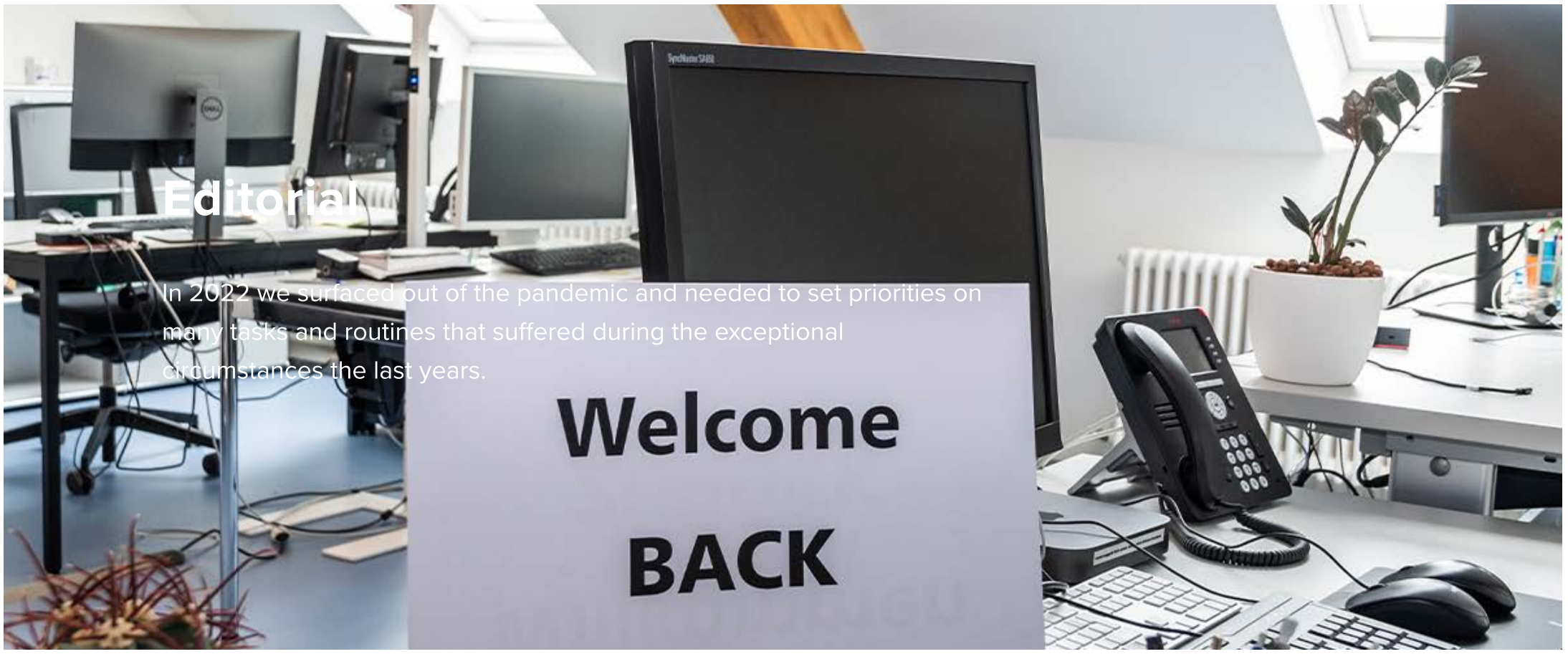

Editorial

In 2022 we surfaced out of the pandemic and needed to set priorities on many tasks and routines that suffered during the exceptional circumstances the last years.

Text: Prof. Dr. phil. Sissel Guttormsen Schär, 15.05.2023

For teaching and assessment, «the show» must always go on, regardless the circumstances. This often resulted in a need for double planning, online and onsite, still also in 2022.

Our focus on innovation and technical progress at the IML since many years, facilitated many still necessary transitions to blended learning and online assessment:

- Our online Platform (Doccom.Deutsch) for Provider Patient communication, online learning videos for clinical examinations, and Medsurf and other eLearning resources proved to valuable both locally, nationally and internationally.
- We optimised our assessment technology to also serve online home exams and gained valuable experiences.
- An important highlight in 2022, a result of many years of development and experience, was the first fully electronic federal licencing exam for human medicine. At six sites more than 1300 students successfully completed their final exam on tablets – at the same time. The Examic software developed at IML stood the test.
- In 2022, we also released Examic Valuatic, which is the next generation of our eOSCE tool. Valuatic meets requirements for flexibility in designing and running an OSCE exam, as well as other structured observation situations.

In research and development, we continued to explore new methods and technologies, always accompanied with research for evidence-based solutions: 25 journal publications and around 30 conference contributions document our research progress in 2022.

Being able to work and teach onsite again, other interesting projects could be implemented: A highlight, after building a simulated teaching pharmacy at the BiSS, was to start training with the pharmacy master students in communicating with patients/customers in this simulated pharmacy. This experience was well received, and the cooperation with the pharmacists in our faculty is enriching.

Study the past if you want to define the future (Confusius). In 2022 we also spent some time on a historical review of the IML and its historical perspectives, resulting in the IML as it is today. The preparation of the 50-year anniversary of the IML and the upcoming celebration in July 2023, has been an interesting journey. We look forward to sharing this work with you.

After the pandemic the IML team reported strain from the double burden of often having to plan teaching and services double, once for face to face, and once for a sudden shift to online. We know from media worldwide, that the swich back to the office was not such a natural development as expected. The pandemic changed habits and the freedom of working from home has many advantages. As a small contribution, and to support and rebuild workplace interaction and health promotion, in 2022 we started an initiative of organised and guided sport activities for the IML team in cooperation with Unisport. This turned out to be positive welcomed by the IML team and is still today a unique initiative at our university.

We hope you enjoy reading our annual report from 2022, and we appreciate staying in contact with you.

Sissel Guttormsen, Mai 2023

Prof. Dr. phil. Sissel Guttormsen Schär
Director IML

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Highlights events 2022

Find out more about what activities and topics we focused on.

09.05.2023

2022 Education

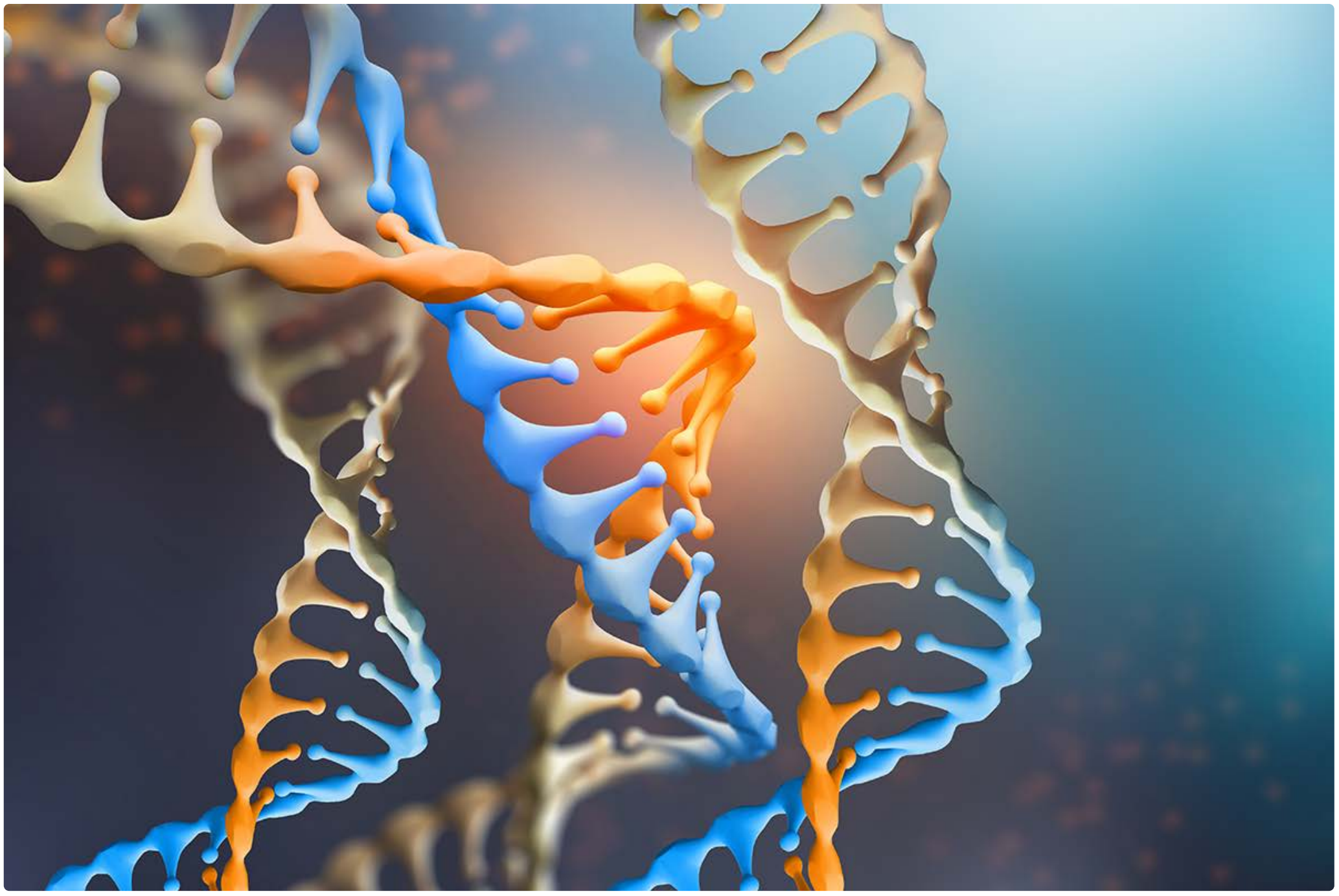
Courses in precision medicine

The IML offered two courses on precision medicine for General practitioners (GPs) and students in 2022. The course for students took place on 13.12.2022, the one for GPs on 15.12.2022. For both target groups, the focus of interest was to foster basic knowledge on genomic testing combined with communication skills. In an exchange and open questions with an expert in precision medicine at the end of the course, suggestions, feedback and needs specific to the target group were addressed.

Precision medicine, or personalised medicine, will play an increasingly important role in the future. In the courses, what was learned could immediately be practised and consolidated in practice with simulated persons.

The courses were well received and revealed that it is a great need for GPs to catch up in this area. Students also signal the importance of this subject with their yearly conference, which in 2023 will focus on PM entirely.

These courses were organised as a part of the research efforts in the Frontliners initiative, read more about project, and about the PhD Project.



Symposia

«Trusting doctor:patient:patient relationship»
14 - 15.07.2022: How is the development of a trusting relationship taught in the different health professions? Which elements of this can be transferred to medical education and training? Read more

«Assessment And Professional Identity Development»
28 - 29.6.2022: There is a growing call to reframe medical education from "doing the work" towards "being a medical professional". Read more

Interactive workshop on Secondary Research

By the example of implementing a systematic scoping review to develop a taxonomy of teaching methods, on 10th November 2022, with a small team of international experts, we delivered an interactive workshop on Secondary Research. Read more

GMA conference

The GMA Annual Conference took place from 15-17 September 2022 at the University of Halle-Wittenberg in Germany. The motto of the annual conference was: «Form and Function - Digitisation for and in Teaching.»

Contributions with participation of the IML
Persons from the IML are marked in bold.

Lectures
Workshops
Symposia

Präzisionsmedizin in der Grundversorgung

Konzipiert für Hausärzt:innen

15. Dezember 2022, 13:30–18:30 Uhr, UniZiegler, Morillonstrasse 79, 3007 Bern

Idris Guessous, Hopitaux universitaires de Genève, HUG, Genf
Sissel Guttomsen, Institut für Medizinische Lehre, IML, Medizinische Fakultät, Universität Bern

Further information

Course GPs (in DE)

Course students (in DE)

IML as exhibitor (GMA conference 2022)

Selection of products and services at a glance

Examic Valuatic

A new system for oral and clinical examinations.

2018 2019 2020 2021 2022 Service Examic

Examic Valuatic is a new software system that will replace Examic EOSCE. Valuatic is being developed with all the experience and feedback in mind that we collected over the last 10 years from our partners and in close cooperation with the assessment practitioners that run OSCEs.

There are 2 Valuatic applications: Valuatic Studio, a Windows application which allows you to create, distribute and observe exams as well as collect and export results. And Valuatic Touch, an iOS application with which examiners assess candidates.

Valuatic has some powerful features, such as a wide range of item types within the checklists, the possibility to run random, not predefined schedules, scan QR codes to select checklists, students and examiners, remote data distribution to the iPads without even touching a tablet, customisable PDF reports and different server types to store the data.

Ordering customer

Medical Faculty, University of Bern
Federal Office of Public Health FOPH
Institute for Medical Education

Target group

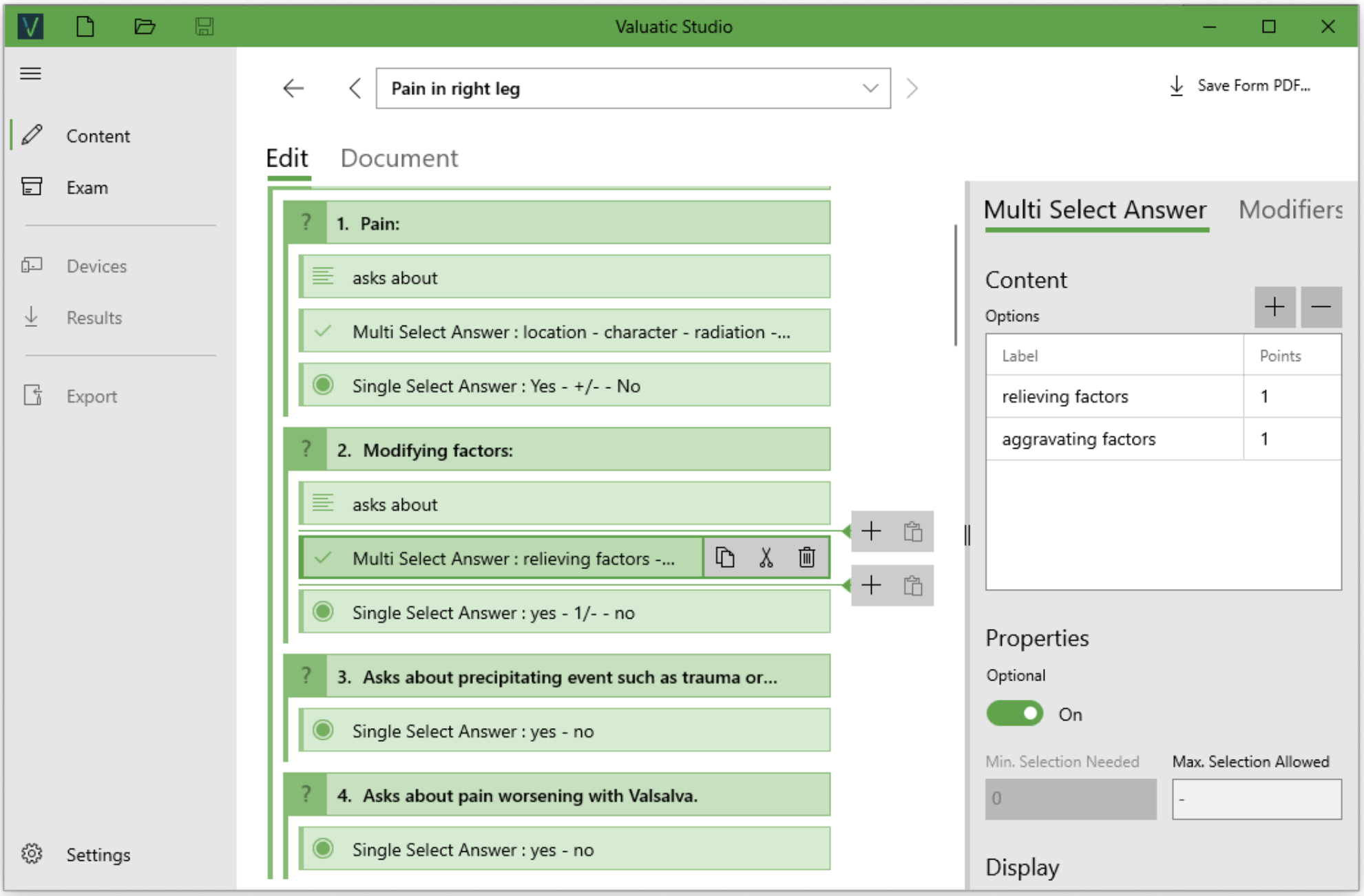
Everyone that administers or runs clinical or oral examinations, or evaluates the performance of people, products or processes (OSCE exams, evaluations, surveys, product evaluations, vocational training, quality controls, checklists, etc.)

Team

IML: Hansmartin Geiser, Jonathan Duss, Florian Goll, Stephan Schallenberger, Florian Neubauer, Philippe Zimmermann

Publications

Version 1.0 was released 12-2021


Valuatic Studio
Content
Exam
Devices
Results
Export
Settings
Pain in right leg
Save Form PDF...
Edit
Document
1. Pain:
asks about
Multi Select Answer : location - character - radiation -...
Single Select Answer : Yes - +/- - No
2. Modifying factors:
asks about
Multi Select Answer : relieving factors -...
Single Select Answer : yes - 1/- - no
3. Asks about precipitating event such as trauma or...
Single Select Answer : yes - no
4. Asks about pain worsening with Valsalva.
Single Select Answer : yes - no
Multi Select Answer
Modifiers
Content
Options
Label
Points
relieving factors
1
aggravating factors
1
Properties
Optional
On
Min. Selection Needed
Max. Selection Allowed
0
-
Display

Project information

Running time: since 2018

Link

Valuatic Website

Valuatic.com

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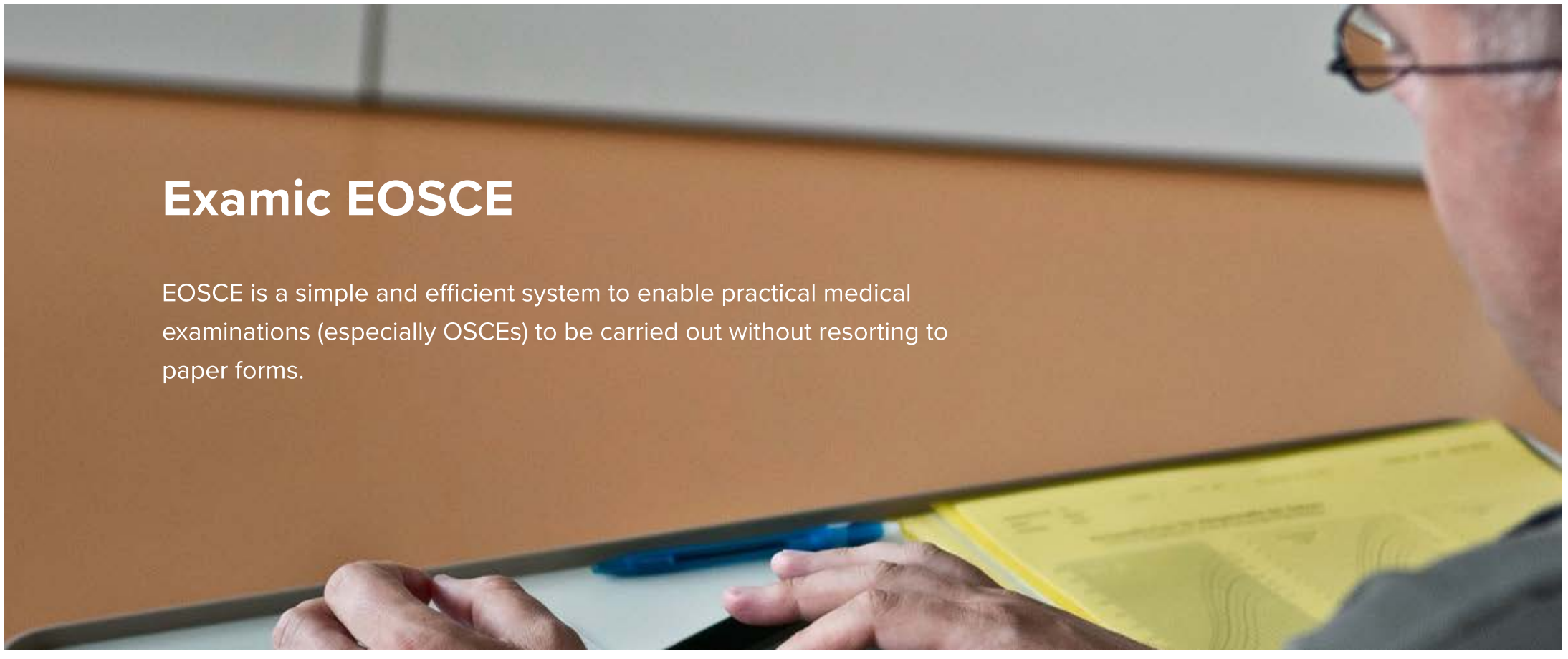

Examic EOSCE

EOSCE is a simple and efficient system to enable practical medical examinations (especially OSCEs) to be carried out without resorting to paper forms.

2016 2017 2018 2019 2020 2021 2022 2023 2024 Service Examic

Assessments using EOSCE are quicker to analyse and have less erroneous or missing data than exams on paper checklists. The three EOSCE applications help exam administrators to easily setup an exam and support examiners to focus on the performance of the candidates.

Aims

Development of an application suite to support Objective Structured Clinical Examinations (OSCE).

Ordering customer

Medical Faculty, University of Bern
Federal Office of Public Health FOPH
Institute for Medical Education

Team IML

Christoph Berendonk, Jonathan Duss, Sabine Feller, Hansmartin Geiser, Florian Goll, Natascha Lüthy, Daniel Stricker, Philippe Zimmermann

Target group

Educational institutions and organisations that create, administer, take or analyse exams: examiners, teaching and administrative staff of Higher Education Institutions

Project information

Running time: 2008 - 2024

Links

- eOSCE
- Examic Assessment Suite
- Story «10 years of clinical skills exams with Examic EOSCE»

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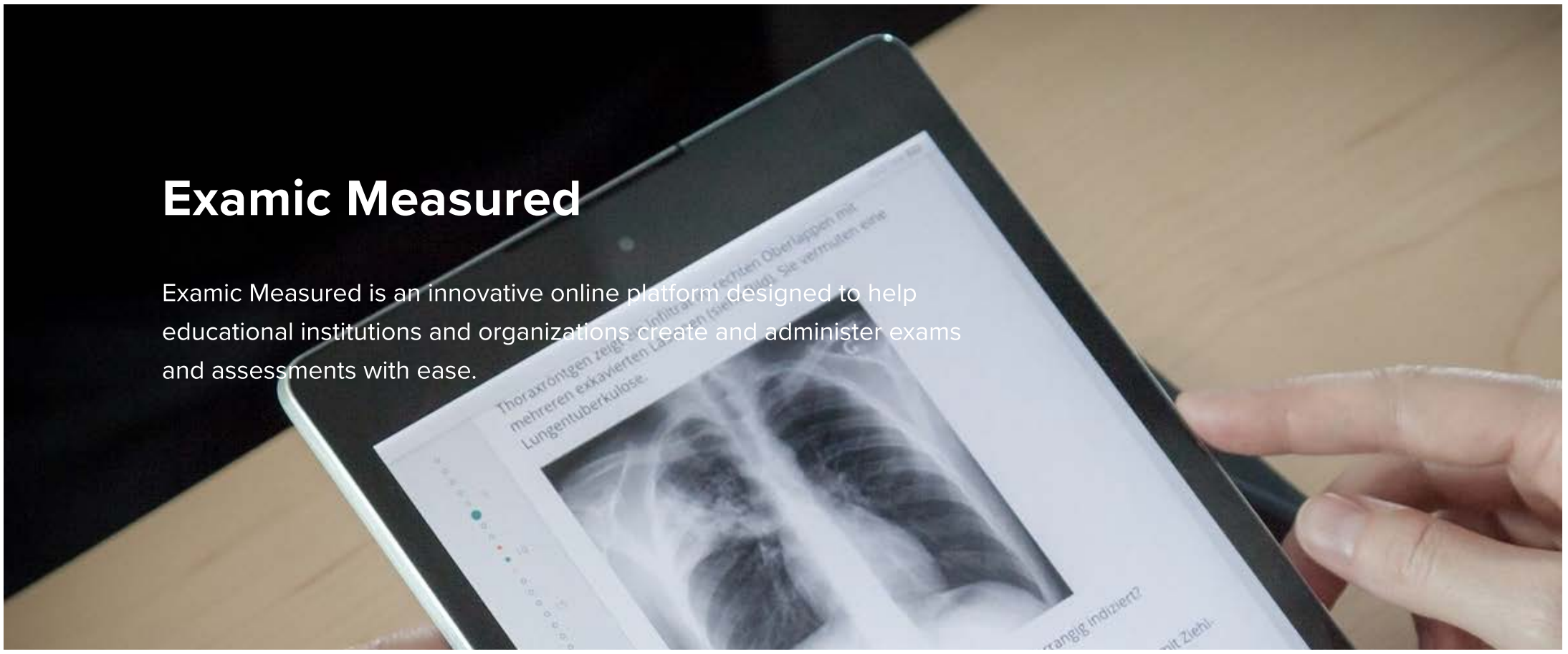


Examic Measured

Examic Measured is an innovative online platform designed to help educational institutions and organizations create and administer exams and assessments with ease.

2017 2018 2019 2020 2021 2022 Service Examic

The platform offers a wide range of features and advantages that make it an ideal solution for educators, administrators, and students alike.

Aims

Development of an application suite to support the entire assessment cycle of written examinations.

Ordering Customer

Medical Faculty, University of Bern
Federal Office of Public Health FOPH
Institute for Medical Education

Team IML

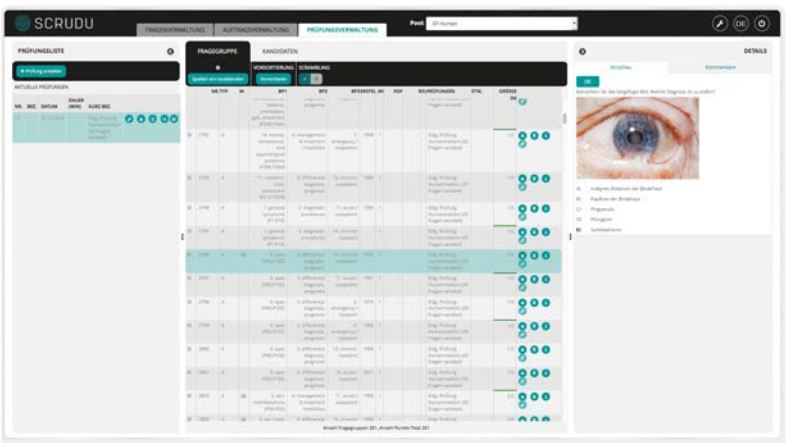
Radan Antic, Andreas Beschorner, Raphael Breukel, Neil Docherty, Florian Goll, Jana Henschel, Patrick Jucker-Kupper, Rabea Krings, Roger Meier, Vladimir Pavlyukov, Lukas Rieder, Stephan Schallenberger, Tina Schurter, Priska Steiger, Daniel Stricker, Philippe Zimmermann

Target group

Educational institutions and organisations that create, administer, take or analyse exams: students, teaching and administrative staff of Higher Education Institutions

Project information

Running time: since 2017



Examic Measured

LINK

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E-Learning-Modul in «Scientific Literature Searching»

Entwicklung eines E-Learning-Moduls in «Scientific Literature Searching».

2021 2022 2023 Service

Das wissenschaftliche Team der UB setzt sich als Ziel, möglichst interaktive, lehrreiche und ansprechende E-Learning Angebote zu entwickeln, die den Bedürfnissen der Benutzenden gerecht werden. In diesem Projekt und durch die Zusammenarbeit zwischen der UB und dem IML bezwecken wir, mit einem ersten Modul zu «Scientific Literature Searching» den Grundstein für gute eLearning Angebote rund um wissenschaftliches Arbeiten für Studierende zu legen.

Die Lehrangebote dienen zur Vorbereitung für das Verfassen einer Masterarbeit oder später für eine Publikation. Je nach Thema der Masterarbeit und/oder Publikation (Experimentelle Laborarbeit, klinische Studie, Guideline, Scoping Review, Systematic Review, Vergleichsstudie) stellen sich andere Anforderungen an die nötigen Kompetenzen in der Literaturrecherche. Die Vorteile des E-Learning-Kurses liegen einerseits in seinem modularen Aufbau, der den unterschiedlichen Bedürfnissen an Kenntnistiefe gerecht wird. Anderseits kann der gesamte Kurs oder können die einzelnen Module davon im Selbststudium gemacht werden, oder im Kombination mit Präsenzlehre eingesetzt werden (z.B. als Vorbereitung).

Ziele

In diesem Projekt bezwecken wir mit einem ersten Modul zu «Scientific Literature Searching», den Grundstein für gute eLearning Angebote rund um wissenschaftliches Arbeiten für Studierende zu legen.

Zielgruppe

Studierende und andere junge Forschende / PhD Kandidierende

Auftraggebende

Universitätsbibliothek Medizin, der Universität Bern

Team

IML: Prof. Dr. phil. Sissel Guttormsen, Dr. med. Ulrich Woermann, MME
Project partner: Dr. phil. Michelle Schaffer mit wissenschaftlichen Mitarbeitenden der UB-Medizin

Projektinformation

Laufzeit: 2021 - 2023

eLearning und Beratung für die Ärztekammer Niedersachsen

Beratung, Evaluation und Einbindung von eLearning für die Ärztekammer Niedersachsen (D).

2021 2022 2023 Service

Die Ärztekammer Niedersachsen (ÄKN) in Deutschland schreibt die Medizinische Lehre in der neuen Weiterbildungsordnung fest. Dies beinhaltet auch verpflichtende Vorgaben für die Qualifizierung von Ärztinnen und Ärzten, welche zur Durchführung von Weiterbildungen ermächtigt sind. Die Weiterbildung soll von hoher didaktischer Qualität sein, um die Motivation und Akzeptanz der Teilnehmerinnen und Teilnehmer zu sichern. Eine besondere Herausforderung stellt die grosse Anzahl Personen (ca. 4000) und deren Heterogenität dar. Der Heterogenität soll mit einem breiten Angebot an e-learning Modulen und verpflichtenden didaktischen Trainings Rechnung getragen werden.

Ziele

Das neue Weiterbildungsprogramm der ÄKN wird neu entwickelt, eingeführt und evaluiert. Neben Beratung und Evaluation werden auch Lernmedien aus dem IML Fundus zur Verfügung gestellt. Das Programm soll im Sinne eines lernenden Systems weiterhin fortlaufend evaluiert und optimiert werden. Ein IML-Team unterstützt die ÄKN dabei, diesen Ziele zu erreichen.

Auftraggebende

Ärztekammer Niedersachsen (ÄKN) in Deutschland

Partner

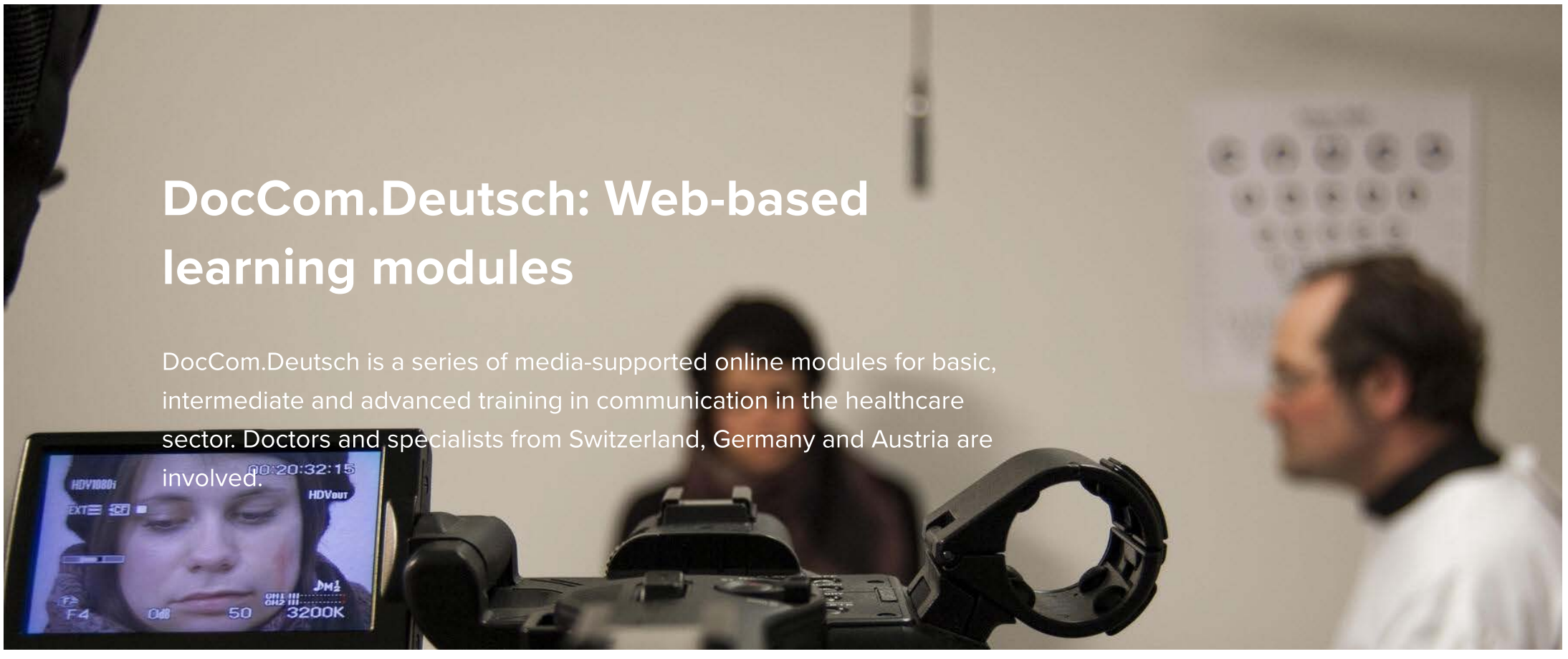
Prof. Hans-Jürgen Christen, Dr. med. Christina Quandt

Team

Sissel Guttormsen, Christoph Berendonk, Felicitas Wagner mit Team IML

Projektinformation

Laufzeit: 2021 - 2023



DocCom.Deutsch: Web-based learning modules

DocCom.Deutsch is a series of media-supported online modules for basic, intermediate and advanced training in communication in the healthcare sector. Doctors and specialists from Switzerland, Germany and Austria are involved.

2016 2017 2018 2019 2020 2021 2022 Service

Objective

The modules convey theory and practical examples that represent preparation for hands-on communication training.

Target group

Healthcare professional and specialist trainees

Team IML

Sissel Guttormsen, Kai Schnabel, Daniel Bauer, Adrian Michel, Axel Hahn

Partners, who are already using the learning platform

Publications

Brem, B.G., Plüer, J., Schnabel, K.P., Peng-Keller, S., Guttormsen Schär, S., Schmitz, F.M.Fokusgruppenstudie zur Validierung eines “spiritual-care” Gesprächsmodells. In: Jahrestagung der Gesellschaft für Medizinische Ausbildung (GMA). Zürich, 09.-12.09.2020. Düsseldorf: German Medical Science GMS Publishing House; 2020. DocV-040. https://dx.doi.org/10.3205/20gma059

Peng-Keller, S., Guttormsen. S., Rufer, M (2020). Spiritual Care als Aspekt einer multimodalen Schmerzbehandlung. Prim Hosp Care Allg Inn Med.;20(12):375-376. https://doi.org/10.4414/phcd.2020.10312.

Schmitz FM, Schnabel KP, Bauer D, Woermann U, Guttormsen S. Learning how to break bad news from worked examples: Does the presentation format matter when hints are embedded? Results from randomised and blinded field trials, Patient Educ Couns. 2020. https://doi.org/10.1016/j.pec.2020.03.022

Schmitz FM, Schnabel K, Bauer D, Bachmann C, Woermann U, Guttormsen S. The learning effects of different presentations of worked examples on medical students' breaking-bad-news skills: A randomized and blinded field trial, Patient Educ Couns. 2018; 101(8):1439-1451. https://doi.org/10.1016/j.pec.2018.02.013

Guttormsen S, Langewitz W, Schnabel K. „DocCom.Deutsch" Ein videobasiertes Instrument zum Kommunikationstraining in Gesundheitsberufen. Jahrestagung der internationalen Gesellschaft für Gesundheit und Spiritualitität: Spiritual Care im Kontext Chronischer Erkrankungen und Schmerzen. Zürich, 27.-28.10.2017.

Schmitz FM, Schnabel K, Stricker D, Fischer MR, Guttormsen S. Learning communication from erroneous video-based examples: A double blind randomised controlled trial. Patient Educ Couns. 2017; 100(6):1203-1212-http://dx.doi.org/10.1016/j.pec.2017.01.016

Lanken PN, Novack DH, Daetwyler C, Gallop R, Landis JR, Lapin J, Subramaniam GA, Schindler GA. Efficacy of a Media-Rich, Internet-Based Learning Module Plus Small Group Debriefing on Medical Trainees' Attitudes and Communication Skills with Patients with Substance Use Disorders: Results of a Two-Center, Cluster Randomized Controlled Trial. Acad Med. 2015; 90(3): 345-354. https://doi.org/10.1097/ACM.0000000000000506

Daetwyler CJ, Cohen DG, Gracely E, Novack DH. eLearning to enhance physician patient communication: A pilot test of "doc.com" and "WebEncounter" in teaching bad news delivery. Med Teach. 2010; 32: e381-e390. https://doi.org/10.3109/0142159X.2010.495759

Project information

Running time:

Since 2011

Financing:

Phase I / Donation through Novartis Foundation for People and the Environment

Link

Website DocCom.Deutsch (in DE)

New e-health App

Supporting UX Design of a New e-Health App.

2022 Service Usability

The IML U^{X} Team supports the «Navina+» project with a User-Centred-Design approach and UX Design in the development of a state-of-the-art mobile app.

The Navina+ project will provide personalized real-time predictions for menopausal woman of susceptibility to respiratory infections and early (prior to symptom onset) detection of such infections, using the combined information from vital signs and information collected via mobile phone, a wearable biosensor, questionnaires, and lab tests (hormone and micronutrient status, virome, microbiome and immune status). The Navina+ App will be a tangible preparedness tool for menopausal women, clinicians, healthcare systems, and a capacity management tool for health insurers.

Aims

Usability and User Experience are important factors regarding the acceptance of a system or application, especially if it is to be optimized for certain target groups. Especially for e-health applications, it is also important that the users trust the system with their data and are willing to share very personal information. The team at ARTORG will be supported by Usability experts from the Institute for Medical Education at the University of Bern to ensure that the use of the App is as effective, efficient and satisfactory as possible (usability definition according to ISO 9241-11) and provides an optimal UX for the targeted user groups.

Ordering customer

Artorg

Partner

Dr. Usha Sarma, Team Artorg
Dr. Serena Fiacco, Team Artorg

Team IML

Philippe Zimmermann, Stephan Schallenberger, Sissel Guttormsen

Project information

Running time: since 2022

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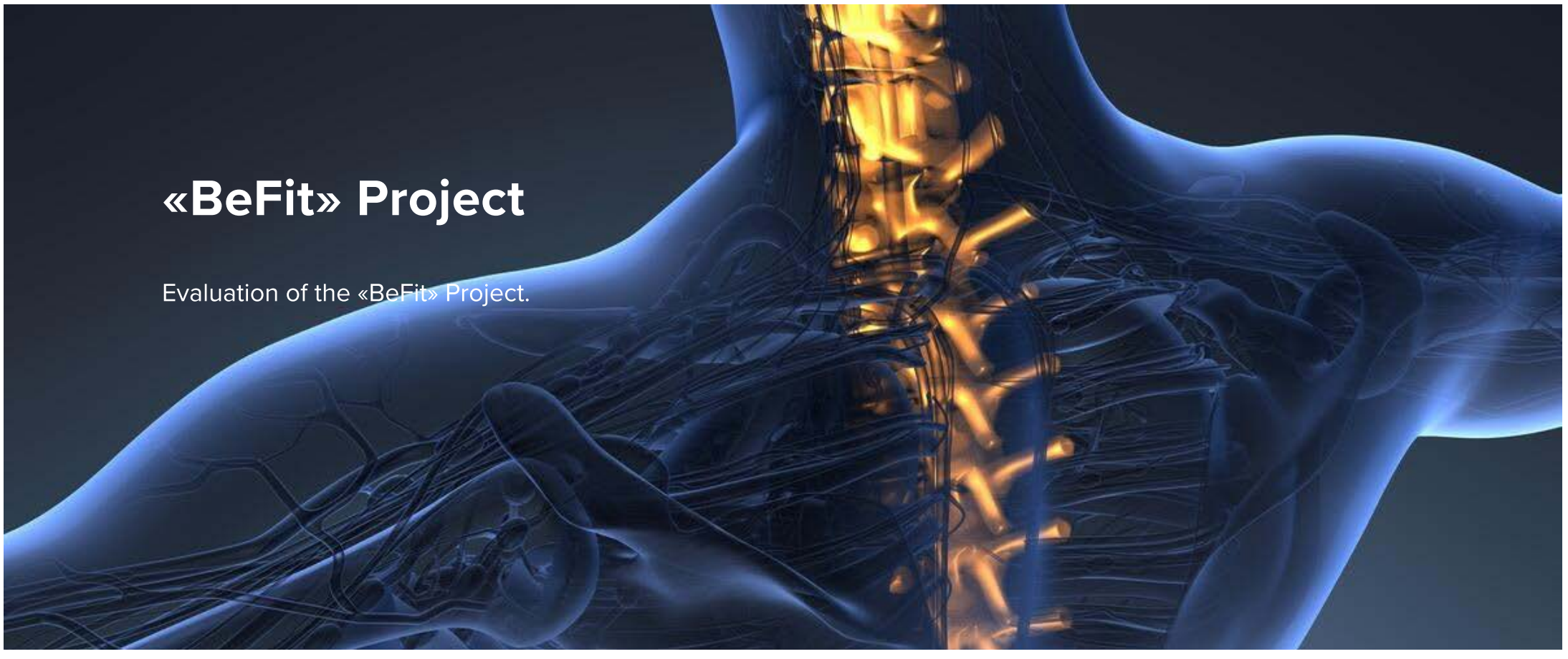

«BeFit» Project

Evaluation of the «BeFit» Project.

2020 2021 2022 Service Evaluation

The «BeFit» project aims to improve the physical activity of ankylosing spondylitis sufferers via the promotion of a specific training concept, thereby improving their quality of life. It also seeks to implement this concept throughout Switzerland.

Aims

The aim of the evaluation is to follow the BeFit project throughout its entire duration and to assess its results and effects.

Client

Health Promotion Switzerland (GFCH)

Co-workers

Felicitas Wagner, Barbara Zurbuchen, Corinne Dreifuss, Sören Huwendiek

Project information

Running time: 02/2020 - 04/2024

Dr. phil. Felicitas Lony Wagner
Scientific collaborator

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Evaluation to accompany the “Steigbügel” project

Supporting professional reintegration following parental leave.

2017 2018 2019 2020 Service Evaluation

The project aims to support the professional reintegration of physicians who have been away from their profession for a longer period of time for family reasons. Over 12 months, the participants complete a residency program and are supported by various offers (e.g. coaching).

Objective

The purpose of the accompanying evaluation is to check the success of the project and to identify factors for success.

Ordering customer

medical women Switzerland (mws)

Team

Dr. phil. Felicitas Wagner
lic. phil. Barbara Zurbuchen
Prof. Dr. phil. Sissel Guttormsen
Prof. Dr. Dr. med. Sören Huwendiek, MME

Project information

Running time: 5/2017 – 2/2022

Dr. phil. Felicitas Lony Wagner
Scientific collaborator

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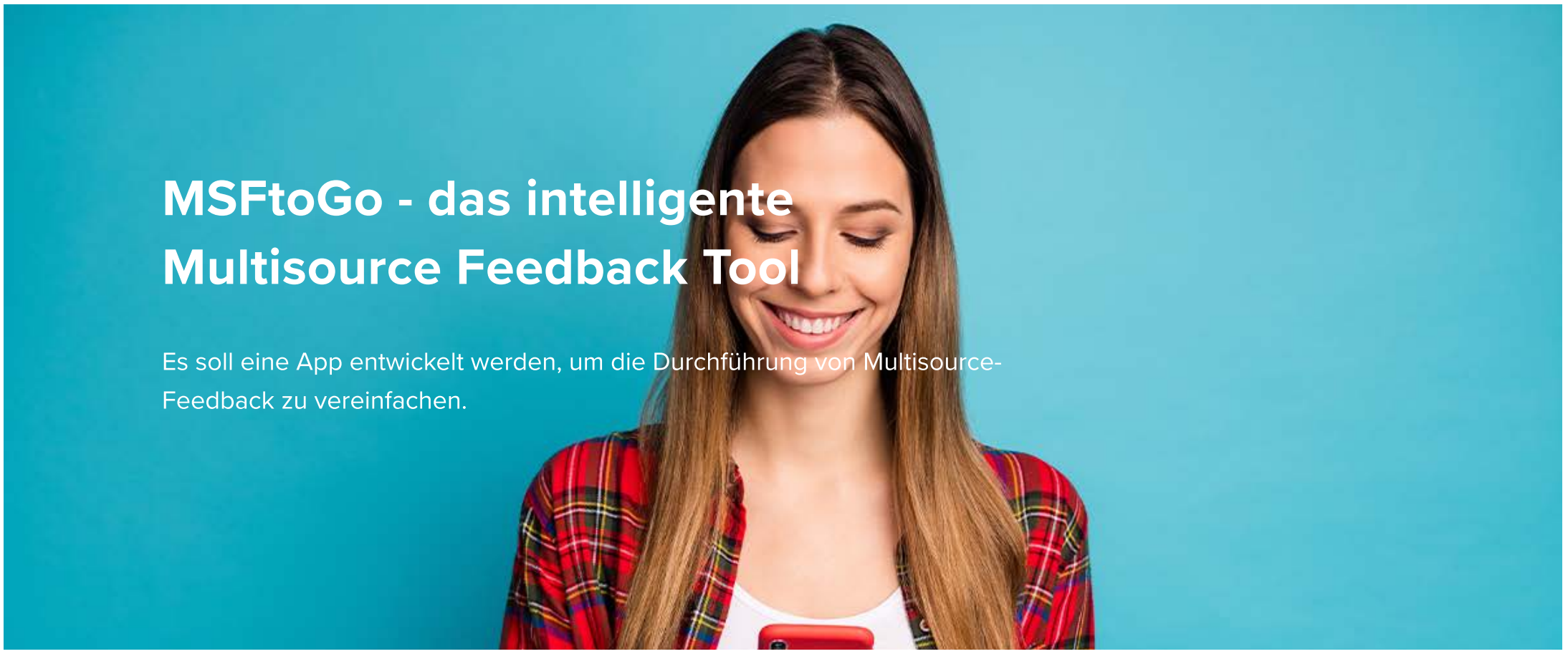


MSFtoGo - das intelligente Multisource Feedback Tool

Es soll eine App entwickelt werden, um die Durchführung von Multisource-Feedback zu vereinfachen.

2021 2022 Research Education

Die App umfasst z.B. das Versenden der Feedbackanfragen an ausgewählte Personen, Terminerinnerungen, die Darstellung des Feedback, Resultate und Hinweise zur Kommunikation im Feedbackgespräch.

Ziele

Die App kann die technische Durchführung von MSF vereinfachen und ist inzwischen an mehreren Standorten im Einsatz.

Auftraggebende

Institut für Medizinische Lehre (IML)

Partner:innen

Dr. med. Lukas J. Kandler (Projektleiter)
Oberarzt Anästhesiologie Universitäts Spital Zürich
Co-Founder & Chief Visual Director precisionED AG

Finanzierung

Unterstützt durch die SIWF Projektförderung 2022

Team IML

Mitantragstellende (inhaltliche Beratung zum MSF):
Dr. Dr. med. Eva Hennel
Prof. Dr. Dr. med. Sören Huwendiek

Projektinformation

Laufzeit: 2021 – 2022

Weitere Infos unter:
https://www.prepared.app/360

CRASHPAED – Praxisnahes Lernen an interaktiven Fällen

CrashPaed ist eine Webapp, in welcher Fälle aus der Kinder- und Jugendmedizin schrittweise vom Symptom über die Diagnostik bis hin zur Therapie interaktiv aufgearbeitet werden.

2021 2022 Research Education

Der primäre Fokus liegt auf häufigen Fällen aus dem Klinikalltag und dem Notfall. Junge Assistenzärzte sind durch CrashPaed gut gerüstet Patienten selbständig von der Diagnostik bis zur Therapie zu begleiten. Im Sinne eines vertieften Lernens werden während der Fallbesprechung Fragen gestellt und Feedback gegeben, welche zu den weiteren Abklärungs- und Behandlungsschritten hinführen. Die Verlinkung mit aktuellen klinikinternen, nationalen und internationalen Diagnose- und Therapierichtlinien sowie Algorithmen gewährleistet eine Evidenz-basierte Herangehensweise an die anstehenden Herausforderungen im klinischen Alltag.

Ziele

CrashPaed lässt junge Assistenzärztinnen und -ärzte in Weiterbildung schneller im klinischen Alltag ankommen. An Fallbeispielen wird das notwendige Entscheidungswissen, um Patient:innen optimal zu behandeln, interaktiv vermittelt. Etablierte Ärztinnen und Ärztee nutzen die spielerische Lernumgebung von CrashPaed zur Wissensauffrischung und haben gleichzeitig Zugang zu aktuellen Behandlungsstandards.

Auftraggebende

SIWF

Partner:innen

PD Dr. Christiane Sokollik Medizin, Universitätskinderklinik Bern (Hauptantragstellerin)

Prof. Maja Steinlin Medizin, Universitätskinderklinik Bern (Hauptantragstellerin)

Dr. Andreas Bartenstein Kinderchirurgie, Universitätskinderklinik Bern

Dr. Michelle Seiler Notfallstation, Universitäts- Kinderspital Zürich – Eleonorenstiftung

Dr. Eva-Maria Jordi Ritz , MME und Dr. Michel Ramser Notfallstation, Universitäts-Kinderspital beider Basel

Dr. Anna Wefers Praxispädiatrie Gruppenpraxis Visp

Apps with love AG Landoltstrasse 63 3007 Bern

Finanzierung

SIWF

Team

IML: Prof. Dr. Dr. med. Sören Huwendiek

Projektinformation

Laufzeit: 2021 – 2022

Supervisors in MSF: What do they need to best support residents?

Dieses Projekt beschäftigt sich mit Feedback Gesprächen bei Multisource Feedback in der ärztlichen Weiterbildung.

2021 2022 Research Education

Die Erfahrungen von Supervisionspersonen werden in Interviews erhoben und qualitativ analysiert. Wir wollen erfahren, wie Supervisionspersonen Feedback vermitteln und welche Grundlagen sie dafür benötigen.

Ziele

Ziel dieses Projekts ist es, in Gegenüberstellung zur internationalen Literatur Empfehlungen für Feedback-Gespräche zu entwickeln.

Finanzierung

Unterstützt durch einen ASME Small Grant 2021 (Association for the Study of Medical Education)

Team

IML: Dr. Dr. med. Eva Hennel, Dr. Andrea Lörwald, Prof. Dr. Dr. med. Sören Huwendiek

cand. med. Rafael Stoffel

Projektinformation

Laufzeit: 2021 -2022

Berner longitudinales Curriculum Virtuelle Patienten Notfallmedizin (BelViP)

Unterstützung der Studierenden zum Erlernen der selbständigen Behandlung von pädiatrischen und erwachsenen Notfallpatienten durch Einsatz von Virtuellen Patient:innen.

2022 2023 2024 Research Education

Im Rahmen dieses Projektes werden insgesamt 13 pädiatrische und 13 adulte Virtuelle Notfall-Patient:innen entsprechend den EPA 6-Leitsymptomen (Behandlung eines Notfallpatienten) entsprechend dem Lernzielrahmenwerk PROFILES erstellt, begutachtet, pilotiert und fest mit dem übrigen Medizinstudium im Sinne von blended learning verankert (Nachbereitung Vorlesungen, begleitend zu Blockpraktika mit Online-Besprechung, begleitend zum Wahlstudienjahr, als Vorbereitung von Simulationen). Der Erfolg des Einsatzes wird durch Begleitstudien evaluiert.

Ziele

Ziel ist die Unterstützung der Studierenden beim Erlernen der selbständigen Behandlung von pädiatrischen und erwachsenen Notfallpatient:innen durch den blended learning Einsatz von Virtuellen Patient:innen.

Auftraggebende

Medizinische Fakultät Bern

Partner:innen

Dr. med. Isabelle Steiner, Chefärztin, Co-Leiterin Notfallzentrum für Kinder und Jugendliche

Prof. Dr. med. Thomas Sauter, Leitender Arzt Notfallmedizin

Finanzierung

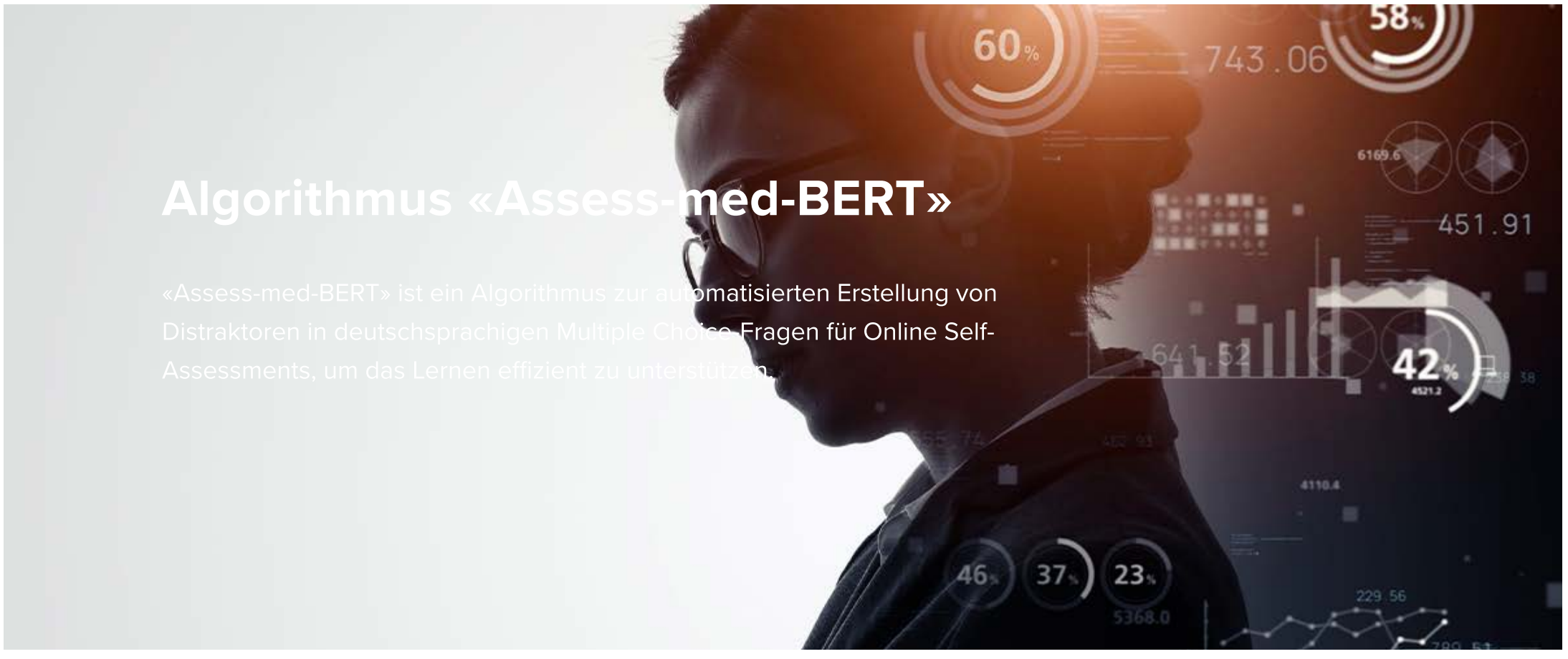
Medizinische Fakultät Bern

Team

IML:
Prof. Dr. Dr. med. Sören Huwendiek (Abteilungsleiter AAE)
Dr. phil. Felicitas Wagner (Gruppenleiterin Evaluation AAE)

Projektinformation

Laufzeit: 2022 – 2024



Algorithmus «Assess-med-BERT»

«Assess-med-BERT» ist ein Algorithmus zur automatisierten Erstellung von Distraktoren in deutschsprachigen Multiple Choice-Fragen für Online Self-Assessments, um das Lernen effizient zu unterstützen.

2022 2023 2024 Research Education

Fachübergreifend zeigt sich, dass es zu wenig Übungsaufgaben (i.S. von Self-Assessments) für Lernende gibt, weil die Erstellung viel Zeit benötigt. Die vorhandene Forschung zur automatisierten Generierung von Übungsaufgaben bezieht sich weitgehend auf englischsprachige Datengrundlagen, welche nicht auf die deutsche Sprache übertragen werden können. Diese Lücke soll mit dem vorliegenden Projekt geschlossen werden. Das Projekt verfolgt das Ziel, das Lernen am Beispiel des medizinischen Kontexts im deutschsprachigen Raum zu verbessern, indem Lehrende effizienter Übungsfragen generieren (lassen) können, wodurch sich Lernende (sowohl Studierende als auch Weiterzubildende) durch die Verwendung dieser generierten Übungsaufgaben besser neues Wissen aneignen können.

Im vorliegenden Forschungsprojekt soll ein Modell auf Grundlage von künstlicher Intelligenz und NLP (Natural Language Processing) entwickelt werden, welches es Akteuren im Bildungsbereich ermöglicht, Lernmöglichkeiten (Self-Assessments) mit deutlich geringerem Aufwand als bisher zur Verfügung zu stellen.

Ziele

Das vorliegende Projekt soll Lernmöglichkeiten schaffen, die von Lehrenden ein Minimum an Ressourcen benötigen und gleichzeitig den Lernprozess über Feedback und Reflexion für die Lernenden transparenter, zielgerichteter, effizienter und effektiver machen. Durch das teilautomatisierte Erstellen von MCQs für Self-Assessments können gezielt Fragen in den Bereichen generiert werden, in denen Studierende grössere Probleme haben oder in denen es hilfreich wäre, noch mehr Übungsaufgaben zur Vertiefung zu erhalten. Damit unterstützt dieses Projekt das Lernen der Studierenden und bietet die Grundlage, um Studierenden zukünftig anhand ihrer Leistung in einem Self-Assessment auch weitere Self-Assessments oder Repetitionen vorzuschlagen, i.S. des adaptiven Lernens.

Auftraggebende

BeLearn

Partner:innen

Dr. Stefan Pichelmann
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PD Dr. Katja Schlegel
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Dr. Natalie Borter
Universität Bern, Institut für Psychologie, Fabrikstrasse 8
3012 Bern

Finanzierung

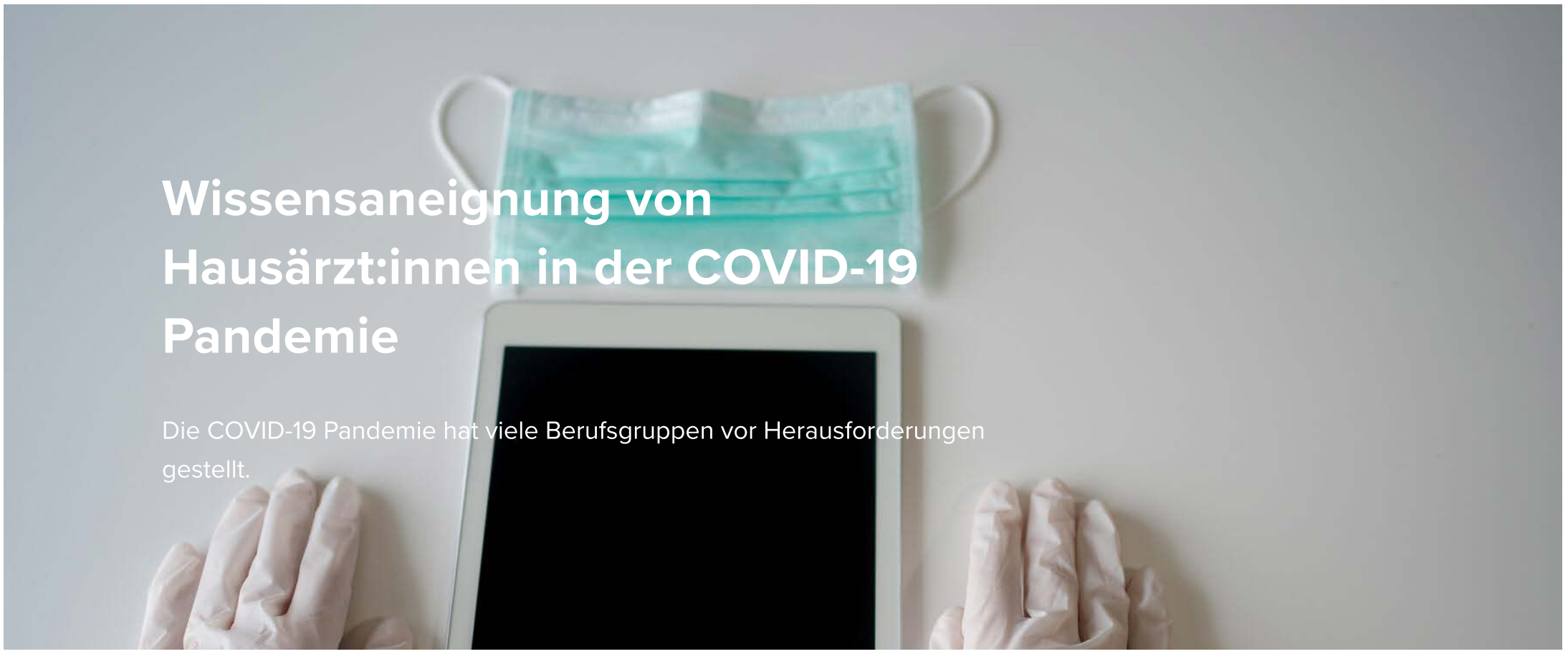
BeLearn

Team

IML: Dr. Rabea Krings (Projektleiterin), Dr. Dr. med. Eva Hennel, Prof. Dr. Dr. med. Sören Huwendiek

Projektinformation

Laufzeit: 2022 - 2024



Wissensaneignung von Hausärzt:innen in der COVID-19 Pandemie

Die COVID-19 Pandemie hat viele Berufsgruppen vor Herausforderungen gestellt.

2022 2023 Research

Hausärzt:innen waren davon besonders betroffen, weil sie einerseits für eine optimale Versorgung fortlaufend neues Wissen über diese Krankheit aktualisieren mussten. Andererseits waren sie mit der Herausforderung konfrontiert, dass etablierte Informationszirkel und Weiterbildungsveranstaltungen ins Internet verschoben wurden. In dieser Masterarbeit (Psychologie) wurde die Frage behandelt, wie Schweizer Hausärzt:innen diesen Herausforderungen begegnet sind.

Ziele

Das konkrete Ziel der Mastarbeit lag darin, herauszufinden, wie sich Hausärzt:innen neues Fachwissen aneignen und welche Auswirkungen die COVID-19 Pandemie auf ihr «selbstgesteuerte Lernen» (SGL) hatte. SGL grenzt sich von formellen Lernformen wie strukturierten Fort- und Weiterbildungen ab und inkludiert Prozesse, die durch die Lernenden selbst initiiert und gemanagt werden.

Die Masterandin hat 16 Hausärzt:innen anhand eines auf Basis der Literatur entwickelten, halbstrukturierten Interviewleitfadens befragt. Die Interviews wurden transkribiert und per strukturierender, qualitativen Inhaltsanalyse nach Kuckartz von ihr ausgewertet.

Die Ergebnisse zeigen, dass die Befragten aufgrund der Pandemie vermehrt in der Klinik und von Zuhause aus Wissen selbstständig angeeignet haben – und dies sei mitunter deutlich intensiver und häufiger als zuvor der Fall gewesen. Weiter wurde berichtet, dass eine Digitalisierung des Lernprozesses stattfand; diese wiederum brachte Vor- aber auch Nachteile mit sich. Besonders problematisch wurde die teilweise komplexe Bedienbarkeit digitaler Lehrmittel wahrgenommen, die insbesondere aufgrund kritischen Zeitmangels ins Gewicht fallen könne. Förderlich sei an der Stelle aber immer eine hohe Eigenmotivation zum Wohle der Patient:innen.

Auftraggebende

Arbeits- und Organisationspsychologie

Partner

Noa Miranda Linder (Masterandin), Achim Elfering (Betreuer)

Team IML

Sissel Guttormsen, Felix Schmitz (Betreuer:innen)

Projektinformation

Laufzeit: 2022-2023

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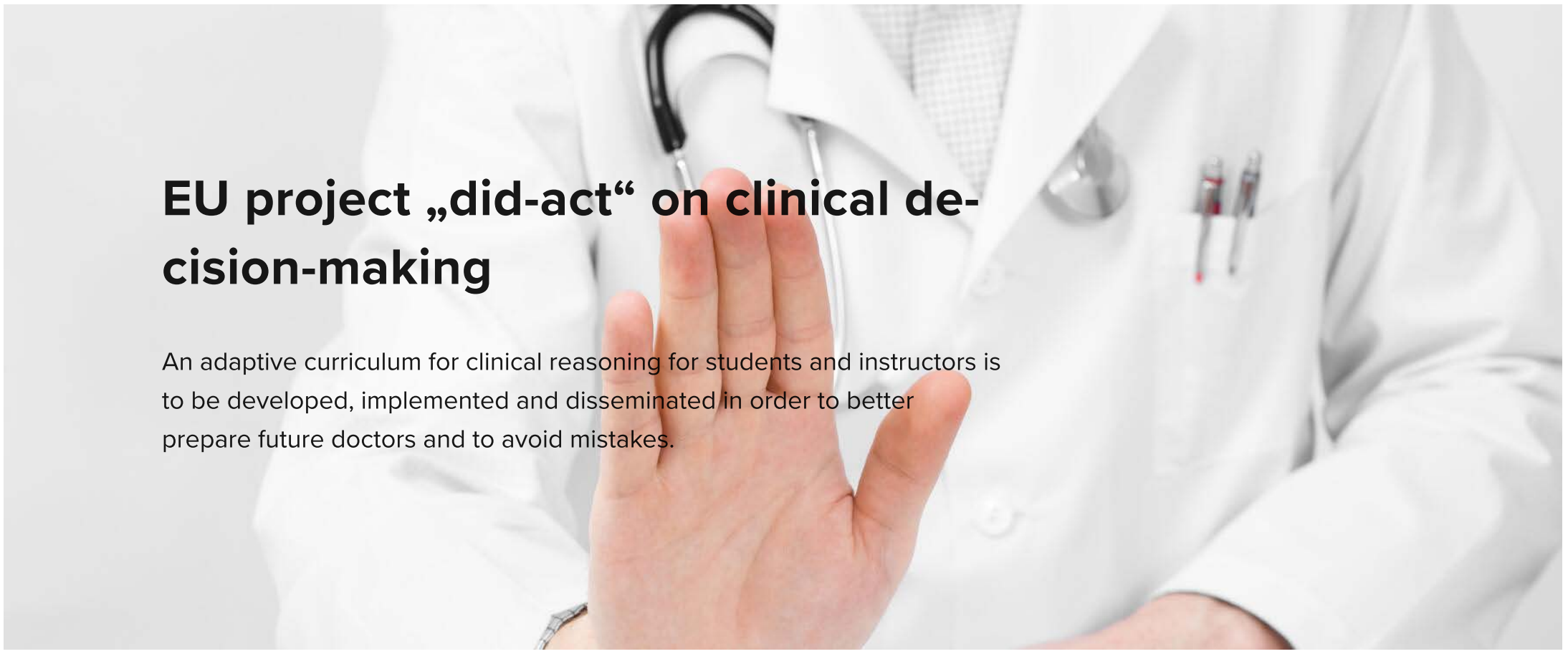

EU project „did-act“ on clinical decision-making

An adaptive curriculum for clinical reasoning for students and instructors is to be developed, implemented and disseminated in order to better prepare future doctors and to avoid mistakes.

2020 2021 2022 2023 Research

Clinical decision making (also referred to as clincial reasoning) is a skill that healthcare students must learn during their studies and then further develop in clinical practice. This process involves the use of clinical knowledge to gather and integrate information from various sources to ultimately lead to a diagnosis and a management plan for patients.

Objective

- design, develop, evaluate and disseminate a curriculum for clinical decision-making
- develop a train-the-trainer course for lecturers.
- Optimal learning should be achieved through a combination of online and classroom teaching. In order to facilitate the dissemination and use of the new curriculum, it can be adapted to existing curricula, which should make it easier for both curriculum planners and lecturers to gradually integrate it.

Financing

Co-financed by the EU

Project Team

Project team IML:
Sören Huwendiek & Felicitas Wagner

Project coordinator: University of Augsburg, Project manager: PD, Dr. med. Inga Hege.

Project partners:

- Jagiellonian University, Krakow:
  Andrzej A. Kononowicz, PhD; Małgorzata Sudacka, MD; Magdalena Szopa, PhD
- University of Bern:
  Sören Huwendiek, Assoc. prof., MD, PhD, MME; Felicitas Wagner, PhD; Isabelle Steiner, MD
- Faculty of Medicine, University of Maribor in Slovenia:
  Monika Sobocan, MD, Prof. Zalika Klemenc-Ketis, MD, Prof. Sebastjan Bevc, MD, PhD; Prof. Breda Pecovnik Balon, MD, PhD; Prof. Breda Pecovnik Balon, MD, PhD

- Instruct (www.instruct.eu):
  Martin Adler is CEO; Carina Pfeifer
- Örebro University:
  Associate profs: Samuel Edelbring; Kristin Ewins; Wiegleb Edström; Elisabet Welin, Prof.
- Digital Education Holdings Ltd., Malta:
  Nils Thiessen, MD; Jasmin Düsterhöft, MD; Federico Arevalo, MD

Project information

Running time: 2020 - 2023

Links

"did-act" website

Communication is a key competence

Communication with cancer patients and their families about approaching death: schaffolding conceptual and practical learning for health professionals

2019 2020 2021 2022 Research

Despite extraordinary scientific breakthroughs, cancer remains the top two causes of death in Switzerland. This makes ‘communication about approaching death’ a main communication task for oncology health professionals. Our project aims at supporting oncology health professionals in performing these conversations with confidence and positive impact for all involved. Evidence shows that communication skills can be learned and that they have the potential to influence how people die, how families adjust to bereavement, and how health professionals cope with death in their work.

Objective

Based on state of the art of research, we will develop a new learning module on the DocCom.Deutsch learning platform, addressing the issue of communicating approaching death. We will deliver a state-of-the art communication guide for oncology health professionals through an eLearning blended approach, and test the efficiency of learning and employing this approach through research.

Project team

Prof. Dr. phil. Sissel Guttormsen, IML, medical faculty, University of Bern (Main applicant)
Prof. Dr. med. Steffen Eychmüller, Universitäres zentrum für Palliative Care, Inselspital Bern (Co-applicant)
Dr. Sofia Zambrano, Universitäres Zentrum für Palliative Care, Inselspital Bern (Co-applicant)
Dr. med. Kai Schnabel, MME, IML, medical faculty, University of Bern (Co-applicant)
Dr. phil. Felicitas Wagner, IML

Financing

Stiftung Krebsliga Schweiz

Team IML

Sissel Guttormsen, Kai Schnabel, Felix Schmitz, Beate Brem

Project information

Running time: since 2019

Modul „Über das Sterben sprechen“ [Talking about dying] online (in DE)
since 11/21
(login required)

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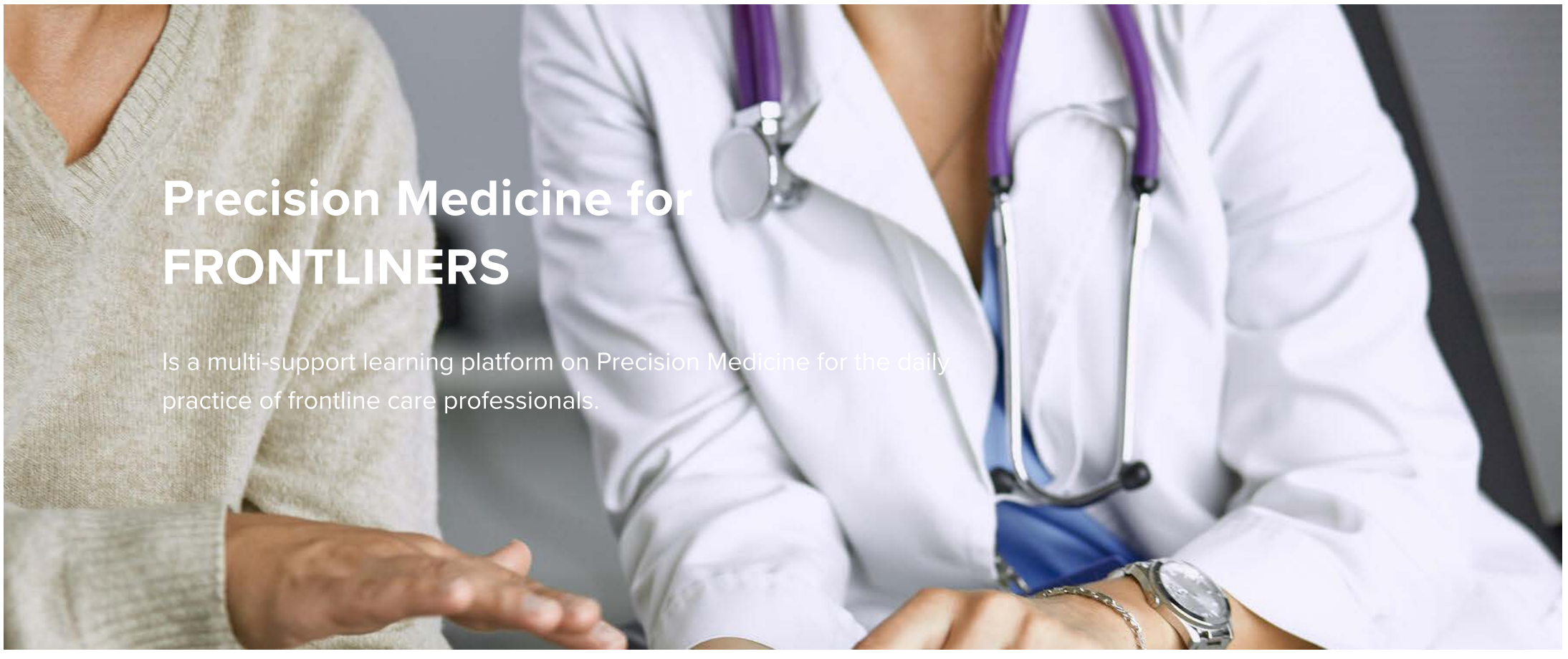

Precision Medicine for FRONTLINERS

Is a multi-support learning platform on Precision Medicine for the daily practice of frontline care professionals.

2019 2020 2021 Research

Nowadays, the majority of primary care professionals are not prepared to deal with issues related to precision medicine.

Frontliners is a training program that offers basic and advanced training opportunities to primary care professionals (PCPs) including physicians, pharmacists and nurses to support them in delivering high-value information, advice and care in precision medicine (PM) to their patients.

Objective

- Offer an online platform with practical ready to use content
- Provide onsite learning and networking opportunities
- Present quality resources and information on PM
- Bringing together the best experts as teachers and mentors

Project team

Prof. Dr. med. Idris Guessos, Geneva University Hospitals, UNIGE (Project head)
Prof. Dr. med. Jacques Cornuz, Unisanté/UNIL (Co-Applicant)
Prof. Dr. Dr. med. Gérard Waeber, CHUV/UNIL (Co-Applicant)
Prof. Dr. phil. Sissel Guttormsen, IML, medical faculty, University of Bern (Co-Applicant)

Financing

health2030

Team IML

Sharon Mitchell, Sissel Guttormsen, Felix Schmitz, Daniela Schmid, Philippe Zimmermann

Recent publication

Mitchell, S., Jaccard, E., Cardineaux, R., Collombet, P., Cornuz, J., Waeber, G., Guessous, I., Guttormsen, S. (2020), *Implementing an Online Training Programme in Precision Medicine for Primary Care Professionals: a Multi-Method Approach.* Short paper in the Proceedings of 17th IADIS international conference on Cognition and

Exploratory Learning in Digital Age (CELDA), 18. – 20.11.2020, Lisbon, Portugal.

Mitchel, S., Evrim , J., Schmitz, F. M., Von Kanel, E., Collombet, P., Cornuz, J., Weber, G., Guessous, I., Guttormsen, S. (2022). Investigating acceptability of a training programme in Precision Medicine for frontline healthcare professionals: A mixed Method study. BMC Medical Education (2022, 22:556). https://doi.org/10.1186/s12909-022-03613-2

Project information

Running time: since 2019

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Systematic approach to reviews, with a particular f n Scoping Reviews

By the example of implementing a systematic scoping review to develop a taxonomy of teaching methods, on 10th November 2022, with a small team of international experts, we delivered an interactive workshop on Secondary Research.

2022 2023 Research

The objective of the workshop was to bring together international experts from various institutions around Europe, with a particular focus and expertise on Scoping Reviews. As an applied frame of the project and the Workshop we used the ongoing research on a taxonomy of teaching methods.

Aims

The workshop had specific intentions to deliver learning outcomes to the invited participants as follows;

- Explain the principles of scoping reviews and appropriate choice of review methodology
- Understand the advantages and challenges of international collaborations in research for young researchers
- Contribute to discussions of teaching methods, and critically evaluate synthesis approach
- Appraise the role of consensus in scientific research, and when it is appropriate to use consensus methodology

Financing

This project was supported by the «Mittelbauvereinigung der Universität Bern (MVUB)».

Partners

Prof. JANUSZ JANCZUKOWICZ Head of Centre Medical Education, Vice Dean for Development of Education at the Medical University of Lodz, Poland

Dr CAROLIN SEHLBACH, PhD in Med Ed., School of health professions education (SHE) University of Maastricht, The Netherlands

Co-worker

Sharon Mitschell (PhD Candidate at the IML)
Prof. Sissel Guttormsen (Director IML)

Target group

Researchers applying Systematic Scoping reviews as a method; Medical Educators in general.

Publications

Submitted: A taxonomy of teaching methods and their use in health professions education: A Scoping Review Protocol. Authors: Sharon Mitchell, Carolin Sehlbach, Gregor Franssen, Janusz Janczukowicz, Sissel Guttormsen

Project information

Running time: 2022 - 2023

Sharon Mitchell
PhD student

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Rassismus in der Medizin: Perspektiven für die medizinische Ausbildung

Beitrag der GMA zur Sensibilisierung von Studierenden, Lehrenden und weiteren in der medizinischen Lehre tätigen Personen zum Thema rassistische Diskriminierung im Gesundheitswesen.

2021 2022 2023 2024 Research

Die Genfer Deklaration des Weltärztebundes fordert von ärztlichen Fachpersonen sich «bei der Erfüllung ihrer ärztlichen Pflichten ihren Patient:innen gegenüber nicht durch Alter, Krankheit oder Behinderung, Glaube, ethnische Herkunft, Geschlecht, Staatsangehörigkeit, politische Zugehörigkeit [...], sexuelle Orientierung, soziale Stellung oder durch andere Faktoren» beeinflussen zu lassen. In der Realität berichten jedoch Patient:innen, Lehrende und Medizinstudierende im deutschsprachigen Raum von Diskriminierungserfahrungen. So zeigen z.B. Studien aus Deutschland, dass rund die Hälfte der Akteur*innen Diskriminierung im Gesundheitswesen beobachtet oder selbst erfahren hat. Mit dem Mandat des Vorstandes der Gesellschaft für Medizinische Ausbildung (GMA) wird vor diesem Hintergrund ein Positionspapier zum Thema Rassismus in der Medizinischen Ausbildung erarbeitet.

Ziele

Mit diesem Positionspapier möchten die Ausschüsse «Kulturelle Kompetenz und Global Health» und «Gender, