guide for Higher Education Institutions that in the future aim to reform their curricula to meet the standards of the European Diploma of Optometry and Optics. The guide contains a list of steps, actions and recommendations based on the experience of OCULUS consortium members.

Meeting the standards of the European Diploma (ED) aims to reform your program so it meets the highest common standard in Europe. This includes the diagnosis of ocular diseases using pharmaceuticals and this may lay the foundation for increasing the scope of optometry practices, which would improve ocular health in your country.

Furthermore, if your program is accredited by the European Council of Optometry and Optics, your degree will be recognized in many European Countries.

This guide is available via the OCULUS website, European Council of Optometry and Optics (ECOO), the India-based Association of Schools and Colleges of Optometry (ASCO) and the Israeli College of Optometry (ICO) to help other departments going through the accreditation process.

A PEDAGOGICAL TRANSFORMATION PLAN HANDBOOK

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Glossary

Curriculum
Curriculum is defined as all the planned learning opportunities offered to learners by the educational institution and the experiences learners encounter when the curriculum is implemented [1].

Evidence-based practice
An approach that aims to improve the process through which high-quality scientific research evidence can be obtained and translated into the best practical decisions to improve health [2].

ECTS
European Credit Transfer and accumulation System. A standard for comparing academic credits, i.e., the "volume of learning based on the defined learning outcomes and their associated workload" for higher education across the European Union and other collaborating European countries [3].

GAP
Gap Analysis Project. Gap analysis is the comparison of actual performance with potential or desired performance; that is the 'current state' the 'desired future state' [4]. For this project, the gap is the part of the European Diploma that is not covered by the actual Curriculum of the HEI.

Higher Education Institution
Universities, colleges, and further education institutions offering and delivering higher education. This includes traditional universities, professional-oriented institutions, which are called universities of applied sciences or polytechnics and colleges.

Learning outcomes
Learning outcomes are statements of what a learner knows, understands and is able to do on completion of a learning process, defined in terms of <u>knowledge</u>, <u>skills</u> and <u>competences</u>

Pedagogical Transformation Plan
A plan that has to be written for each institution as a result of following this handbook instructions. It should point out the gaps and the strategies to overcome them.

[WCO](WCO) – Word Council of Optometry
It is a non-profit association registered in the United States of America in September the 9th of 2017 aimed to facilitate the development of optometry around the world and support optometrists in promoting eye health and vision care as a human right through advocacy, education, policy development and humanitarian outreach.

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[1] Print, M. (1987). Curriculum Development and Design. Sydney:Allen & Unwin

[2] Steglitz J et al. (2015). Evidence-Based Practice. International Encyclopedia of the Social & Behavioral Sciences (Second Edition) . https://www.sciencedirect.com/science/article/pii/B9780080970868105409

[3] European Comission (2015). ECTS User´s Guide. https://ec.europa.eu/education/resources-and- tools/document-library/ects-users-guide_en

[4] Wikipedia (2019). Gap Analysis. https://en.wikipedia.org/wiki/Gap_analysis#cite_note-1

Introduction

According to the <u>World Council of Optometry (WCO)</u>, Optometry is a healthcare profession that is autonomous, educated, and regulated (licensed/registered), and optometrists are the primary healthcare practitioners of the eye and visual system who provide comprehensive eye and vision care, which includes refraction and dispensing, detection/diagnosis and management of disease in the eye, and the rehabilitation of conditions of the visual system.

Training regulation and the scope of practice of optometrists vary a lot among different countries around the world and even within Europe. However, this should not prevent providers of education to strive to meet the WCO definition of the profession, as optometrists are important providers of integrated people-centred vision and eye care services, which will prevent unnecessary blindness and visual impairment (WHO, 2019).

European Council of Optics and Optometry and European Diploma

Following the guidelines of the Bologna process, the European Council of Optics and Optometry (ECOO) aims to contribute to the harmonization of optometry education in Europe. The European Diploma is an accreditation system based on a curriculum designed by ECOO as the gold standard for the entry level into the optometry profession, in line with the WCO definition of optometry (level 3, using diagnostic drugs) [5]. The accreditation process involves a comparison of the HEI's optometry program and recommended curricula from ECOO revealing eventual differences or GAPs in the learning outcomes. To achieve accreditation these gaps need to be closed. A gap in outcomes may influence optometric performance and visual health care of patients. All students graduating from accredited HEIs need to demonstrate that all learning outcomes described in the European Diploma are fulfilled.

