Doc. 300.1.2

Higher Education Institution's Response

Date: 05.05.2021

- **Higher Education Institution:**
  European University Cyprus
- **Town: Nicosia**
- **Programme of study**
  Name (Duration, ECTS, Cycle)

  In Greek:
  «Ιατρική Εκπαίδευση (18 μήνες/90 ECTS, M.Sc.)- Εξ' Αποστάσεως
  In English:
  "Medical Education (18 months/90 ECTS, M.Sc.) Distance Learning
- **Language(s) of instruction: English**
- **Programme's status:** New
- **Concentrations (if any): None**

  In Greek: N/A
  In English: N/A

The present document has been prepared within the framework of the authority and competencies of the Cyprus Agency of Quality Assurance and Accreditation in Higher Education, according to the provisions of the "Quality Assurance and Accreditation of Higher Education and the Establishment and Operation of an Agency on Related Matters Laws of 2015 to 2019" [N. 136 (I)/2015 to N. 35(I)/2019].

A. Guidelines on content and structure of the report

- *The Higher Education Institution (HEI) based on the External Evaluation Committee's (EEC's) evaluation report (Doc.300.1.1 or 300.1.1/2 or 300.1.1/3 or 300.1.1/4) must justify whether actions have been taken in improving the quality of the programme of study in each assessment area.*

- *In particular, under each assessment area, the HEI must respond on, without changing the format of the report:*

    - *the findings, strengths, areas of improvement and recommendations of the EEC*
    - *the conclusions and final remarks noted by the EEC*

- *The HEI's response must follow below the EEC's comments, which must be copied from the external evaluation report (Doc.300.1.1 or 300.1.1/2 or 300.1.1/3 or 300.1.1/4).*

- *In case of annexes, those should be attached and sent on a separate document.*

1. Study programme and study programme's design and development
(ESG 1.1, 1.2, 1.7, 1.8, 1.9)

Findings

1.1 Policy for quality assurance

The program has not yet been launched for recruitment, and understandably no information is publicly available.

We are grateful to the EEC for the comment. The program has not been launched, but after CY.Q.A.A.'s final approval, we will be able to make it publicly known. The program will be openly accessible through the University's website with all the information readily available to all the community.

However, it seems well anchored in the organization at EUC and the Medical School.

The University, the School, the Department and the newly proposed M.Sc. in Medical Education are all interwoven with the same core values "to understand", "to educate" and "to create". Organizational alignment and anchoring are of pivotal importance to any new program launching. Therefore, the EEC's favorable comment captures the spirit of university values.

This includes an internal evaluation organization, with an established and organized approach to academic standards, equality and diversity, and the involvement of different external stakeholders.

We are grateful for the supportive remark by the EEC. We also believe that by osmosis by various stakeholders we are able to implement equality and diversity in all aspects of the academic life. We are also extremely grateful and we appreciate the recognition of the organization of the academic standards, as excellence is a core value of the School and the University. For the School of Medicine, excellence is not a momentarily act but rather a life-long habit. As a result, we embrace the Aristotelian value of the excellence as a continuum.

There is a clear plan for active review during the first iterations of the programme, using a small student cohort.

We would like to thank the EEC for the keen observation. Since we consider ourselves as life-long learners, we would only aim at continuous improvement of our teaching activities. Indeed, for the M.Sc. in Medical Education, there is a clear revision plan of all the teaching material after the first cycle; and we will be given the opportunity to fine-tune the educational program ensuring that we are better able to meet all learning objectives. Moreover, the M.Sc. in Medical Education has allocated more recourses (budgeted to 8000 euros for the Professional Development of the Faculty delivering the program).

1.2 Design, approval, on-going monitoring and review

The design of the program is described in detail and includes appropriate objectives, but a considerable number of learning outcomes.

Thank you for the keen observation. We have addressed the comment in continuation to the following comment related to the link to external competencies.

There is a clear link to external competencies (through the UK Academy of Medical Educators), however the mapping and alignment to these standards could be strengthened.

We are grateful that the EEC recognized the link to external competencies of the Academy of Medical Educators. More specifically, the competencies of the Academy are grouped in the following **pillars**:

1. Teaching and facilitating learning
2. Assessment of learning
3. Educational Research and Scholarship
4. Educational Management and leadership
5. Designing and planning learning

The Core Values of the Academy of Medical Educators are listed below:

A. Promotes quality and safety of care
B. Demonstrates professional identity & integrity
C. Is committed to scholarship and reflection in medical education
D. Demonstrates respect for others

As a result, the objectives have been reduced and mapped to the Pillars and Core Values of the external competencies, as requested by the EEC. The objectives now read:

- provide opportunities for M.Sc. students to study in detail topics related to advanced academic studies to be able to design effective learning to ensure that the learning will result in better patient care (**Pillars 1, 5, Core Value A**).
- advance M.Sc. students' familiarity with the theories of the area of their research within Education Sciences, epistemological theories in the field of Medical Education (Pilar 1).
- help M.Sc. students develop the knowledge and skills necessary to use methods and theories for the assessment of learning (**Pilar 2**).
- prepare M.Sc. students for new knowledge production or remodeling of existing knowledge, creating the basis for the development of pedagogical/ educational theories through applied research to enhance scholarship (**Pilar 3, Core Value C**).
- enable graduates to get a deeper insight into today's complex medical educational environment and apply the knowledge gained to emerge as career leaders of their choice, demonstrating professional identity and integrity (**Pilar 4, Core Value B**)
- Enable graduates to use all of the aforementioned skills in an inclusive manner (**Core Value D**)

And the intended learning outcomes now read:

- Design, create and apply appropriate learning activities to facilitate learning (**Pillars 1,5**)
- Design and reflect on the appropriate assessment for each learning activity (**Pilar 2**)
- Apply Leadership theories in their everyday practice (**Pilar 4**)
- Analyze and design appropriate research questions to promote and remodel existing knowledge in Medical Education (**Pilar 3**)

A broad range of content topics are organised into a series of modules, and are broadly equivalent to similar programmes, so student interest should be strong (EUC intends to market this for overseas/international students).

We are grateful for the comment. We do aspire to build on the existing expertise and create a truly international M.Sc., which will attract high-caliber students, who will play a key role in the development of the existing program. We do intend to start with a small cohort of students mainly because we want to be able to reflect with student feedback and improve the existing program. We are delighted that the EEC recognizes that the student interest should be strong.

The purpose of the program is aligned with strategic growth of other programs at the Medical School and seems fairly well explained and appropriate in this context.

We are grateful for the observation. The School of Medicine and the Department of Medicine are strongly interconnected and there is osmosis at the level of School, Department and Programs.

Content wise, it does not include placement opportunities (and is strong pedagogical).

We completely agree with this observation. In the context of the distance learning program, placements in Cyprus from students who may reside elsewhere may be unrealistic. However, through the candid and collegial discussion with the EEC, we have altered several of our study guides to ascertain teaching opportunities for our students. These placements increase gradually in difficulty starting from watching recordings from classes delivered by instructors to peer teaching in the M.Sc. student body, to teaching undergraduate students under supervision. We have chosen the courses MDE600, MDE620, MDE630 and MDE640 in order to provide these opportunities to our students (please see the revised Study Guides of these courses in Appendix 1A). As the EEC may see, Appendix 1A shows the various activities from selected weeks of the courses altered to address the EEC's valid comments (all changes in the corresponding weeks have been written in red to facilitate reviewing).

In addition, we have incorporated reflection activities in the courses as shown in the revised study guides of MDE600, MDE630, MDE640 and MDE662 (please see the revised Study Guides of these courses in Appendix 1B). The reflection will ensure that the students learn in an asynchronous manner and at their own pace from learning activities they may be organizing or instructing in their home institutions and from activities from the undergraduate MD program. We do hope that these activities will satisfy the EEC's comments. In these activities we have attempted to provide practical components of the program through teaching activities and reflection.

Subsequent monitoring and reviews are planned throughout early iterations of the programme.

We are grateful that the EEC recognizes one the main values of the School Department and subsequently the proposed program, which is continuous renewal. The Program Evaluation Review (P.E.R.) framework constitutes EUC's official University-wide Quality Assurance policy which ensures that EUC programs of study comply, on institutional level, with Standards and Guidelines in the European Higher Education Area, and that EUC programs' structure, content and delivery mode meet stakeholders' expectations and needs. The P.E.R. framework (as it has been presented during the visit and it was also provided in the application package) is continuous in nature, which means that the

Academic Program Committee continuously receives and assesses a wealth of information from all available sources described in Section 3 of the P.E.R. framework description. Therefore, in practice, the process is initiated more frequently than once per year, as some of the important P.E.R. information is received on a semester basis. At this moment in time, the Academic Program Committee is expecting the outcome and the recommendations of the M.Sc.'s Accreditation Process from CY.Q.A.A. as this information constitutes a critical input to its first P.E.R. implementation.

There are clear processes in place for internal approval.

1.3 Public information

Public information is not yet available but is planned within standards at the Medical School and EUC.

Thank you for the nice comments.

1.4 Information management

Information from the program activities and its management is planned but is not possible to evaluate at this stage. Staff seem to be well engaged in the planning, with commitment at all levels of the University.

We are grateful for the EEC's comment. The management of the program is fully aligned with WFME standards using both standard and quality indicators, but we will be refining as the program moves along. The Faculty of Medicine is strongly committed to the planning of the M.Sc. and will follow the required management indicators of the program. The University is collegial and as result, the School of Medicine, Department of Medicine are fully aligned with the core values.

<u>Strengths</u>

1.1 Policy for quality assurance

The program is well anchored and has a strategic role within the Medical School's portfolio of programmes. Within EUC itself, it benefits from being part of a robust quality assessment organization at institutional level, as well as an established distance learning community at the EUC. There are clear processes with EUC for faculty pedagogic development.

We are grateful for the recognition. Quality Assurance plays a pivotal role in all University aspects, but it is also extremely strong with the Department of Medicine. Other than the professional development of the University, the School of Medicine organizes further activities to enhance professional development of the Faculty. Moreover, more funds have been allocated to for the professional development of the Faculty (please see more information in our response in item 1.1. in page 3 above).

1.2 Design, approval, on-going monitoring and review

The design of the program is described in detail. The engagement of teachers at different levels (Medical School and EUC) is strong with clear institutional backing for this programme. The institutional administrative procedures seem well established.

Thank you. The developing team has strived to design and create a program which will conform to professional standards, and we appreciate the fact that the EEC found our description sufficient. Unfortunately, because of the pandemic, the program was submitted a year and a half prior to the EEC visit. The University strongly supports the

program, as the School of Medicine aspires to become a Medical Education hub. We do recognize that we are just taking the first steps in this long journey, but the first steps are pivotal for the stronger development of the Medical Education culture not only at the University level, but also at a country level.

1.3 Public information

NA

1.4 Information management

NA

For both comments 1.3 and 1.4, we agree with the EEC that they are not applicable, as the program is not running.

<u>Areas of improvement and recommendations</u>

1.1 Policy for quality assurance

None

Thank you for finding our policy for quality assurance to the expected standards.

1.2 Design, approval, on-going monitoring and review

The design of the program includes a considerable number of learning outcomes. To get them in line with teaching and assessment in a comprehensive way, they may need to be revised subsequently and would probably benefit from a reduction.

We completely agree with the EEC comment. The detailed response to the EEC's valid comment has been mentioned on page 3 of this response in item 1.2 and it is copied again here.

More specifically, the competencies of the Academy of Medical Educators are grouped in the following **pillars**:

1. Teaching and facilitating learning
2. Assessment of learning
3. Educational Research and Scholarship
4. Educational Management and leadership
5. Designing and planning learning

The core values of the Academy of Medical Educators are listed below:

A. Promotes quality and safety of care
B. Demonstrates professional identity & integrity
C. Is committed to scholarship and reflection in medical education
D. Demonstrates respect for others

As a result, the objectives have been reduced and mapped to the pillars and CV of the external competencies. The objectives now read:

- provide opportunities for M.Sc. students to study in detail topics related to advanced academic studies to be able to design effective learning to ensure that the learning will result in better patient care (**Pillars 1, 5, Core Value A**).

- advance M.Sc. students' familiarity with the theories of the area of their research within Education Sciences, epistemological theories in the field of Medical Education (Pilar 1).
- help M.Sc. students develop the knowledge and skills necessary to use methods and theories for the assessment of learning (**Pilar 2**).
- prepare M.Sc. students for new knowledge production or remodeling of existing knowledge, creating the basis for the development of pedagogical/educational theories through applied research to enhance scholarship (**Pilar 3, Core Value C**).
- enable graduates to get a deeper insight into today's complex medical educational environment and apply the knowledge gained to emerge as career leaders of their choice, demonstrating professional identity and integrity (**Pilar 4, Core Value B**)
- Enable graduates to use all of the aforementioned skills in an inclusive manner (**Core Value D**)

And the intended learning outcomes now read:

- Design, create and apply appropriate learning activities to facilitate learning (**Pillars 1,5**)
- Design and reflect on the appropriate assessment for each learning activity (**Pilar 2**)
- Apply Leadership theories in their everyday practice (**Pilar 4**)
- Analyze and design appropriate research questions to promote and remodel existing knowledge in Medical Education (**Pilar 3**)

At the same time, there are burning topics of medical education such as programmatic assessment, professionalism/professional identity development, informal learning/hidden curriculum, learning climate and atmosphere and transition to practice that are still not being addressed.

We are grateful for the comment which aims at enhancing the program's content. The EEC has proposed the following topics which will be addressed one by one below: Each of the topics is shown in italics and capital letters.

PROGRAMMATIC ASSESSEMENT: Programmatic evaluation is addressed in the course MDE650 (please see Study Guide of the course, week 8 in Kern's framework: Evaluation and feedback; Appendix 2). Programmatic Assessment, a significant innovation in Medical Education, which involves such a change in thinking and action as to merit the label paradigm shift. Programmatic Assessment is a radical approach to assessment throughout the medical education program devised to address endemic problems in assessment and its deleterious on the curriculum and student learning. Van der Vleuden has published extensively in the programmatic assessment and this element has not been initially included in MDE630. However, this deficiency is seriously taken into consideration and has been addressed in a revised study guide for MDE630 before the launching of the program (please see the revised Study Guide in Appendix 3).

PROFESSIONALISM/PROFESSIONAL IDENTITY DEVELOPMENT: Professionalism is addressed in relation to ethics to all aspects of a Medical Curriculum including hidden

curricula (please see respective revised MDE650 Study Guide in Appendix 4). Professional identity development is one of the values which are interwoven inside the matrix of the study guides and it is formally addressed in MDE650.

INFORMAL LEARNING/HIDDEN CURRICULUM: A great deal of valuable learning—informal learning—takes place within medicine's informal and hidden curriculum. It is this kind of informal learning that brings about more diverse and personal learning gains. Informal learning contributes to individuals' continuing professional development, personal mastery, and capacity building. Recognition of informal learning can be the key to the development of a strong lifelong learning orientation for learners as they go through the process of developing and forming their professional identity. The element of the hidden curricula and informal learning is mentioned in the revised MDE650 (please see the revised Study Guide in Appendix 4)

However, the program coordinator is aware of the need to nurture a mindset of continuous growth and development, necessary to create a process of adaptative development.

The program coordinator and the entire education team are very grateful for the comment. The EUC School of Medicine is a new school. The notion of Medical Education was new upon the onset of the School. To this end and as a life-long learners and reflective practitioners, we will continue to nurture continuous growth and development in Medical Education.

The program would benefit from complementary activities with a flexible nature, capable of accommodating relevant topics being discussed by the health professional education community. This might be best achieved by considering what is 'core' within the programme and what might be optional, allowing better personalisation of learner experiences.

We are thankful for the comment by the EEC. According to our plans, we have already arranged a winter and a summer School to address the relevant topics in the healthcare education community. The M.Sc. and the School of Medicine have created a strategic alliance with the International Network of Healthcare Workforce Education https://inhwe.org/ with two (2) members of the developing team serving in the Advisory Board https://inhwe.org/advisory-board, and the Dean currently serving as President of the Board. Prearranged meetings have been scheduled with the launch of the M.Sc. (please see relevant documentation in Appendix 5 and Appendix 6). The themes are scheduled to vary each time the "Schools" are organized to address various topics that the healthcare community might be debating at the time. The "Schools" are considered to be the optional material of the program and will allow better personalization of the learners' experiences.

The purpose of the program could be more elaborated in terms of possible future employments and possible interested stakeholders within and outside the academic sector. It is important to note that this Masters level award would support the career development of an educator with EU Universities, but would not be adequate alone for senior faculty positions as claimed.

Thank you for the insightful comment. We are indeed launching a new program in a country where Medical Education has only been introduced for 9 years. The creation of the M.Sc. and the instilment of the Med Ed culture will increase interest both locally and internationally from various stakeholders, including professional bodies. The University is in negotiations with the Academy of Higher Education and will be able to offer its own

Fellowship program accredited by HEA in two (2) years and the School of Medicine will attempt to have the M.Sc. program accredited after the first cycle (i.e. 2 years) by the Academy of Medical Educators.

We are extremely sorry for the sentence regarding the possibility of a single M.Sc. to be sufficient for faculty positions and this has been deleted from the feasibility study which now reads:

"Given that this is a new M.Sc., the expected number of the first intake is not going to be high. The minimum accepted number of students for a program to run as the national regulation of CY.Q.A.A.. The numbers of prospective students are expected to grow as the culture of Medical Education is imbued into the local medical community. As the EUC Medical School aspires to be a hub of excellence in Medical Education and it offers a very attractive and innovative new curriculum, the offer of the current M.Sc. will add to the value of the existing undergraduate curriculum. The graduates of the current program will see significant advancement to their careers and the graduates of similar M.Sc. programs offered mainly in the UK, use this academic qualification to improve their employability possibilities by Universities."

Content wise the student orientation and skill competences could be more emphasized, for example efforts to somehow include placement opportunities or site visits at home, or teaching practice within the program or at virtual teaching training facilities. In this sense, the modern installations of the EUC could offer different opportunities for practical activities based on observation of and reflection on real teaching interactions in lecture halls, and small group or simulation sessions.

We completely agree with this observation. In the context of the distance learning program, placements in Cyprus from students who may reside elsewhere may be unrealistic. However, through the candid and collegial discussion with the EEC, we have altered several of our study guides to ascertain teaching opportunities for our students. These placements increase gradually in difficulty starting from watching recordings from classes delivered by instructors to peer teaching in the M.Sc. student body, to teaching undergraduate students under supervision. We have chosen MDE600, MDE620, MDE630 and MDE640 in providing these opportunities to our students (please see the revised Study Guides in Appendix 1A). Appendix 1A shows the various activities from selected weeks of the courses altered to address the EEC's valid comments (all changes in the corresponding weeks have been highlighted to facilitate reviewing).

In addition, we have incorporated reflection activities in the courses as shown in the revised study guides of MDE600, MDE630, MDE640 and MDE662 (please see revised Study Guides in Appendix 1B). The reflection will ensure that the students learn in an asynchronous manner and at their own pace from learning activities they may be organizing or instructing in their home institutions and from activities from the undergraduate MD program. We do hope that these activities will satisfy the EEC's comments. In these activities we have attempted to provide practical components of the program through teaching activities and reflection.

Finding a way to connect the master in medical education with the curricular and faculty development of the department of medicine and dentistry may bring benefits for both school and master candidates. This would be particularly helpful in areas of the programme where content needs strengthening (e.g., assessment blueprinting, professionalism, learner transitions) using material from the School's MD programme.

We are grateful for the comment. We embrace truly interprofessional education and as mentioned previously the Departments and the School are imbued with the same core values. According to the University by-laws the program is part of to the Department of Medicine and the Department is part of the School. The University regulations do not separate the program from the level of the Department and the School and, to this effect, harmonization exists in all three levels with the necessary interaction among all faculty members. In addition, the activities that have been included for the M.Sc. students (please see highlighted sections in study guides), will serve as an important theoretical and practical connection of the Med Ed M.Sc. program with the curriculum and faculty development of the School of Medicine. For example, the course MDE630 “Principles of Assessment and assessment in healthcare practice” not only offers M.Sc. students the opportunity to critically observe and review formative and summative assessments, devise/review OSCEs, etc., but to provide feedback that could be valuable for faculty and curricular development. Additionally, taken with the other practical actives introduced in the M.Sc. program, it allows for a collective critical review of the constructive alignment of the three (3) pillars of education: intended learning outcomes, teaching - learning activities and assessment, which in turn, permits a both M.Sc. students and faculty to review assessment blueprinting on the one hand to learn about its importance and gain competence and on the other hand, to ensure that all aspects of the medical curriculum and educational domains are adequately covered by the assessment program.

1.3 Public information

NA

1.4 Information management

NA

We agree with the EEC that 1.3 and 1.4 are not applicable in a new program.

2. Student – centred learning, teaching and assessment *(ESG 1.3)*

Findings

2.1. Process of teaching and learning and student-centred teaching methodology.

The e-learning methodology proposed is appropriate to achieve the aims of the program. There is a balance between videoconferences for presentations and discussion sessions to promote students' interaction. The processes include different modes of e-learning delivery.

We are grateful for the comment. The University has created an agile, reflexive, and reflective Distance Education Unit which provides all administrative support to all School's distance learning programs of study. In addition, the University runs the Pedagogical Planning of Distance Learning Programs of Study Standing Committee which is a standing committee of the University's Committee of Internal Quality Assurance (C.I.Q.A.) and is involved in all internal quality assurance related procedures and decisions that relate to the University's Distance Learning programs of study. The Standing Committee comprises of faculty representatives of all Schools of the University (more information about its function in item 3.1 in page 19). The proposed M.Sc. in Medical Education has embraced the existing e-learning methodology & values.

The learning resources that will be used will be expressly designed to support learning content and will be regularly updated with videos integrated in the activities. The methodology proposed will encourage students to take an active role and it is thought to support and guide students for their development. Whether the students are encouraged to take an active role in creating the e-learning process, and the implementation of student-cantered learning and teaching cannot yet be fully evaluated, as well as the tools, materials and dealing with students' diversity.

Thank you for the finding. We are committed to encourage the students in taking an active role in their studies. At the level of the M.Sc., the guidance will be of the appropriate level to ensure that students will progress at their own pace. We also agree that the EEC cannot possibly evaluate the implementation of student-centered learning, the materials and the diverse study body, as the M.Sc. is a new program of study. The EEC has been insightful in their comments and we have embraced all their suggestions.

2.2. Practical training

Practical studies are limited, mainly due to the format, and the needs of the stakeholders are somewhat unclear. As noted in Section 1, the programme needs to better link 'pedagogy with practice' to encourage application of principles learned in this programme to students' day to day teaching.

We completely agree with this observation. In the context of the distance learning program, placements in Cyprus from students who may reside elsewhere may be unrealistic. However, through the candid and collegial discussion with the EEC, we have altered several of our study guides to ascertain teaching opportunities for our students. These placements increase gradually in difficulty starting from watching recordings from classes delivered by instructors to peer teaching in the M.Sc. student body, to teaching undergraduate students under supervision. We have chosen MDE600, MDE620, MDE630 and MDE640 (please see the revised Study Guides in Appendix 1A). Appendix 1A shows the various activities from selected weeks of the courses altered to address

the EEC's valid comments (all changes in the corresponding weeks have been highlighted to facilitate reviewing). In addition, we have incorporated reflection activities in the courses as shown in the revised study guides of MDE600, MDE630, MDE640 and MDE662 (please see the revised Study Guides in Appendix 1B).

The reflection will ensure that the students learn in an asynchronous manner and at their own pace from learning activities they may be organizing or instructing in their home institutions and from activities from the undergraduate MD program. We do hope that these activities will satisfy the EEC's comments. In these activities we have attempted to provide practical components of the program through teaching activities and reflection.

2.3. Student assessment

An assessment framework is in place, including defined evaluation criteria and methods, and procedures for student appeals seems to be in place. Several aspects of student assessment are not yet known, such as whether the assessments are fully aligned to teaching content, and transparent. The assessment criteria/rubrics for reflective components/assessment for learning is not fully described. Assessors' competence draws on Faculty's existing experience in the School's MD programme

Thank you for recognizing the efforts of creating an assessment framework. Despite the fact that we were unable to demonstrate alignment of the teaching content and assessment, as this is a new program, and we need to test and improve our assessment methods. Transparency is of utmost importance for the School, and for the proposed M.Sc. and it is ascertained by the Ad Hoc Committee of Assessment. Effective assessment in medical education requires tasks that assess cognitive and communication skills while also assessing professionalism attributes. In 2010, a consensus framework for good assessment was developed at the Ottawa Conference. The framework for single assessments identifies construct validity, reproducibility, equivalence, acceptability, feasibility, educational benefit, and timely feedback as key elements. This approach motivates learners and provides educators with the opportunity to drive learning through assessment. With increasing awareness that assessment includes elements of this framework, the M.Sc. engages in an integrated approach to the teaching, learning and assessment process. This fosters the involvement of students as active and informed participants, and the development of assessment tasks, which are authentic, meaningful and engaging.

The rubric for reflective assessment has been adapted from Schutz, S, Assessing and Evaluating Reflection, REFLECTIVE PRACTICE IN NURSING 59-60 (Chris Bulman and Sue Schutz, ed. 4th ed. 2008) and can be found here (please see Appendix 7).

2.4. Study guides structure, content and interactive activities

Study guides seems aligned with distant learning and includes student interaction. Expected learning outcomes of the modules are appropriately organized and seems coherent throughout the program. This sub-area is somewhat not possible to evaluate science the program is not yet operating, such as schedules, feedback, and interactive activities. In general study guides, material and activities seems appropriate.

We are grateful for the favorable comments. The developing team has worked collectively to ensure appropriate development of the study guides. We fully appreciate the EEC's comment regarding the lack of schedules, feedback, etc., as this is a new program and as a result, this data will be available once the program is operating.

Strengths

2.1. Process of teaching and learning and student-centred teaching methodology.

A diverse range of teaching methods is planned.

Thank you. We have used an array of teaching methods to ascertain both achievement of learning outcomes and student engagement. As stated in the cordial discussion with the members of the EEC the study guides are living documents and are refined as the program operates.

2.2. Practical training

None.

We completely agree with this observation. In the context of the distance learning program, placements in Cyprus from students who may reside elsewhere may be unrealistic. However, through the candid and collegial discussion with the EEC, we have altered several of our study guides to ascertain teaching opportunities for our students. These placements increase gradually in difficulty starting from watching recordings from classes delivered by instructors to peer teaching in the M.Sc. student body, to teaching undergraduate students under supervision. We have chosen the courses MDE600, MDE620, MDE630 and MDE640 to apply these provisions (please see revised Study Guides in Appendix 1A). Appendix 1A shows the various activities from selected weeks of the courses altered to address the EEC's valid comments (all changes in the corresponding weeks have been highlighted to facilitate reviewing).

In addition, we have incorporated reflection activities in the courses as shown in the revised study guides of MDE600, MDE630, MDE640 and MDE662 (please see revised Study Guides in Appendix 1B). The reflection will ensure that the students learn in an asynchronous manner and at their own pace from learning activities they may be organizing or instructing in their home institutions and from activities from the undergraduate MD program. We do hope that these activities will satisfy the EEC's comments. In these activities we have attempted to provide practical components of the program through teaching activities and reflection.

2.3. Student assessment

A fairly robust assessment framework, even though the program has not yet started. Several aspects of student assessment needs attention during the practical implementation.

We are grateful for the observation. Assessment is of pivotal importance for the School of Medicine, the Department of Medicine and the M.Sc. in Medical Education. We do sympathize with the EEC's reservation during practical implementation. What and how students learn depends largely on how they think they will be assessed; hence,

assessment has become a strategic tool for enhancing teaching and learning in the proposed M.Sc. Within this theoretical framework, the developing team recognizes the limitations of assessment and its loose association with student learning.

2.4. Study guides structure, content and interactive activities

Study guides seems aligned with distant learning. Expected learning outcomes are extensive and appropriately organized.

Thank you. The developing team has spent considerable amount of time to draft and fine-tune the study guides in such a way that they would be useful and interactive. We have paid particular attention to the creation of the learning outcomes.

Areas of improvement and recommendations

2.1. Process of teaching and learning and student-centred teaching methodology.

To encourage students to take an active role in applying learning to practice, the School should consider some form of longitudinal e-portfolio to support learner progress and development. As the School seeks to market this programme to a wider Health Professions Education discipline, it should ensure a strong multi-professional ethos sits at the heart of the programme.

We truly appreciate your comment. During our fruitful discussions, we had provided evidence that we are in the process of developing an e-portfolio. This project will be launched for the School of Medicine and for all programs of study of the School in September 2021. The e-portfolio will also be implemented in the M.Sc., and all other graduate programs of the School. The developing team consisted mainly of colleagues of the Department of Medicine with the invaluable help of a colleague from the School of Business. For the School of Medicine, interprofessional training is a key priority, as demonstrated from our previous reports to the National Agency. As we have stated in the discussion, the M.Sc. immediately after launching will seek external collaborations from other disciplines. In addition, our alliance with INHWE will ascertain that we can recruit people from various disciplines (please see relevant documentation in Appendix 4 and Appendix 5).

2.2. Practical training

Practical studies are limited, mainly due to the format, but can still be further developed using a distributed approach such as at-home field studies or practice, and making better use of synchronous/asynchronous engagement with the School's impressive online facilities (e.g., by acting as peer reviewers, or co-instructors/small group facilitators and assessors in order to gain experience and feedback).

We completely agree with this observation. In the context of the distance learning program, placements in Cyprus from students who may reside elsewhere may be unrealistic. However, through the candid and collegial discussion with the EEC, we have altered several of our study guides to ascertain teaching opportunities for our students. These placements increase gradually in difficulty starting from watching recordings from classes delivered by instructors to peer teaching in the M.Sc. student body, to teaching

undergraduate students under supervision. We have chosen the courses MDE600, MDE620, MDE630 and MDE640 in applying these provisions (please see revised Study Guides in Appendix 1A). Appendix 1A shows the various activities from selected weeks of the courses altered to address the EEC's valid comments (all changes in the corresponding weeks have been highlighted to facilitate reviewing).

In addition, we have incorporated reflection activities in the courses as shown in the revised study guides of MDE600, MDE630, MDE640 and MDE662 (please see revised Study Guides in Appendix 1B). The reflection will ensure that the students learn in an asynchronous manner and at their own pace from learning activities they may be organizing or instructing in their home institutions and from activities from the undergraduate MD program. We do hope that these activities will satisfy the EEC's comments. In these activities we have attempted to provide practical components of the program through teaching activities and reflection.

2.3. Student assessment

Several aspects of student assessment are not yet known, such as their alignment to actual teaching. Assessors' competence in distance learning assessment may need to be further developed given the nature of this programme (the weekly assessment format may well be challenging for students, and module leaders to complete marking and give effective feedback).

All academic staff are responsible to explain to students all assessments criteria and methods of each course during the first-class session. In addition, a course outline is provided and uploaded in the respective electronic platform for the whole duration of the course. The University analyses the performance of each student for further improvement of all programs via the P.E.R. process. We fully agree with the observation that Assessors' competence need to be developed. For this reason, the University has in place a very specific professional program with a duration of 10 hours.

The content of this 10-hour program appears below:

Faculty Professional Development Program Distance Learning Course	
Schedule	**Topic**
(2 hours)	• Indroduction • The EUC Distance Learning Fundamental Principles and Pedagogical Model • Infrastructure
(2 hours)	Conceptual clarifications: • Distance Learning-Online Education-Digital Learning • Open Education • Application models
(2 hours)	The Relationship between Educator and Learner in Distance Learning
(2 hours)	Assessment and Feedback in Distance Learning
(1 hour)	The Educational Material in Distance Learning (on the basis of participants' needs, experiences and background)

More funds of approximately 8000 euros have been budgeted from the M.Sc. budget for the Continuous Professional Development of the M.Sc.

2.4. Study guides structure, content and interactive activities

Several parts of the program such as schedules, and feedback and interactive activities needs attention during the implementation, including a dialogue with students.

The students are stakeholders in all academic issues of the University, including the programs of study. The PER process provides the framework for the student feedback. In the first teleconference session of the distance learning M.Sc. in Medical Education, as with all other distance-learning courses, the instructor explains the actual implementation of the schedules and various activities. Moreover, the design and delivery of the distance learning MSc in Medical Education, the educational material and the digital transformation of the educational material, e-assessment and feedback in distance learning have been taken into consideration from the onset of the M.Sc. design and are scheduled to be monitored after every cycle.

The student workload needs attention when starting up, as well an update on recommended literature.

The workload has been calculated using the formulas provided from the University. Since this is a new program, the student workload will be revised as necessary.

The program could benefit from the implementation of specific strategies aiming for the creation of an online community of practice. Communities of practice are efficient to nurture mentorship, foster knowledge creation and sharing and create a shared identity with a sense of belonging, all conductive of life-long learning. Moreover, this community could help and advance the next versions of the master by keeping former students connected to the course.

Thank you for bringing up the social aspect of learning. A community of practice (CoP) is, in effect, a collection of individuals who come together to perform various tasks, but what makes this a community are three key attributes: working together (mutual engagement), a common goal (joint enterprise) and a collection of communal resources (shared repertoire). The “MedIC” (Medicine Innovation Center) portal https://medicine.euc.ac.cy/ can serve as means for the creation of a CoP for the M.Sc.

3. Teaching staff
(ESG 1.5)

Findings

3.1 Teaching staff recruitment and development

There is a strong commitment (within both the EUC and the School of Medicine) to supporting staffing provision for the distance learning programme. It draws heavily, and appropriately, on the strengths of the University through well-established mechanisms to support distance learning.

> We are delighted to hear the comment from EEC. We were uncertain given the circumstances of the site visit. Our moto is we teach as a team and we lean as a team and this moto is not only limited at the level of Department and School but extends to all the Schools of the University. It is also true, and we appreciate that, that the University supports our efforts to launch this distance-learning M.Sc. through well-established mechanisms. These mechanisms enable us to fulfill the School's and the Department's visions.

Teaching staff are drawn from the School of Medicine and have varying degrees of practical expertise in the instruction of undergraduate medical students and in some cases, academic qualifications in medical/health professions education. There is a strong process of faculty development internally within the University which is to be commended.

> Thank you! We are pleased to hear compliments by the EEC. It is true that only a few of us have official qualifications in medical or healthcare education. However, one of the strategic visions of the School is to further enhance the in-house expertise in Medical education. This goal will be achieved once the culture of Medical Education settles in a new Medical School and by the strong and continuous professional development program offered by the University and the school itself.

Targeted faculty development in medical education and visiting teaching staff seem to be intended.

> During our fruitful discussions, we have portrayed the two adjunct faculty, with whom initial discussions have been initiated. These people will be Roulan Wang from the University of Liverpool and Elizabeth Norris from Bath. Moreover, we can also involve the existing strategic alliance with INHWE as explained already (please see Appendix 5 and Appendix 6). The alliance with INHWE allows us to bring visiting teaching staff from a variety of backgrounds.

3.2 Teaching staff number and status

Given that the programme seeks to recruit from an international student market, consideration should be given to the use of a range of external speakers and educators to support this, benefitting approaches to student transitions throughout the programme, delivery of content and support for the main teaching staff themselves. In the site visit discussions, the School of Medicine noted that it would be recruiting additional support (e.g., qualitative research methods teachers).

Please see our response above. Ruolan Wang is a qualitative Researcher, and the Program will utilize the INHWE expertise, an organization which is interprofessional in nature.

3.3 Synergies of teaching and research

There are strong connections between teaching and research across the institution, and within the School of Medicine. This is less apparent in the specific field of medical education scholarship, although the EEC were pleased to see emerging early evidence of this.

Thank you for the comment. Medical Education research is steadily building up. So far, most of the publications on medical education are quantitative in nature. The qualitative expertise can be accumulated from other Schools of the University (such as the Department of Education Sciences, Associate Professor Eleni Theodorou) and also from the external expertise.

<u>Strengths</u>

3.1 Teaching staff recruitment and development

The Distance Learning Unit responsible for training academic staff, providing pedagogical support to plan new programs; and for the design and evaluation of educational materials. The COVID-19 pandemic has also been used to assess the implementation of distance learning in the programs and identify good practices and disadvantages to improve the model. There is a strong ethos of clinical experience within the core Faculty, all of whom are active teachers and contributors to the School's MD programme.

We are thankful for the keen observation. The EUC Pedagogical Planning of Distance Learning Programs of Study Standing Committee has a strong background and supports all distance learning programs offered by the University with success. This Standing Committee of the University's Committee of Internal Quality Assurance (C.I.Q.A.) is involved in all internal quality assurance related procedures and decisions that relate to the University's Distance Learning programs of study. The Committee aims to improve the learning experience of distance learning students through its active and qualitative support of the University's distance learning programs of study and is responsible for supporting Schools in:

- monitoring and evaluating the existing distance learning programs of study
- the pedagogical planning of new distance learning programs of study
- the design and evaluation of educational material for distance learning programs
- the support and feedback processes to the students
- the pedagogical use of technology, internet and digital information
- the technical training and support of instructors
- the interaction between staff and students.

In addition, the School of Medicine acquired abrupt experience on online teaching with the advent of the Pandemic of COVID-19. Despite the fact that the activities of the undergraduate program were not that of a distance learning mode, the faculty

became more familiar and fluent with e-platforms. We are grateful for the recognition of the clinical ethos, the EEC identified in the core faculty. The ethical values are well established in the very young tradition of the School of Medicine.

3.2 Teaching staff number and status

The engagement of a colleague from the Business School to teach on leadership.

Thank you. Dr. Chouridis, Associate Professor of Business and the Dean of the School of Business is an invaluable colleague with whom the School of Medicine shares the same ethos.

3.3 Synergies of teaching and research

Strong institutional and School cultures to ensure harmonisation of teaching and research.

The University and the School is increasing its research output steadily as evidenced by the Scopus papers per year. The School of Medicine publishes extensively in various topics and the culture of research is instilling in the junior Faculty. The School of Medicine is also proud to have a very Junior Lecturer in Microbiology who is an Associate Fellow in Higher Education Academy.

Areas of improvement and recommendations

3.1 Teaching staff recruitment and development

Undertaking a gap analysis of teaching provision and teaching expertise could assist the programme in deciding how best to ensure a balance of teachers/skillsets from with the School of Medicine, other health faculties (particularly if the programme seeks to recruit students from other health professions) and the wider University.

We welcome this comment with great joy. As with all programs of the University a needs-assessment analysis precedes to identify that the instructor: student ratio is maintained. Currently for the MD program, the instructor to student ratio is 1 to 3.2. In the M.Sc. Medical Education, the core faculty will be able to cover the initial student body, which will be limited so as to allow the faculty to process the material and most importantly materialize the courses from syllabi to actual distance-learning courses. The M.Sc. has built the initial strategic alliance with INHWE which will add on the existing expertise. The ultimate aim of the program is to be able to accommodate students from other healthcare professions. We expect a strong interest from Nursing and Professor Thomas Kern comes from the faculty of Nursing and Professor Adam Layland is a Paramedic (please see relevant documentation in Appendix 5).

3.2 Teaching staff number and status

At this early stage of the programme, consideration needs to be given to the use of a broader pool of visiting experts to support teaching delivery, as well as enabling local faculty. This could be achieved through use of the School of Medicine's considerable

networks (acknowledging that this can be an efficient way of ensuring students have good access to a range of experts in their field, given the breadth of Medical Education)

Thank you for the observation. As mentioned, we have already the agreement of Ruolan Wang as Adjunct Lecturer (qualitative Researcher, University of Liverpool) and the support from the Advisory Board of INHWE (please see relevant documentation in Appendix 4 and Appendix 5).

3.3 Synergies of teaching and research

Active engagement with external colleagues and institutions could support the educational research component of the programme, as educational research outputs are not yet a major strength of a young School. This could take the format of formal research teaching, support for projects/theses as well as practical 'hands on' research clinics and support for dissemination of student research.

Thank you. The faculty has significant research output in quantitative research. We acknowledge the deficiency on the production of qualitative research. In order to achieve such research production, which will complement the existing research expertise we have planned collaborations with various interprofessional colleagues from INHWE. At this stage, we are formalizing the agreement. In addition to the external expertise, in-house expertise has been where the core faculty will be exposed to qualitative methodologies through various courses as budgeted

A possible list for courses on qualitative methodology is shown here:

https://www.phc.ox.ac.uk/study/short-courses-in-qualitative-research-methods/introduction-to-qualitative-research-methods

https://www.phc.ox.ac.uk/study/short-courses-in-qualitative-research-methods/introduction-to-qualitative-research-methods

https://www.ucl.ac.uk/short-courses/search-courses/qualitative-research-methods-health

https://www.kcl.ac.uk/short-courses/qualitative-research-in-health

https://www.edx.org/course/qualitative-research-methods-analyzing-data

Unfortunately, because of the course of the Pandemic COVID-19, we are unable to commit as to who will be attending each of the suggested courses.

The programme will benefit from extended support to local faculty through opportunities to immerse and further professionalise themselves in the wider health professional's community (e.g. credentialing Fellowships such as FAMEE run through the Association of Medical Education in Europe). This would build on the existing strengths of the Faculty.

We have already embarked on applying for Fellowship of AMEE. The criteria for Fellowship are: Active Membership of the AMEE, Holders of at least a bachelor's degree, major contributions to AMEE for 5 years, scholarship and leadership http://www.amee.org/fellowship. Given the fact that the contributions to AMEE should expand for 5 years, this could be a long-term goal.

4. Student admission, progression, recognition and certification *(ESG 1.4)*

Findings

4.1 Student admission, processes and criteria

EUC has strong institutional processes which are clearly documented in guidance to students, and clearly understood by staff. Processes were compliant with local regulations and in meetings with colleagues, excellent standards of practice were noted in respect to student admission, including approaches to dealing with the recognition of prior learning (RPL). The EEC felt this represented good practice.

We are grateful for the observation. The EUC is striving to achieve excellence and we are trying to embrace “good practices” throughout the academic life.

4.2 Student progression

Not yet appropriate, but a clear plan to monitor student progress closely in the early cohorts of the programme.

Thank you. There is indeed a clear plan to monitor student progress as a rule for all EUC. The monitoring of the first cohorts of students will be of pivotal importance for the M.Sc., as it will gain significant insight as to possible amendments and possible corrective movements. The M.Sc. is willing to listen carefully to the experiences of the first graduating classes and react by reinforcing the positive feedback and amend issues causing any negative feedback.

4.3 Student recognition

Adequate institutional processes in place.

Thank you for the observation.

4.4 Student certification

Institutional processes for management of RPL are clear.

We are grateful.

Strengths

4.1 Student admission, processes and criteria

The fact that there is a plan to recruit students from different nationalities and contexts will bring the diversity a program in education needs to flourish.

Thank you. For us, diversity and cultural competence are of pivotal importance. We strive to achieve an international audience, which will bring their own experiences and as a result shape a new educational paradigm.

4.2 Student progression

NA

We agree with the EEC that this is not yet applicable for a new program of study.

4.3 Student recognition

Clear, institutional processes for the management of RPL. A strong, and experienced central team of expert administrative, technical and library colleagues.

We are grateful for the comment and the observation. We rely heavily on this excellent team of colleagues with whom we work closely exchanging ideas and we function as a true team.

4.4 Student certification

NA

We agree that this not yet applicable, as this is a new program of study.

<u>Areas of improvement and recommendations</u>

4.1 Student admission, processes and criteria

Prior review of the submitted material, as well as the meetings in the online site visit raised no concerns, and strong University practices. We have noted student progression as 'not applicable' as there are currently no students on the programme, but good exemplar processes to monitor students on this distance learning course. The number of students may in later cohorts be larger than the stated 30.

We are grateful for the observation. We will continue implementing the existing strong university practices. We are also in agreement that this area is still not applicable as the program is new.

The program would benefit from recruiting students from outside the health professional field such as sociologists, educationalists, psychologists, philosophers and other areas of the humanities. The health profession education field is multidisciplinary by nature and benefits from different academic and research traditions.

We are in agreement and we will recruit a diverse student body to the best of our ability.

Given the small number of expected students, we suggest monitoring students more closely, also in the process of continuous assessment.

Thank you for the nice observation. As we discussed, during our collegial discussion, we also believe that close monitoring is required to detect any possible deficiencies for the program but to also ascertain that our graduates progress in their chosen career path.

4.2 Student progression

NA

4.3 Student recognition

None.

4.4 Student certification

None.

We agree that 4.2, 4.3, 4.4 are not applicable as this is a new program.

5. Learning resources and student support
(ESG 1.6)

Findings

5.1 Teaching and Learning resources

Interactive activities are planned, and virtual learning materials are being developed. Given the program is based on distance learning real-life situations, building skills in experiences and attitudes are somewhat limited. However, broader learning resources seem adequate.

Thank you for recognizing the limitations of the distance learning program. As we have explained in previous answers, we have a clear plan for "placements" in the sense of using the online teaching materials for reflection, engage the students in CoP and ask the students to voluntarily deliver on-line courses under supervision.

5.2 Physical resources

In general, the physical resources are significant and adequate. At the school the resources seem to be fit for purpose and well rated amongst students.

Thank you for the kind observation. We will use and enhance as we progress the existing physical resources.

5.3 Human support resources

Human support resources seem adequate.

We are grateful. We significantly count on the existing human support resources, which help us achieve our goals.

5.4 Student support

Student support appears very well established at EUC and the School of Medicine, and available for supporting a diverse student population, and fairly well adapted to distant learning students. Student mobility is somewhat limited given the distant learning methodology.

Thank you. The EUC Pedagogical Planning of Distance Learning Programs of Study Standing Committee has a strong background and supports all distance learning programs offered by the University with success. This Standing Committee of the University's Committee of Internal Quality Assurance (C.I.Q.A.) is involved in all internal quality assurance related procedures and decisions that relate to the University's Distance Learning programs of study. The Committee aims to improve the learning experience of distance learning students through its active and qualitative support of the University's distance learning programs of study and is responsible for supporting Schools in:

- monitoring and evaluating the existing distance learning programs of study
- the pedagogical planning of new distance learning programs of study
- the design and evaluation of educational material for distance learning programs
- the support and feedback processes to the students

- the pedagogical use of technology, internet and digital information
- the technical training and support of instructors
- the interaction between staff and students.

In addition, the Distance Education Unit which provides the structural administrative support for the offering of the Schools' distance learning programs of study has well established policies to support students.

Strengths

5.1 Teaching and Learning resources

Provision of online learning environment to distribute materials and encourage collaboration and interaction. The library has resources in electronic form that are available to staff members and students.

We can only express our gratitude for the recognition. Our goal is to enhance collaboration not only at the level of faculty and administration, but also at the level of faculty and students.

5.2 Physical resources

Extensive and modern physical resources

The resources are up-to-date and we take great pride for being able to work in such a dynamic environment.

5.3 Human support resources

NA

We agree that 5.3 is not applicable, as this is a new program.

5.4 Student support

A well-established system at the school, with a very experienced central EUC team.

We are delighted to hear the observation from the EEC.

Areas of improvement and recommendations

5.1 Teaching and Learning resources

Faculty development to support teaching competence and activities that building skills and attitudes, possibly within collaboration with expertise in the field of distance learning in medical education.

We acknowledge the comment, and we welcome your request. As shown on page 14 of the existing document, a very precise and robust professional development course is in place.

5.2 Physical resources

None.

5.3 Human support resources

None.

5.4 Student support

None.

We are thankful for 5.2, 5.3 and 5.4. We understand that many of these are not applicable as this is a new program of study.

6. Additional for doctoral programmes
(ALL ESG)

N/A

7. Eligibility (Joint programme)
(ALL ESG)

N/A

B. Conclusions and final remarks

The Medical Education (18 months /90 ECTS, MSc) Distance Learning is a promising and new programme in a young academic setting. The strategic fit and commitment by both the School of Medicine and wider EUC is clearly articulated, and there are obvious benefits for the local and international academic education 'economies' through continued professionalisation of health professions educators. Within undergraduate medical education, demonstration of these competencies will be increasingly essential to meet the standards of the World Federation of Medical Education, making this MSc particularly well placed and well timed in its launch.

Your kind comments can only fill us with joy. The M.Sc. program is necessary in order to achieve one of the strategic goals of the School, of Medicine, which is to gradually build expertise on Medical Education. We agree that the M.Sc. program will be an addition in the existing programs offered by the School and internationally. Despite the fact, that the EUC School of Medicine has been successfully accredited through the WFME procedure initiated by the CY.Q.A.A. National Agency, we believe that as we built in-house expertise in Medical Education, the benefits will be significant not only for the University but also for the local community.

The EEC wish to congratulate the School and EUC for the comprehensive submission for this programme, and highlight particular thanks for colleagues 'time, generosity and openness during the virtual site visit. A spirit of academic collegiality and active discussion was evident throughout the meetings. The EUC should be particularly congratulated on its MD students and recent MD graduates, all of whom were outstanding ambassadors during their session with the EEC.

We have no words to thank you for the nice comment. We have also experienced a climate of intellectual stimulation, openness and more importantly we have experienced the climate of an honest peer-review process. The EEC was kind enough to provide their expertise with useful comments, all of which have been addressed and have been taken into serious consideration for future action. The School of Medicine is extremely grateful to our students who remain our ambassadors throughout the world. We take great pride of the graduates and current graduands as they have been exposed and advocate professionalism, team-work and they aim at improving patient care.

The MSc programme has a clear design, and ambition to be distinctive amongst a broader range of Medical Education courses, including international distance learning programmes such as those delivered by FAIMER.

We are grateful for the comment. We do hope that we will able to contribute significantly in the arena of Medical Education not only teaching-wise, but research-wise.

The planned alignment to established education frameworks (AoME) is noteworthy, but as commented, this needs to be more clearly articulated to ensure that the core and options of the programme (and content) meet the expectations of a contemporary programme of medical education. This will be important in ensuring successful recruitment of early cohorts (whose evaluations and experiences will shape the programme further).

Thank you for the observation. We have revised the program outcomes as shown on page 5 of the current program and we have subsequently reduced and mapped the learning outcomes of all the courses and mapped them against the framework of AoME.

The programme and module ILOs are extensive, and the course team would benefit their learners through review and reduction of these. Consideration also needs to be given to appropriately weighting topic coverage, ensuring depth in key areas, as well as illustrating new and emergent areas (which need less depth).

Appendix 8 contains the revised Syllabi of the M.Sc. with all learning outcomes of all the taught courses included in the current submission. We are grateful for the recommendation, which highlighted a significant area of improvement in the current proposal.

Assessment approaches are constrained as a result of legislative alignment, but the MSc has created thoughtful approaches to engage learners with reflection throughout the course, and bring together multiple opportunities for team and peer activities. As noted, it is important that the MSc develops an overarching programme of assessment to ensure constructive alignment with the key ILOs of the course.

We are grateful for the comment. The legislation is very strict on what we can offer as assessment and as a result, we were obliged to follow the norm. We are also grateful to the EEC's comment for recognizing the efforts to create interactive activities and use an array of teaching modalities appropriate for the distance learning mode of delivery. The developing team is seriously taking into consideration your proposal regarding the overarching program of assessment to ensure alignment with the learning outcomes (Appendix 9). This appendix is the blueprint of assessment of all the courses and includes both the planning and the writing of the assessment for the students.

The core Faculty for the MSc are engaged and well committed (with clinical and teaching experience from the EUC MD programme) and support for them, their own development and the creation of a careful balance of internal/external teachers to support development and delivery of the course. Drawing on support from colleagues from other departments in the University (as already in place, and expansion is intended) is a strong strategic approach.

We can only express our gratitude for the observation made by the EEC. We work as a team and we teach as a team. We have provided evidence of the external expertise we will bring in to support the development and delivery of the program (please see our previous responses regarding recruitment from the Department of Education Sciences and the external expertise by Ruolan Wang and Elizabeth Norris (please see Appendix 6 & Appendix 7).

More generally, the programme benefits from the dedication at EUC towards quality assurance, distance learning and student engagement, and its modern infrastructure.

We are thankful for the observation. We have a robust quality assurance system which is dedicated to ascertain and monitoring quality not only at the level of the M.Sc., but also of the Department, the School and the University.

Critical to the success of the programme (and beyond the scope of this EEC review) will be an active programme of learner and Faculty evaluation, with related course enhancements. We wish EUC and School of Medicine colleagues well with this ambitious and exciting development.

We have really enjoyed our discussions and we are welcoming your wishes.

In summary, the EEC's recommendations for further improvement are:

- ***Ensure maximum opportunities to enhance 'practical training' to encourage students to take an active role in applying learning to practice, both through learning activities within the MSc and learner reflections/experiences on application of theory to their own learning (e.g. through continuous assessment).***

  We completely agree with this observation. In the context of the distance learning program, placements in Cyprus from students who may reside elsewhere may be unrealistic. However, through the candid and collegial discussion with the EEC, we have altered several of our study guides to ascertain teaching opportunities for our students. These placements increase gradually in difficulty starting from watching recordings from classes delivered by instructors to peer teaching in the M.Sc. student body, to teaching undergraduate students under supervision. We have chosen the courses MDE600, MDE620, MDE630 and MDE640 in order to apply these provisions (please see revised Study Guides of these courses in Appendix 1A). Appendix 1A shows the various activities from selected weeks of the courses altered to address the EEC's valid comments (all changes in the corresponding weeks have been highlighted to facilitate reviewing). In addition, we have incorporated reflection activities in the courses as shown in the revised study guides of MDE600, MDE630, MDE640 and MDE662 (please see revised Study Guides of these courses in Appendix 1B). The reflection will ensure that the students learn in an asynchronous manner and at their own pace from learning activities they may be organizing or instructing in their home institutions and from activities from the undergraduate MD program. We do hope that these activities will satisfy the EEC's comments. In these activities we have attempted to provide practical components of the program through teaching activities and reflection.

- ***As the program includes a considerable number of learning outcomes, they should be revised and reduced, paying attention to the more detailed EEC comments about alignment, purpose of the programme and its 'core and options' to ensure adequate content alignment.***

  We are grateful that the EEC recognized the link to external competencies of the Academy of Medical Educators. More specifically, the competencies of the Academy are grouped in the following **pillars**:

  1. Teaching and facilitating learning
  2. Assessment of learning
  3. Educational Research and Scholarship
  4. Educational Management and leadership
  5. Designing and planning learning

  The core values of the Academy of Medical Educators are listed below:

  A. Promotes quality and safety of care
  B. Demonstrates professional identity & integrity
  C. Is committed to scholarship and reflection in medical education
  D. Demonstrates respect for others

  As a result, the objectives have been reduced and mapped to the pillars and CV of the external competencies. The objectives now read:

  - provide opportunities for M.Sc. students to study in detail topics related to

advanced academic studies to be able to design effective learning to ensure that the learning will result in better patient care (**Pillars 1, 5, Core Value A**).

- advance M.Sc. students' familiarity with the theories of the area of their research within Education Sciences, epistemological theories in the field of Medical Education (**Pilar 1**).
- help M.Sc. students develop the knowledge and skills necessary to use methods and theories for the assessment of learning (**Pilar 2**).
- prepare M.Sc. students for new knowledge production or remodeling of existing knowledge, creating the basis for the development of pedagogical / educational theories through applied research to enhance scholarship (**Pilar 3, Core Value C**).
- enable graduates to get a deeper insight into today's complex medical educational environment and apply the knowledge gained to emerge as career leaders of their choice, demonstrating professional identity and integrity (**Pilar 4, Core Value B**)
- Enable graduates to use all of the aforementioned skills in an inclusive manner (**Core Value D**)

And the intended learning outcomes now read:

- Design, create and apply appropriate learning activities to facilitate learning (**Pillars 1,5**)
- Design and reflect on the appropriate assessment for each learning activity (**Pilar 2**)
- Apply Leadership theories in their everyday practice (**Pilar 4**)
- Analyze and design appropriate research questions to promote and remodel existing knowledge in Medical Education (**Pilar 3**)

All revised Syllabi appear in Appendix 8.

- ***Ensuring a clear 'assessment map' that details the assessment and feedback load (for students and faculty) within and across modules, aligned to the reduced series of key learning outcomes recommended above.***

  Appendix 9 provides the assessment map, as an overarching technique for all the courses of the current program. This adheres to the guidelines of the Pedagogical Planning of Distance Learning Programs of Study Standing Committee (of the University's Committee of Internal Quality Assurance-C.I.Q.A.) which is involved in all internal quality assurance related procedures and decisions that relate to the University's Distance Learning programs of study. Similarly, we followed the Standing Committee's guidelines regarding the assessment and feedback load for the Distance Learning programs of study (including around 15-20 hours per week for postgraduate 10 ECTS courses; total course hours for postgraduate 10 ECTS courses: 250-300 hours; total course hours for 30 ECTS Semester: 750-900 hours).

  The Faculty will need three (3)-hours to allocate to the course according to the University by-laws and procedures. We do realize that the Faculty involved in the delivery of such a course will require more time to achieve a sufficient learning curve, but the three (3)-hour paradigm has worked appropriately for all distance learning courses of the University. In addition, Faculty of the University have work obligation to regularly maintain at least six (6) hours Student Office Hours per week for the academic advise and support of the students of their courses. All Faculty announce their Student Office

Hours in the beginning of each academic semester and post this announcement in all their courses on the Blackboard page of each of their courses. Office Hours are maintained across the semester for students to consult their instructors on content-specific assistance and tutoring and any other issues of academic nature. Students attending a specific course may also utilise their instructor's Office Hours on a one-to-one or group face-to-face or online briefing. Student Office Hours are allocated on an instructor's weekly timetable both on morning and afternoon hours, so that students have enough opportunities based on their weekly schedule to meet their instructors. Instructors may increase their weekly Student Office Hours based on the ongoing needs of the students enrolled in their courses. All students also receive support by their instructors outside Office Hours through email communication.

- ***Attention to faculty development opportunities to further professionalise core faculty, including skill development in online/distance learning. The EEC has made a number of suggestions throughout this report, and highlight areas which EUC may wish to consider as enhancements in the short and medium term:***

  All your comments have been addressed. The faculty will be given the opportunity to improve their skills and will be supported through their professional development as offered by the School of Medicine and EUC.

- ***The purpose of the program could be better aligned to future career development of potential students, particularly given the ambition to recruit a broader range of students from health professions education (HPE) backgrounds.***

  We are grateful for the comment. In order to tailor and refine the future career development, the M.Sc. will map the potential students' background and will provide all the necessary amendments as we recruit our first cohort of students.

- ***The program could benefit from strategies aiming for the creation of an online community of practice, particularly focusing on multiprofessional education experiences and activities.***

  Thank you for bringing up the social aspect of learning. A community of practice (CoP) is, in effect, a collection of individuals who come together to perform various tasks, but what makes this a community are three key attributes: working together (mutual engagement), a common goal (joint enterprise) and a collection of communal resources (shared repertoire). The MedIC (Medicine Innovation Center) portal https://medicine.euc.ac.cy/ can serve as means for the creation of a CoP for the MSc.

- ***Consideration the use of a broader pool of visiting experts to support teaching delivery.***

  Other than the previous mentioned external expertise, we will actively cover the need of visiting experts by our network (please see Appendix 5 and Appendix 6)

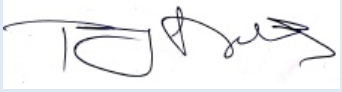
- ***Opportunities to develop a synergistic programme of education research from the MSc, produced by students and faculty.***

  This synergy is of pivotal importance and so far we have used the synergies in the delivery of the Undergraduate MD program to involve students in research. This effort is to be maximized at the level of the M.Sc. as mentioned before with the external expertise and the possibility that the students to collaborate with our extended network.

- ***The program could benefit from recruiting students from outside clinical health professional field to mirror the highly multiprofessional nature of education, and education research, in HPE.***

  We completely agree that multi-professional representation would be beneficial and we will follow your advice to ascertain a diverse student body, as we have done in our MD program.

C. Higher Education Institution academic representatives

Name	*Position*	*Signature*
Theodoros Xanthos	Program Coordinator, Chair of the Department of Medicine	
Violetta Raffay	Program Co-coordinator	
Elizabeth Johnson	Dean School of Medicine	

Date: 05/05/2021

Appendix 1A.

Training opportunities in courses (MDE600, MDE620, MDE630, MDE640)

THE CYPRUS AGENCY OF QUALITY ASSURANCE AND ACCREDITATION IN HIGHER EDUCATION

European University Cyprus

FORM: 200.1.3

STUDY GUIDE

COURSE: MDE600
Medical Education Theories to practice

Course Information

Institution	**European University Cyprus**		
Programme of Study	**Medical Education**		
Course	**Medical Education Theories to practice**		
Level	Undergraduate ☐	Postgraduate (Master) ☒	
Language of Instruction	English		
Course Type	Compulsory ☒	Elective ☐	
Number of Teleconferences	Total: Up to 6	Face to Face: -	Teleconferences: Up to 6
Number of Assignments	3		
Assessment	Assignments	Final Examination	
	50 %	50 %	
Number of ECTS Credits	10		

TITLE:

Behaviourism

(2nd Week)

Summary

The behaviourism theory was imbedded in the educational theories through the translational experiments performed by Pavlov. Classical and operant conditioning are well associated with the theory as well as positive and negative reinforcement. Behaviourism defines learning as a change in the behaviour with the instructor providing the stimulus for the change. Behaviourism has received significant critique, but its roots still exist in the measurable learning outcomes, the favourable learning spaces and the competency based curricula, just to name a few.

Introductory Remarks

Behaviorism dates back to Descartes, who introduced the idea of a stimulus and called the person a machine dependent on external events whose soul was the ghost in the machine. Behaviorism takes this idea to another level. Although most theories operate to some degree on the assumption that humans have some sort of free will and are moral thinking entities, behaviorism refuses to acknowledge the internal workings of persons. In the mind of the behaviorist, persons are nothing more than simple mediators between behavior and the environment. In the field of psychology, there are a good number of personalities who can be perceived as major contributors to the development of the theory of behaviourism. One of them is the Russian psychologist known as Pavlov (1849-1936). Pavlov is best known for his contribution to the theory of behaviourism mostly through his work in classical conditioning or stimulus substitution. Another major contributor to the development of the theory of behaviourism is Thorndike (1874-1949). His major contribution to behaviourism is his theory of 'connectionism', which states that learning involves the formation of a connection between stimulus and response. Thorndike developed three laws based on his stimulus-response hypothesis. The first of these laws is the 'law of effect' which states that the connection between stimulus and response is strengthened when it is positively rewarded and weakened when negatively rewarded. The second law is the 'law of exercise'. Central to this law is the premise that the more the stimulus response (S-R) bond is practiced, the stronger it becomes. The third and last law developed by Thorndike is the ‘law of readiness’ which holds that due to the structure of the nervous system, some conduction units, in given situations are more predisposed to conduct than others. Probably the most influential of all the founding fathers of behaviourism is Watson (1878-1958). Watson studied the adjustment of organisms to their environments, more specifically the particular stimuli leading organisms to make their

responses. Influenced by the ideas of Pavlov, Watson held the view that behaviour is established through stimuli-response associations through conditioning. An account of the development of behaviourism cannot be complete without mentioning the contributions of Skinner, who introduced the idea of operant conditioning (1904-1990). The term ‘operant' means how behaviour operates on the environment. Operant conditioning operates on the principle that behaviour may result either in reinforcement, which increases the likelihood of that behaviour to be repeated or punishment, which decreases the likelihood of the same behaviour to be repeated in future. Skinner was also the father of positive and negative reinforcement. Despite the fact that behaviourism has received severe criticism, there are several echoes still observable in our everyday teaching life: The learning objectives (a behavioural objective states learning objectives in "specified, quantifiable, terminal behaviours"), the favorable teaching environment, positive reinforcement of behaviours and finally competency-based curricula in medical schools are a few examples.

Aims/Objectives

- Describe the major contributions of Pavlov, Thorndike, Sknner, and Watson in the development of behaviourism
- Understand the limitations of behaviourism as a learning theory
- Discuss the effects behaviourism still exerts in medical education.

Learning Outcomes by the end of this session students will be able to:

- Discuss how behavioursim pioneered in Education and its limitations
- Identify the elements of behaviourism, still in existence in medical education

Key Words

Classical conditioning	Operant Conditioning	Law of behaviourism	Positive Reinforcement	Stimulus-Response	Competency based medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Boyd VA, Whitehead CR, Thille P, Ginsburg S, Brydges R, Kuper A. (2018).Competency-based medical education: the discourse of infallibility. Medical Education 52,:45-57 (pdf provided).
2. Daker JR (2005). The Hegemonic Behaviorist Cycle. International Journal of Technology and Design,15:111–126 (pdf provided).
3. Gibboney RA (2006). Intelligence by Design: Thorndike Versus Dewey. Phi Delta Kappan, 88: 170-2 (pdf provided).

4. Morcke AM, Dornan T, Eika B (2013). Outcome (competency) based education: an exploration of its origins, theoretical basis, and empirical evidence. Advances in Health Sciences Education Theory and Practice,18:851-63 (pdf provided).
5. Rostami K, Khadjooi K (2010). The implications of Behaviorism and Humanism theories in medical education. Gastroenterology and Hepatology from Bed to Bench, 3:65-70 (pdf provided).
6. Skinner BF (1984). The operational analysis of psychological terms. The behavioural and brain sciences, 7:547-81 (pdf provided).
7. Talbot M (2004). Monkey see, monkey do: a critique of the competency model in graduate medical education. Medical Education, 8:587-92 (pdf provided).

- **Supplementary Sources/Material**

1. Dahlbom, B. (1984). Skinner, selection, and self-control. Behavioral and Brain Sciences, 7: 484-486.
2. Rescorla, RA. (1988). Pavlovlian conditioning: It's not what you think it is. American Psychologist, 43:151-160.
3. Seligman, MEP. (1970). On the generality of the laws of learning. Psychological Review, 77: 406-418.
4. Skinner, BF (1984). Selection by consequences. Behavioral and Brain Sciences, 7: 477-481.

Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 2.1 Watch the recording delivered by one instructor in an Anatomy lab (link to be provided) and identify all the elements of behaviorism the instructor is using as educational tools. The word limit is 500 words excluding references.

Recommended number of work hours for the student 15 hours

TITLE:

Teaching Methods Based on Some Principles of Cognitive Learning Theory

(4th Week)

Summary

Cognitive apprenticeship, reciprocal teaching, anchored instruction, inquiry learning, discovery learning, and problem-based learning are the most well described teaching methods associated with cognitivism. All of them have been used and are still used in some extend in Medical Education. Knowing the theoretical underpinnings and phases of each method makes cognitivism more relevant to the everyday practice of a Medical Educator.

Introductory Remarks

Cognitive apprenticeship, reciprocal teaching, anchored instruction, inquiry learning, discovery learning, and problem-based learning are the most distinctive teaching methods based on cognitivism. Given that cognitivism is not a unified theory, each teaching method has similarities but also significant differences from the other. Cognitive apprenticeship is a method of helping students grasp concepts and procedures under the guidance of an expert such as the teacher. Its basic principles lie in the works of Vygotsky with the following phases of instruction: Modeling, Coaching, Articulation, Reflection & Exploration. Reciprocal teaching is based on information processing theory, a branch of cognitive learning theory. it as an instructional activity in the form of a dialogue happening between teachers and students. The teacher incorporates four strategies into the dialogue by asking students to employ cognitive techniques of summarizing, question generating, clarifying, and predicting. Reciprocal teaching is composed of modeling, coaching, scaffolding, and fading to achieve instructional objectives. This method aims at promoting the effort between the teacher and students or among peers of students to make sense of the instructional materials; peer-teaching stems from the processing theory. Anchored instruction refers to designing and implementing instruction around anchors (i.e., cases, stories, or situations) that involve some kinds of case-study or problem situation. In reality, anchored instruction is associated with technology. The Cognition and Technology Group at Vanderbilt (1993) explains how the anchoring instruction works: "*The design of these anchors was quite different from the design of videos that were typically used in education. . our goal was to create interesting, realistic contexts that encouraged the active construction of knowledge by learners. Our anchors were stories rather than lectures and were designed to be explored by students and teachers*." Inquiry learning is based Piaget's theory of cognitive development and resembles the scientific inquiry method. The primary goal is to help students develop their higher-order thinking skills by engaging them in a process of either investigating an issue or formulating and testing a hypothesis in order to find solutions to a problem. Discovery learning is defined

as “an approach to instruction through which students interact with their environment by exploring and manipulating objects, wrestling with questions and controversies, or performing experiments”. This method encourages students to discover principles and important relationships by engaging them in such activities as asking questions, formulating hypothesis, doing experiments and research, and investigating a phenomenon. Problem-based learning involves presenting students with an ill-structured, open-ended, authentic, or real-life problem with many possible correct solutions and asking them to find answers to that authentic problem. As opposed to traditional instruction that teaches facts and skills first and then introduces the problem, this method introduces the problem at the very beginning of instruction on the basis of what students already know (or students’ existing knowledge) and teaches facts and skills in a relevant context.

Aims/Objectives

The aim of the present module is to provide several teaching techniques based on the philosophical and theoretical notions of cognitivism.

Learning Outcomes By the end of this session students will be able to

- Apply cognitive apprenticeship
- Compare and contrast anchored teaching to Problem based teaching
- Discuss inquiry learning

Key Words

Cognitive apprenticeship	Anchored instruction	Inquiry learning	Problem-based learning	Discovery Learning	Student-centered

Annotated Bibliography

- **Basic Sources/Material**

1. Austin AE (2014). Cognitive apprenticeship theory and its implications for doctoral education: a case example from a doctoral program in higher and adult education. International Journal for Academic Development, 3, 173-183 (pdf provided)
2. Druckman D, Ebner N (2017). Discovery Learning in Management Education: Design and Case Analysis Journal of Management Education 0, 1-28 (pdf provided)
3. Ellaway RH, Kehoe A, Illing J (2020). Critical Realism and Realist Inquiry in Medical
   Education, 95:984-8 (pdf provided)

4. Feletti G (2006). Inquiry Based And Problem Based Learning: How Similar are these Approaches to Nursing and Medical Education? Higher Education Research & Development, 12:143-56 (pdf provided).
5. LeGrand Buandt B, Famer,JA, Buckmaster A (1993). Cognitive Apprenticeship Approach to Helping Adults Learn. New Directions of Adult and Continuing Education, 59: 69-77 (pdf provided)
6. Neville AJ (2009), Problem-Based Learning and Medical Education Forty Years On. Medical Principles and Practice, 18:1-9 (pdf provided)
7. Stalmeijer RE, Dolmans DHJM, Wolfhagen IHAP, Scherpbier JJA (2009). Cognitive apprenticeship in clinical practice: can it stimulate learning in the opinion of students? Advances in Health Science Education, 14:535–46 (pdf provided)
8. Love MS (2004). Multimodality of learning through anchored instruction. Journal of Adolescent & Adult Literacy, 48:300-10 (pdf provided)

- **Supplementary Sources/Material**

Assessment 1
This is a graded assignment (30% of the total grade of Assignments)

Design any lesson plan on any subject related to your professional experience. Present the lesson plan using 2 of the teaching methodologies of Cognitivism. Provide the rationale of the plan in a scholarly manner (using appropriate references from the international literature).
The word count of the assignment should be between 3.500-4.000 words, excluding references. Use the referencing format as on the Thesis document.
Remember to include the lesson plan in 2 different ways. The lesson plan should be the same for both of the teaching methodologies.

Recommended number of work hours for the student 20 hours

TITLE:

Learning Styles

(8th Week)

Summary

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Rather than an educational theory, some researchers view learning styles as more of a personality test. Others, however, discourage using the learning styles theory in any sense because they view it as detrimental. The human brain is complex, and neuroscientists still have plenty to discover about what an ideal learning environment looks like.

Introductory Remarks

Learning styles is not a learning theory, by definition. Learning theorists believe that everyone has their own learning style – a way of taking on board information that is unique to each individual. Honey and Mumford developed their own 'learning styles': activist, reflector, theorist and pragmatist. They explained how individuals process new information; for example, how the information is learnt and retained. The four styles are summarised below:

Activists learn best by being creatively involved; they like to immerse themselves in new experiences and enjoy being thrown in at the deep end. They learn by doing rather than reading or listening, are said to be open-minded, and are receptive to stimulations, case studies and role modelling.

Theorists like to consider problems. They strive to understand concepts and integrate them into their thinking. They learn through logic and facts via lectures and reading, seeking to understand the theory behind and reason for what they observe.

Reflectors learn best by standing back, observing and reflecting upon what they see and experience. Reflective writing and journals are likely to help them learn. They learn best by watching, thinking and talking things through rather than participating.

Pragmatists like to try out new ideas and engage in problem solving. They learn by applying things to practice, testing and experimenting to see if they work. They are receptive to role modelling and like to 'get things done'.

Critics of learning styles argue that the claims made about learning styles are exaggerated and possibly too simplistic – that individuals draw on more than one learning style when processing information and that no theoretical framework exists beyond these styles. While there's plenty of support for this theory among teachers who find it helpful, research surrounding learning styles is sparse and sometimes critical. It's true that many students have a preference for one of the four learning styles. As of yet, however, no link has been found between a preferred learning style and academic achievement.

Aims/Objectives
To present one aspect of learning styles among many, to summarize the findings and present the critique of the concept

Learning Outcomes By the end of this session student will learn how to

- Describe the various learning styles
- Critically understand the limitations of the learning styles

Key Words

Activist	Theorist	Reflector	Pragmatist	Concept	VARK model

Annotated Bibliography

- **Basic Sources/Material**

1. An D, Carr M. (2017). Learning styles theory fails to explain learning and achievement: Recommendations for alternative approaches. Personality and Individual Differences, 116, 410–416 (pdf provided)
2. Curry L (1983). An organization of learning styles, theory and constructs. Presented at American Educational Research Association Annual Meeting Montreal; Canada (pdf provided).
3. Furey W (2020).The stubborn myth "learning styles". Education Next, 20:8-12
4. Scott, C (2010). The enduring appeal of `learning styles' . In: Australian Journal of Education, 54:5-17; Proceeding Australian Council for Educational Research

- **Supplementary Sources/Material**

Weekly Group Assignment This counts for 20% of your total assignment grade
Exercise 8
This will be a graded assignment. You will be divided into groups and you will submit one paper as a group. One person will take the lead and create a teaching experience for the rest of the group. The person taking the lead will organize a teaching session with the other members of the group. The person delivering the material will be responsible for the creation of the teaching material and recording of the activity. The people participating in the group will write a collaborative reflective assignment on whether their different learning styles have been adequately addressed. Word count 4000 words excluding references.

Recommended number of work hours for the student 20 hours

TITLE:

Constructivism in Medical Education

(10th Week)

Summary

The constructivist learning theory is one of the newest and most unique learning frameworks. Constructivists believe that knowledge is formed within the learner by
integrating learning activities and experiences into knowledge and beliefs. Because constructivists believe that individuals learn by creating meaning from experiences,
it follows that the locus of learning in this framework is on developing meaning, achieving understanding, and assigning significance to experiences

Introductory Remarks

The constructed knowledge is 'manipulated' through beliefs, mental structure and experiences lending to the uniqueness of learning. This contributes to different learning styles of individuals which teachers and instructors need to be aware of. This philosophy will assist teachers as curriculum delivery is not based only on the contents of materials presented. Knowledge cannot be passively transferred to the learner. The learner needs to understand the lesson in a way unique to him. Within a constructivist framework, the learning process involves construction of meaning from experiences through critical reflection on the learners' assumptions. Educators who use a constructivist approach assist learners in understanding how they developed certain assumptions and question learners as to whether those assumptions remain valid. The locus of learning in a constructivist orientation is internal and involves creating new schemes to change perspectives and deepen understanding. The role of the teacher in this framework is to foster critical reflection and negotiate meaning with learners.

A number of medical education strategies, such as reflective journaling, writing practice narratives, and developing course portfolios, can be used to foster a constructivist learning orientation. For example, writing practice narratives has the potential to assist learners in understanding their practice as a physician in new ways. Typically, learners are asked to use a 3-column approach to construct a practice narrative. In column 1,the learner describes a particular case, and in column 2 the learners articulate their thoughts and feelings about the case. At a later date, the learner completes the third column of the practice narrative by reflecting on what they have learned. Once this activity is complete, small groups of learners come together to discuss similarities and differences in their cases and to describe what their cases mean to them. The group process helps learners to unearth assumptions and discover meanings that may be framing their clinical practice.

An example of the development of curriculum for medical students is used to further explain this point. The first-year medical student goes through two years

learning the basic sciences before he is in direct contact with patients. During this period of learning he grasps the fundamentals of disease like learning about the anatomy of the human body and how it functions. Once there is mastery of these basic sciences of medicine, he is challenged with simulated patients. The latter are healthy people who volunteer to be examined so that the students can develop the skills of eliciting a clinical history and examine a 'patient'. The clinical skills unit is a dedicated centre where a real-life environment is created for the 'patient' to be seen and 'worked on'. The supervisor or preceptor begins as a demonstrator and later takes on the 'scaffold' role till competency is established. In the third year (first clinical year) the process of clinical examination is re-visited and repeated, but the students have access to real patients. It is at this stage that experiential learning is established in a clinical setting complemented by active learning through problem based and task-based learning. Task based learning (TBL) demonstrates the value of the constructivism theory of learning. It incorporates group dynamics and problem-solving approaches using real life clinical problems. Students perform tasks which health care professionals are faced with in real life. To perform the tasks, students employ an active learning process and are responsible for his learning. Learning results from the process of understanding the concepts and mechanisms underlying those tasks.

Aims/Objectives.
To understand the importance of Constructivism in Medical Education. The current trends in many medical schools around the world are associated with the assumptions of constructivism.

Learning Outcomes at the end of this session students will learn how to

- Discuss the importance of constructivism in medical education
- Analyze how constructivism has influenced Medical Education Research
- Create a lesson plan based on the assumptions of Constructivism

Key Words

Construct	Individuality	Scaffold	Creation of Knowledge	Task based learning	Active learning process

Annotated Bibliography

- **Basic Sources/Material**

1. Brandon A, All AC (2010). Constructivism Theory Analysis and Application to Curricula. Nursing Education Perspectives, 31:89-92 (pdf provided).
2. Colliver, J. A. (2002). Constructivism: The View of Knowledge That Ended Philosophy or a Theory of Learning and Instruction? Teaching and Learning in Medicine, 14: 49–51 (pdf provided).
3. Colliver, J. A. (2002). Educational Theory and Medical Education Practice. Academic Medicine, 77:1217-20.

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5. Flynn L, Jalali A , A Moreau KA (2015). Learning theory and its application to the use of social media in medical education. Postgraduate Medical Journal, 91:556-60 (pdf provided).
6. Huang HM, Rauchb U, Liaw SS (2010). Investigating learners' attitudes toward virtual reality learning environments: Based on a constructivist approach. Computers & Education, 55: 1171-82 (pdf provided).

- **Supplementary Sources/Material**

Weekly Self-Assessment & Interactive Exercises/Activities
Exercise 10.1
Watch a link from a lab delivered in a simulation room in the course of Pathophysiology (link to be provided). On your post not exceeding 800 words excluding references identify the elements of constructivism the instructor is using to achieve his/her learning outcomes. The lesson plan of the instructor will be available at the files section of the course for the respective week.

Recommended number of work hours for the student 16 hours

STUDY GUIDE

COURSE:
Learning in Medicine: Infrastructure and Technologies

Course Information

Institution	**European University Cyprus**		
Programme of Study	**Medical Education**		
Course	**Learning in Medicine: Infrastructure and Technologies**		
Level	Undergraduate ☐	Postgraduate (Master) ☒	
Language of Instruction	English		
Course Type	Compulsory ☒	Elective ☐	
Number of Teleconferences	Total: Up to 6	Face to Face: -	Teleconferences: Up to 6
Number of Assignments	2		
Assessment	Assignments	Final Examination	
	50 %	50 %	
Number of ECTS Credits	10		

TITLE:

Computer technologies in learning

(2nd Week)

Summary The computer assisted learning is a systematic control of instruction by computer is characterized by testing, diagnostic learning, presentation and through record keeping. It is often defined as a learning environment in which though the use of computer technology, where learner receives, reacts to, and interacts with instructional material prepared by an instruction specialist.

Introductory Remarks Computer-assisted instruction (CAI) and computer assisted learning (CAL) is an approach in teaching and learning in which computer technology is used as an aid to the presentation, reinforcement and assessment of material to be learned, and usually include substantial interactive elements. Some of numerous advantages of the computer assisted learning are supported by the facts that educators land departments are keen and prepared to introduce a wide range of computer based
applications in their teaching framework by planned, structured and coordinated development. Its use provides convenience and flexibility, as courses supported by CAL applications reduce the need for face-to-face lectures, seminars and workshops. Computer presentation is atmost suited to subjects that are detail oriented, visually intensive, or difficult to conceptualise, like microscopic images or complex biological processes. It enhances personalised learning, as students' will progress at their preferred pace. Learners can repeat, interrupt, and resume at will, which may have particular advantages for less strong students, In the same time it does have an impact of creation of learning communities among students with certain competitive advantages. Computer-assisted learning has a particular role to play in supplementing clinical experience in order to maximise learners' opportunities to acquire clinical recognition skills.
Computer-assisted learning may expand pedagogical horizons, and to strengthen links between students, educators, knowledge, skills and curricula.

Aims/Objectives to examine the effective use of computer-assisted learning (CAL), which utilises interactive multimedia-based teaching strategies, positively enhances the acquisition of selected clinical recognition skills by the medical students

Learning Outcomes by the end of this session students will be able to:

- Create and use interactive online teaching materials and tools
- Identify advantages and disadvantages of CAL

Key Words

Computer assisted learning	Teaching methods	Distance learning	Interactive multimedia	Cognitive learning	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. McGaghie WC, Siddall VJ, Mazmanian PE, Myers J; American College of Chest Physicians Health and Science Policy Committee. Lessons for continuing medical education from simulation research in undergraduate and graduate medical education: effectiveness of continuing medical education: American College of Chest Physicians Evidence-Based Educational Guidelines. Chest. 2009 Mar;135(3 Suppl):62S-68S. doi: 10.1378/chest.08-2521. PMID: 19265078.
2. Piemme TE. Computer-assisted learning and evaluation in medicine. JAMA. 1988 Jul 15;260(3):367-72. PMID: 3288776.
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4. Nicklen P, Keating JL, Paynter S, Storr M, Maloney S. Remote-online case-based learning: A comparison of remote-online and face-to-face, case-based learning - a randomized controlled trial. Educ Health (Abingdon). 2016 Sep-Dec;29(3):195-202. doi: 10.4103/1357-6283.204213. PMID: 28406103.

- **Supplementary Sources/Material**

1. Blair C. Educating executive function. Wiley Interdiscip Rev Cogn Sci. 2017 Jan;8(1-2):10.1002/wcs.1403. doi: 10.1002/wcs.1403. Epub 2016 Dec 1. PMID: 27906522; PMCID: PMC5182118.
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protocol. JBI Database System Rev Implement Rep. 2015 Jan;13(1):52-64. doi: 10.11124/jbisrir-2015-1919. PMID: 26447007.

Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 2. Each one of you will be allocated to a different instructor teaching one of the preclinical courses (Anatomy, Histology, Physiology, Pharmacology, Pathophysiology, Semiology). The instructor will provide the relevant topic. You will need to create an online CAL activity as a lesson plan and then deliver it under supervision to the students. The session will be recorded for future use.

Recommended number of work hours for the student 17 hours

TITLE:

Effective Computer Aided Learning

(3rd Week)

Summary The introduction of CAL resources into health science curricula has achieved partial acceptance by educators and students. Opinions may differ as to whether there is sufficient research evidence to confirm a positive pedagogical effect.
CAL includes the delivery of known and institution-accredited standards of education, provide means of surmounting the difficulties of scheduling attendances at lecture sessions and clinical teaching meetings, offers up to date knowledge, with additional ability to assess the retention of both new and previously understood principles, and enhance the drive to acquire new knowledge by virtue of the stimulating medium by which it is delivered.

Introductory Remarks The use of interactive multimedia-based computer-aided learning technique is a method to supplement, and even replace, certain aspects of traditional teaching. Computer Aided Learning is an integrative technology, which describes an educational environment where a computer program is used to assist the user in learning a particular subject. It refers to an overall integrated approach of instructional methods. Computer aided learning is a device/learning strategy to make teaching more interesting joyful and sustainable, does have influence to develop interest in learning concepts, and to enhance students' achievement level.

Computer-assisted learning have an extensive use in problem-based curricula, supplementing the tutorials, and replacing lectures. There is still a lack of evidence in comparing CAL with traditional teaching resources, as such data was mostly based on questionnaire and student opinion. In other hand, there is evidence that under clinical settings, CAL produce effectiveness in area of clinical simulations and in its provided materials. The value of CAL is a bit less certain, mostly in starting years of medical education where the curricula don't have strong connection between basic science and clinical features at the courses.
Features of computer-aided learning include its ability to: allow interaction with the courseware material, cater for individualised instruction, reduce tutor resources, be easily modified to fit local practice, be readily updated and expanded, and be consistently reliable. Also, CAL may offer certain cost benefits.

Aims/Objectives to examine the effective use of computer-assisted learning (CAL), which utilises interactive multimedia-based teaching strategies, positively enhances the acquisition of selected clinical recognition skills by the medical students.

Learning Outcomes by the end of this session students will be able to:

- devise efficient and effective CAL
- identify intended learning outcomes by using CAL
- presentation the content in a structured way and instant feedback and reinforcement to their learners

Key Words

Computer assisted learning	Teaching methods	Distance learning	Interactive multimedia	Learning spaces	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Klein-Lange M. Computergestütztes Lernen in der Medizin--Stand und Perspektiven [Computer-assisted learning in medicine--status and perspectives]. Z Arztl Fortbild (Jena). 1995 May;89(2):185-6. German. PMID: 7610688.
2. Kidd MR, Cesnik B, Connoley G, Carson NE. Computer-assisted learning in medical education. Med J Aust. 1992 Jun 1;156(11):780-2. PMID: 1630349.

3. Hamet P, Tremblay J. Artificial intelligence in medicine. Metabolism. 2017 Apr;69S:S36-S40. doi: 10.1016/j.metabol.2017.01.011. Epub 2017 Jan 11. PMID: 28126242.
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- **Supplementary Sources/Material**

1. Guimarães B, Firmino-Machado J, Tsisar S, Viana B, Pinto-Sousa M, Vieira-Marques P, Cruz-Correia R, Ferreira MA. The Role of Anatomy Computer-Assisted Learning on Spatial Abilities of Medical Students. Anat Sci Educ. 2019 Mar;12(2):138-153. doi: 10.1002/ase.1795. Epub 2018 May 15. PMID: 29762903.
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Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 3. Watch one recording other than yours from the previous week and in a post of 700 words excluding references suggest possible areas of strengths and improvements from your classmates' recordings. Post your answer to the discussion forum

Recommended number of work hours for the student 17 hours

TITLE:
Digital games in teaching

(6th Week)

Summary The purpose of the present session is to introduce the accessible way of computer-based learning as one of the digital tools in teaching. The permanently changing learning needs come into focus year by year, however, higher education institutions kept the conceptual skills and educational gaming on a low level for a long time. Most probably, the very high costs of constructing and creating such digital games contributed to this.

Introductory Remarks The use of digital games could motivate both, teaching and learning, when they are meaningful and carefully designed. In healthcare professionals education, digital games are acknowledged as games, simulations, simulated games, virtual environments, social and cooperative plays, and also as alternative reality games. The educational games are engaging, motivating, pleasurable and competitive activity. The specified sets of rules, regulations and feedback elements, the challenge, and the interaction have impact on promoting teaching and learning. A digital educational game have numerous advantages as a teaching tool, it is feasible for adult learning, also providing opportunities for experiential repetitive learning. As well, engaging learners will enhance the acquisition of knowledge, the attitude, and practice. Digital games allows learners' individualization, may improve learning process and learning outcomes, and also provides practical benefits for both, educators and learners. The use of digital educational games provides safe virtual curricular and extracurricular educational space besides traditional teaching and learning contexts with more collaboration tools between educators and students. Overall, the advantages of digital educational games care recognized as learning process enhancers, learning and performance improvers, and also individualized learning providers. The positive educational advantages over traditional teaching methods and the possibilities provided for different preferred learning styles of learners, the findings on pedagogical applications are not conclusive in the literature.

Related to the disadvantages, literature report that they are related to teaching-learning process barriers and logistics of educational games . The teaching-learning process barriers are related to perception of a digital game as threatening and intimidating, to the learning style dependency, to the potential boredom, and to the negative reaction of learners to the game, while the logistics-related barriers appoints to interdisciplinary expert and participant dependency, lack of widely accepted guidelines, required training, cost and time.

When a digital game is perceived as a valuable way to learn then it will be followed by increased interest to use it in enhancing learning experience.

Aims/Objectives The introduction of the digital games in teaching process by emphasizing all challenges that makes their use in teaching process educationally suitable, attractive and interactive. Requires skills with an attainable goal and known rules, complete absorption in the activity, defined by clear goals, providing immediate feedback, focused on the task in hand, enhance a sense of control, lacking the sense of worry about losing control, and transformation of time. Digital games are a powerful tool to utilize students' engagement in the classroom.

Learning Outcomes By the end of this session students will learn how to:

- Understand a learning concept of digital games;
- Understand models of integration;
- Understand Educational (Pedagogical) Design Considerations
- The importance of immediate feedback;
- Analyze the differences between Games for Entertainment and Learning

Key Words

Digital games	Digital education	Simulated learning	Virtual reality	Higher education	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Vlachopoulos, D., Makri, A. The effect of games and simulations on higher education: a systematic literature review. *Int J Educ Technol High Educ* **14,** 22 (2017). https://doi.org/10.1186/s41239-017-0062-1
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- **Supplementary Sources/Material**

1. Selby G, Walker V, Diwakar V. A comparison of teaching methods: interactive lecture versus game playing. Med Teach. 2007 Nov;29(9):972-4. doi: 10.1080/01421590701601584. PMID: 18158674.
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Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 6. You will be allocated with an instructor. You will need to develop a digital serious game for any of the available courses (Anatomy, Physiology, Histology, Pathology, Pathophysiology, Semiology and Pharmacology). First you will need to discuss the game with the allocated instructor and then devise a lesson plan which will be delivered online by you to the respective undergraduate students under supervision. The session will need to be recorded for future use.

Recommended number of work hours for the student 17 hours

TITLE:

Task trainers and their use

(7th Week)

Summary Task trainers represent specialized simulators or life-like models of human anatomy designed to help learners practice a specific skill. They are designed to break down specific physical tasks into simple action steps and information.

Introductory Remarks Simulation is increasingly used in healthcare education to teach cognitive, psychomotor, and affective skills to individuals and teams. It holds crucial importance to first determine the outcomes of using simulation and utilize these to guide its integration into the curriculum. The feedback also has critical role in effective learning using simulation, and should serve and meet individual learning needs. Simulation allows training in a controlled environment, with opportunities for deliberate practice and assessment. Simulation-based and task-focused learning will significantly improve skills for all participants, and will also leads to skill retention. Further research is needed in the areas of instructional design, outcomes measurement, and translational and implementation sciences in the context of simulation.

Task trainers are designed and developed to teach competency-based and procedural skills. Task trainers, as specialized simulators or models are designed to enhance the learner practice a specific skill. They are typically used for skills that require repetitive practice, like IV placement, or for teaching skills that cause patient discomfort, like intubation. These trainers significantly help learners to familiarize themselves with various procedures with aim to develop good procedural techniques, in a most safe environment, before tlearners have to perform the procedure on a real patient. Despite the continuous technological advances in the field of medical simulation, the low-tech task trainers remain essential for clinical skills and procedure instruction. Task trainers are fundamental in the teaching of anatomic landmarks and the ability of the learner to acquire, develop, and maintain motorical skills associated with a particular procedure.

Aims/Objectives As task trainers allow repeated practice of a specific skill, their use may significantly contribute in building confidence and expertise for

real-life applications. Task trainers could also be used in combination with standardized patients, as a hybrid simulation, whicat will allow learners to practice a skill while at the same time practicing effective communication with a patient.

Learning Outcomes By the end of this session students will learn how to

- Introduce task trainers in medical education
- Implement the use of the task trainers in relevant subjects
- Analyze and understand where task trainers should be applied and incorporated in medical education

Key Words

Task trainers	Competency-based teaching	Procedural skill teaching	Psychomotor skills	Virtual simulation	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Singh M, Restivo A. Task Trainers in Procedural Skills Acquisition in Medical Simulation. [Updated 2020 Jun 19]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK558925/
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- **Supplementary Sources/Material**

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health care professionals for the delivery of mental state examination: a systematic review. JBI Database System Rev Implement Rep. 2015 Aug 14;13(7):177-212. doi: 10.11124/jbisrir-2015-2263. PMID: 26455855.
2. Riaz S. How Simulation-Based Medical Education Can Be Started In Low Resource Settings. J Ayub Med Coll Abbottabad. 2019 Oct-Dec;31(4):636-637. PMID: 31933328.

Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 7. Last week you have recorded a session teaching undergraduate students. Watch another student's recording using a digital game and read his/her lesson plan. Without changing the learning objectives create a different lesson plan using task-trainers. Word count 800 words excluding references.

Recommended number of work hours for the student 15 hours

TITLE:

The use of e spaces in the delivery of the medical curriculum

(13th Week)

Summary The complex understanding of the use of e spaces and the features provided by technology plays significant role in medical education. Changes in societal expectations appoint patient safety in the forefront and raises the ethical issues of learning interactions and procedures on live patients, with the long-standing teaching method of “see one, do one, teach one” considered as no longer acceptable.

Introductory Remarks Medical education is permanently changing, and numerous factors have impact on it, like the rapidly changing medical science, the changing healthcare environment, the changing role of the physicians and other healthcare professionals, the wide spectrum of pedagogical method and techniques, and the altered societal expectations. The educational goals of using technology in medical education include facilitating basic knowledge acquisition, improving decision making, enhancement of perceptual variation, improving skill coordination, practicing for critical or specific events, teamwork training, and improving psychomotor skills.

An eSpaces study - Joint Information Systems Committee
(JISC 2005a) focused on how learning technologies are influencing the design of learning spaces. The following components were highlighted:

- current practice and planned developments
- current and future trends in learning space design and learning technology
- technological and pedagogical developments
- understanding of institutional developments

Strategic drivers appoint operational and pedagogical drivers, where operational drivers reflect on the efficient and sustainable management of institutions (e.g. infrastructure improvements, etc.), while the pedagogical drivers are connected to quality and student learning experience enhancement (i.e., institutional learning, teaching/assessment strategies and/or changes in learning and teaching methods within faculties, etc.)
Learning spaces in the aspect of design may be divided into major subgroups of: teaching spaces, open access spaces, social- and other learning spaces.

Aims/Objectives The session aims to sensitize the potential educators to a functional understanding and evaluative analysis of the available and existing e spaces, defined as a learning environment, and to facilitate it's use in the delivery of medical curriculum.

Learning Outcomes By the end of this session students will learn how to

- Understand the importance of available e spaces and their resources
- Evaluate the existing e spaces related to medical curriculum
- Analyze and discuss the use of e spaces in the delivery of the medical curriculum

Key Words

e-spaces	Digital learning	Virtual reality	Dynamic learning	Serious games	Medical education

Annotated Bibliography

- **Basic Sources/Material**

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- **Supplementary Sources/Material**

1. Rangel JC, Cartmill C, Martimianakis MA, Kuper A, Whitehead CR. In search of educational efficiency: 30 years of Medical Education's top-cited articles. Med Educ. 2017 Sep;51(9):918-934. doi: 10.1111/medu.13349. Epub 2017 Jun 14. PMID: 28612400.
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Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 13. The European University Cyprus, School of Medicine uses a variety of e-spaces to deliver its courses. Choose one of the courses available at the week's page and design and deliver the relevant subject to a cohort of undergraduate students. The session will be recorded, and you will discuss with the relevant course coordinator areas of improvement

Recommended number of work hours for the student 17 hours

STUDY GUIDE

COURSE: MDE630
Principles of Assessment and assessment in the healthcare practice

Course Information

Institution	**European University Cyprus**		
Programme of Study	**Medical Education**		
Course	**Principles of Assessment and assessment in the healthcare practice**		
Level	Undergraduate ☐	Postgraduate (Master) ☒	
Language of Instruction	English		
Course Type	Compulsory ☒	Elective ☐	
Number of Teleconferences	Total: Up to 6	Face to Face: -	Teleconferences: Up to 6
Number of Assignments	3		
Assessment	Assignments	Final Examination	
	50 %	50 %	
Number of ECTS Credits	10		

TITLE:

Assessment elements

(3rd Week)

Summary Effective assessment in medical education requires tasks relevant to assess cognitive, psychomotor and communication skills while also focused on assessing professionalism attributes. The structure for single assessments identifies construct validity, reproducibility, comprehensiveness, feasibility, educational benefit and timely feedback as significant elements, what approach motivates learners and provides educators with the opportunity to enhance learning through assessment.

Introductory Remarks The context and purpose of assessment influence the importance of the individual elements identified in the framework structure. The assessment challenge is to use appropriate methods from the perspective of impact on learning. It is very important that assessment tasks fulfil the structure for good assessment what requires both individual and systems assessment. Accountability aims to improve attainment. Blending assessment elements and tools will contribute to achieve the most benefit for all. Assessment practices must send the right indications to students about what and how they should be learning. Transparency, relevance, fairness, meaningful and timely feedback of assessment tasks holds crucial impact on the desired outcomes. It has specific significance to examine students' perceptions of the purposes of assessment, the connection between assessment and the assumed nature of what is being assessed, as well, how different assessment formats will have impact on learning. Equal importance goes to consider the educators' perceptions, also as direct measures of learning, such as students' assessment rubrics and examination scores, with aim to ensure accurate evaluation of the learning process.

Assessment is integral to the education and learning process, facilitating students' learning and improving instruction. Classroom assessment is generally divided into three types: assessment for learning, assessment of learning and assessment as learning. A useful taxonomy for thinking about assessment is Miller's pyramid, which describes levels of learning starting with a knowledge base ("knows") to basic competence of knowing what should be done ("knows how") to being able to demonstrate a skill or behavior under standard conditions ("shows") to the applied competencies in a real situation ("does"). A new top layer was recently proposed for Miller's pyramid for individuals in advanced training (e.g., PhD and health professionsals) who have formed a true professional identity and consistently display such values (the person not only "does" but also "is")

since educational scientist Ralph Tyler published it in late 1940's, known as the "Tyler Rationale," education started to orient toward outcomes.

Benjamin Bloom in his *taxonomy* of educational objectives described a cognitive domain (knowledge), a psychomotor domain (manual skills), and an affective domain (attitudes), and has since dominated most of the world's thinking of educational objectives in 1950's. Other authors (Simpson, 1972; Krathwohl et al. 1972; de Landesheere 1997; Krathwohl 2002) have followed with other domains and "KSA" (for knowledge-skills-attitudes) become dominant mental model of generations of teachers. In the 1980s, educationalists widened the focus from final objectives of education on developmental milestones. The model introduced by Dreyfus and Dreyfus (1986) identified five stages (novice, advanced beginner, competent, proficient, and expert) has been applied as a developmental framework for medical training.

The assessment systems should be designed to be comprehensive, sound and robust enough to assess the requisite attributes along with testing for essential knowledge and skills. Assessment is entering every phase of professional development. Assessment and evaluation are crucial steps in educational process. Before making a choice of assessment method, some important questions must be asked: what should be assessed?, why assess?

While selecting an assessment instrument it is necessary to know precisely what is going to be assessed. This should reflect on course-content outcomes It is essential to use an instrument that is valid, reliable and feasible. A variety of instruments will ensure that the results obtained are a true reflection of the students' performance.
The feedback in medical education is an integral and important component of teaching as it encourages and enhances the learners' knowledge, skills and professional performance. Feedback has to be delivered in an appropriate setting: it should focus on the performance and not on the individual, it should be clear and specific; it should be delivered in non-judgmental language, it should emphasize positive aspects, it has to be descriptive rather than evaluative, and should include suggestions towards measures for improvement. Constructive feedback is defined as an act of giving information to a trainee through the description of their performance under the observed situation. It emphasizes the strengths of the session and areas where improvement is required. The process of giving and receiving feedback are skills that can be acquired only by practicing such.

Aims/Objectives

- Understand effective assessment requirements
- Describe taxonomies of learning theories in assessment methods
- Discuss feedback elements

Learning Outcomes by the end of this session students will learn how to:

- Describe how taxonomies of learning may influence assessment
- Compare and contrast assessment elements
- Reflect on assessment requirements

Key Words

Effective assessment	Learning taxonomies	Feedback	Comprehensiveness	Assessment feasibility	Medical education

Annotated Bibliography

- **Basic Sources/Material**

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- **Supplementary Sources/Material**

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Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 3. This will be a group assignment. You will be divided into 2 groups according to the allocations posted on this week's forum. One of you will act as an instructor and the rest will act as students. The instructor will be responsible for giving the theme of the examination (try and keep the theme as narrow as possible) and then the person acting as an instructor will ask you to complete the test. The instructor needs to have completed a grading rubric and will grade your papers. In a post of 1500 words references excluded describe what could be improved from the person acting as an instructor and then the person acting as an instructor needs to answer to your comments using no more than 200 words.

Recommended number of work hours for the student 16 hours

TITLE:
Formative assessment

(6th Week)

Summary Formative assessment is connected to a wide spectrum of methods that educators use to conduct in-process evaluations of students' comprehension, learning needs, and academic progress during their learning process. It is useful to the educators to identify concepts that students are struggling to understand, skills they are having difficulty acquiring, or learning standards they have not yet achieved. The adjustments can be made to any part of learning process, including lectures, instructional techniques, and academic support.

Introductory Remarks Formative assessments are considered as an integral part of effective teaching and education, as formative assessments are integrated into the teaching and learning process, and actually, it does reinforce learning. It is commonly used as formative feedback as well. The formative assessment evaluates students' learning progress and achievement at the conclusion of a specific instructional period at the end of a project, at the unit, at the course, program, or semester. As the formative assessment is often contrasted with the summative, formative assessments are "for" learning, while summative assessments are "of" learning.

Representative examples of formative assessments are:

- Questions by educators to individual students and groups of students during the learning process to determine what specific concepts or skills they may be having trouble with. A wide variety of intentional questioning strategies may be employed, such as phrasing questions in specific ways to elicit more useful responses.
- Specific, detailed, and constructive feedback that teachers provide on student work, such as journal entries, worksheets, research papers, projects, ungraded quizzes, lab results, etc.
- Self-assessments that ask students to think about their own learning process, to reflect on what they do well or having difficulties with, and to underline what they have learned or still need to learn to meet course expectations or learning standards.
- Peer assessments that allow students to use one another as learning resources. For example, "workshopping" a piece of writing with classmates is one common form of peer assessment, particularly if students follow a rubric or guidelines provided by the educator.

Aims/Objectives

- To provide general overview of formative assessment methods
- Discuss self- and peer-assessment
- Reflect on the elements of constructive feedback during formative assessments

Learning Outcomes By the end of this session students will learn how to:

- Understand the concept of formal assessments
- The importance of constructive feedback in formative assessment
- Analyze how formative assessment may reduce learning and achievement gaps

Key Words

Formative assessment	Self-assessment	Peer-assessment	Achievement gaps	Medical education

Annotated Bibliography

- **Basic Sources/Material**

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4. Kondri BZ. The Effect of Formative Assessment on Students' Success. European Journal of Social Sciences Education and Research.

- **Supplementary Sources/Material**

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2. Hill R, Wong J, Thal R. Formative assessment and its impact on student success. Nurse Educator. 2019;44(1):4

Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 6. You will be asked to observe a formative skill assessment of an undergraduate student (links will be provided and will be confidential for each one of you. In an essay of 700 words reflect on the strengths and the areas of the specific summative assessment (references excluded)

Recommended number of work hours for the student 15 hours

TITLE:

Objective Structured Assessments

(7th Week)

Summary Objective structured assessments are used for technical and non-technical skills assessment in medical settings either as summative or formative assessment forms.

Introductory Remarks The Objective Structured Clinical examination (OSCE) has become a standard method of assessment in both undergraduate and postgraduate students, since it has been introduced as a mode of students' assessment in medical school in 1975, by Haden and Gleeson. The OSCE is a multipurpose evaluative tool that can be utilized to assess healthcare professionals under clinical setting. It assesses competency, based on objective testing through direct observation. It is precise, objective, and reproducible allowing uniform testing of students for a wide range of clinical skills. In contrary to the traditional clinical exam, the OSCE could evaluate areas most critical to performance of healthcare professionals such as communication skills and ability to handle unpredictable patient behavior. The OSCE style of clinical assessment's advantages are in terms of objectivity, uniformity and versatility of clinical scenarios that can be assessed, shows superiority over traditional clinical assessment. OSCE allows evaluation of clinical students at varying levels of training in a relatively short period, over a broad range of skills and issues. It removes prejudice in examining students and allows all to go through the same scope and criteria for assessment, what has made it a worthwhile method in medical practice. The OSCE includes six separate stations using simulated patients in a clinical setting, where four stations are designed to test the candidate's knowledge and understanding of assessment, planning, implementation and evaluation of care, and the remaining two refers to test clinical skills.

The Objective Structured Assessment of Technical Skills (OSATS) are validated assessment tools that assess technical competency in a particular

technique, what are mostly related to surgical disciplines in medicine. An OSATS consists of a procedure specific checklist, a pass/fail judgment and a global rating scale. The additional typical example to assess practical and clinical skills is the patient assessment and management examination (PAME), which was designed to enhance the summative assessment of the competence of senior residents and provide a more comprehensive evaluation of competence. Studies indicate that the PAME showed better psychometric properties than other measures and assessed areas often not evaluated. This type of evaluation may have benefits in feedback process, remediation, and at certification decisions.

Aims/Objectives

- Discuss the assessment methods of technical and non-technical skills
- Understand the structure of OSCE, OSATS and PAME
- Understand the role of medical instructor in objective structured assessments

Learning Outcomes By the end of this session student will learn how to

- Understand the main aspects of the technical and non-technical skills assessment
- Identify the advantages and disadvantages of Objective Structured Assessments
- Analyze and compare objective structured assessment methods

Key Words

Objective Structured Assessment	OSCE	OSA	PAME	Medical education

Annotated Bibliography

- **Basic Sources/Material**

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Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 7.1. Devise an OSCE for any aspect of any course you are more familiar with. The OSCE will need to include the instructions, expected actions from the student preforming the scenario and a grading rubric.

Exercise 7.2 Comment meaningfully on at least one your classmate's posts

Recommended number of work hours for the student 15 hours

TITLE:

Assessment of logbooks and portfolios

(11th Week)

Summary Portfolios and logbooks are important tools to be for 'in site' and 'on site' evaluations. Reflective logbooks in clinical medical education are successful for encouraging reflection and for enhancing learning experiences and have significant role in assessment. Portfolios provide clear learning goals and help students to monitor progress in achievement of these goals, encouraging self-reflection. By the conceptual understanding, knowledge overgrow the isolated facts and methods, where students' understands the concept, and will have the ability to transfer their knowledge into new situations and apply it to new contexts.

Introductory Remarks Already Hippocrates emphasised the education of physicians, and underlined the role of the physician as an educator.
Sandars in 2009, in a guide on reflection in medical education (AMEE - Association of Medical Education in Europe) came to an inclusive definition, that reflection is a metacognitive process that occurs before, during and after situations with the purpose of developing greater understanding of both self and the situation so that future encounters with the situations are informed from previous encounters. Reflection is an active process, using the experience and one's own cognition, and it may occur before, during and after situations. Reflection is an active process aiming at a deeper understanding by making use of both experience and by investigating one's own cognition. The definition also states that reflection may occur before, during and after situations.
The logbook is mainly a learning tool as it aids reflection. It provides to students a chance to express, examine and explore their experience, and as well, gives to educators the ability to assess the progress of the students and to provide them current, constructive feedback. It also can incorporate peer-to-peer feedback where logbooks are shared, and students can work collaboratively, although still reflect individually. In this form it provides formative assessment. Educators will have an insight to a progress report on the thinking of students and to assist them in the following sessions via evaluatory assessment and also get better overview of different, individual and preferred learning styles. Logbooks works the best when they are used over a longer period of time and submitted for comments on a weekly-base. This also helps students to organize themselves and successfully pace their time. They can serve as summative assessment tool, as they provide a future resource of already experienced variety of skills, actions and thoughts, what could serve as indicating experience for future employers. The purpose of a clinical logbook is to provide structured learning and a focus to learning and assessment in an experiential learning environment. Portfolios are an extremely useful tool to assess students'

acquisition of skills and attitudes, by stimulating their self-reflection, offering constant feedback and documenting their progress. Although the time constraints of clinical practice and the additional amount of paperwork associated with portfolios have resulted in negative feedback from students and tutors about the use of portfolios in clinical settings.
Web-based portfolios including mandatory clinical clerkship, implemented in medical curriculum has been introduced in 2003 by Duque by combining the usefulness and immediacy of the web-based platform with the accuracy and practical approach of portfolios as an evaluation method.

Aims/Objectives

- To provide a general overview how reflective tools can prove assessment
- To obtain a general overview of the importance of feedback related to logbooks and portfolios
- To understand the strategies to engage more students in reflection and to objectively assess

Learning Outcomes By the end of this session, students will learn how to

- Discuss the advantages of reflective tools in assessment
- Identify the level of flexibility of logbooks
- Describe the feedback delivery

Key Words

Reflective tools	Logbooks	Portfolios	Feedback	Conceptual understanding	Medical education

Annotated Bibliography

- **Basic Sources/Material**

  1. DERNNICK, R. (2000) Case study 2: Use of logbooks, Medical Education, 34 (Suppl. 1), pp. 66–68.
  2. Dewey, J. (1997). How we think. Mineola, N.Y: Dover Publications.
  3. Duque, G. (2003). *Web-based evaluation of medical clerkships: a new approach to immediacy and efficacy of feedback and assessment. Medical Teacher, 25(5), 510–514.* doi:10.1080/01421590310001605697

4. GORDON, J. (2003) Assessing students' personal and professional development using portfolios and interviews, Medical Education, 37, pp. 335–340.
5. Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, New Jersey: Prentice-Hall P T R.
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- **Supplementary Sources/Material**

1. Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, New Jersey: Prentice-Hall P T R.
2. Schei E, Fuks A, Boudreau JD. Reflection in medical education: intellectual humility, discovery, and know-how. Med Health Care Philos. 2019 Jun;22(2):167-178. doi: 10.1007/s11019-018-9878-2. PMID: 30460425.

Weekly Assignment graded by instructor

Assignment 3 (individual) - This is a graded assignment and accounts for 35% of your total assignment grade

You have now an overview related to various assessment elements and tools, also about the connected learning theories and different evaluator assessment methods. You will be provided with anonymous student logbooks on a specific course, and you will need to define the elements of assessing the logbooks. You may choose to use the logbooks as summative or formative assessments. Use appropriate conceptualization using references. Word limit 3000 word

Recommended number of work hours for the student 20 hours

STUDY GUIDE

COURSE: MDE640
Advanced Clinical Education

Course Information

Institution	**European University Cyprus**		
Programme of Study	**Medical Education**		
Course	**Advanced Clinical Education**		
Level	Undergraduate ☐	Postgraduate (Master) ☒	
Language of Instruction	English		
Course Type	Compulsory ☒	Elective ☐	
Number of Teleconferences	Total: Up to 6	Face to Face: -	Teleconferences: Up to 6
Number of Assignments	3		
Assessment	Assignments	Final Examination	
	50 %	50 %	
Number of ECTS Credits	10		

TITLE:

Teaching methods

(3rd Week)

Summary Teaching in the clinical environment is defined as teaching and learning focused on, and usually directly involving, patients and their problems. Nowadays more student-centred teaching, a competency-based assessment with emphasis on professionalism in education requires from educators to have an expanded toolkit of teaching skills and clinical expertise.

Introductory Remarks Teaching in the clinical environment is a complex and demanding task. There are two models of clinical teaching for faculty development, successfully used by clinical teachers. Two models are behaviour based and are adaptable by clinical teachers to all clinical settings, The Stanford and Dundee models. The Stanford model is developed by Stanford Faculty Development Centre and provides a categorical framework for evaluation and analysis of teaching. There are seven categories included: promoting a positive learning climate; control of session; communication of goals; promoting understanding and retention; evaluation; feedback; and promoting self-directed learning. This model is most effectively demonstrated in hands-on seminars where educators are enabled to understand and apply this method of analysis to their teaching. The 'Microskills' of teaching, also called the one-minute preceptor due the short time available for teaching in the clinical environment provides a simple framework for daily teaching during patient care, by the use of a five-step approach of getting a commitment, probing for supporting evidence, teaching general rules, reinforcing what was done well, and correcting mistakes. The Dundee outcomes model advocate that the medical profession needs to think more seriously about training their educators and a framework for developing excellence as a clinical educator is needed. Based on this, Harden in late 1990's proposed a 3-circle learning outcomes model to classify skills and abilities that doctors must possess, where the inner circle refers to the fundamental tasks that clinical teachers should be able to perform competently - doing the right thing; the middle circle is representing the teacher's approach to clinical teaching with understanding and application of relevant learning theories - doing the thing right, and the outer circle represents the development of the individual through a professional approach to teaching in the clinical environment - the right person doing it. For the inner circle, the essential tasks are referring to time efficient teaching, inpatient teaching, outpatient teaching, bedside teaching, assessment of learners in the work setting and giving feedback. The middle circle can be defined as showing enthusiasm for teaching and towards learners by understanding learning principles relevant to clinical teaching, by using appropriate learning strategies for different levels of learner, by knowing and applying principles of giving feedback, by role modelling, and by 'grasping the unexpected teaching moment'. The outer circle refers to attitudinal and

emotional competencies of the educator, besides the mastery of all technical competencies. These tasks for educators include self-reflections, professional development in teaching, mentoring and soliciting feedback on teaching.

Aims/Objectives

- Understand the models related to faculty development in advanced clinical education
- Describe the major elements of teaching methods in advanced clinical education
- Discuss the impacts of professional development

Learning Outcomes by the end of this session students will learn how to:

- Describe the framework for evaluation and analysis of teaching
- Discuss the framework elements for excellence in teaching
- Reflect on unexpected teaching moments
- Identify challenges is clinical education

Key Words

Clinical teaching	Faculty development	Professional development	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Benè KL, Bergus G. When learners become teachers: a review of peer teaching in medical student education. Fam Med. 2014 Nov-Dec;46(10):783-7. PMID: 25646829.
2. Erlich DR, Shaughnessy AF. Student-teacher education programme (STEP) by step: transforming medical students into competent, confident teachers. Med Teach. 2014 Apr;36(4):322-32. doi: 10.3109/0142159X.2014.887835. Epub 2014 Mar 5. PMID: 24597597.
3. Hardeman W, Sutton S, Griffin S, Johnston M, White A, Wareham NJ, Kinmonth AL. A causal modelling approach to the development of theory-based behaviour change programmes for trial evaluation. Health Educ Res. 2005 Dec;20(6):676-87. doi: 10.1093/her/cyh022. Epub 2005 Mar 21. PMID: 15781446.
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- **Supplementary Sources/Material**

1. Bandeali S, Chiang A, Ramnanan CJ. MedTalks: developing teaching abilities and experience in undergraduate medical students. Med Educ Online. 2017;22(1):1264149. doi: 10.1080/10872981.2016.1264149. PMID: 28178910; PMCID: PMC5328353.
2. de Landesheere V. Taxonomies of educational objectives. Educational research, methodology and measurement—An international handbook, J Keeves. Pergamon/Elsevier Science Ltd, Oxford 1997; 803–812

Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 3. This will be a group assignment. One group needs to develop a teaching approach for any subject on medicine based (keep the subject as simple as possible) on the Stanford model and the other team on the Dundee model. Each teaching framework needs to incorporate all elements of the theoretical model and should not exceed 1000 words with references excluded.

Recommended number of work hours for the student 18 hours

TITLE:

Importance of simulation in clinical education

(7th Week)

Summary Simulation-based education is a rapidly developing discipline that can provide safe and effective learning environments for students'. Medical simulation allows the acquisition of clinical skills through deliberate practice rather than an apprentice style of learning. Simulation tools serve as an alternative to real patients. A trainee may make mistakes and learn from them without the fear of harming the patient.

Introductory Remarks The high-fidelity medical simulations are educationally effective and simulation-based education complements medical education in patient care settings. Calls for a change in the instructional methods have resulted in innovative medical curricula. The new curricula stress the importance of proficiency in several clinical skills by medical graduates rather than mere acquisition of knowledge. Nowadays, it is universally accepted that clinical skills constitute an essential learning outcome. As emphasized earlier, simulators can be classified according to their resemblance to reality into low-fidelity, medium- fidelity and high-fidelity simulators. The low-fidelity ones are usually used to teach novices the basics of technical skills, the moderate level ones are assigned to provide give more resemblance of reality, like pulse, heart sounds, breathing sounds, however, without the ability to talk and cannot simulate chest or eye movements. They suitable for the introduction and deeper understanding of specific, increasingly complex competencies, while High fidelity simulators combine part or whole body manikins to carry the intervention with computers that drive the manikins to produce physical signs and feed physiological signs to monitors, and They can talk, breathe, blink, and respond either automatically or manually to physical and pharmacological interventions. Simulations include devices, trained persons, virtual environments, and contrived social situations that mimic problems, events, or conditions that arise in professional encounters. In simulation-based education (SBE), clinical situations and events can be scheduled, observed and then repeated so learning can be consolidated, it can also ensure that students have a degree of clinical competence before exposure to real patients, and is able to enhance the transfer of theoretical knowledge to the clinical context and ease the transition to the clinical years and into the workforce. SBE also allows deconstruction of clinical skills into componential parts, and students can be introduced to scenarios and tasks appropriate for their stage of learning. As there is no complexities of dealing with real patients, students can be more focused on mastering basic skills and can more readily abstract principles from their experiences to apply in other settings. The strategies for transition from SBE to clinical practice are focused around the alignment of SBE program goals

with the needs of individual learners, including other curriculum goals and activities , to optimise the timing of SBE interventions to meet learner needs, to provide opportunities for repeated practice with feedback and structured learner reflection with aim to broaden the application of SBE to clinical experiences, to contextualise SBE for immersive simulations by recreating key elements of clinical settings or using in situ simulation, to establish continuity between simulated and clinical learning environments, to maintain close working relationships between clinicians, educators during the development of SBE programs.

Aims/Objectives

- To provide a general overview of simulation-based education
- To discuss the benefits of different fidelity-related methods
- To evaluate the planning strategies

Learning Outcomes By the end of this session students will learn how to:

Understand the advantages of simulation-based learning and its integration in education
Analyze the curriculum-related topics in implementing simulation-based advanced clinical education
Identify and discuss the potential disadvantages

Key Words

Simulation-based education	High-fidelity resources	Self-reflections	Strategy planning	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Al-Elq AH. Simulation-based medical teaching and learning. J Family Community Med. 2010 Jan;17(1):35-40. doi: 10.4103/1319-1683.68787. PMID: 22022669; PMCID: PMC3195067.
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3. Harden RM, Crosby JR, Davis MH, Friedman M. AMEE Guide No. 14: Outcome-based education: Part 5-From competency to meta-competency: a model for the specification of learning outcomes. Med

Teach. 1999;21(6):546-52. doi: 10.1080/01421599978951. PMID: 21281173.
4. McGaghie WC, Issenberg SB, Cohen ER, Barsuk JH, Wayne DB. Does simulation-based medical education with deliberate practice yield better results than traditional clinical education? A meta-analytic comparative review of the evidence. Acad Med. 2011 Jun;86(6):706-11. doi: 10.1097/ACM.0b013e318217e119. PMID: 21512370; PMCID: PMC3102783.

- **Supplementary Sources/Material**

1. Bradley P. The history of simulation in medical education and possible future directions. Med Educ. 2006 Mar;40(3):254-62. doi: 10.1111/j.1365-2929.2006.02394.x. PMID: 16483328.
2. Datta R, Upadhyay K, Jaideep C. Simulation and its role in medical education. Med J Armed Forces India. 2012 Apr;68(2):167-72. doi: 10.1016/S0377-1237(12)60040-9. Epub 2012 Apr 21. PMID: 24623932; PMCID: PMC3862660.

Weekly Self-Assessment & Interactive Exercises/Activities
Exercise 7. Each one of you will be allocated with a different instructor in the disciplines defined in the week's available topics and instructors. Your task will be to work with the instructor devising a simulation scenario (along with learning outcomes) which the instructor will then deliver. The recording of the session will be available to you. In a post of 1000 words, references excluded, critically reflect on the strengths, weaknesses both on the design and the delivery of the simulation in the clinical year students.

Recommended number of work hours for the student 15 hours

Appendix 1B.

Reflective assignments in Courses MDE600, MDE 620, MDE630, MDE640, MDE662)

FORM: 200.1.3

STUDY GUIDE

COURSE: MDE600
Medical Education Theories to practice

Course Information

<table>
<tr><td>Institution</td><td colspan="3">European University Cyprus</td></tr>
<tr><td>Programme of Study</td><td colspan="3">Medical Education</td></tr>
<tr><td>Course</td><td colspan="3">Medical Education Theories to practice</td></tr>
<tr><td>Level</td><td>Undergraduate
☐</td><td colspan="2">Postgraduate (Master)
☒</td></tr>
<tr><td>Language of Instruction</td><td colspan="3">English</td></tr>
<tr><td>Course Type</td><td colspan="2">Compulsory
☒</td><td>Elective
☐</td></tr>
<tr><td>Number of Teleconferences</td><td>Total:

Up to 6</td><td>Face to Face:
-</td><td>Teleconferences:
Up to 6</td></tr>
<tr><td>Number of Assignments</td><td colspan="3">3</td></tr>
<tr><td rowspan="2">Assessment</td><td colspan="2">Assignments</td><td>Final Examination</td></tr>
<tr><td colspan="2">50 %</td><td>50 %</td></tr>
<tr><td>Number of ECTS Credits</td><td colspan="3">10</td></tr>
</table>

TITLE:
The echoes of Cognitivism: Reflection

(5th Week)

Summary

Reflection is a cognitive process in which new information and experiences are integrated into existing knowledge structures and mental models, resulting in meaningful learning. Reflection-on-action promotes professional development and lifelong learning. Reflection-in-action involves being mindful, self-monitoring, dealing with the unexpected, and quickly thinking on one's feet to solve problems. Reflection is a skill that can be taught and developed in medical education.

Introductory Remarks

The use of reflection stems from cognitivism. However, all recent educational theories have embraced reflection as a means of professional improvement. In Healthcare education, reflection at the level of the instructor, the faculty and the students become increasingly adopted. The use of reflection in medical education was first championed by Donald Schon in the 1980s, but only recently has it gained wide support from educators, medical schools, and professional organizations. The Latin origins of the word "reflection" refer to "the act of bending back." Indeed, in one of its contemporary usages, reflection connotes the image we see when looking in a mirror, which is the result of light bending back toward us. In the context of mental cognition, reflection can be considered the process that occurs when our thoughts bend backward. Merriam-Webster defines reflection as "a thought, idea, or opinion formed or a remark made as a result of meditation."

A variety of definitions of reflection, specifically as it applies to education, have been proposed. While similar in many regards, multiple definitions are worth considering to fully appreciate the meaning of reflection in education. Sander's definition articulates the spectrum of reflection that can occur—before, during, and after an experience. For practical reasons, the focus in medical education is most often reflection-on-action. That is to say, reflective exercises often focus on the thoughts the learner has about an experience that has already concluded. However, a desired outcome of teaching reflection is to promote active reflection closer to, if not exactly at, the moment an experience is occurring. The related concept of mindful practice was introduced in 1999 by Epstein. He described the clinician who is self-aware, attuned to the feelings of his patients and coworkers, and appreciative of how his actions affect others. The mindful practitioner is able to reflect-in-action: he has the mental models in place to deal with the unexpected, rapidly integrate new information with old, and make difficult decisions on the spot.

A notable body of literature supporting the value of reflection in medical education is rapidly emerging. These collective works are beginning to provide evidence beyond just educational theory and expert opinion. Research suggests that education in reflection can improve clinical reasoning and diagnostic accuracy in complex cases. Reflection has been linked to improved student performance, including interactions with standardized patients. It has also been suggested that the use of reflection improves intangible student attributes such as empathy, humanism, and professionalism.

Aims/Objectives

To understand the various different types of reflection, the different tools used and the fact that reflection should occur at the Educator level, at the student level (either undergraduate or post-graduate) and at a practitioner level.

Learning Outcomes

- To discuss the benefits of self-reflection
- To describe the reflective tools
- To analyze the various levels of reflection

Key Words

Gibb's Cycle	Kolb's reflective cycle	de Bono hats	Professionalism	Humanism	Empathy

Annotated Bibliography

- **Basic Sources/Material**

1. Bergsteiner H, Avery GC (2014). The twin-cycle experiential learning model: reconceptualising Kolb's theory. Studies in Continuing Education, 36:257-74 (pdf provided)
2. Hays R, Gay S (2011). Reflection or 'pre-reflection': what are we actually measuring in reflective practice? Medical Education, 45:116–118 (pdf provided)
3. Husebo SE, O'Regan S, Nestel D (2015). Reflective Practice and Its Role in Simulation. Clinical Simulation in Nursing, 11: 368-75 (pdf provided)
4. Kenny LJ (2003). Using Edward de Bono's six hats game to aid critical thinking and reflection in palliative care. International Journal of Palliative Nursing, 9:105-12 (pdf provided)
5. McAlpine L, Weston C, Berthiaume D, Fairbank-Roch G, Owen M (2004). Reflection on Teaching: Types and Goals of Reflection, Educational Research and Evaluation: An International Journal on Theory and Practice, 10: 337-63 (pdf provided)
6. Pammer, V., Krogstie, B. Prilla, M. (2017) 'Let's talk about reflection at work', International Journal of Technology and Enhanced Learning, 9:151–68 (pdf provided)

7. Plack MM, Greenberg L (2005). The Reflective Practitioner: Reaching for Excellence in Practice. Pediatrics;116:1546-52 (pdf provided)
8. Wald HS, Reis SPR (2010). Beyond the Margins: Reflective Writing and Development of Reflective Capacity in Medical Education, Journal of General Internal Medicine, 25:746-9 (pdf provided)

- **Supplementary Sources/Material**

Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 5 (Reflective Exercise graded assignment 20% of the total ongoing assessment grade) Using any of the reflective tools (Gibb's cycle, Kolb's reflective cycle, de Bono Hats) describe any event in your professional life as a healthcare professional, which improved your professionalism, empathy or patient safety. Your word count should not exceed 1500 words, excluding references.

Recommended number of work hours for the student 17 hours

TITLE:

The enabler: Humanism

(6th Week)

Summary

Within the humanist framework, learning is viewed as a personal act necessary to achieve the learner's full potential. The goal of this approach is for the learner to become autonomous and self-directed. Humanism is mot a learning theory per se, according to the definition of a way people learn, but more an enabler which makes all learning theories student centered and aims at human emotional and cognitive growth

Introductory Remarks

Human learning theory is concerned with personal growth and the full development of each human's potential not on just an intellectual level, but also on an emotional, psychological, creative, social, physical, and even spiritual level. The goal is to facilitate the development of knowledgeable human beings who know and are able to nurture themselves, other humans, and their environments; to instill a joy of learning; to promote the discovery of each student's passions and special talents; and to teach the knowledge and skills necessary for students to be good decision makers. Human learning theory is also based on the premise that all humans have a natural tendency to grow, to learn, and to develop fully. Human educators strive to facilitate learning by creating a structured environment with differentiated instruction where students have the chance to explore topics of interest to them, learn in ways that are more natural (active learning, social interaction, real life problem solving and activities), and learn at their own pace. Not always an easy task! That is why creative, intelligent, caring teachers are so important. Anybody off the street can open a teacher's manual, assign activities, and grade students.

The locus of learning within a humanist orientation relates to the needs of the person, with the ultimate need being that of self-actualization and self-fulfillment. In essence, the learner's motivation to learn is fueled by a desire to become all that he or she is capable of becoming. Learning that stems from this approach has several characteristic features, including personal involvement of the learner, learning that is self-initiated and that comes from within, and learning that is evaluated by the learner. All of these features culminate in the development of an autonomous learner. The role of the teacher in this framework is to facilitate the growth and development of the overall person. Self-directed learning is one of the most important and well-known educational principles of the humanist orientation. Self-directed learning also can be viewed as a process, in which learners plan, carry out, and evaluate their own learning experiences. By means of this approach, the learner ultimately develops self-direction as a personal attribute.

Given the current climate of technology-based and computer-assisted instruction, self-directed learning is becoming a particularly important and

appropriate learning orientation. Well-designed technology-based learning experiences can encourage learners to assume responsibility for their own education at the same time they are developing and applying the skills necessary for managing and assessing their own learning. In addition to computer-assisted simulations, self-directed learning methodologies may be manifest in problem-based learning scenarios, drill and practice exercises with immediate feedback, and role-playing exercises that emphasize self-directedness and self-evaluation; the latter may be particularly important in helping learners to understand their specific role as part of the health care team.

Aims/Objectives

Humanism is perceived as an enabler for all learning theories which have been analyzed so far and will be analyzed further on. The aim of the module is to introduce the basic concepts of humanism as a catalyst for all theories.

Learning Outcomes

- To discuss how humanism can be associated with any learning theory
- To describe the basic principles of humanism
- Define the basic concepts of humanism
- Discuss how the Maslow pyramid of needs can be applied in their professional lives

Key Words

Empathy	Cognitive Growth	Psychological Growth	Creative Growth	Social Growth	Maslow

Annotated Bibliography

- **Basic Sources/Material**

1. Barnová S, Krásna S (2018). Digital Humanism in Education – Meaningful Use of Digital Technologies. 2nd International EMI Entrepreneurship & Social Sciences Congress, 09-11 November 2018, Cappadocia (pdf provided)
2. Cohen LG, Sherif YA (2015). Twelve tips on teaching and learning humanism
   in medical education. Medical Teacher, 36:680-4 (pdf provided).
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5. Marcus ER (1999). Empathy, humanism and the Professionalization process of Medical Education. Academic Medicine, 74: 1211-4 (pdf provided).

6. Lyon L, Itaya LE, Hoover T, Booth MT, Nadershahi N (2017). Humanism in Dental Education: A Comparison of Theory, Intention, and Stakeholder Perceptions at a North American Dental School Journal of Dental Education, 81:929-936 (pdf provided).
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- **Supplementary Sources/Material**

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2. Zucca-Scott, Laura (2010). Know Thyself: The Importance of Humanism in Education. International Education, Vol. 40 Issue (1). Retrieved from: http://trace.tennessee.edu/internationaleducation/vol40/iss1/4

Weekly Self-Assessment & Interactive Exercises/Activities
Exercise 6.1
Watch the following YouTube videos
https://www.youtube.com/watch?v=dmtmxYbDhKA&feature=emb_logo&ab_channel=KellyO%27Dowd

https://www.youtube.com/watch?v=Rl9AHJ1O8b4&ab_channel=PHILO-notes
These videos are for your personal development and no assignment is associated with these

Exercise 6.2
Watch the following YouTube video
https://www.youtube.com/watch?v=cVVJDN9ScT8&ab_channel=TomorrowsMed

Reflect on a recent teaching activity, you delivered in your own setting and define how the humanistic values you have been exposed to this week might have improved your approach to teaching. Word limit 800 words excluding references.

Recommended number of work hours for the student 16 hours

TITLE:

Connectivism-Application

(13th Week)

Summary.

The data of connectivism is Medical Education is scarce. Connectivism has found its application in the learning of the Generation Y and it appears appealing for Medical Education. Since knowledge cannot be controlled as it is expanding every day, it appears to be unpredictable and in continuous growth. The current week guides the student to the current applications of connectivism and requires the student to expand the applications in the context of Medical Education

Introductory Remarks.

If we investigate the contributions made by the main theorists of Connectivism, it is possible to identify a theoretical basis upon which several principles are settled, as well as an approach to understand it. Connectivism is used to interpret and understand the processes related to learning and knowledge in the current world, particularly regarding the technological evolution of social networks and e-learning. One of the main ideas in Connectivism is that knowledge is something unpredictable, unstable, uncontrollable and in continuous growth, which means that it goes beyond the total control of a person and might be in their external networks (communities, digital devices, etc.) constantly changing. Therefore, Connectivism is not only the idea of individual human knowledge and learning, but also an approach to understand the collective mentality of a network of individuals, a community or a society based on the same principle: the generation of network ecologies constantly changing and evolving. Similarly, to the Gestalt Psychology, Connectivism also considers a global view of reality with a purely pragmatic goal. In both theoretical schools, knowledge is dependent on the global view generated by it. Therefore, knowledge is less important than the view upon which it lies, and its meaning can change according to the circumstances. The learner creates their own reality using the elements (knowledge) they have; taking an active role and being creative is, therefore, a key factor to generate learning, which, furthermore, will be completely personal and unique compared to the learning of other learner. This idea of the “Zone of Proximal Development” links directly with the performance of a knowledge network according to Connectivism and coincides with the following connectivist principle: “The ability to increase knowledge is more important than what we already know” Connectivism agrees with Constructivism in a big part of this global view of the learner, as Connectivism also considers that the learner has a main role in the learning process and gives them an active role when choosing contents and organising them according to a unique and own meaning. However, both theories differ in a fundamental aspect, as Connectivism rejects the idea of meanings being

constantly constructed. According to Connectivism, the learner is not constantly constructing because it means an attempt to organise the chaos of the learner's achievable knowledge. Sometimes, the learner just surf through this chaos without the need of organise it, or even disorganising what was previously organised. Therefore, as Siemens claims: "We are not always constructing (which implies a cognitive work), but we are constantly making connections"

Aims/Objectives

Overview the current applications of connectivism in the current world of knowledge

Learning Outcomes By the end of this session students will learn how to

- Discuss the current applications of connectivism
- Extrapolate the current application to the current Medical Education

Key Words

Unpredictability of Knowledge	Instability of Knowledge	Social networks	Communities of practice	Collective Menatlity	Theory of Chaos

Annotated Bibliography

- **Basic Sources/Material**

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4. Sarıtaş MT (2015). The Emergent Technological and Theoretical Paradigms in Education: The Interrelations of Cloud Computing (CC), Connectivism and Internet of Things (IoT). Acta Polytechnica Hungarica, 12:161-79 (pdf provided).
5. Siemens G, Conole G (2011). Special Issue - Connectivism: Design and Delivery of Social Networked Learning. International Review of Research in Open and Distance Learning, 12:i-iv (pdf provided).
6.

- **Supplementary Sources/Material**

Weekly Self-Assessment & Interactive Exercises/Activities
Assignment This is a graded assignment and accounts for 50% of your total assignment grade.

You have read the theory of connectivism and you have been exposed to its basic principles and criticism. You have also been exposed to its current applications. The title of the assignment is “Other than Massive open online courses, what other elements of connectivism may be relevant for Medical Education? Reflect on the various principles of connectivism and incorporate them in the field of Medical Education. Also incorporate the idea of social networks and communities of practice in Medical Education. Word limit 4000 words, excluding references and tables.

Recommended number of work hours for the student 20 hours

STUDY GUIDE

COURSE: MDE620
Learning in Medicine: Infrastructure and Technologies

Course Information

Institution	**European University Cyprus**		
Programme of Study	**Medical Education**		
Course	**Learning in Medicine: Infrastructure and Technologies**		
Level	Undergraduate ☐	Postgraduate (Master) ☒	
Language of Instruction	English		
Course Type	Compulsory ☒	Elective ☐	
Number of Teleconferences	Total: Up to 6	Face to Face: -	Teleconferences: Up to 6
Number of Assignments	4		
Assessment	Assignments	Final Examination	
	50 %	50 %	
Number of ECTS Credits	10		

TITLE:

Medical applications

(4th Week)

Summary Medical applications (apps), as one of many Personal Digital Assistants (PDA) are in use worldwide for smart phones and tablet computers. Their use is growing in number and are commonly used in healthcare. Medical apps for many purposes are available, including ones for electronic prescribing, diagnosis and treatment, practice management, coding and billing, and CME or e-learning. The use of medical apps has become widespread.

Introductory Remarks Applications are software programs that are developed to run on a computer or mobile device to accomplish a specific purpose, and could serve as useful tool. The ability to download medical apps on mobile devices has made a wealth of mobile clinical resources available to healthcare professionals.

Mobile revolution in healthcare brings along entirely novel risks and challenges that are a matter of debate and that need to be carefully addressed. Examples are the so-called “digital divide,” which could exacerbate health inequalities among different populations, attrition and increased dropout in clinical studies compared to conventional protocols, and the prominent issue of guaranteeing evidence base, validation, and quality and effectiveness of mobile technology and applications. Main characteristics related to their design and implementation are mostly focused to reach the end-users, due to communication access to population and subgroups; the availability of specific apps, due to increasing smartphone functionality, capabilities, and sensors incorporated; the wireless broadband internet access which increase communication speed and the device connectivity; and technology connected to individuals due to increased capabilities of locating, data measuring, monitoring function, and communicating with others. The variety of uses of mobile applications and devices is extensive and it is supported by growing evidence. In terms of categories, the medical apps can be classified into general solutions for medical providers at all levels with the examples of medical education materials, drug-referencing tools, clinical decision-support tools, electronic health-records systems, their access; as well apps for medical education, teaching, and learning; tools for telemedicine and healthcare; apps and/or wearables for patients and the general public with different functions; and certain specialty- or disease-specific apps. Related to the wide spectrum of specialties and disease groups, numerous examples are available in the literature, such as cardiology, diabetes, emergency medicine, nutrition, mental health, etc. Inline with many opportunities and benefits that medical apps may provide in areas of healthcare-related settings and

environment, there are also certain disadvantages and potential risks that we need to consider as important and to be able to appoint such.

Aims/Objectives Healthcare professionals use medical devices and apps for many purposes, most of which can be grouped in five broad categories: administration, health record maintenance and access, communications and consulting, reference and information gathering, and medical education. Mobile devices play an increasingly important role in medical education as students and schools use more technology during training, where this course will be focused to.

Learning Outcomes By the end of this session students will be able to

- Be able to identify the advantages of the use Medical apps
- Understand the benefits provided by PDA's
- Analyze and discuss the use of Medical apps in medical education

Key Words

Medical apps	Personal Digital Assistants	Mobile devices	App benefits	App support	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Hsieh MC, Lin YH. [VR and AR Applications in Medical Practice and Education]. Hu Li Za Zhi. 2017 Dec;64(6):12-18. Chinese. doi: 10.6224/JN.000078. PMID: 29164542.
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4. Weber SJ, Dawson D, Greene H, Hull PC. Mobile Phone Apps for Low-Income Participants in a Public Health Nutrition Program for Women, Infants, and Children (WIC): Review and Analysis of Features. JMIR Mhealth Uhealth. 2018 Nov 19;6(11):e12261. doi: 10.2196/12261. PMID: 30455172; PMCID: PMC6277824.

- **Supplementary Sources/Material**

1. Shi CR, Rana J, Burgin S. Co-teaching: applications in medical education. Clin Teach. 2018 Aug;15(4):341-343. doi: 10.1111/tct.12709. Epub 2017 Oct 3. PMID: 28971589.
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Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 4. This will be team assignment accounting for 25% of the total assignment grade**.** Reflect on your personal experience using Medical Applications in your own Healthcare Setting. Each group will present a collective reflection of either positive or negative experiences.

The subgroup allocations will be listed and available at the discussion forum.

Recommended number of work hours for the student 17 hours

TITLE:

Complex simulation scenarios in Medical Education

(8th Week)

Summary Simulation as a generic term refers to an artificial representation of a real-world process with aim to achieve educational goals through experiential learning.
Simulation based medical education is defined as any of educational activities that utilizes simulation aides to replicate real-life clinical scenarios.

Introductory Remarks Complex simulation modeling presents real-life situations and offers problem-solving safely and efficiently. It provides an important method of analysis which is easy to be verified, communicated, and understood. In medical education, simulation scenarios are text documents outlining the various details of a simulation - everything from patient simulator settings to debriefing notes. A simulation is used to analyze specific systems, develop mental models in learners, or research artificial environments. There is a difference between games and simulations in its intent, as 'the intent of games and simulation games is aiming to engage players in a fun and as an entertaining experience, while the intent of simulators is focused to train and develop the skills of its operators. Medical simulation allows the acquisition of clinical skills through deliberate practice rather than an apprentice style of learning. Simulation tools serve as an alternative to real patients. A trainee can make mistakes and learn from them without the fear of harming the patient. There are different types and classification of simulators and their cost vary according to the degree of their resemblance to the reality, or 'fidelity'. Simulation- based learning is expensive. However, it is cost-effective if utilized properly. Medical simulation has been found to enhance clinical competence at the undergraduate and postgraduate levels. It has also been found to have many advantages that can improve patient safety and reduce health care costs through the improvement of the medical provider's competencies.
Across various disciplines, simulation modeling provides valuable solutions by giving clear insights into complex situations and systems.

Aims/Objectives Simulation-based learning integrates cognitive, technical and behavioral skills and activities into an environment where learners accept the setting is real, act as they would responding in the field, and feel safe in cases when mistake, as it will serve as improvement point in their learning path.

Learning Outcomes By the end of this session students will learn how to:

- Understand the importance of high-fidelity simulation and its integration in teaching
- Understand the Experiential Learning Theory align with educational simulation
- Apply and create specific scenarios
- Conduct a complex scenario
- Analyze, promote, validate or improve the progression in learning
- Analyze and understand the differences where high-fidelity simulation or task trainers should be applied and how to incorporate such in education

Key Words

Complex medical simulation	Serious games	High-technology in teaching	Virtual reality	Virtual simulations	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Tremblay ML, Leppink J, Leclerc G, Rethans JJ, Dolmans DHJM. Simulation-based education for novices: complex learning tasks promote reflective practice. Med Educ. 2019 Apr;53(4):380-389. doi: 10.1111/medu.13748. Epub 2018 Nov 15. PMID: 30443970.
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- **Supplementary Sources/Material**

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Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 8. This will be a graded assignment accounting for 25% of the total assignment grade. The majority of healthcare professionals have experienced some form of teaching with the use of complex simulation scenarios. In a reflective essay of 1500 words, excluding references describe the experience of a complex simulation scenario.

Recommended number of work hours for the student 20 hours

STUDY GUIDE

COURSE: MDE630
Principles of Assessment and assessment in the healthcare practice

Course Information

Institution	**European University Cyprus**		
Programme of Study	**Medical Education**		
Course	**Principles of Assessment and assessment in the healthcare practice**		
Level	Undergraduate ☐	Postgraduate (Master) ☒	
Language of Instruction	English		
Course Type	Compulsory ☒	Elective ☐	
Number of Teleconferences	Total: Up to 6	Face to Face: -	Teleconferences: Up to 6
Number of Assignments	3		
Assessment	Assignments	Final Examination	
	50 %	50 %	
Number of ECTS Credits	10		

TITLE:

Fundamental concepts of Assessment

(1st Week)

Summary Assessment is widely used by educators to evaluate, measure, and document the academic readiness, learning progress, and skill acquisition of students throughout their education curricula. Assessment serve as a method for analyzing and evaluating student achievement or program success.

Introductory Remarks A well-designed assessments will allow students to use the knowledge and skills they have learnt and indicate their level of mastery. Validity and reliability of assessment methods are considered as fundamental concepts of a well-designed assessment procedure, where validity refers to the degree to which a method assesses what it claims or intends to assess, while reliability refers to the extent to which an assessment method or instrument measures consistently the performance of the student. Assessments are expected to produce comparable outcomes, with consistent standards over time and between different learners and examiners. Assessment, in a constructively aligned curriculum, must speak to the outcomes listed for the course, and have to draw in both the knowledge and the practical and intellectual skills and competencies that students have been taught and that they have practiced in lectures and tutorials. Assessment activities must test what has been learnt and taught, and should not be designed to catch students out or be constructed so as to be ambiguous or inexplicit. Validity and reliability of assessment methods are considered the two most important pillars of a well-designed assessment procedure. Validity refers to the degree to which a method assesses what it claims or intends to assess, while reliability refers to the extent to which an assessment method or instrument measures consistently the performance of the student. The validity of a measurement tool (for example, a test in education) is considered to be the degree to which the tool measures what it claims to measure; in this case, the validity is an equivalent to accuracy. The word ”valid” originate from Latin “validus”, meaning strong. Validity defines the strength of the final results and whether they can be regarded as accurately describing the real world, while reliability describes the repeatability and consistency of a test. A test can be reliable but not valid, whereas a test cannot be valid yet unreliable.

Significant importance goes to relevance and transferability, as in education, the term relevance typically refers to learning experiences what is directly applicable to the personal relevance (personal aspirations, interests or cultural experiences of students),or that are connected in a way to real-world issues, and contexts (life-relevance).

Relevance is the concept of one topic being connected to another topic in a way that it will make it useful to consider the first topic when considering the second. The concept of relevance is studied in many different fields, but most fundamentally, in epistemology (theory of knowledge). Different theories of knowledge have different implications for what is considered relevant and these fundamental views have implications for all other fields as well. Transferability

implies that results of the research study can be applicable to similar situations or individuals. The knowledge which was obtained in situation will be relevant in another and investigators who carry out research in another context will be able to utilize certain concepts which were initially developed. It is comparable to generalisability. Assessment, beside the above mentioned have to be as well authentic, current, sufficient, and to meet criteria of fairness/equitability.
Well-defined performance criteria enhance both the validity and reliability of the assessment process. Clear, usable assessment criteria contribute to the openness and accountability of the whole process. The context, tasks and behaviours desired are specified so that assessment can be repeated and used for different individuals. Unambiguous criteria also counter criticisms of subjectivity.

Aims/Objectives

- To understand the fundamental concepts of assessment
- To understand the purpose of the assessment
- To obtain general overview of factors impede both the validity and reliability of assessment practices in educational settings

Learning Outcomes by the end of this session students will be able to:

- Describe and understand the importance of validity and reliability
- Define specified context, tasks and behaviours related to the assessment

Key Words

Assessment principles	Validity	Reliability	Assessment in medicine	Medical education

Annotated Bibliography

- **Basic Sources/Material**

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2. Yoon HB, Park WB, Myung SJ, Moon SH, Park JB. Validity and reliability assessment of a peer evaluation method in team-based learning classes. Korean J Med Educ. 2018 Mar;30(1):23-29. doi: 10.3946/kjme.2018.78. Epub 2018 Feb 28. PMID: 29510605; PMCID: PMC5840561.
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- **Supplementary Sources/Material**

1. Eddy LH, Bingham DD, Crossley KL, Shahid NF, Ellingham-Khan M, Otteslev A, Figueredo NS, Mon-Williams M, Hill LJB. The validity and reliability of observational assessment tools available to measure fundamental movement skills in school-age children: A systematic review. PLoS One. 2020 Aug 25;15(8):e0237919. doi: 10.1371/journal.pone.0237919. PMID: 32841268; PMCID: PMC7447071.
2. Yoon HB, Park WB, Myung SJ, Moon SH, Park JB. Validity and reliability assessment of a peer evaluation method in team-based learning classes. Korean J Med Educ. 2018 Mar;30(1):23-29. doi: 10.3946/kjme.2018.78. Epub 2018 Feb 28. PMID: 29510605; PMCID: PMC5840561.
3. Burgess AW, McGregor DM, Mellis CM. Applying established guidelines to team-based learning programs in medical schools: a systematic review. Acad Med. 2014 Apr;89(4):678-88. doi: 10.1097/ACM.0000000000000162. PMID: 24556770; PMCID: PMC4885587.

Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 1. Reflective essay accounting for 25% of the total assignment grade. In a reflective essay of 1500 words excluding references describe any form of assessment you may have experienced in the past and then try to conceptualize the fundamentals used in the specific assessment.

Recommended number of work hours for the student 17 hours

TITLE:

Written assessment methods and the ways to prepare a test paper

(4th Week)

Summary Written assessments are activities in which the student selects or composes a response to a prompt. In most cases, the prompt consists of printed materials of a brief questions, a collection of historical documents, graphic or tabular materials, or a combination of beforehand mentioned. Written assessment may also refer to an object, an event, or an experience. Student responses are usually framed about writing at a specified time and within a fixed amount of time. These constraints contribute to standardization of testing conditions, which increases the comparability of results across students or groups.

Introductory Remarks Student assessment is a comprehensive decision-making process with numerous important implications beyond the measure of students' success, and it is also related to program evaluation.
The effective and efficient delivery of healthcare requires not only knowledge and technical skills but also analytical and communication skills, interdisciplinary care, counseling, evidence- and system-based care.
A wide range of written assessment methods currently available include essay questions, patient management problems, modified essay questions (MEQs) checklists, OSCE, student projects, Constructed Response Questions (CRQs), MCQs, Critical reading papers, rating scales, extended matching items, tutor reports, portfolios, short case assessment and long case assessment, logbooks, trainer's reports, audit, simulated patient surgeries, video assessment, simulators, self-assessment, peer-assessment and standardized patients. Assessment has a powerful positive steering effect on learning and the curriculum. It transfer what we value as important and acts as very powerful motivator for student's learning. Assessments are purpose driven. While planning and designing, it is essential to recognize the stakes involved in it, as the higher the stake, the greater the implications of the outcome of the assessment are. By more sophisticated assessment strategies, more appropriate they will be for feedback and learning. Measuring progress should have in multiple integrated abilities assessment, like factual knowledge, analysis and synthesis of informations, and problem solving.

Aims/Objectives

- Understand validity and face, content, construct and criterion validity
- Explain flexibility, comprehensiveness and feasibility of the written tests
- Discuss accountability of written assessment

Learning Outcomes by the end of this session students will learn how to:

- Describe internal consistency reliability, test-retest reliability, equivalent forms reliability and inter-rater reliability in written assessment
- Compare and contrast written assessment tools

Learning Outcomes By the end of this session students will be able to

Key Words

Written assessment	Test-retest	Assessment planning	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Downing SM. Assessment of knowledge with written test forms. In: International Handbook of Research in Medical Education, edited by Norman GR, van der Vleuten CP, Newble DI. Dordrecht: Kluwer Academic, 2002, p. 647– 672. doi:10.1007/978-94-010-0462-6_25

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Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 4.1 Create a test-retest reliability paper in any area of medicine and post it on forum. Ask at least 3 of your colleagues' to respond to it accordingly.

Exercise 4.2 Evaluate the results of the previous 3.1 exercise, reflect also on coefficients of stability on created test-retest reliability and post your answer on the forum.

Recommended number of work hours for the student 15 hours

TITLE:

Self-assessment and Peer-assessment

(8th Week)

Summary Self-assessment is an assessment tool used by students to evaluate the quality of their work, to measure their performance with the defined goals and learning objectives, to identify the strengths and weaknesses in their work and to implement revision accordingly. Peer assessment is an assessment about students' work by fellow students of equal status. Students often undertake the peer-assessment in conjunction with formal self-assessment. They reflect on their own efforts, extend and enhance this reflection by exchanging feedback about their own and their peers' work.

Introductory Remarks Self-assessment is a part of formative assessment during which students will reflect on and evaluate the quality of their work and learning, will judge the degree to which they reflect the explicitly stated goals or criteria, will identify the strengths and weaknesses in their work, and to revise it accordingly. The purpose of self-assessment is to help the individual know the extent of their abilities and to improve upon them without the need of a performance appraiser. When trainees or students are allowed to participate in standard-setting they gain a better comprehension of the standards and are more likely to be motivated to adhere to them. Accuracy in self-assessment of skills can be fostered by performance-based feedback. Self-assessment is critical to the ability of professionals to improve and adapt to advances in their profession. Students may be able to accurately self-assess skills, but the ability to integrate the various components required to practice effective medicine is difficult to define and even more difficult to self-assess. Physicians often don't recognize well what they do not know and the least experienced residents and physicians appear often to overrate their skills and knowledge. Also, even experienced residents may not assess themselves as others would do so. Self-assessment without comparison to certain external standard such as an expert rater may not allow recognition of serious weaknesses, especially among residents and physicians early in their careers. The process of comparing self-assessments with external standards may lead to improvement if the physician is made aware of discordance between his/her self-assessment and an assessment based on credible data and established standards.

Peer-assessment (PA) in healthcare education is applied with different educational goals and implemented in different educational formats. Gielen highlighted two main goals of PA: one as an 'assessment tool' and the second one as a 'learning tool'. As an assessment tool it refers to the ability of students to reliably and validly assess their peers, while when it is viewed as a 'learning

tool' it aims to provide students with relevant improvement feedback. The peer feedback is built up from multiple sources of information. The quality criterion as a learning tool could be most described by the concept of 'consequential validity', referring to the impact on student learning outcomes. Most of the studies related to the impact of PA on learning in medical education report about positive effects, however, these studies are dominantly focused on professional behavior such as rule-based adherence to behavioral norms, rather than hands-on and clinical examination and treatment skills. If the students are trained to appropriately assess their peers and to provide meaningful improvement feedback, they will probably be well prepared to audit their colleagues after the graduation as well. Peer assessment is most commonly used as written work, although presentations, performances, posters, videos and other types of assignments are equally suitable. It is frequently used as a strategy for students to assess the contributions of their fellow students to group work and assignments. Peer assessment involves students taking responsibility for assessing the work of their peers against set assessment criteria. This makes peer assessment an important component of Assessment for Learning, rather than simply a means of measuring performance. Peer assessment or peer review provides a structured learning process for students to critique and provide feedback to each other on their work. It helps students develop lifelong skills in assessing and providing feedback to others, and also equips them with skills to self-assess and improve their own work.

Aims/Objectives

- Promote reflection on personal performance
- Identify reactions to self-assessment and peer-assessment
- Evaluate the reliability of marking
- To understand how to reflect on equal-status performance
- Identify reasons for discrepancies between scores of assessor and assessee

Learning Outcomes By the end of this session students will learn how to:

- Understand the importance reflections on personal and equal-status performances
- Apply and reflect on self-, and peer-assessment
- Analyze, identify and discuss the weaknesses and advantages of self-, and peer-assessment

Key Words

Self-reflections	Autonomous assessment	Peer-assessment	Learning tools	Accuracy	Instructional design

Annotated Bibliography

- **Basic Sources/Material**

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Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 8.1 You will be divided in two groups:
Group one topic is: What is your personal experience about self-assessment? Create a reflective collective assignment of 1500 words excluding references and post it on the forum.
Group two topic is: What is your personal experience about peer-assessment? Create a reflective collective assignment of 1500 words excluding references and post it on the forum.

Exercise 8.2 Comment on the post of the team you have not participated as a member.

Recommended number of work hours for the student 15 hours

TITLE:

Technology enhanced assessment

(10th Week)

Summary Technology Enhanced Assessment (TEA) is a broad term of diverse methods by which technology can be used to support the management and delivery of assessment. TEA does not mean simply to replace the existing assessments with digital versions, but more of making the use of technology to enhance certain operational and educational issues of assessment.

Introductory Remarks Technology-enhanced assessment in general refers to the use of electronic systems and software to assess and evaluate the progress of individual students' in educational settings.TEA is method of supporting the pedagogy and best practice relating to assessment. There is a plethora of technology in use to enhance both the delivery and management of assessment, including using video to deliver feedback. According to the Smarter Balanced Assessment Consortium, a Technology-Enhanced Item is a computer-delivered item that includes specialized interactions for collecting response dats, that include interactions and responses beyond traditional selected-response or constructed-response. Examples for TEA includes the following: online multiple-choice questionnaires for summative or formative assessment, self-assessment of project work at reflective blogs, personal response systems (PRS) for in-class formative assessments, wikis for a group projects, online discussion boards, etc. Numerous benefits of TEA exist by allowing a broader range of skills to be tested in a number of different ways it becomes much easier for you to make the tasks more authentic and align assessments with the learning outcomes of a module; Virtual learning environments (VLEs) such as Moodle and Blackboard, allow you to present assessment criteria clearly within the module information, ensuring marking criteria are transparent and accessible to all students; allowing the creation of reusable resources (learning objects) and by facilitating automatic marking; it can provide a means of delivering rapid feedback, or even automate the process, making it clear to students when they have performed well and hopefully clarifying the assessment criteria even further; Using a broader range of assessment methods will allow a wider range of skills to be assessed. Certain disadvantages are also present, such can be finance-related, accessibility issues might appear, sense of isolation, furthermore, difficulties in confirming the identity of students completing online assessments outside of the classroom.

While designing an assessment for technology delivery, beside the general principles of assessment, additional considerations about ensuring appropriate

accessibility to assessment resources, designing user-friendly assignments, also being aware of institution's technology policy has to be involved.
Technology is widely used to manage student's learning, with Virtual Learning Environments (VLEs) such as Blackboard and Moodle commonplace in Universities. Many VLEs associated with other software, can also can serve to manage different aspects of assessment with the advantage that the content related to the teaching and the assessment of a course can be stored in one place, and become accessible from anywhere, which is beneficial both to educators and students. VLE's can support scheduling assessment, clarifying criteria, grading, submission, and as well, facilities to identify cases of academic misconduct.

Aims/Objectives

- Understand the concept of technology enhanced assessment
- Discuss the VLE platforms purpose in TEA
- Understand the assessment design-related key points in technology

Learning Outcomes By the end of this session, students will learn how to

- Identify tools for technology enhanced assessment
- Describe the VLE modalities supportive to TEA
- Compare the assessment methods used in TEA

Key Words

Technology enhanced assessment	VLE	Assessment design	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Norcini JJ, McKinley DW. Assessment methods in medical education. Teach Teach Educ. 2007;23:239–250.

2. Gikandi JW, Morrow D, Davis NE. Online formative assessment in higher education:A review of the literature. Comput Educ. 2011

3. Costello E, Holland JC, Kirwan C. Evaluation of MCQs from MOOCs for common item writing flaws 11 Medical and Health Sciences 1117 Public Health and Health Services. BMC Res Notes [Internet] 2018 Dec 3;11(1):849.

4. Luo L, Cheng X, Wang S, Zhang J, Zhu W, Yang J, et al. Blended learning with Moodle in medical statistics:An assessment of knowledge, attitudes and practices relating to e-learning. BMC Med Educ [Internet] 2017 Sep 19;17(1):170.

- **Supplementary Sources/Material**

1. Masters K, Ellaway R. e-Learning in medical education Guide 32 Part 2:Technology, management and design. Med Teach. 2008;30(5):474–489.
2. Effective Assessment in a Digital Age: A guide to technology-enhanced assessment and feedback. http://www.jisc.ac.uk/media/documents/programmes/elearning/digiassass_eada.pdf [2nd December 2020].

3. Putting assessment at the heart of learning, University of Glamorgan. **In:** Effective Assessment in a Digital Age: A guide to technology-enhanced assessment and feedback, pp.30-31. http://www.jisc.ac.uk/media/documents/programmes/elearning/digiassass_eada.pdf [2nd December 2020]

Weekly Self-Assessment & Interactive Exercises/Activities
Exercise 10.1 Watch the following videos:
https://www.youtube.com/watch?v=rRPDZdWzH_M&ab_channel=COFAonlineUNSW
https://www.youtube.com/watch?v=vgYuuueg9yw&ab_channel=KenjiTomita
https://www.youtube.com/watch?v=JlKawpx1sDU&ab_channel=ANUOnline

Consider how formative assessment was introduced in first video, and also the two summative assessment models are presented in the second and third video. Reflect on how you perceive the use of technology at different online assessment methods. Write a small paragraph of 500 words (excluding references) and post it on the forum.

Exercise 10.2 Meaningfully comment on one on your fellow classmates' post and use references to support your post.

Recommended number of work hours for the student 15 hours

STUDY GUIDE

COURSE: MDE640
Advanced Clinical Education

Course Information

Institution	**European University Cyprus**		
Programme of Study	**Medical Education**		
Course	**Advanced Clinical Education**		
Level	Undergraduate ☐	Postgraduate (Master) ☒	
Language of Instruction	English		
Course Type	Compulsory ☒	Elective ☐	
Number of Teleconferences	Total: Up to 6	Face to Face: -	Teleconferences: Up to 6
Number of Assignments	3		
Assessment	Assignments	Final Examination	
	50 %	50 %	
Number of ECTS Credits	10		

TITLE:

Time-efficient teaching

(4th Week)

Summary Clinical educators are facing challenge about simultaneously caring for patients and teaching learners in a time constrained environment. To achieve the desired combined caring and teaching goal in a time-efficient manner, clinical teachers use various strategies.

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Introductory Remarks In clinical settings, educators need time-efficient advanced methods to help them to assess the learner's level of knowledge and skill, teach quickly, and provide relevant feedback on performance. Irby and Wilkerson are describing strategies to identify the needs of each individual learner, to teach according to these specific needs, and to provide feedback on performance. In identifying learners needs, if the educator can quickly determine what an individual learner needs to know, then the teaching will focus towards on those needs, and saving time by not teaching what the learner already knows or is not ready for. To assess the learner's knowledge-level quickly, educator will need only two tools of good questions and the ability to listen and observe. Related to the teaching according to the identified specific needs, there are several models which provides flexibility for adapting instruction to the needs of each learner and the constraints of the environment, and when a a clinical educator decide to adopt any of the models, the expectations about what will happen and why needs to be communicated. Examples of the models such are the one-minute preceptor model, the Aunt Minnie model, and the SNAPPS (Summarise, Narrow down, Analyse, Probe, Plan) are included in this. The "activated" demonstrations, and the case demonstrations at bedside are based on similar strategies. By observing learners directly is an important prerequisite for effective feedback, it should be based on observed behaviours, to include positive and improvements-related feedback and the educators are required to promote self- assessment by the learners.
The advanced planning, the teaching, the evaluation and reflecting holds the key features for time-effective education.

Aims/Objectives

- Understand how advanced planning should be achieved
- To provide general overview in identifying
- Discuss time-efficient methods

Learning Outcomes By the end of this session students will be able how to:

- Describe the elements of advanced planning related to time-efficinecy
- Compare and contrast models of time-efficient teaching
- Analyze the influence of evaluation

Key Words

Time-efficiency	Teaching models	Advanced planning	Evaluation	Feedback	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Aagaard E, Teherani A, Irby DM. Effectiveness of the one-minute preceptor model for diagnosing the patient and the learner: proof of concept. Acad Med. 2004 Jan;79(1):42-9. doi: 10.1097/00001888-200401000-00010. PMID: 14690996.
2. Irby DM, Wilkerson L. Teaching when time is limited. BMJ. 2008 Feb 16;336(7640):384-7. doi: 10.1136/bmj.39456.727199.AD. PMID: 18276715; PMCID: PMC2244752.
3. Ramani S, Leinster S. AMEE Guide no. 34: Teaching in the clinical environment. Med Teach. 2008;30(4):347-64. doi: 10.1080/01421590802061613. PMID: 18569655.
4. Shaterjalali, M., Changiz, T., & Yamani, N. (2018). Optimal clinical setting, tutors, and learning opportunities in medical education: A content analysis. Journal of education and health promotion, 7, 130. https://doi.org/10.4103/jehp.jehp_56_18

- **Supplementary Sources/Material**

1. Duncan GF, Roth LM, Donner-Banzhoff N, Boesner S. Teaching points-do they occur and what do they contain? An observation study concerning the general practice rotation. BMC Med Educ. 2016 Apr 18;16:113. doi: 10.1186/s12909-016-0636-y. PMID: 27091199; PMCID: PMC4834827.
2. Usatine RP, Nguyen K, Randall J, Irby DM. Four exemplary preceptors' strategies for efficient teaching in managed care settings. Acad Med. 1997 Sep;72(9):766-9. doi: 10.1097/00001888-199709000-00010. PMID: 9311317.

Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 4.1 Watch carefully the following videos:
https://www.youtube.com/watch?v=yhsxYYhS6_A&ab_channel=LincolnMemorialUniversity
https://www.youtube.com/watch?v=64rgRbFkLCo&ab_channel=christyfoster2002
https://www.youtube.com/watch?v=cEZOjSyPhZ0&ab_channel=RhPAP
Write your comments related to the videos at Exercise 4.1 and post your answer in 300 words, excluded references on forum.

Exercise 4.2. In the previous week, each team used a different model to address an issue in clinical education. This week you are asked to respond again collectively in a reflective manner in the other team's post highlighting strengths and addressing possible deficiencies.

Recommended number of work hours for the student 17 hours

TITLE:

Effective feedback in clinical education

(8th Week)

Summary Feedback in clinical education refers to specific information about the comparison between a trainee's observed performance and a set of standards, provided with intent to improve the trainee's performance. It is essential for a students' or residents' to gain an insight into what they did well, where should their improvement focus on and the consequences of those actions.

Introductory Remarks In the clinical environment it is vital to provide feedback to trainees, as students' needs to receive adequate and relevant information's regarding the demonstrated strengths and with provided improvement point during their observed performances. It is a crucially important stage in the acquisition of clinical skills, although, literature appoints that clinical educators in some cases either miss to provide feedback altogether or the quality of their feedback does not give clear reflections about the trainees' strengths and weaknesses, and in both cases, this may result in adverse consequences, might affect to patient care in later period. Educators need to observe their trainees during their patient-interactions and simulations to be able to provide effective feedback. Structure-wise, feedback can be formal or informal, brief-, immediate or long, what should be scheduled, formative during the course of the rotation or summative at the end of a specific rotation. When the educational goals are set in advance of the certain rotation of other educational framework, feedback is essential to examine the accomplishment or the lack of stated goals, re-define new goals and make action plans to address such. The feedback will underline to the students' where they are in comparison to where they should be and where they should move on to. When feedback is appropriately provided, it will enhance self-reflection and self-assessment, which holds significant importance for lifelong learning. The observed barriers to feedback go towards the lack of direct observation of trainees by their educators and instructors, and as well, learners' clinical competence cannot be assessed by written exams, self-reports or third-party observations. There are certain interpersonal barriers exist as well, due to reluctance of providing feedback of a negative content, and the fear behind it, how trainees might receive such. General and quite often inappropriate statements merged into short messages, such as "well done", or "poor communication with patient" should be avoided. Ramani in 2012 provided twelve tips for giving feedback effectively in clinical environment, as listed below:

- Establish a respectful learning environment
- Communicate goals and objectives for feedback

- Base feedback on direct observation
- Make feedback timely and a regular occurrence
- Begin the session with the learner's self-assessment
- Reinforce and correct observed behaviours
- Use specific, neutral language to focus on performance
- Confirm the learner's understanding and facilitate acceptance
- Conclude with an action plan
- Reflect on your feedback skills
- Create staff-development opportunities
- Make feedback part of institutional culture

As it has been underlined earlier, feedback has to be constructive, and it should be provided in an appropriate setting, to focus on the observed performance, to be clear and specific, to be communicated in non-judgmental language with emphasizing positive aspects, should be more descriptive than evaluative, and as mandatory, to include suggestions for improvement measures.

Aims/Objectives

- To discuss how to reflect on observed trainee performance
- Identify reactions to delivered feedback
- Analyze the barriers for feedback in advanced clinical education

Learning Outcomes By the end of this session students will learn how to

- Compare feedback strategies under advanced clinical education settings
- Identify feedback barriers
- Discuss the elements of constructive feedback delivery

Key Words

Feedback in clinical education	Barriers for feedback	Constructive feedback	Advanced clinical education	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Bing-You RG, Trowbridge RL. Why medical educators may be failing at feedback. JAMA. 2009 Sep 23;302(12):1330-1. doi: 10.1001/jama.2009.1393. PMID: 19773569.
2. Brukner H. Giving effective feedback to medical students: a workshop for faculty and house staff. Med Teach. 1999;21(2):161-5. doi: 10.1080/01421599979798. PMID: 21275731.
3. Jug R, Jiang XS, Bean SM. Giving and Receiving Effective Feedback: A Review Article and How-To Guide. Arch Pathol Lab Med. 2019 Feb;143(2):244-250. doi: 10.5858/arpa.2018-0058-RA. Epub 2018 Aug 13. PMID: 30102068.
4. Ramani S, Krackov SK. Twelve tips for giving feedback effectively in the clinical environment. Med Teach. 2012;34(10):787-91. doi: 10.3109/0142159X.2012.684916. Epub 2012 Jun 25. PMID: 22730899.

- **Supplementary Sources/Material**

1. Hewson MG, Little ML. Giving feedback in medical education: verification of recommended techniques. J Gen Intern Med. 1998 Feb;13(2):111-6. doi: 10.1046/j.1525-1497.1998.00027.x. PMID: 9502371; PMCID: PMC1496906.
2. Van Hell EA, Kuks JB, Raat AN, Van Lohuizen MT, Cohen-Schotanus J. Instructiveness of feedback during clerkships: influence of supervisor, observation and student initiative. Med Teach. 2009 Jan;31(1):45-50. doi: 10.1080/01421590802144294. PMID: 18825544.

Weekly Self-Assessment & Interactive Exercises/Activities Graded Reflective Assignment (25% of the total assignment grade)

Exercise 8. Analyze and reflect on Ramani's twelve-point tips for giving feedback effectively in clinical education. In order to reach a meaningful reflection, use a personal experience either as a trainer or as a trainee. Your reflective account should be of 2000 words refencing excluded in the word count.

Recommended number of work hours for the student 15 hours

TITLE:

Assessment in clinical education

(9th Week)

Summary Assessment have an important role in the process of medical education, it plays major role in medical students live, and have implications towards society by certifying competent physicians who are able to provide adequate care to their patients.

Introductory Remarks As Miller defined in his pyramid for assessment of learners' clinical competence, the base of the pyramid is the knowledge – tested by written exams, the next level is the applications of knowledge – tested by clinical problem solving. It is followed by the demonstration of clinical skills, tested via OSCE, clinical competency exams, etc, and ending by the daily patient care, assessed by the direct observation of the performance under clinical settings. Norcini stated that the principal measures of performance in the clinical environment include patient outcomes, process of care and volume of services doctors provide what may be challenging to observe and follow. Clinical educators should gain familiarity with an outcomes-based assessment method appropriate to their own environment (UEMS, LCME, etc.). Rethans suggested that the distinction between competency-based and performance-based methods is important and in the Cambridge Model focuses only on the top two tiers of Millet's pyramid. The performance is identified as a product of competence, the influences of the individual (e.g. health), and the influences of the system (e.g. practice time). This model provides a basis for understanding and designing assessments of practice performance. Related to the assessment methods in clinical settings faculty is able to assess any of the performance related procedures what directly relate to patient care. Under these settings, trainees' clinical skills can be assessed outside a simulated or test environment, the non-technical skills such as patient communication, the physical examination, the clinical reasoning, case presentation and self-reflections, teamwork, communication with clinical and nonclinical staff and professionalism. Methods of assessment include examining case records and notes for evidence of diagnostic thinking, listening to case presentations, but the most important method of assessment for clinical teachers would be direct observation. Without observing trainees while performing and at the bedside, educators will not be able cannot collect sufficient and accurate data for delivering appropriate feedback.

Aims/Objectives

- To discuss the assessment elements under clinical settings
- To provide a general overview related to outcome-based assessment
- To understand the word-based assessment of trainees' in clinical education

Learning Outcomes By the end of this session student will learn how to

- Discuss the assessment role in advanced clinical education
- Identify the importance of performance outcomes
- Describe and analyze different performance-based assessment methods

Key Words

Assessment	Clinical setting	Performance-based assessment	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Gleeson, F. (1997). AMEE Medical Education Guide No. 9. Assessment of clinical competence using the Objective Structured Long Examination Record (OSLER). Medical Teacher, 19(1), 7–14. doi:10.3109/01421599709019339
2. Linn, R. (2000). Assessments and accountability. ER Online, 29(2), 4-14.
3. Ramani S, Leinster S. AMEE Guide no. 34: Teaching in the clinical environment. Med Teach. 2008;30(4):347-64. doi: 10.1080/01421590802061613. PMID: 18569655.
4. Sanders, W., & Horn, S. (1995). Educational assessment reassessed: The usefulness of standardized and alternative measures of student achievement as indicators for the assessment of educational outcomes. Education Policy Analysis Archives, 3(6).

- **Supplementary Sources/Material**

1. Chambers, M. (1998). Some issues in the assessment of clinical practice: A review of the literature. J Clin Nurs, 7:201 – 208.

2. Griffin, P. (1997b). Assessment principles for OBE, In Griffin, P., & Smith, P. Outcomes-Based Education: Issues and Strategies for Schools (pp. 21 - 24). ACSA: Canberra.
3. Suskie, L. (2009*).* Assessing student learning: A common sense guide. (2nd ed). San Francisco, CA: Jossey-Bass

Weekly Group Assignment This counts for 40% of your total assignment grade

Assignment . This is be a graded assignment. Your class will be divided into groups and you will submit one paper as a group. The title of the assignment is “What an educator should be able to perform in an efficient advanced clinical setting?” Please reflect also on challenges what you consider as important. Word count 4000 words, references excluded.

Recommended number of work hours for the student 20 hours

TITLE:

Connection between preclinical knowledge and clinical education

(13th Week)

Summary The transition from preclinical to clinical medical education is often described by several challenges which may have various impacts on students' well-being and learning experiences.

Introductory Remarks There are evidence that suggest that medical students do not feel sufficiently prepared for clinical practice in the clerkships. The transition from preclinical to clinical training often indicate difficulties. The difficulties experienced by students are related to professional socialisation and workload, and also towards deficiencies in knowledge and the organisation of knowledge. Haldane highlighted the transition from pre-clinical to clinical education as a particularly stressful period. Causes of stress referred to changes in learning environment, teaching styles and expectations. As causes of stress final-year students mentioned the impending transition from a highly dependent student-role to a delegated responsibility and decision making, and the need to work with other professional groups. The use of more authentic, integrated tasks, where knowledge and application of knowledge are learned together, has been proposed as a way to make the pre-clinical to clinical transition less demanding. The problem-based learning may offer such tasks. Norman and Schmidt in early '90's concluded that PBL promotes the transfer of concepts to new problems, the integration of basic science concepts into clinical problems, intrinsic interest in subject matter and self-directed learning skills. Most recommended measures to ease the stress of the transition are focused on the pre-clinical phase. Related to the clinical phase, students frequently indicated that coaching, feedback and supervision were suboptimal. Knowledge- and skills-wise, students reports that they did not always meet the demands of clinical practice. Several studies indicated that graduates from a PBL medical school were well prepared as regards psychosocial and interpersonal skills. Related the application of knowledge, in a PBL-curriculum students are entitled to learn to use clinical data to reason their way to diagnosis from the start of medical school. Frequently, although the students were able to list the symptoms of many diseases, they were not able to generate a diagnosis when a patient presented with symptoms and complaints, as their knowledge was not tailored to clinical practice, they found themselves forced to change their learning style in the clinical settings, what is contrary to what might be expected in a problem-based learning curriculum.

Aims/Objectives

- To obtain the general overview of connection between preclinical and clinical education
- To provide a general overview of transition
- To understand the challenges

Learning Outcomes By the end of this session students will learn how to

- Analyze and discuss transition-related challenges
- Discuss the aspects of improvements in transition

Key Words

Preclinical education	Clinical education	Transitional challenges	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Atherley A, Dolmans D, Hu W, Hegazi I, Alexander S, Teunissen PW. Beyond the struggles: a scoping review on the transition to undergraduate clinical training. Med Educ. 2019;53(6):559–70.
2. Alexander DA, Haldane JD. Medical education: a student perspective. Med Educ 1979;13:336–41.
3. Malau-Aduli BS, Roche P, Adu M, Jones K, Alele F, Drovandi A. Perceptions and processes influencing the transition of medical students from pre-clinical to clinical training. BMC Med Educ. 2020 Aug 24;20(1):279. doi: 10.1186/s12909-020-02186-2. PMID: 32838779; PMCID: PMC7446158.
4. Norman GR, Schmidt HG. The psychological basis of problem-based learning: a review of the evidence. Acad Med 1992;67:557–65.
5. Radcliffe C, Lester H. Perceived stress during undergraduate medical training: a qualitative study. Med Educ. 2003;37(1):32–8.

- **Supplementary Sources/Material**

1. Orsini C, Binnie VI, Fuentes F, Ledezma P, Jerez O. Implications of motivation differences in preclinical-clinical transition of dental students: a one-year follow-up study. Educación Médica. 2016;17(4):193–6.

2. Prince KJ, Boshuizen HP, van der Vleuten CP, Scherpbier AJ. Students' opinions about their preparation for clinical practice. Med Educ. 2005 Jul;39(7):704-12. doi: 10.1111/j.1365-2929.2005.02207.x. PMID: 15960791.

Weekly Self-Assessment & Interactive Exercises/Activities. Graded Reflective Assignment (25% of the total assignment grade)
Exercise 13. Reflect on your personal experience related to transition from preclinical to clinical educational setting during your education. The reflective essay should reach abstract conceptualization and should not exceed 2000 words references excluded.

Recommended number of work hours for the student 15 hours

STUDY GUIDE

COURSE: MDE662
Cultural Competence in Medical Education

Course Information

Institution	**European University Cyprus**		
Programme of Study	**Medical Education**		
Course	**Medical Education Theories to practice**		
Level	Undergraduate ☐	Postgraduate (Master) ☒	
Language of Instruction	English		
Course Type	Compulsory ☐	Elective ☒	
Number of Teleconferences	Total: Up to 6	Face to Face: -	Teleconferences: Up to 6
Number of Assignments	4		
Assessment	Assignments	Final Examination	
	50 %	50 %	
Number of ECTS Credits	10		

TITLE:

Cultural Quotient (CQ)

(2nd Week)

Summary
Cultural Quotient is an instrument which aims at improving our understanding of the different cultures effectively. All educators need to take this test and all students involved need to see their score. The instrument provides a starting point to measure whether any cultural intervention in a curriculum improves cultural understanding.

Introductory Remarks

Cultural Quotient (CQ) helps us understand and communicate with people from other cultures effectively. It is one's ability to recognize cultural differences through knowledge and mindfulness and behave appropriately when facing people from other cultures. The cultural intelligence approach goes beyond this emphasis on knowledge because it also emphasizes the importance of developing an overall repertoire of understanding, motivation, and skills that enables one to move in and out of lots of different cultural contexts. Due to the globalization of our world, people of different cultures today live together in communities across our many nations. This presents more opportunities to interact with diverse individuals in many facets and thus, today's workforce would need to know the customs and worldviews of other cultures. Therefore, people with a higher CQ can better interact with people from other cultures easily and more effectively.

The most important reason for understanding CQ is that CQ is a critical capability that enhances effectiveness in culturally diverse situations. For example, CQ (1) enhances sensitivity to cultural differences; (2) reduces use of overly simplistic stereotypes; (3) enhances adjustment and relationships in multi-cultural contexts; and (4) improves decision-making and work performance in multi-cultural contexts.

Aims/Objectives

The aim of this week's reading is to explore the Cultural Quotient, to analyze its strengths and its categorization ability.

Learning Outcomes by the end of this session students will be able to:

- Describe the elements comprising CQ.
- Apply avoidance of stereotypes.
- Describe performance in multicultural contexts

Key Words

Cultural Intelligence Scale	Metacognitive CQ	Cognitive CQ	Motivational CQ	Behavioral CQ	Cultural Literacy

Annotated Bibliography

- **Basic Sources/Material**

1. Ang, S., Van Dyne, L., & Koh, C. (2006). Personality Correlates of the Four-Factor Model of Cultural Intelligence. Group & Organization Management, 31:100–123. (pdf provided)
2. Ang, S., Van Dyne, L., Koh, C., Ng, K. Y., Templer, K. J., Tay, C., & Chandrasekar, N. A. (2007). Cultural Intelligence: Its Measurement and Effects on Cultural Judgment and Decision Making, Cultural Adaptation and Task Performance. Management and Organization Review, 3: 335–371. (pdf provided)
3. Barnes, K. J., Smith, G. E., & Hernández-Pozas, O. (2017). What's Your CQ? A Framework to Assess and Develop Individual Student Cultural Intelligence. Organization Management Journal, 14: 34–44. (pdf provided)
4. Gozzoli, C., & Gazzaroli, D. (2018). The Cultural Intelligence Scale (CQS): A Contribution to the Italian Validation. Frontiers in Psychology, 9:1183. (pdf provided)
5. Ng, R. (2013). Cultural Intelligence. The Encyclopedia of Cross-Cultural Psychology, 310–313. (pdf provided)

- **Supplementary Sources/Material**

1. Earley , P. C. , & Ang , S. (2003). Cultural intelligence. Stanford, CA: Stanford University Press.

Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 2.1. Graded Reflective Assignment (25% of the total Assignment grade)

All healthcare professionals need to be able to understand their cultural ability using the 4 dimensions of the CQ. In 2000 words (references excluded), personally reflect on the various dimensions of CQ and apply this reflection to avoidance of stereotypes.

Exercise 2.2

Provide constructive critique on your classmates' post applying the theory of social transformation as described by Bourdieu.

Recommended number of work hours for the student 15 hours

TITLE:

Intercultural Competence Model

(3rd Week)

Summary

In order to be culturally competent, traits, attributes and capabilities need to be present at the same time. These can only be developed if intercultural sensitivity has taken place.

Introductory Remarks

There is consensus that intercultural competence refers to an individual's ability to function effectively across cultures. Intercultural competence unfortunately does not just happen for most; instead, it must be intentionally addressed. A framework is a necessary tool to address the issue. The framework should not be perceived as a snapshot, but rather as a life-long process. Critical reflection becomes a powerful tool in the process of intercultural competence development. Intercultural competence does not happen in a vacuum, so it is important to be aware of the context in which this competence is occurring, and in particular, in the interaction itself. Attitudes are at the foundation of intercultural competence development. One way to move individuals toward these attitudes is by challenging their assumptions. The Observe, State, Explore, Evaluate (OSEE) tool can be an option. What we see and experience with intercultural competence are the external outcomes: behavior and communication that is effective and appropriate. It is important to stress the implications of effective and appropriate behavior and communication: Effectiveness can be determined by the individual, while the appropriateness can only be determined by the other person, with appropriateness being directly related to cultural sensitivity.

Intercultural traits. Just as personality traits refer to enduring personal characteristics that determine a stable pattern of cross-situational behaviors, intercultural traits refer to enduring personal characteristics that determine an individual's typical behaviors in intercultural situations. Examples of intercultural traits include open-mindedness, dissimilarity openness, tolerance of ambiguity, cognitive complexity, flexibility, quest for adventure and emotional resilience.

Intercultural attitudes and intercultural worldviews. By contrast, intercultural attitudes and intercultural worldviews focus on how individuals perceive other cultures or information from outside their own cultural worlds. One may have positive or negative attitudes toward other cultures or intercultural interactions. Individuals who are highly culturally competent have positive attitudes toward intercultural contact.

Intercultural capabilities. Intercultural capabilities emphasize what a person can do to be effective in intercultural interactions. Examples include showing knowledge of other cultures/countries, metacognitive, motivational, and behavioral cultural intelligence, linguistic skills, social flexibility, adaptability to

communication and cultural tuning in terms of holistic concern, collaboration, and learning.

Intercultural sensitivity can be defined as a forerunner in attitude to successful intercultural relations and a predictor of cultural adequacy. Intercultural sensitivity can be defined as the quality that affects intercultural communications where the people are willing to grasp, accept, and appreciate cultural differences or to try to define cultural sensitivity as being able to accommodate worldviews that are focused on ethnicity and deal with differences in culture.

Aims/Objectives

The aim of this week's reading is to introduce the basic notions of an Intercultural Competence Framework

Learning Outcomes By the end of this session students will be able to

- Compare and Contrast Cross-Cultural Competence and Cultural Intelligence.
- Compare and Contrast Intercultural Capabilities, Intercultural Traits and Attitudes
- Apply this knowledge to critically self-reflect regarding their own intercultural competence

Key Words

Cross-Cultural Competence	Cultural Intelligence	Intercultural Capabilities	Intercultural Traits	Intercultural Attitudes	Emotional Resilience

Annotated Bibliography

- **Basic Sources/Material**

1. Deardorff D.K. (2012). Introduce Core Concepts, In Building Cultural Competence: Innovative Activities and Models, Berardo, K., & Deardorff, D.K. (Eds), pp: 45-80. (pdf provided)
2. Leung, K., Ang, S., & Tan, M. L. (2014). Intercultural Competence. Annual Review of Organizational Psychology and Organizational Behavior, 1: 489–519. (pdf provided)
3. Segura-Robles, A., & Parra-González, M. E. (2019). Analysis of Teachers' Intercultural Sensitivity Levels in Multicultural Contexts. Sustainability, 11: 3137. (pdf provided)

- **Supplementary Sources/Material**

1. Knowles, M. S. (1975). Self-directed learning: A guide for learners and teachers. Englewood Cliffs, NJ: Prentice Hall.

2. Deardorff, D. K. (Ed.). (2009). The SAGE handbook of intercultural competence. Thousand Oaks, CA: Sage.

Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 3.1

In the reference Deardorff D.K. (2012). Introduce Core Concepts, In Building Cultural Competence: Innovative Activities and Models, Berardo, K., & Deardorff, D.K. (Eds), pp: 50, complete the questionnaire and calculate the number. Do not post this number in the discussion forum.

Exercise 3.2

Post your reflection, based on activity 3.2 (300 words excluding references), on situations requiring intercultural competence and consider what helped make you more appropriate and effective in your interactions.

Exercise 3.3

This is an optional assignment, which can be emailed directly to the instructor, who will provide feedback and you will not be graded. In the reference Deardorff D.K. (2012). Introduce Core Concepts, In Building Cultural Competence: Innovative Activities and Models, Berardo, K., & Deardorff, D.K. (Eds), pp: 60 and Complete OSEE tool on the following situation: You treat a patient who does not make eye contact with you.

Recommended number of work hours for the student 17 hours

TITLE:

Social and Cultural Discrimination

(6th Week)

Summary

Social discrimination remains a significant contributor to the persistent negative health outcomes experienced by minority populations. Social discrimination is defined as the differentiating treatment of an individual based on their actual or perceived characteristics (e.g., age, gender, income status, or medical condition).

Introductory Remarks

Although there have been widespread improvements in the delivery of health care over the last decade, social discrimination remains a significant contributor to the persistent negative health outcomes experienced by minority populations. Social discrimination is defined as the differentiating treatment of an individual based on their actual or perceived characteristics (e.g., age, gender, income status, or medical condition). In the healthcare setting, this manifests in the opinions, beliefs, behaviors, and attitudes of clinicians, significantly impacting certain disadvantaged populations. For example, healthcare provider bias as a form of social discrimination can be as understated as withholding a full range of treatment options from certain patients based on their conscious or unconscious provider beliefs that these patients are less likely to accept or adhere to certain therapies. Health-compromising outcomes associated with social discrimination include heightened physical stress responses, poor compliance with medical treatment, patient disengagement, and healthcare avoidance behaviors, which all contribute to the higher morbidity and mortality rates found among minority populations compared to non-Hispanic Whites. social discrimination is a prominent health risk factor associated with a variety of objective clinical disease outcomes, including cardiovascular disease, hypertension, low birth weight, incident asthma, incident breast cancer, and all-cause mortality. Understanding the causal mechanisms underlying inequities in health care is imperative to achieving equitable health care, and the utility of this study may inform and change practices that impede access to care due to perceived discrimination. It is notable that previous healthcare discrimination studies and measures have often focused on instances of general discriminatory experiences without refinement of context, and, in the cases where healthcare discrimination has been explored, lifetime and singular instances of interpersonal discrimination have almost exclusively been the focus. Consequently, efforts to eliminate healthcare inequities are hindered by the lack of a full understanding of patients' perceptions of discriminatory behaviors. Specifically, understanding how, when, and where patients perceive they are being treated unfairly within medical settings, whether these instances occur at the intrapersonal, interpersonal or systemic levels, and the impact of

each level of discrimination on health care is essential to identifying targets for interventions that ensure equitable access to health care for all individuals.

Aims/Objectives

The aim of the week's readings is to further investigate the discrimination in the provision of healthcare in relation to social and cultural characteristics.

Learning Outcomes

At the end of this week, the students will be able to:

- Discuss Social discrimination in healthcare
- Compensate the perceived discrepancies to equal provision of healthcare

Key Words

Social Discrimination	Health Care	Minority Health	Chronic Conditions	Delivery of Healthcare	Disparities

Annotated Bibliography

- **Basic Sources/Material**

1. Arrey, A. E., Bilsen, J., Lacor, P., & Deschepper, R. (2016). Perceptions of Stigma and discrimination in Health Care settings towards Sub-Saharan African Migrant Women living with HIV/AIDS in Belgium: a qualitative study. Journal of Biosocial Science, 49: 578–596. (pdf provided)
2. Ayhan, C. H. B., Bilgin, H., Uluman, O. T., Sukut, O., Yilmaz, S., & Buzlu, S. (2019). A Systematic Review of the Discrimination Against Sexual and Gender Minority in Health Care Settings. International Journal of Health Services, 002073141988509. (pdf provided)
3. Kydd, A., & Fleming, A. (2015). Ageism and age discrimination in health care: Fact or fiction? A narrative review of the literature. Maturitas, 81: 432–438. (pdf provided)
4. Nguyen, T. T., Vable, A. M., Glymour, M. M., & Nuru-Jeter, A. (2017). Trends for Reported Discrimination in Health Care in a National Sample of Older Adults with Chronic Conditions. Journal of General Internal Medicine, 33: 291–297. (pdf provided)
5. Patel, P. (2017). Forced sterilization of women as discrimination. Public Health Reviews, 38: 15. (pdf provided)
6. Quinn, K., Dickson-Gomez, J., Zarwell, M., Pearson, B., & Lewis, M. (2018). "A Gay Man and a Doctor are Just like, a Recipe for Destruction": How Racism and Homonegativity in Healthcare Settings Influence PrEP Uptake Among Young Black MSM. AIDS and Behavior. doi:10.1007/s10461-018-2375-z. (pdf provided)
7. Rodriguez, A., Agardh, A., & Asamoah, B. O. (2017). Self-Reported Discrimination in Health-Care Settings Based on Recognizability as Transgender: A Cross-Sectional Study Among Transgender U.S. Citizens. Archives of Sexual Behavior, 47: 973–985. (pdf provided)

- **Supplementary Sources/Material**

  None

Weekly Self-Assessment & Interactive Exercises/Activities
Assignment. This will be a graded assignment counting for 25% of your total assignment grade. From your personal experiences in your country's healthcare setting, are there discrepancies in healthcare provision, based on ethnic social and cultural factors? How can you compensate for these discrepancies at the level of your Organization?
.

Recommended number of work hours for the student 20 hours

TITLE:

Stereotyping

(8th Week)

Summary

Stereotyping is very common error in healthcare provision and in healthcare delivery, resulting from implicit bias. The phenomenon has been examined in Education and in Medical Education, professional societies still struggle with sex stereotyping in various professions.

Introductory Remarks

Stereotype threat is the unpleasant psychological experience of confronting negative stereotypes about race, ethnicity, gender, sexual orientation, or social status. Stereotype threat theory and research provide a useful lens for understanding and reducing the negative health consequences of interracial interactions for African Americans and members of similarly stigmatized minority groups. Interaction quality affects how well patients understand information presented during visits, the amount of pertinent information they later recall, their satisfaction with their treatment, and their adherence to the recommended treatment regimen. When interactions between care providers and their patients are stressful, unpleasant, or disrespectful, patient health often suffers. Research demonstrates the existence of unconscious or unintentional bias on the part of health care providers toward cultural minorities and show its contribution to racial disparities in health care outcomes. Interactions between patients and health care providers may induce stereotype threat, a phenomenon shown by extensive psychological research to generate negative effects in interpersonal contexts, including the classroom and the workplace. Stereotype threat appears to impair performance by inducing physiological stress and by prompting attempts at both behavioral and emotional regulation—all of which, independently or in concert, have the effect of consuming cognitive resources needed for intellectual functioning. Stereotype threat may influence what patients share with their providers. Studies show that worries about confirming stereotypes significantly influence how individuals present themselves. Moreover, because stereotype threat engenders mistrust, minority patients may hear, understand, and recall information and feedback, yet discount it because it is seen as biased or threatening.

Stereotypes do not only exist in racial, sexual or gender status of healthcare provision, but they are also evident in port-graduate and even undergraduate training. Stereotyping is one of the elements which inhibit or completely halts cultural competency and as a result they need to be addressed and eliminated as possible early in all Healthcare providers training.

Aims/Objectives

The aim of this week's readings is to familiarize students with their own intrinsic biases and the stereotypes they may have form their cultures. Stereotyping is a major inhibitor for the development of cultural competence.

Learning Outcomes By the end of this session student will learn how to

- Discuss how stereotyping can inhibit culturally competent delivery of healthcare.
- Apply the knowledge to address avoidance of stereotyping in all levels of Healthcare Education.

Key Words

Implicit Bias	Treatment Choices	Healthcare Provider-patient interaction	Errors	Stigma	Self-Stereotyping

Annotated Bibliography

- **Basic Sources/Material**

1. Carpenter, J. (1995). Doctors and Nurses: Stereotypes and Stereotype Change in Interprofessional Education. Journal of Interprofessional Care, 9: 151–161. (pdf provided)
2. Greenberg, C. C., & Greenberg, J. A. (2020). Gender Bias and Stereotypes in Surgical Training. JAMA Surgery. doi:10.1001/jamasurg.2020.1561. (pdf provided)
3. Harendza, S., & Pyra, M. (2017). Just fun or a prejudice? – physician stereotypes in common jokes and their attribution to medical specialties by undergraduate medical students. BMC Medical Education, 17: 128. (pdf provided)
4. Ibaraki, A. Y., Hall, G. C. N., & Sabin, J. A. (2014). Asian American cancer disparities: The potential effects of model minority health stereotypes. Asian American Journal of Psychology, 5(1), 75–81. (pdf provided)
5. Ly, A., & Crowshoe, L. (2015). "Stereotypes are reality": addressing stereotyping in Canadian Aboriginal medical education. Medical Education, 49: 612–622. (pdf provided)
6. McCleary-Gaddy, A. T., & Scales, R. (2019). Addressing Mental Illness Stigma, Implicit Bias, and Stereotypes in Medical School. Academic Psychiatry. doi:10.1007/s40596-019-01081-3. (pdf provided)
7. Puddifoot, K. (2019). Stereotyping Patients. Journal of Social Philosophy, 50: 69–90. (pdf provided)
8. Sabin, J.A., P. Rivara F.P. & Greenwald, A.G. (2008). Physician Implicit Attitudes and Stereotypes about Race and Quality of Medical Care, Medical Care, 46: 678-685. (pdf provided)

- **Supplementary Sources/Material**
  None

Weekly Group Assignment This counts for 20% of your total assignment grade.
Team Assignment. Reflect as a team and list possible stereotypes regarding patients. Critically reflect on your own intrinsic biases resulting in stereotypes and as a Team find ways to amend them. Word limit is 2000 words excluding references.

Recommended number of work hours for the student 20 hours

THE CYPRUS AGENCY OF QUALITY ASSURANCE AND ACCREDITATION IN HIGHER EDUCATION

European University Cyprus

FORM: 200.1.3

STUDY GUIDE

COURSE: MDE650

Curriculum Design and Evaluation in Medicine

Course Information

Institution	**European University Cyprus**	
Programme of Study	**Medical Education**	
Course	**Medical Education Theories to practice**	
Level	Undergraduate ☐	Postgraduate (Master) ☒
Language of Instruction	English	
Course Type	Compulsory ☐	Elective ☒

Number of Teleconferences	Total: Up to 6	Face to Face: -	Teleconferences: Up to 6
Number of Assignments	3		
Assessment	Written Thesis	Oral Examination	
	50 %	50 %	
Number of ECTS Credits	10		

CONTENTS

TITLE: Kern's framework for curriculum development: Evaluation and Feedback

(8th Week)

Summary

Assessment and Evaluation are 2 very distinct terminologies. Assessment is used for students' measurement of the examined learning outcomes. The term Evaluation is used for curricula and is associated with characterization judgement and appraisal. Evaluation of the curriculum is not an easy task and several steps need to be followed in order to collect the necessary documentation to successfully evaluate a curriculum.

Introductory Remarks

Evaluation and feedback is the last ring of the cycle of the framework and in reality closes a cycle. This final step once completed initiated the curriculum revision, which starts again with the first step of the framework. The evaluation step is of pivotal importance, as it allows for critical appraisal of whether the learning outcomes have been fulfilled. The process of a curriculum evaluation comprises of six different tasks, each of which is equally important and the form a chain. Remember that the chain is as strong as its weakest link.

Task I: Identify users. Always include the people who have experienced the curriculum (students and faculty) and other stakeholders who have administrative responsibility for, allocate resources to, or are otherwise affected by the curriculum will also be interested in evaluation results. Each University has a different structure, and the various stakeholders may be different in various cases.

Task II: Identify uses. The uses will be generic and specific. The generic uses can be drafted in 2 axes. The first axis reflects whether the evaluation is used to appraise the performance of individuals, the performance of the entire program, or both. The second axis refers to whether an evaluation is used for formative purposes (to improve performance), for summative purposes (to judge performance and make decisions about its future or adoption), or for both purposes. The specific uses include: Feedback on and improvement of individual performance, Judgments regarding individual performance, Feedback on and improvement of program performance, Judgments regarding program success, Justification for the allocation of resources, Motivation and recruitment, Attitude change, Satisfaction of external and internal requirements, Demonstration of popularity, Prestige, power, promotion, and influence and Presentations, publications, and adoption of curricular components by others. It is obvious that task II encompasses various different tasks which look at various stakeholders and have both summative and formative implications.

Task III: Identify resources. As discussed in the implementation of the curriculum, even if a curriculum is extremely well planned, it will fail if the resources are not adequate to support it. For this reason, curriculum developers should consider resource needs early

in the planning of the evaluation process, including time, personnel, equipment, facilities, and funds.

Task IV: Identify evaluation questions. Evaluation questions lead the outcome of the evaluation. Evaluation questionnaire is an instrument, and it should be tested for validity, reliability and reproducibility. Most evaluation questions should relate to the specific measurable learner, process, or clinical outcome objectives of a curriculum. The curriculum developer should also make sure that the evaluation question is congruent with the related curricular objective. Other types of questions include feasibility. Rather than simply using various quantitative questions with e.g. Likert scale in curriculum evaluation, the bibliography shows that mixed methods approach might be preferable. So open ended question should also be included in the instrument of evaluation to capture uncharted and unexpected weaknesses.

Task V. Choice of Evaluation Design. An evaluation is said to possess internal validity if it accurately assesses the impact of a specific intervention on specific subjects in a specific setting. An internally valid evaluation that is generalizable to other populations and other settings is said to possess external validity. In choosing an evaluation design, one must be aware of each design's strengths and limitations with respect to factors that could threaten the internal validity of the evaluation. These factors include subject characteristics (selection bias), loss of subjects (mortality, attrition), location, instrumentation, testing, history, maturation, attitude of subjects, statistical regression, and implementation. Evaluation designs are sometimes classified as pre-experimental, quasi-experimental, and true experimental.

Task VI. Choose measurement questions and construct instruments. The choice of assessment or measurement methods and construction of measurement instruments are critical steps in the evaluation process because they determine the data that will be collected, determine how they will be collected (Task VIII), and make certain implications about how the data will be analyzed (Task IX). Most evaluations will require the construction of curriculum-specific measurement instruments such as tests, rating forms, interview schedules, or questionnaires.

Aims/Objectives

The aim of the present week is to provide a framework which highlights the six tasks of evaluation.

Learning Outcomes

After reading this chapter, the student should be able to:

- Discuss how to identify the users of the evaluation step
- Critically analyze the generic and specific uses of the evaluation step
- Create evaluation questions and evaluation designs for the evaluation of the curriculum

- Construct instruments for measurements for evaluation

Key Words

Validity	Reliability	Reproducibility	Internal consistency	Six Tasks to complete the step

Annotated Bibliography

- **Basic Sources/Material**

1. Linderman BM & Lipsett PA (2016). Evaluation and feedback, Thomas PA, Kern DE, Hughes MT & Chen BY (Eds), John Hopkins University Press, Baltimore, USA, pp 122-157. (pdf provided)

- **Supplementary Sources/Material**

NONE

Self-Assessment Exercises/Activities

Exercise 8.1 (non-graded)

In the suggested answer section, please read the evaluation of the example answer I have provided for the development of a curriculum for resuscitation skills. After having read this week's materials, please post a critique of 200 words excluding references in the discussion forum.

Recommended number of work hours for the student (15 hours)

TITLE: Ethics and Professionalism in all aspects of a medical curriculum

(12th Week)

Summary

Medical professionalism forms a belief system which is used to defend physicians' ethos against counterforces which might threaten the integrity of medical practice. A differentiation between professionalism and ethics is not of mere academic interest. Instead, it is of great practical importance with regard to morally contentious issues in medicine.

Introductory Remarks

The professional as a person is, thereby, often depicted in a rather idealistic manner showing "everything that we admire in our colleagues and strive for in ourselves". Following this image, the professional stands as a solid rock in the center of changing societies and healthcare systems while keeping up with the commitment to serve both the benefit of patients and the welfare of society. In dealing with the topic of professionalism we should be aware of the fact that professionalism has two sides: it forms an important subject of historical and sociological sciences, but, at the same time, is an ideology or belief system in the medical community itself which is used to defend the inherent values of physicians' ethos. There is lack of a clear distinction between "professional" and "ethical" aspects in healthcare. Both sides are typically voiced in one breath when referring to physicians' "ethical and professional values." Training programs and Centers for Ethics and Professionalism aim to ensure healthcare professionals' orientation towards values and provide them with the respective knowledge, skills and attitude. There are several attempts to systematically explain the basis of physicians' professional ethos. Most often it is related to a so-called "internal morality" of medical practice and the inherent goals of medicine such as preventing and curing, relieving pain and disability or helping the patient to live with his disease. Professional ethos is then linked with a virtue-ethical account which highlights character traits indispensable for an attainment of the ends of medicine.

Aims/Objectives

The aims and the objectives of this week's material is to make students to understand and critically evaluate the definition and importance of ethics and professionalism in healthcare provision and in medical education:

Learning Outcomes

After reading this week's material, the student should be able to:

- Compare and contrast Consequentialist Ethics with Deontology and Virtue Ethics
- Define the elements which constitute professionalism.

- Create learning outcomes and ways of implementation of teaching into various healthcare curricula, including hidden curricula.

Key Words

Consequentialist Ethics	Deontology	Virtue Ethics	Integrity	Compassion	Altruism
Excellence	Continuous Professional Improvement	Respect	Communication	Professional Identity development	

Annotated Bibliography

- **Basic Sources/Material**

1. Doukas, D. J., McCullough, L. B., & Wear, S. (2012). Perspective Medical Education in Medical Ethics and Humanities as the Foundation for Developing Medical Professionalism. Academic Medicine, 87: 334–341. (pdf provided)
2. Goldie, J., Dowie, A., Cotton, P., & Morrison, J. (2007). Teaching professionalism in the early years of a medical curriculum: a qualitative study. Medical Education, 41: 610–617. (pdf provided)
3. Goold, S. D., & Stern, D. T. (2006). Ethics and Professionalism: What Does a Resident Need to Learn? The American Journal of Bioethics, 6:9–17. (pdf provided)
4. Lehmann, LS; Sulmasy, LS; & Desai, S; for the ACP Ethics, Professionalism and
5. Human Rights Committee (2018). Hidden Curricula, Ethics, and Professionalism: Optimizing Clinical Learning Environments in Becoming and Being a Physician: A Position Paper of the American College of Physicians. Annals of Internal Medicine, 68:506-508. (pdf provided)
6. Mahajan, R. Aruldhas, B.W., Sharma, M., Badyal, D.K., Singh, T. (2016). Professionalism and ethics: A proposed curriculum for undergraduates. International Journal of Applied and Basic Medical Research, 6:157-163. https://pubmed.ncbi.nlm.nih.gov/27563578/
7. Sklar, D.P Association of American Medical Colleges (2017). Professionalism in Medicine and Medical Education, Volume II, Foundational Research and Key findings, Academic Medicine, Washington USA. (e-book available at https://journals.lww.com/academicmedicine/Documents/Professionalism_in_Medicine_and_Medical_Education_Volume_II_eBook.pdf)

- **Supplementary Sources/Material**

NONE

Self-Assessment Exercises/Activities

Exercise 12.1 (non-graded)

Please watch the following videos:
https://www.youtube.com/watch?v=UC9kSeUnJUI&ab_channel=HealthcareEthicsandLaw In this video the presenters look at consequentialist ethics and in particular the most famous form of it, utilitarianism. We also take a look at examples of it in medical practice and some famous objections to it.
https://www.youtube.com/watch?v=G8TnR8U-w5U&ab_channel=HealthcareEthicsandLaw In this video the presenters look at virtue ethics. Virtue ethics focuses on the character of the moral agent and features heavily in regard to professionalism in healthcare.

In a post of 500 words (references excluded) provide an outline of how you would teach ethics and professionalism in any healthcare curriculum. You should include hidden and clearly stated learning outcomes and provide a few ways to assess your outcomes.

Recommended number of work hours for the student (18 hours)

Appendix 3
Addition of programmatic assessment

THE CYPRUS AGENCY OF QUALITY ASSURANCE
AND ACCREDITATION IN HIGHER EDUCATION

European University Cyprus

FORM: 200.1.3

STUDY GUIDE

COURSE: MDE630
Principles of Assessment and assessment in the healthcare practice

Course Information

Institution	**European University Cyprus**		
Programme of Study	**Medical Education**		
Course	**Principles of Assessment and assessment in the healthcare practice**		
Level	Undergraduate ☐	Postgraduate (Master) ☒	
Language of Instruction	English		
Course Type	Compulsory ☒	Elective ☐	
Number of Teleconferences	Total: Up to 6	Face to Face: -	Teleconferences: 3
Number of Assignments	4		
Assessment	Assignments	Final Examination	
	50 %	50 %	
Number of ECTS Credits	10		

TITLE:

Programmatic assessment

(12th Week)

Summary Programmatic assessment holds an integral approach to the design of an assessment program with aim to optimise its learning, decision-making and curriculum quality-assurance function. The traditional dichotomy between formative and summative assessment is redefined as a continuum of stakes, ranging from low- to high-stakes decisions.The information value of these individual data points is maximised by giving feedback to the learner.

Introductory Remarks Programmatic assessment is a holistic approach and is based on many assessment insights that have been tailored trough research and educational practice. It can be said that logic and feasibility are inversely related in programmatic assessment. The implementation is challenging, and partial implementations are possible via the increase in feedback and information in an assessment programme and mentoring, although the succes will also be partial in this case.

There is a decoupling of assessment moment and decision moment. Intermediate and high-stakes decisions are based on multiple data points after a meaningful aggregation of information and combined by rigorous organisational procedures to ensure their dependability. Self-regulation of learning, through the assessment-analysis information and the attainment of the ensuing learning goals is dependent on a mentoring system. Programmatic assessment for learning can be applied to any part of the training and educational process, provided that the underlying learning conception is constructivist.

The implementation of programmatic assessment is build on structural and systematic approach, and it should be focused towards the following areas, as suggested by van der Vleuten:

- To develop a master plan for assessment
- To develop examination regulations that promote feedback orientation
- To adopt a robust system for collecting information
- To assure that every low-stakes assessment provides meaningful feedback for learning:
- To provide mentoring to learners
- To ensure trustworthy decision-making
- To organise intermediate decision-making assessments
- To encourage and facilitate personalised remediation
- To monitor and evaluate the learning effect of the programme and adapt

- To use the assessment process information for curriculum evaluation
- To promote continuous interaction between the stakeholders
- To develop a strategy for implementation

The subjectivity from non-standardised assessment using professional judgement is something that can achieved in programmatic assessment either by sampling many contexts and assessors, as many subjective judgements will provide a stable generalisation from the aggregated data (van der Vleuten et al. 1991), or due to subjectivity via bias-reduction strategies reflecting on process in the way decisions are reached.
The active participation of learners in their own learning is possible when learning is supported by programmatic assessment.

Aims/Objectives

- To understand the holistic approach of programmatic assessment
- Identify the elements of programming assessment
- To understand to complexity of programmatic assessment in medical education

Learning Outcomes By the end of this session students will learn how to

- Identify the programmatic assessment support related to active participation of learners in their own learning process
- Understand the inhibiting and supportive points of programmatic assessment that may be perceived by students
- Use and implement the comprehensive assessment forms (feedback, assessment, e-portfolio, assignment)

Key Words

Programmatic assessment	Holistic assessment approach	Learning tools	Medical education

Annotated Bibliography

- **Basic Sources/Material**

1. Schuwirth, L., van der Vleuten, C., & Durning, S. J. (2017). What programmatic assessment in medical education can learn from healthcare. Perspectives on medical education, 6(4), 211–215. https://doi.org/10.1007/s40037-017-0345-1
2. Schut, S., Maggio, L.A., Heeneman, S. et al. Where the rubber meets the road — An integrative review of programmatic assessment in health care professions education. Perspect Med Educ **10,** 6–13 (2021). https://doi.org/10.1007/s40037-020-00625-w
3. Heeneman S, Oudkerk Pool A, Schuwirth LW, van der Vleuten CP, Driessen EW. The impact of programmatic assessment on student learning: theory versus practice. Med Educ. 2015 May;49(5):487-98. doi: 10.1111/medu.12645. PMID: 25924124.
4. van der Vleuten CP. Revisiting 'Assessing professional competence: from methods to programmes'. Med Educ. 2016 Sep;50(9):885-8. doi: 10.1111/medu.12632. PMID: 27562885.
5. Van Der Vleuten CPM, Schuwirth LWT, Driessen EW, Govaerts MJB, Heeneman S. Twelve Tips for programmatic assessment. Med Teach. 2015 Jul;37(7):641-646. doi: 10.3109/0142159X.2014.973388. Epub 2014 Nov 20. PMID: 25410481.

- **Supplementary Sources/Material**

1. Dijkstra J, Galbraith R, Hodges BD, McAvoy PA, McCrorie P, Southgate LJ, van der Vleuten CP, Wass V, Schuwirth LW. 2012. Expert validation of fit-for-purpose guidelines for designing programmes of assessment. BMC Med Educ 12:20

2. Shute VJ. 2008. Focus on formative feedback. Rev Educ Res 78: 153–189.

3. Steinert Y. 2014. Medical education and faculty development. The Wiley Blackwell Encyclopedia of Health, Illness, Behavior, and Society. pp 1344–1348.

4. Ko¨nings KD, Brand-Gruwel S, Merrie¨nboer JJ. 2005. Towards more powerful learning environments through combining the perspectives of designers, teachers, and students. Br J Educ Psychol 75:645–660.

Weekly Self-Assessment & Interactive Exercises/Activities

Exercise 12.1 Describe the supporting and inhibiting elements of the combined comprehensive assessment elements in any area of medicine

Exercise 12.2 Post your answer of 400 words (references excluded) in Forum, and comment meaningfully on at least one of your classmate’s posts.

Recommended number of work hours for the student 15 hours

THE CYPRUS AGENCY OF QUALITY ASSURANCE AND ACCREDITATION IN HIGHER EDUCATION

European University Cyprus

FORM: 200.1.3

STUDY GUIDE

COURSE: MDE650

Curriculum Design and Evaluation in Medicine

Course Information

Institution	**European University Cyprus**	
Programme of Study	**Medical Education**	
Course	**Medical Education Theories to practice**	
Level	Undergraduate ☐	Postgraduate (Master) ☒
Language of Instruction	English	
Course Type	Compulsory ☐	Elective ☒

Number of Teleconferences	Total: Up to 6	Face to Face: -	Teleconferences: Up to 6
Number of Assignments	3		
Assessment	Written Thesis	Oral Examination	
	50 %	50 %	
Number of ECTS Credits	10		

CONTENTS

TITLE: Ethics and Professionalism in all aspects of a medical curriculum

(12th Week)

Summary

Medical professionalism forms a belief system which is used to defend physicians' ethos against counterforces which might threaten the integrity of medical practice. A differentiation between professionalism and ethics is not of mere academic interest. Instead, it is of great practical importance with regard to morally contentious issues in medicine.

Introductory Remarks

The professional as a person is, thereby, often depicted in a rather idealistic manner showing "everything that we admire in our colleagues and strive for in ourselves". Following this image, the professional stands as a solid rock in the center of changing societies and healthcare systems while keeping up with the commitment to serve both the benefit of patients and the welfare of society. In dealing with the topic of professionalism we should be aware of the fact that professionalism has two sides: it forms an important subject of historical and sociological sciences, but, at the same time, is an ideology or belief system in the medical community itself which is used to defend the inherent values of physicians' ethos. There is lack of a clear distinction between "professional" and "ethical" aspects in healthcare. Both sides are typically voiced in one breath when referring to physicians' "ethical and professional values." Training programs and Centers for Ethics and Professionalism aim to ensure healthcare professionals' orientation towards values and provide them with the respective knowledge, skills and attitude. There are several attempts to systematically explain the basis of physicians' professional ethos. Most often it is related to a so-called "internal morality" of medical practice and the inherent goals of medicine such as preventing and curing, relieving pain and disability or helping the patient to live with his disease. Professional ethos is then linked with a virtue-ethical account which highlights character traits indispensable for an attainment of the ends of medicine.

Aims/Objectives

The aims and the objectives of this week's material is to make students to understand and critically evaluate the definition and importance of ethics and professionalism in healthcare provision and in medical education:

Learning Outcomes

After reading this week's material, the student should be able to:

- Compare and contrast Consequentialist Ethics with Deontology and Virtue Ethics
- Define the elements which constitute professionalism.
- Create learning outcomes and ways of implementation of teaching into various healthcare curricula, including hidden curricula.

Key Words

Consequentialist Ethics	Deontology	Virtue Ethics	Integrity	Compassion	Altruism
Excellence	Continuous Professional Improvement	Respect	Communication	Professional Identity development	

Annotated Bibliography

- **Basic Sources/Material**

1. Doukas, D. J., McCullough, L. B., & Wear, S. (2012). Perspective Medical Education in Medical Ethics and Humanities as the Foundation for Developing Medical Professionalism. Academic Medicine, 87: 334–341. (pdf provided)
2. Goldie, J., Dowie, A., Cotton, P., & Morrison, J. (2007). Teaching professionalism in the early years of a medical curriculum: a qualitative study. Medical Education, 41: 610–617. (pdf provided)
3. Goold, S. D., & Stern, D. T. (2006). Ethics and Professionalism: What Does a Resident Need to Learn? The American Journal of Bioethics, 6:9–17. (pdf provided)
4. Lehmann, LS; Sulmasy, LS; & Desai, S; for the ACP Ethics, Professionalism and
5. Human Rights Committee (2018). Hidden Curricula, Ethics, and Professionalism: Optimizing Clinical Learning Environments in Becoming and Being a Physician: A Position Paper of the American College of Physicians. Annals of Internal Medicine, 68:506-508. (pdf provided)
6. Mahajan, R. Aruldhas, B.W., Sharma, M., Badyal, D.K., Singh, T. (2016). Professionalism and ethics: A proposed curriculum for undergraduates. International Journal of Applied and Basic Medical Research, 6:157-163. https://pubmed.ncbi.nlm.nih.gov/27563578/
7. Sklar, D.P Association of American Medical Colleges (2017). Professionalism in Medicine and Medical Education, Volume II, Foundational Research and Key findings, Academic Medicine, Washington USA. (e-book available at https://journals.lww.com/academicmedicine/Documents/Professionalism_in_Medicine_and_Medical_Education_Volume_II_eBook.pdf)

- **Supplementary Sources/Material**

NONE

Self-Assessment Exercises/Activities

Exercise 12.1 (non-graded)

Please watch the following videos:
https://www.youtube.com/watch?v=UC9kSeUnJUI&ab_channel=HealthcareEthicsandLaw In this video the presenters look at consequentialist ethics and in particular the most famous form of it, utilitarianism. We also take a look at examples of it in medical practice and some famous objections to it.
https://www.youtube.com/watch?v=G8TnR8U-w5U&ab_channel=HealthcareEthicsandLaw In this video the presenters look at virtue ethics. Virtue ethics focuses on the character of the moral agent and features heavily in regard to professionalism in healthcare.

In a post of 500 words (references excluded) provide an outline of how you would teach ethics and professionalism in any healthcare curriculum. You should include hidden and clearly stated learning outcomes and provide a few ways to assess your outcomes.

Recommended number of work hours for the student (18 hours)

International Network for
Health Workforce Education

RE: Endorsement of the proposed MSc in Medical Education by the European University Cyprus

To Whom It May Concern,

The Secretariat and the Advisory Board of the International Network for Health Workforce Education (INHWE) wishes to confirm our support and endorsement for the MSc in Medical Education application submitted by the School of Medicine at European University Cyprus. We believe that the institution, school and educators are aligned to provide an excellent course that will be beneficial to future students and healthcare education in general.

INHWE strives to bridge the gap between health workforce educators, researchers and policy makers as part of its commitment to improving the education and training provided to healthcare professionals internationally. We believe that the proposed MSc in Medical Education matches this aim perfectly and thus fully endorse the course. Additionally, INHWE would be very interested in exploring possible collaboration linked to this MSc and we have started discussions on how best to do so with EUC (please see our adjoining letter relating to the proposed learning retreat linked to the MSc).

We are the first truly international, inter-professional, and multi-stakeholder free membership network with over 1800 members from across the globe with the significant majority of those residing within Europe. We passionately believe that health workforce education needs to realise and benefit from the great potential that lies in our diverse, knowledge-rich, global society and the best way to achieve this is to tap into the expansive knowledge resources of the global health workforce education community.

If you require any further information regarding our endorsement please do not hesitate to contact Mr. David Smith via email: David.smith@inhwe.org

Yours faithfully,

INHWE Secretariat

Mr. David Smith, Director

Mr. Matteo Vezzosi, Director

INHWE Board

Prof. Thomas Kearns, Executive Director, Faculty of Nursing and Midwifery RCSI, Ireland

Prof. Adam Layland, National Head of Commissioning, Health Education England, United Kingdom

International Network for
Health Workforce Education

Re: Winter / Summer School for MSc in Medical Education (European University Cyprus)

To Whom It May Concern,

The International Network for Health Workforce Education (INHWE) would like to offer its conference space to the European University Cyprus (EUC) for the purposes of running a Winter / Summer School (or related academic learning retreat) linked to the MSc in Medical Education.

INHWE events are held throughout the year and promote interdisciplinary cooperation and critical understanding of the latest research in the field of health workforce education, training and development. Each event is specifically designed to meet the needs of all health professional educators while also facilitating multidisciplinary discourse by bringing together educators, policy makers, researchers and experts from across the globe. The events create the perfect opportunity for active networking and knowledge sharing while also featuring a comprehensive program offering numerous presentations, technical sessions and workshops showcasing the latest innovations in health education.

We believe that such an academic space would provide the perfect environment for extensive learning and networking of future healthcare educators. INHWE would be able to provide dedicated lectures and supervision sessions to the students with a programme comprised of eminent members of our Advisory Board. We have attached to this letter the professional biographies of our Advisory Board members to highlight the high quality of knowledge that could be imparted during such an event.

If you have further questions or would like to know more please email INHWE Director David Smith via: David.Smith@inhwe.org.

Yours faithfully,

INHWE Secretariat

Mr. David Smith, Director

Mr. Matteo Vezzosi, Director

INHWE Board

Prof. Thomas Kearns, Executive Director, Faculty of Nursing and Midwifery RCSI, Ireland

Prof. Adam Layland, National Head of Commissioning, Health Education England, United Kingdom

INHWE LTD
Company Address: Spyrou Kyprianou 14, KTENAS Building, Floor 2, Flat 202, 1075 Nicosia, Cyprus
Company Registration: HE 409880
VAT Number: 10409880F
http://inhwe.org/contact

Appendix 7. Rubric for Reflective Writing

RUBRIC FOR ASSESSMENT OF REFLECTIVE WRITING

	UNDEVELOPED	DEVELOPING	SKILLED
DESCRIBING EXPERIENCE	Unclear and vague	Clear but general	Clear and focused on the specific aspects that challenge the student
DESCRIBING EMOTIONAL AND INTELLECTUAL RESPONSE	Unclear and vague	Some response but limited to one domain.	Clear and focused description of the feelings, thoughts, and questions raised by the student at the time of the experience and upon reflection
GENERAL REFLECTION	Minimal reflection – No personal reflection or limited to description of general opinions and behaviors.	Reflection – Making connection between student's personal assumptions, habits, or values and the opinions or behaviors upon which the student is reflecting.	Critical evaluation (questioning, examining more closely) student's personal assumptions, habits, or values.
DIRECTED TOPIC REFLECTION	Minimal reflection – No personal reflection or limited to description of general opinions and behaviors without reflection on underlying assumptions, habits, or values driving those opinions or behaviors.	Reflection – Making connection between student's personal assumptions, habits, or values and the opinions or behaviors upon which the student is reflecting.	Critical reflection – Critical questioning of student's personal assumptions, habits, or values and their connection to the opinions or behaviors upon which the student is reflecting considering other perspectives.
USING INSIGHTS FOR FUTURE ACTION	Student's reflection is entirely backward looking, with no evidence of future use.	Student has generalized statements regarding how the reflection will direct future actions or belief	Student provides concrete plans for further action or reflection for a specific purpose.
CONNECTIONS TO READING/RESEARCH	Does not include any reference to outside reading or	Reflection refers to past readings or research in a	Connects reflection to past readings and research and

	research to inform reflection.	descriptive or citation fashion with little indication of motivation to use reading or research to inform reflection	indicates efforts to re-read or conduct additional research.
CONNECTIONS TO PEOPLE	Demonstrates no effort to engage others in reflecting on the experience or insights.	Describes some conversations or interviews regarding the experience or reflection but only in an incidental fashion.	Demonstrates meaningful conversations with others to test ideas and gain insights on the experience and reflection.
WRITING QUALITY	Unfocused, unorganized, vague, and sloppy	Some focus and organization. Language has some precision. Essay was proofread.	Topic(s) are clear and specific, descriptions use concrete and precise language and insights are precise and clear, Organization is apparent and effective. Essay has been proofread.

Appendix 8. Course Syllabi

ANNEX 2 – COURSE DESCRIPTIONS

<table>
<tr><td>Course Title</td><td colspan="5">Medical Education Theories to practice</td></tr>
<tr><td>Course Code</td><td colspan="5">MDE600</td></tr>
<tr><td>Course Type</td><td colspan="5">Compulsory</td></tr>
<tr><td>Level</td><td colspan="5">MSc (2nd Cycle)</td></tr>
<tr><td>Year / Semester</td><td colspan="5">1st year / 1st semester</td></tr>
<tr><td>Teacher’s Name</td><td colspan="5">Theodoros Xanthos</td></tr>
<tr><td>ECTS</td><td>10</td><td>Lectures / week</td><td>Up to 6 Teleconferences</td><td>Labs / week</td><td>N/A</td></tr>
<tr><td>Course Purpose and Objectives</td><td colspan="5">The course purpose is to familiarize the students with medical education theories. The course will also help in the differentiation between concepts, principles, and theories. The word “theory” is quite commonly used to represent the knowledge or cognitive component in our day-to-day work. The various learning theories in the educational field indicate that it is more like a set of principles/ideas that provide an explanation of working of a concept or basis of practical happenings or connections between various principles in a model or working together. Several theories have been proposed for learning. There are number of concepts in learning which are essential components for an understanding of these theories.</td></tr>
<tr><td>Learning Outcomes</td><td colspan="5">Upon successful completion of this course students should be able to:

• Describe the differences between concepts, principles and theories
• Identify and explain Behaviourism
• Elucidate Cognitivism
• Identify and explain Constructivism
• Distinguish the characteristics of Sociocultural theory
• Identify and explain Critical Theory and how to change society to make it equal for all by encouraging participation of all learners
• Analyze Humanism as a key determinant one's own growth as a doctor and human being.
• Critically analyze the similarities as well as differences between these theories
• Discuss how medical education theories represent learning in context with stage of learner and situations</td></tr>
<tr><td>Prerequisites</td><td colspan="2">None</td><td>Co-requisites</td><td colspan="2">None</td></tr>
<tr><td>Course Content</td><td colspan="5">• Students will develop their writing and critical skills in relation to understanding medical education</td></tr>
</table>

<table>
<tr><td></td><td>

Students will gain an understanding of the underpinning theories of learning in relation to medical education
Students will appreciate the principles underlying the design and delivery of the medical curriculum
Students will learn about key teaching skills, put these into practice and reflect on the experience for the future
Students will consider what their own teaching philosophy is and why.

</td></tr>
<tr><td>Teaching Methodology</td><td>Distance Learning</td></tr>
<tr><td>Bibliography</td><td>
Walsh K. (2013) Oxford Textbook of Medical Education. Oxford University Press. DOI: 10.1093/med/9780199652679.001.0001

Dent J &Harden RM. (2009) A Practical Guide for Medical Teachers. Churchill Livingstone

Kalman K (2006). Medical Education: Past, Present and Future. Churchill Livingstone

Kurc AR, Roszac M, Mokwa-Tarnowska I, Kolowska-Gawiejnowicz M, Zych J & Kowaleski W (2018). E-Textbook Technologies for Academics in Medical Education. Available at https://content.sciendo.com/view/journals/slgr/56/1/article-p161.xml
</td></tr>
<tr><td>Assessment</td><td>
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<tr><td>Assignments/Ongoing Examination</td><td>50%</td></tr>
<tr><td>Final Examination</td><td>50%</td></tr>
<tr><td>Total</td><td>100%</td></tr>
</table>
</td></tr>
<tr><td>Language</td><td>English</td></tr>
</table>

Course Title	Research Methodology in Medical Education				
Course Code	MDE610				
Course Type	Compulsory				
Level	MSc (2nd Cycle)				
Year / Semester	1st year / 1st semester				
Teacher's Name	Dimitrios Farmakis				
ECTS	10	Lectures / week	Up to 6 Teleconferences	Labs / week	N/A
Course Purpose and Objectives	The course is designed to familiarize students with advanced qualitative methodological approaches of education issues. It also aims to study the philosophical underpinnings of qualitative research and of basic forms of qualitative research through the formulation of research objectives and questions, methods for collecting various types of qualitative data, organizing and analysis of data and extracting patterns and emerging issues through the use of qualitative data analysis software. At the same time, it aims to develop students' critical skills to interpret and evaluate published qualitative research papers from various fields of education. In addition the course aims at the development of students' deep understanding and appreciation of the philosophical underpinnings and main principles underlying quantitative research, and of the relation between quantitative and qualitative research paradigms. It also aims at acquainting students with various advanced statistical methods, and with how these could exploited to investigate educational phenomena and issues. At the same time, the course aims to provide doctoral students with the knowledge and skills required to pose research questions requiring a quantitative approach, to collect data (whenever deemed necessary), to record and analyze empirical data using appropriate statistical software packages and techniques, and to interpret and present the results of a statistical analysis in a research report. Finally, the course aims to develop doctoral students' ability to critically interpret and evaluate quantitative research studies in the field of education or in the broader area of social research.				
Learning Outcomes	Upon successful completion of this course students should be able to: • Analyse the relationship between epistemology, theory, methodology and methods in quantitative, qualitative and mixed educational research • Elucidate the theoretical and epistemological principles underpinning the various approaches of qualitative research • Explain modern approaches to qualitative research as well as their role in improving education • Design qualitative research by selecting the appropriate procedures and approaches depending on research objectives and research questions that have been set				

	• Collect qualitative data, organize and analyze them using qualitative data analysis software (e.g. ATLAS. ti, NVivo). • Identify and justify the most appropriate research approach to address an identified educational problem, issue, or knowledge need • Collect quantitative data with appropriate techniques and use statistical analysis software packages to record, process and analyse research data by applying advanced statistical methods		
Prerequisites	None	Co-requisites	None
Course Content	• Epistemological conventions and epistemological paradigms of qualitative research • Development of research questions for qualitative research (e.g., feminist approaches, post-structuralism, critical theory • Research design, data collection (e.g. interviews, observations, collection of archival and photographic material, videos and gain entry) • Methodological approaches to qualitative research (case study, action research, ethnography, grounded theory, Phenomenology, etc.) • Validity and ethical issues in qualitative research • Approaches and strategies of analysis in qualitative research • Using qualitative data analysis software (e.g. ATLAS. ti, NVivo) • Issues generalizations in qualitative research • The nature of educational research – ontological, epistemological, and methodological assumptions in relation to the various schools of thought • Quantitative educational research: role, societal impact, similarities and differences compared to qualitative and mixed research methods • Analyse the relationship between epistemology, theory, methodology and methods in quantitative, qualitative and mixed educational research • Historical overview of the evolution of quantitative research methods and techniques • Issues of validity, reliability and research ethics in quantitative research • Formulation of research questions and statistical hypotheses; • Probability, probability models, sampling, principles of inferential statistics; • One-sample and two-sample hypothesis testing regarding the mean, proportion, and dispersion		

	• Assumptions underlying parametric tests, statistical power, effect size, required sample size • Non-parametric statistical tests; • Correlation Analysis, Correlation Analysis Coefficients • Regression analysis: Simple, multiple, curvilinear, logistic • Analysis of Variance (ANOVA), Analysis of Covariance (ANCOVA), Multivariate Analysis of Variance (MANOVA) • Factor analysis, principal component analysis • Multidimensional scaling, clustering, discriminant analysis • Structural equation modeling and latent class modeling • Hierarchical linear models • Categorical data analysis • Meta-analysis • Statistical software packages for recording, processing and analyzing data through the application of advanced statistical methods • Examples of quantitative research studies published in the field of education
Teaching Methodology	Distance Learning
Bibliography	Creswell, J. W.,& Guetterman, T.C. (2019) Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research (6th Edition). Pearson. Bazeley, K. Jackson (2013). Qualitative Data analysis with NVivo. Los Angeles: SAGE Publications. Corbin, J. & Strauss, A. (2008). Basics of qualitative research. Thousand Oaks, CA: SAGE Publications. Creswell, W. J. (2006). Qualitative inquiry and research design: Choosing among five traditions. Thousands Oaks, CA: Sage Publications. Denzin, N. K. & Lincoln, Y. S. (Eds.) (2017). The Sage Handbook of qualitative research. Thousand Oaks, CA: Sage Publications, Inc. Saldaña, J. (2012). The Coding Manual for Qualitative Researchers. Los Angeles: SAGE Publications. Yin, K. R. (2018). Case study research and applications: design and methods. Thousands Oaks, CA: Sage Publications, Inc. Anthony, D. (2014). *Statistics for Health, Life and Social Sciences.* BookBoon ISBN: 978-87-7681-740-4. Online: http://www.e-booksdirectory.com/details.php?ebook=6674 Chatterjee, S., & Hadi, A. S. (2012). *Regression Analysis by Example* (5th edition). New York, NY: John Wiley & Sons.

	Johnson, R. A., & Wichern, D. W. (2007). *Applied Multivariate Statistical Analysis* (6th edition). Upper Saddle River, NJ: Prentice Hall. Rayner, J.C.W. (2016). *Introductory Nonparametrics.* Bookboon. ISBN: 978-87-403-1475-5. Available Online: http://bookboon.com/en/introductory-nonparametrics-ebook	
Assessment	Assignments/Ongoing Examination	50%
	Final Examination	50%
	Total	100%
Language	English	

Course Title	Learning in Medicine: Infrastructure and Technologies				
Course Code	MDE620				
Course Type	Compulsory				
Level	MSc (2rd Cycle)				
Year / Semester	1st year / 1st semester				
Teacher's Name	Violetta Raffay				
ECTS	10	Lectures / week	Up to 6 Teleconferences	Labs / week	N/A
Course Purpose and Objectives	The course aims at the development of students' deep understanding of the use of technologies and learning spaces in medical education. Medical education is rapidly changing, influenced by many factors including the changing health care environment, the changing role of the physician, altered societal expectations, rapidly changing medical science, and the diversity of pedagogical techniques. Changes in societal expectations put patient safety in the forefront and raises the ethical issues of learning interactions and procedures on live patients, with the long-standing teaching method of "see one, do one, teach one" considered as no longer acceptable. The educational goals of using technology in medical education include facilitating basic knowledge acquisition, improving decision making, enhancement of perceptual variation, improving skill coordination, practicing for rare or critical events, learning team training, and improving psychomotor skills. Different technologies can address these goals. The students will develop the critical ability to flexibly use the spaces and the technologies to enhance student learning. In addition, the course aims at sensitizing potential educators in the critical analysis and effective understanding of the potential of existing learning spaces and provide guidance on how physical learning spaces are aligned with the curriculum. It will also initiate the concept of e spaces as learning environments and will enable students to effectively use these spaces as learning environments				
Learning Outcomes	Upon successful completion of this course students should be able to: • Effectively use computer assisted learning (CAL) as a tool to enhance student experience • Analyze the limitations of Personal Digital Assistants (PDA) such as medical apps • . Incorporate the PDAs in the creation of a course • . Use Digital games in their teaching • Discuss the use of the task trainers • Critically analyze and effectively design complex simulation for their teaching				

	• Describe the potential of wearable technologies such as Google glass and be able to criticize their future and potential use in Medical Education • Describe the limitations of their learning spaces and propose ways of improvement • Analyze and discuss the use of e spaces in the delivery of the medical curriculum		
Prerequisites	None	Co-requisites	None
Course Content	• Effective use and design of CALs • Effective use and limitations of PDAs • Use of Digital or “Serious games” in the delivery of curriculum • Use of task trainers (simple or virtual) for the acquisition of skills • Creation and effective delivery of complex simulation scenarios in Medical Education • Definition of a dynamic learning space • Definition and limitations of e spaces		
Teaching Methodology	Distance Learning		
Bibliography	Oblinger DG (2006). Learning Spaces. EDUCAUSE ISBN 0-9672853-8-0 Nestel D, Kelly M, Jolly B & Watson M (2018). Healthcare Simulation Education: Evidence, Theory and Practice 1st Edition. Wiley Blackwell Crawford SB, Baily LW & Monks SM (2019). Comprehensive Healthcare Simulation: Operations, Technology, and Innovative Practice 1st ed Fallavollita P (2017). Innovative Technologies for Medical Education DOI: 10.5772/intechopen.68775 Kurc AR, Roszac M, Mokwa-Tarnowska I, Kolowska-Gawiejnowicz M, Zych J & Kowaleski W (2018). E-Textbook Technologies for Academics in Medical Education. Available at https://content.sciendo.com/view/journals/slgr/56/1/article-p161.xml		

Assessment	Assignments/Ongoing Examination	50%
	Final Examination	50%
	Total	100%
Language	English	

Course Title	Principles of Assessment and assessment in the healthcare setting				
Course Code	MDE630				
Course Type	Compulsory				
Level	MSc (2rd Cycle)				
Year / Semester	1st year / 2nd semester				
Teacher's Name	Violetta Rafffay				
ECTS	10	Lectures / week	Up to 6 Teleconferences	Labs / week	N/A
Course Purpose and Objectives	The purpose of the present course is to elucidate why and how Medical Educators should assess in the undergraduate and post-graduate setting. In a simplistic sense, the purpose of assessment is to enhance learning. To this end, the character of assessment in medical education has been dissected, evaluated and refined for decades. If the purpose of assessment is to enhance learning, the purpose of teaching is to facilitate it. Before any particular teaching method can be widely implemented in health sciences education, however, there must be a method to assess its product. Generations of medical educators have outlined questions that guide decisions about developing the most appropriate method for assessing a learned skill. In medical education, assessment is a dynamic and multi-faceted process with variable aims. These may include: providing a means by which students are graded or advanced; licensing students for practice; enabling student feedback on the quality of their learning; enabling teachers to evaluate the effectiveness of their teaching; and maintaining academic standards. Defining the purpose of an assessment shapes the important consideration of what should be assessed. In an effectively-designed curriculum, course objectives will mirror the assessment content because they both serve to facilitate the same educational product. As illustrated by Harden, knowledge objectives are those that address cognitive measures. These range on a continuum from being able to recall factual events to integrating processes for problem solving. Skills objectives involve psychomotor aspects that are needed to be an efficient clinician. Attitude objectives relate to personal qualities of the learner and their approach to medicine, patients and their peers. By harmonizing course objectives with assessment content, educators ensure a unified curriculum. Next, it is important to consider the attributes desirable for an effective assessment tool. This consideration requires an understanding of the fundamental concepts of validity and reliability. Also, an ideal assessment tool would also possess the following features: accountability, flexibility, comprehensiveness, feasibility, timeliness and relevance to both the examiner and examinee. To date, a range of assessment techniques has been described and utilised in all areas of medical education. Although too numerous to describe, each method has its own inherent advantages and disadvantages. When choosing a method, it is important that the assessment technique be closely related to what one is trying to examine. In clinical medicine it is important to distinguish between what					

	a candidate knows and what they can do (““shows how””). Here, the clinical and practical assessment techniques are important. These techniques importance have led to more objective approaches to clinical assessment over the past 30 years. The Objective Structured Clinical Examination (OSCE) and more recently the Objective Structured Assessment of Technical Skill (OSATS) and Patient Assessment and Management Examination (PAME) are well known examples of these. The course will also highlight the differences in formative and summative assessment as well as norm and criterion-referencing assessment. The students will also get familiar with self-assessment and peer-assessment.		
Learning Outcomes	Upon successful completion of this course students should be able to: • Discuss the attributes of assessment whether summative, formative or peer assessment • Define and explain validity and face, content, construct and criterion validity • Discuss reliability of assessment as a measure of stability • Describe internal consistency reliability, test-retest reliability, equivalent forms reliability and inter-rater reliability • Discuss accountability of assessment in the various stakeholders of Academic Medicine • Explain flexibility, comprehensiveness and feasibility of the assessment method • Critically analyze the various assessment techniques, such as OSCE, OSATS and PAME among others • Compare and contrast norm-referencing versus criterion-referencing assessment • Discuss programmatic Assessment		
Prerequisites	None	Co-requisites	None
Course Content	• Various elements of Assessment such as accountability, flexibility, comprehensiveness, feasibility, timeliness and relevance to both the examiner and examinee • Various forms of Assessment (self-assessment, peer-assessment, norm and criterion-referencing assessment) • Creation of both effective and reliable written and oral assessment, such as OSCE, OSATS and PAME • Technology enhanced assessment in medical education • Assessment in the context of licensure • Assessment of logbooks • Assessment of conceptual understanding		
Teaching Methodology	Distance Learning		

<table>
<tr><td>Bibliography</td><td>Walsh K. (2013) Oxford Textbook of Medical Education. Oxford University Press. DOI: 10.1093/med/9780199652679.001.0001

Dent J &Harden RM. (2009) A Practical Guide for Medical Teachers. Churchill Livingstone

Kalman K (2006). Medical Education: Past, Present and Future. Churchill Livingstone

ASBMB-RCN Workshop: Assessment of Students' Reasoning with Core Concepts and Visualizations in Biochemistry available at https://www.asbmb.org/uploadedFiles/Education/TeachingStrategies/Workshop/AssessmentAll.pdf</td></tr>
<tr><td>Assessment</td><td><table><tr><td>Assignments/Ongoing Examination</td><td>50%</td></tr><tr><td>Final Examination</td><td>50%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Language</td><td>English</td></tr>
</table>

Course Title	Advanced Clinical Education				
Course Code	MDE640				
Course Type	Compulsory				
Level	MSc (2rd Cycle)				
Year / Semester	1st year / 2nd semester				
Teacher's Name	Violetta Raffay				
ECTS	10	Lectures / week	Up to 6 Teleconferences	Laboratories / week	N/A
Course Purpose and Objectives	This course provides core training in the theoretical and practical considerations required to plan and deliver effective teaching events. The range of teaching methods used in the clinical environment will be explored. Students will learn about effective strategies for the planning and delivery of teaching in the hospital ward, outpatient clinical or GP surgery. In addition, the course provides core training in the theoretical and practical considerations underpinning assessment in the simulated clinical environment and in the workplace. The module will also focus on the educational issues underpinning appraisal, support and feedback. Moreover, the course provides an exploration and analysis of underlying educational theory with its practical application to the design, delivery and evaluation of teaching, assessment and educational leadership and management in the context of the clinical environment. This course explores delivery of teaching and facilitation of leaning in clinical education. Students' will develop knowledge and skills of a systematic approach to teaching and how to maintain effective learning environment. Underpinning principles and innovations will be explored for a variety of teaching methods including small and large group and lecture based teaching, work based, bedside teaching and use of patients and simulation for clinical education. This course will also develop critical understanding of receiving and providing effective feedback for learning. Students' will receive feedback and develop educational practice through the method of peer observation and self-reflection				
Learning Outcomes	Upon successful completion of this course students should be able to: • Critically analyze the aspects of bed-side teaching • Discuss the importance of simulation in clinical education • Compare and contrast the ways of assessment in clinical education, including assessment of logbooks and portfolios • Describe the various methods of providing effective feedback to students in clinical education				

<table>
<tr><td></td><td colspan="3">Discuss how clinical education is related to the preclinical studies
Implement and evaluate effective clinical teaching using appropriate theory-based techniques.</td></tr>
<tr><td>Prerequisites</td><td>None</td><td>Co-requisites</td><td>None</td></tr>
<tr><td>Course Content</td><td colspan="3">The aim of the course will be to provide participants with information and advice in relation to Clinical Education and Supervision/training roles. Materials will be delivered through lecture and workshop formats, as well as interactive discussions, and delegate participation and contribution will be encouraged at all times. Prepare participants for clinical education and training roles. The course will deliver both theoretical concepts underpinning clinical education, and practical applications.</td></tr>
<tr><td>Teaching Methodology</td><td colspan="3">Distance Learning</td></tr>
<tr><td>Bibliography</td><td colspan="3">Delany C PhD, Molloy E (2009). Clinical Education in the Health Professions: An Educator's Guide 1st Edition, Elsevier
Walsh K. (2013) Oxford Textbook of Medical Education. Oxford University Press. DOI: 10.1093/med/9780199652679.001.0001
Dent J &Harden RM. (2009) A Practical Guide for Medical Teachers. Churchill Livingstone
Kalman K (2006). Medical Education: Past, Present and Future. Churchill Livingstone</td></tr>
<tr><td>Assessment</td><td colspan="3"><table><tr><td>Assignments/Ongoing Examination</td><td>50%</td></tr><tr><td>Final Examination</td><td>50%</td></tr><tr><td>Total</td><td>100%</td></tr></table></td></tr>
<tr><td>Language</td><td colspan="3">English</td></tr>
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Course Title	Curriculum Design and Evaluation in Medicine				
Course Code	MDE650				
Course Type	Compulsory				
Level	MSc (2rd Cycle)				
Year / Semester	1st year / 2nd semester				
Teacher's Name	Theodoros Xanthos				
ECTS	10	Lectures / week	Up to 6 Teleconferences	Laboratories / week	None
Course Purpose and Objectives	The purpose of the present course is to familiarize students with the creation of any type of curriculum in a Medical School or in any Healthcare related School. The course will emphasize on how Educators sophisticated blend educational strategies, course content, learning outcomes, educational experiences, assessment, the educational environment, and the individual students' learning style in order to create an effective and innovative curriculum. Moreover, emphasis will be given to a process known as curriculum mapping has been described by Harden as a method to organize curricular contents. Curriculum mapping can help both educators and learners by displaying the key elements of a curriculum, and the relationships between them. Moreover, the students will get familiar with the scope and sequence of learning, they will understand and clarify how curriculum links with assessment, and how curriculum planning becomes more effective and efficient. The students will also be exposed in the windows through which the curriculum map can be explored namely: (1) the expected learning outcomes; (2) curriculum content or areas of expertise covered; (3) assessment; (4) learning opportunities; (5) learning location; (6) learning resources; (7) timetable; (8) educators; (9) curriculum management; (10) learners.				
Learning Outcomes	Upon successful completion of this course students should be able to: • Describe SPICES model proposed by Harden • Critically analyze Kern's framework for curriculum development • Discuss the PRISMS model, proposed by Bligh • Criticize and discuss how Andragogy can fit in the creation of a Medical Curriculum • Introduce ethics in all aspects of a medical curriculum • Effectively use curriculum mapping for curriculum revision				
Prerequisites	None		Co-requisites	None	

<table>
<tr><td>Course Content</td><td>

A curriculum defines the learning that is expected to take place during a course or programme of study in terms of knowledge, skills and attitudes. It specifies teaching, learning and assessment methods and indicates the learning resources required to support effective delivery.
One of the primary functions of a curriculum is to provide a framework or design which enables learning to take place. A syllabus is the part of a curriculum that describes the content of a programme.
Curriculum design needs to reflect the educational, health-care and professional context and the level of the learners and expected outcomes
Medical and health-care curricula are informed by reports and recommendations of statutory bodies, benchmarking and professional standards (e.g. Tomorrow's Doctors; General Medical Council, 2009), or a syllabus, learning outcomes or competency statements (e.g. those produced for postgraduate medical education). These provide templates for curriculum design and form the backdrop for audit, review and inspection.

</td></tr>
<tr><td>Teaching Methodology</td><td>Distance Learning</td></tr>
<tr><td>Bibliography</td><td>

Kern DE, Thomas PA, Hughes MT (2016). Curriculum Development for Medical Education: A Six-Step Approach. John Hopkins University Press 2nd Edition.
Thomas PA & Kern DE (2004). Internet Resources for Curriculum Development in Medical Education. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1492314/
Harden RM & Laidlaw JM (2017) Essential Skills for a Medical Teacher: An Introduction to Teaching and Learning in Medicine 2nd Edition, Elsevier

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<tr><td>Final Examination</td><td>50%</td></tr>
<tr><td>Total</td><td>100%</td></tr>
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<tr><td>Language</td><td>English</td></tr>
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Course Title	Leadership in Healthcare & Medical Education				
Course Code	MDE660				
Course Type	Elective				
Level	MSc (2rd Cycle)				
Year / Semester	2nd year / 1st semester				
Teacher's Name	Theodoros Xanthos				
ECTS	10	Lectures / week	Up to 6 Teleconferences	Laboratories / week	None
Course Purpose and Objectives	The purpose of the present course is twofold: Good medical leadership is the key to building high-quality healthcare. However, in the development of medical careers, the teaching of leadership has traditionally not equaled that of technical and academic competencies. As a result of changes in personal standards, the quality of medical leadership has led to variations between different organizations, as well as occasional catastrophic. Facing the challenges of modern healthcare, experts and organizations are demanding physicians have the higher capability for leadership. A report by the Institute of Medicine recommended that academic health centers "develop leaders at all levels who can manage the organizational and system changes necessary to improve health through innovation in health professions education, patient care, and research". These leaders need to help "define the future, align people with a vision, and remove obstacles to allow people to see this vision". The concept of leadership overlaps with two similar terms, management and administration. The former is used widely in Europe and Africa, while the latter is preferred in the USA, Canada, and Australia. Some leadership researchers distinguish them and have suggested leadership is synonymous with change, while management and administration are considered maintenance. The terms "leadership" and "management" are sometimes used interchangeably, but within the healthcare literature, they tend to describe different approaches to how change can be achieved. The second purpose of the course in to highlight how leadership is essential for medical Educators. Medical educators are involved in a wide range of activities including teaching, facilitating learning, curriculum design and development, assessment, evaluation and managing teams, departments and programs. All these activities require some form of leadership, whether this is leading a team on a project, ensuring that Educators provide the right learning environment on a ward or in clinic or leading the development of a new program or curriculum. So a leader might motivate people by offering rewards for				

	a job well done or imposing sanctions for non-compliance or failing to deliver.		
Learning Outcomes	Upon successful completion of this course students should be able to: • Define Leadership in medical Education • Critically analyze the characteristics of Medical Educator Leaders • Compare and contrast the three major leaderships theories: transformational, situational and Servant • Define the skills of leadership and be able to critically apply these in the setting of Medical Education and in Healthcare • Discuss the approach for Leadership development (from one-to-one coaching, mentoring, action learning, and seminars to self-directed learning and networking) both in Healthcare and in Medical Education • Discuss the importance of Experiential Learning for Senior and new leadership roles • Describe, compare and contrast the National Center for Healthcare Leadership's Health Leadership Competency Model • Discuss The Medical Leadership Competency Framework (MLCF) developed by the National Health Service		
Prerequisites	None	Co-requisites	None
Course Content	Medical, educational leaders are asked to be educational visionaries, instructional and curriculum leaders, assessment experts, community builders, public relations experts, budget analysts, facility managers, special programs administrators and expert overseers of legal, contractual and policy mandates and initiatives. In addition, medical school leaders are confronted with many concerns such as financial stability, curriculum development, research support, and accreditation standards. Those are key characteristics of a Medical Educator. The role and the various models of leaders will also be discussed.		
Teaching Methodology	Distance Learning		
Bibliography	• McKimm J & Lieff SJ (2013). Medical education leadership available at https://www.researchgate.net/publication/242357002_Medical_education_leadership • Warren OJ, Carnall R. Medical leadership: Why it's important, what is required, and how we develop it. Postgrad Med J. 2011;87:27–32. • Institute of Medicine. Academic health centers: Leading change in the 21st century. Acad Emerg Med. 2004;11:802–6.		

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Enders T, Conroy I. Washington, D.C: The Association of American Medical Colleges; 2014. Advancing the academic health system for the future: A report for the AAMC health advisory panel.
Frank JR, Snell L, Sherbino J, editors. Ottawa: The Royal College of Physicians and Surgeons of Canada; 2015. The draft CanMEDS 2015 physician competency framwork – Series IV.
Aggarwal R, Swanwick T. Clinical leadership development in postgraduate medical education and training: policy, strategy, and delivery in the UK National Health Service. J Healthc Leadersh. 2015;7:109–22.
Vroom VH, Jago AG. The role of the situation in leadership. Am Psychol. 2007;62:17–24.
Kotter J. New York: Free Press; 1990. A force for change: How leadership differs from management.
Decker M. Chicago: National Center for Healthcare Leadership; 2006. Competency integration in health management education.
Swanwick T (2013). Understanding Medical Education: Evidence, Theory and Practice 2nd Edition, Kindle Edition, Wiley Blackwell

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<tr><td>Assessment</td><td>
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<tr><td>Assignments/Ongoing Examination</td><td>50%</td></tr>
<tr><td>Final Examination</td><td>50%</td></tr>
<tr><td>Total</td><td>100%</td></tr>
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<tr><td>Language</td><td>English</td></tr>
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Course Title	Cultural Competence in Medical Education				
Course Code	MDE662				
Course Type	Elective				
Level	MSc (2rd Cycle)				
Year / Semester	2nd year / 1st semester				
Teacher's Name	Elizabeth Johnson				
ECTS	10	Lectures / week	Up to 6 Teleconferences	Laboratories / week	None
Course Purpose and Objectives	The purpose of the present course is to educate students on how cultural diversity can alter the way people learn and construct knowledge in Medical Education. The course will also discuss stereotyping in Medical education and how this needs to be eliminated or smoothened when delivering Medical Education. The course will also address how future physicians should interact with the culturally diverse patient population that contributes to their educational experience.				
Learning Outcomes	Upon successful completion of this course students should be able to: • Discuss intercultural communicative competence • Discuss medical talk including intercultural framing and intercultural interactions in Medical settings • Discuss critical cultural awareness • describe different perspectives of illnesses and diseases in various cultures • Describe medical pluralism • Discuss course design for intercultural language education in medical settings • Analyze the use of language and literature in medical education by selecting intercultural resources • Describe the visual arts in medical education				
Prerequisites	None		Co-requisites	None	
Course Content	The content of the course is to familiarize students with recent developments in medical and language education. In both fields, there have been methodological shifts towards 'task-based' and 'problem-based learning'. In addition, both fields have broadened their focus on clinical expertise and linguistic skills to address issues of cultural competence. In addition, the course underlines the nature of cultural competence; how to understand spoken discourse in a range of				

<table>
<tr><td></td><td colspan="2">medical settings; the use of tasks and problems in language education for medics; the development of critical skills and the use of literature and visual media in language education for doctors.</td></tr>
<tr><td>Teaching Methodology</td><td colspan="2">Distance Learning</td></tr>
<tr><td>Bibliography</td><td colspan="2">Lu P & Corbett J (2012). English in Medical Education: An Intercultural Approach to Teaching Language and Values. Languages for Intercultural Communication and Education
Morrow G, Rothwell C, Burford B & Illing J. (2013). Cultural dimensions in the transition of overseas medical graduates to the UK workplace, available at https://www.tandfonline.com/doi/full/10.3109/0142159X.2013.802298?src=recsys
Marzan M & McEnvoy M (2012). Opportunities for Cross-Cultural Medical Education, available at https://www.einstein.yu.edu/uploadedFiles/EJBM/page15_page18.pdf
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Medical Education Partnership. St. John Fisher College
Fisher Digital Publications, available at https://fisherpub.sjfc.edu/cgi/viewcontent.cgi?article=1165&context=education_etd</td></tr>
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Final Examination
Total</td><td>50%
50%
100%</td></tr>
<tr><td>Language</td><td colspan="2">English</td></tr>
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Course Title	Management in Medical Education & Higher Education Settings				
Course Code	MDE664				
Course Type	Elective				
Level	MSc (2rd Cycle)				
Year / Semester	2nd year / 1st semester				
Teacher's Name	Pieris Chourides				
ECTS	10	Lectures / week	Up to 6 Teleconferences	Laboratories / week	None
Course Purpose and Objectives	The aim of the course is to train students in the development and implementation of development/transformation plans and programmes in educational institutions and the system of higher education and in medical education. The course offers an in-depth study of the concepts and approaches of modern general and strategic management applied to higher education institutions and approaches to the implementation of key processes of university management and management in a Medical School.				
Learning Outcomes	Upon successful completion of this course students should be able to: • Appraise the various management theories • Compare and contrast Scientific theory, administrative theory, bureaucratic theory, human relations theory, systems theory and XY theory in management • Determine and analyse the concept of performance management in Higher Education and Medical Education more specifically • Revise objective setting (Setting performance objectives, developing objective-setting skills) • Compare and evaluate managerial and organizational values at an international level. • Distinguish and critically analyse the various layers of management in the medical education setting and the healthcare setting.				
Prerequisites	None		Co-requisites	None	
Course Content	The course deals with acquainting students with contemporary management theories and practices that are relevant to the rapidly changing medical education and higher education environment. It includes the concept of systems approach, contingency theory, and decision making approaches and skill. It will also provide the students with information regarding The need for planning, steps in planning,				

	classification of planning and plans-strategic and operational plans; strategy; formulating strategy-implementation of strategy, policy procedures methods and rules-making planning effective barriers to effective planning and barriers to strategic planning
Teaching Methodology	Distance Learning
Bibliography	• Amstrong M (Latest Edition). Armstrong on Reinventing Performance Management: Building a Culture of Continuous Improvement • Manning K (latest Edition). Organizational Theory in Higher Education (Core Concepts in Higher Education) 1st Edition. Routledge • Grewal D (Latest Edition). Theories and Models for Quality Management in Higher Education. Lambert • Smart JC (Latest Edition). Higher Education: Handbook of Theory and Research. Agathon Press • Kaplan S. Robert and Norton P David (Latest Edition), The Strategy Focused Organization, Harvard Business School Press. • Senge P. (Latest Edition), The fifth Principle: The Art and Practice of The Learning Organization, • De Wit, B and Meyer, R. (Latest Edition) Strategy Process, Content, Context: An International Perspective, Thomson
Assessment	Assignments/Ongoing Examination: 50% Final Examination: 50% Total: 100%
Language	English

Course Title	Master Thesis				
Course Code	MDE670				
Course Type	Elective				
Level	Master (2nd Cycle)				
Year / Semester	2nd Year /3rd Semester				
Teacher's Name	Theodoros Xanthos				
ECTS	30	Lectures / week	N/A	Laboratories / week	N/A
Course Purpose and Objectives	This course provides the opportunity for students to undertake a substantial research project in the field of Medical Education. Being a guided research project, the Master thesis requires of the student an independent orientation toward chosen material and the skills to follow through on a sustained analysis. The thesis is a substantive and clear expression of the student's ability to study at the Master's level.				
Learning Outcomes	Upon successful completion of this course students should be able to: • Conduct an independent investigation at postgraduate level into an area of Medical Education • Critically review primary and secondary sources, combine and synthesize material in the field of Medical Education • Employ research methods appropriate for the selected topic under investigation. • Apply abilities as researcher and academic, to bring a research project from conception to completion • Demonstrate advanced expertise in a sub-field of Medical Education • Produce research work at postgraduate level on a particular Medical Education.				
Prerequisites	Completion of all MA program's core courses, except one.	Co-requisites	None		
Course Content	This course affords the student the opportunity to conduct postgraduate level research in the field of Medical Education. The project will be conducted under the supervision of one or more faculty members whose specialization relates to the thesis topic chosen by the student. As a supervised research project, the thesis requires that students work in regular consultation with an assigned supervisor from conception to completion. The length is 10,000-12,000 words exclusive of endnotes, bibliography, and any charts and/or illustrations.				

Teaching Methodology	Distance Learning
Bibliography	Depends on the student's chosen thesis topic.
Assessment	Written thesis 85% Oral examination 15% Total 100%
Language	English

Appendix 9. Blueprint

The MSc has already created a blueprint for Assessment which is to be used in all courses by course Coordinators.

<table>
<tr><td colspan="4">PLAN</td></tr>
<tr><td colspan="2">A. Determination of Assessment type</td><td colspan="2">The focus of the assessment can be formative, interim/midterms (students' progress compared to a set of outcomes), summative (to measure students mastery, as in one course, in one year, or at the end of the 6th year)</td></tr>
<tr><td>B. Assessment standards</td><td>C. Skills associated with each standard</td><td>D. Bloom's taxonomy</td><td>E. Types of Assessment items</td></tr>
<tr><td>What standards will you be assessing?</td><td>Paraphrase the standard or name the skill on which you will focus.</td><td>1. Remembering
2. Understanding
3. Applying
4. Analyzing
5. Evaluating
6. Creating</td><td>1.Best response
2. Small answers with rubrics
3. Extensive essays with rubrics</td></tr>
<tr><td colspan="4">WRITE</td></tr>
<tr><td colspan="4">F. Write Assessment Items</td></tr>
<tr><td colspan="2">1. Identify standards addressed by the item</td><td colspan="2">Identify the individual standards measured in the item</td></tr>
<tr><td colspan="2">2. Identify the type of item</td><td colspan="2">Select type of Item</td></tr>
<tr><td colspan="2">3. Select level in Bloom's Taxonomy</td><td colspan="2">Select number from Blooms Taxonomy</td></tr>
<tr><td colspan="2">4. Write/Select item</td><td colspan="2">ITEM
Develop all parts
ANSWER KEY/RUBRIC
Develop the scoring tool</td></tr>
<tr><td colspan="2">5. Assign points to each item</td><td colspan="2">Points assigned to each item</td></tr>
<tr><td colspan="2">6. Calculate the proportion of total assessment points</td><td colspan="2">What proportion of total points on the assessment does the item equal?</td></tr>
</table>