This handbook aims to help HEIs to achieve accreditation by creating a Pedagogical Transformation Plan (PTP). A Pedagogical Transformation Plan is to be designed and written down as a result of the recommendations of this handbook, being a useful tool to guarantee the curricula changes required for accreditation.

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[5] World Council of Optometry (2015). A global competency-based model of scope of practice in optometry. https://worldcouncilofoptometry.info/wp-content/uploads/2017/03/wco_global_competency_model_2015.pdf

Evidence-based Practice

When the OCULUS project was designed and its aims were developed, the team was aware of the need for evidence-based practice in health care, and the growing recognition of this need within health professions globally. Evidence-based Practice is not part of the European Diploma, but is discussed here since it is one of the goals of OCULUS.

The concept of evidence-based medicine was first discussed in 1992 and has been defined as the use of best available research evidence together with the patient's needs and the practitioner's experience when making clinical decisions. The concept and definition have also been applied to allied health professions since the early 2000s. In optometry undergraduate education, curriculum change has been taking place globally for some time to ensure that graduates have the skills, knowledge and attitude they need to make evidence-based clinical decisions.

Recognizing the importance of Evidence-based Practice education in optometry, one of the aims of OCULUS, was to enhance the teaching of Evidence-based Practice in optometry within the partner institutions. Within this part of the project, an overview of systematic reviews was conducted to investigate the effectiveness of teaching strategies for Evidence-based Practice in healthcare. Based on the overview, the Sicily Statement on EBP [6] as well as on experiences within the team, OCULUS prepared a manual describing the results of the overview, the various teaching strategies that may be applied to teach Evidence-based Practice in healthcare and providing examples of application of some of these. More information including the manual and other supporting document on EBP are on the OCULUS website: https://www.oculuserasmus.org/project/ebp/.

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[6] Sicily Statement on evidence-based practice:
https://bmcmededuc.biomedcentral.com/articles/10.1186/1472-6920-5-1

Overview of the Steps for the European Diploma Accreditation Process

In this section steps are listed in chronological order. These steps aim to be helpful in determining the strategy for each institution but each Higher Education Institution should adapt them to their own context, regulations, administrative or other constraints.

STEP 1: Read the guidelines for European Diploma accreditation

The latest version of the guidelines for European Diploma accreditation can be obtained from the ECOO website using this link:
https://www.ecoo.info/european-diploma/educational-institutions/

The ECOO website houses several documents describing the ECOO requirements for accreditation. Any institution interested in applying for European Diploma accreditation should download these documents and go through them in order to estimate the changes they may have to make to their curriculum and the possible obstacles that may have to be overcome.

STEP 2: Arrange internal brainstorming

The Higher Education Institution should identify all stakeholders and organize meetings with representatives (e.g. staff, administration, students and professional bodies) to discuss the benefits of accreditation, finances involved, preparedness and resources available. The Higher Education Institution should appoint a single person to lead this task and who will summarize the brainstorming ideas and distribute the results to all stakeholders. Open communication and transparency in encouraged in all steps. The process will be expedited by the stakeholders having "buy-in": the notion that meeting the standards of the European Diploma will directly benefit them.

STEP 3: Inform regulatory bodies

Based on the regulatory framework of the institution, after internal discussion, it is recommended to seek approval of regulatory authorities within the institution e.g. Board of Studies, Finance office, etc.

To broaden the scope of optometry and to create awareness in the public health care sector about optometry, it may be appropriate to share the project with relevant representatives from central and local Government with responsibilities for public health care.

Consultation with professional bodies and regulators (where appropriate) should continue to ensure that the accreditation meets the needs of the profession, and to broaden interest in the project among the professional community and to access available resources (externship training or finance).

STEP 4: Consult ECOO

The Higher Education Institution should consult with ECOO regarding the accreditation process. In addition, it is helpful to seek mentoring from institutions who have undergone this process. Faculty members of the OCULUS HEIs can provide mentorship to sharing their experience and best practices with other HEIs.

STEP 5: Identify the GAPS

We recommend involvement of all stakeholders in this process. However, in our experience, it is advisable to appoint a team leader who will orchestrate the process and send updates and reminders to all stakeholders.

This step involves the Higher Education Institution identifying any GAPs between their curriculum and the European Diploma curriculum (see self-assessment guidelines from ECOO). In addition, this process identifies any overlap within the curriculum (see step 6).

The Optometry Self-Assessment Tool (OSAT), developed and used in the OCULUS project, is approved by ECOO and available for this analysis. By using the OSAT, an educational institution will gain the following advantages:

- The OSAT allows for easy and efficient administration thanks to different filter options that enable data organization based on the desired parameter
- The tool makes it easy to spot duplicates and missing information
- Supplementary information such as staff CVs, syllabi, course references and assessments can be gathered in the same document.

Access to OSAT as well as guidelines and relevant information can be found here: https://www.oculuserasmus.org/project/osat-optometry-self-assessment-tool/

The OSAT output will provide a list of GAPs and give the Higher Education Institution an idea about surplus and overlapping learning outcomes.

We recommend brainstorming sessions on GAP analysis with all stakeholders with special reference to creating teams with appropriate expertise for each GAP (e.g. contact lens teaching). We also suggest establishing a monitoring mechanism and time frame to follow during the process of curriculum change to fill GAPs.

STEP 6: Address overlaps

During this step, any teaching which is duplicated such that it overlaps across two modules, for example, or is taught repeatedly is considered and may be removed from the curriculum.

This process requires discussion with the subject experts and faculties responsible for teaching the topics which are overlapping. The aim of discussion is to determine whether it is advantageous to teach the material more than once, or whether some of the teaching is superfluous.

Once agreement is reached on a strategy to remove any surplus teaching and to use this space within the curriculum to teach material identified as 'gaps', the decisions should be recorded in writing.

For each of the identified gaps (subjects or skills that appear in the European Diploma curriculum, but are missing from the HEI's current curriculum), it is necessary to identify any barriers to filling these. For example, there may be a lack of necessary facilities, equipment or appropriately experienced teachers. Each barrier should be recorded along with solutions needed to allow the gap to be filled. With feasible solutions to ensure that gaps can be filled, a strategy should be developed by the faculty members, education experts from the university and mentors form OCULUS to make this happen.

We recommend to create a Pedagogical Transformation Plan by creating a table with each identified GAP, course name, teacher and strategy for closure.

Pedagogical transformation plan: gap types and recommendations

The different HEIs participating in the OCULUS project have identified different gaps in their respective curricula. The table on the next pages contains examples of different types of gaps that any institution preparing a Pedagogical Transformation Plan for the European Diploma accreditation may find and some strategies on how they may be overcome.

Some specific examples are also provided.

GAP TYPE	Description	Possible strategies to fill them up	Examples	Other comments
Missing topic/content	Theoretical knowledge currently not included in the curriculum, e.g. Visual perception. Nor is there a faculty member with the capacity to teach the topic.	Recruit new faculty or train the faculty to teach the theoretical material. Purchase and identify space for any practical teaching, such as visual perception laboratories. Use evidence-based teaching approach to develop contents of new topic	Using the example of the subject Visual Perception, lectures, tutorials and/or practical teaching (for this subject, computer-based experiments may be useful) would need to be accommodated in the curriculum.	
Faculty does not have the Clinical competence to teach a specific technique or skill	For example, not all clinical faculty are familiar with advising patients regarding refractive surgery	Identify people with the clinical competences and recruit them to Train the trainers. The creation and use of Structured rubric-based assessment can help this process. These rubrics are available on the OCULUS portal.	Using the example of refractive surgery; Local experts could be brought in to teach faculty the topic. Assessment rubrics may help teachers to mark any clinical topic in a fair manner, but may be especially useful for relatively new topics.	Train the trainer workshop can be organised with help from faculties of mentoring HEI, or OCULUS members.

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GAP TYPE	Description	Possible strategies to fill them up	Examples	Other comments
Clinical competence regarding examination techniques	These are not taught in the current curriculum but the faculty have the competency to teach the topic.	Add labs to the curriculum to teach the clinical competencies. We recommend the use of Structured assessment rubrics (the use of Patient Logging Network, Grand rounds, case studies, rubrics and clinical Guidelines, see link) for clinical care of patients.	Tonometry was added to clinical techniques lab and students were required to log the procedure when performed in clinic.	Student practice under supervision of trained faculty in labs.
Instrumentation	New equipment and instruments may be needed to fill the gap. The teaching needs to be incorporated into clinical routines and funding is needed to purchase specific instrument.	Seek Investment / grants for buying additional instruments. Once equipment is procured, use Structured assessment rubrics to train the students.	Perimetry, optical coherence tomography (OCT), Fundus camera: developed clinical cases of retinal disease for discussion to teach clinical reasoning. Change the curricula reflecting the new procedures, approved by regulatory authority of HEI. Recap for students who are not in a given year to train them.	Approval by regulatory authority will ensure sustainable change.

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GAP TYPE	Description	Possible strategies to fill them up	Examples	Other comments
Lack of patients with different pathologies.	Faculty have the clinical competency, but it is not part of the curriculum due to lack of patients with pathology such as low vision, retinal disease or lack of patients with particular needs like occupational optics or Paediatric patients.	Grand rounds Simulated patients Open new clinic Community service	**Low vision:** Buy basic low vision equipment. Simulate patients reflecting low vision for example eccentric viewing (glasses with patch masked to student), mimic high refractive errors with contact lenses. Role play with mock patient (student gets case record and actor is coached on how to behave as a patient). Lobby admin to open a new clinic and rotate students through the clinic so they get some real exposure. **Occupational optics**: visit to industry, IT firms, fisheries, run an onsite screening clinic, identify patients who need occupational intervention and invite them to come in for full eye checkup . **Retinal disease**: Identify patients with retinal pathology either from Higher Education Institution clinic or community screening outreach. Invite these patients for further evaluation. Students get case record with history and other data but have to perform retinal exam using different techniques. **Paediatric exams:** Give out free glasses to kids under age 12. Adopt school by returning to do vision screening on a regular basis. Kids who fail screening get referred to Higher Education Institution clinic for further care. Kids with special needs = collaborate with physical therapy clinic and also special schools, third year students with post-graduates and faculty.	Patients benefit from grand rounds from: Money Subsidized visual aids (perhaps supported by industry) Access to further high quality care (if required)

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GAP TYPE	Description	Possible strategies to fill them up	Examples	Other comments
Lack of resources to pay faculty for small groups	The Higher Education Institution may need some more faculty to fulfil the European Diploma requirements	Open doors sessions in labs with Msc. Students supervising undergraduate students.	OSPE (objective structured practical examination) in lab under supervision of trained faculty and MSc students.	
Legal issues	Such as optometrists may not be legally allowed to use diagnostic pharmaceuticals	Recruit faculty (for example, ophthalmologist) with legal ability to use diagnostic pharmaceuticals for clinics for teaching of diagnostic routines.	Schedule paediatric and older patients at times when the diagnostics is legally possible and rotate students through these clinics to ensure all students have the correct exposure to this clinic. Amend clinical guidelines and rubrics to include use of pharmaceuticals when appropriate.	Look at the legal framework. For example, in some countries this would be ophthalmologist and others it would be Medical Doctor.
Patient record system	National legal requirements for keeping patient records How to link students clinical practical experience to the patients records	Implement routines according to national requirements	Logging patient experience can be connected to medical records using the unique identification number from the medical records.	Develop standard operating procedures to help better administration of patient care.

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GAP TYPE	Description	Possible strategies to fill them up	Examples	Other comments
Students requirement of patient exposure with occupational needs	To obtain patient exposure in the area of occupational dispensing	Arrange outreach clinic with particular visual requirements in various industries that require occupational dispensing	Many outreach clinic were organized in the nearby town where the main occupation is fishery. Students attended those camps and addressed visual needs for their outdoor work, through dispensing polaroid, tinted lenses and protective eyewear.	Similar events in other occupations may be organized.

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Additional Requirements

Clinical Skills Assessment

One of the challenges that many of the HEIs participating in OCULUS found during the accreditations process was the assessment of clinical skills. As an answer [Rubrics](#) have been developed.

A rubric is a tool used in assessment of clinical skills. It's a scoring guide that helps assessor to mark performance of candidate objectively. Rubrics can also be used as learning tool. When students are exposed to scoring rubrics well in advance, they can prepare better for their examinations. It minimizes the ambiguity of marking a performance or a skill or observation by different assessors, making examination more objective and standardized.

To benchmark a curriculum with ECOO Diploma, various clinical competencies are required to be demonstrated by the students. We (all the consortium members) decided to follow Objective Structured Clinical Examination, Mini Clinical Evaluation Exercise and grand rounds as methods of assessment of student's competencies. To standardize our assessment, we developed the rubrics for most of the clinical competencies listed by ECOO. More information and examples of rubrics can be found on the OCULUS [website](#).

Students Clinical Practical Experience Recording

The European Diploma requires that the student keep a log to create a portfolio of their clinical practical experience. This log has specific guidelines and requirements and is quite cumbersome to do by hand on paper. To making patient logging easier, OCULUS has developed an electronic Patient Logging Network ([PLN](#)) tool, that meets the requirements of the European Diploma and is approved by ECOO. This tool allows optometry students to record/log their clinical experience gained during their studies. The objective is to present evidence of the quantity, diversity and quality of care that the candidate provides for patients during internship to become competent in handling the cases independently. Student Portfolio includes evidence of practice, cases observed under supervision of a licensed practitioner, number cases individually examined, examination format, data protection and privacy legislation, certification by the practitioner. In addition to meeting the requirements of the ED, logging the data through the PLN will help the institutions and professional bodies to accelerate student assessment and learning process and to identify the strengths and weakness of each student. For more details click on the following link:

[https://www.ecoo.info/wp-content/uploads/2016/10/ECOO-Accreditation-Portfolio- of-Clinical-Experience-March-2014-2.pdf](https://www.ecoo.info/wp-content/uploads/2016/10/ECOO-Accreditation-Portfolio-of-Clinical-Experience-March-2014-2.pdf)

The solfware and practical information about PLN are available on the OCULUS website [here](#).

European Credits Transfer System (ECTS).

OCULUS partners in India and Israel do not use ECTS and had to translate their credit system to this standard since the European Diploma requires input of each learning outcome in terms of ECTS.

The ECTS is a system developed for more transparency about the effort a student needs to put in to gain a certain amount of credit. It was first published in 2009 in Bologna.

Calculation of a ECTS is based on the number of hours a student spends in gaining the point. Either this is a lecture, practical, preparation at home or studying for themselves. The estimated workload for 60 EC is between 1500 and 1800 hours of work. This calculates into 25-30 hours for 1EC.

As said above, the workload is estimated. Of course, the contact hours are the easiest. But there is also a calculation done about how long it takes to read, study or prepare a task at home. When a student has prior knowledge or experience he/she will not need that amount of time to achieve the credit. This enhances flexibility for students.

ECTS is a student-based system instead of a teacher-based system. It is important to design based on learning outcomes, so a student knows what he/she needs to achieve on the end of the course. As such, the student can choose what to do to achieve the ECTS.

For more information visit the ECTS user guide:

https://europass.cedefop.europa.eu/sites/default/files/ects-users-guide_en.pdf

Faculty Capacity Building

Faculty members are key to the Pedagogical Transformation Plan. However, Faculty turnover and the addition of new faculty requires training of Pedagogical Transformation Plan and Evidence-based Practice to be a continuous process. Change in Faculty (due to retirement, turnover, expansion) can slow down the process of Pedagogical Transformation Plan implementation.

Quality Assessment

Optometry aims to provide the patient with comprehensive visual health care and management of eye diseases. Optometrists shall know to advice visual ergonomics, professional collaboration and rehabilitation of visual function. The curriculum of any optometry education aims to educate optometry students to meet the requirements of WCO's definition of an optometrist. In addition, HEI's should encourage students to pursue lifelong learning key competencies even after graduation.

HEI's have quality systems to enhance and build educational programs. EU recommend Standards and guidelines for quality assurance in the European higher education area https://enqa.eu/index.php/home/esg/ .This Guide is in addition to your systems, your legal requirements for health care education, working health care personnel and

patients' rights, and any national or international requirements your HEI is obligated to follow.

Quality monitoring is preceded by quality planning (https://www.apm.org.uk/body-of-knowledge/delivery/quality-management/). Benchmark of optometry curricula towards the European Diploma requirements may be a project within your institution. The project may be assessed on an ongoing basis to monitor quality of all aspects, identify risks to the project and instigate the development of contingency plans where needed (http://www.project-quality-monitoring.com/).

Quality work requires time. Time and competence to set strategic goals for the future of a profession is important. HEI should represent competence and strategic processes to achieve quality education of the optometrists. This Guide gives a starting point for enhancement of teaching, learning outcomes (practical and theoretical), engagement of students in clinical activities and student assessment.

To enhance quality of education, the optometric educator and administrative team has to accept and work on gaps, which occur while analysing of both written and unwritten material. Building an education is an ongoing process, which requires honest feedback from all partners involved. Evaluation schemes and processes are important.

Risk analysis requires thoughts about HEI's internal, external collaboration arenas and foremost students learning environments. To enhance education, consider resources, faculty competence, and relationship with health care authorities, organizations, recruitment of students and personnel and so on. Involvement of students' representatives is important; they represent the future of the optometric profession.

The future of optometry should be recognized by the quality of professional knowledge, skills and competencies to provide visual health care to any patient.

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A pdf of this guide is available here:
https://www.oculuserasmus.org/wp-content/uploads/2020/07/Guide-for-European-Optometry-Diploma-Accreditation.pdf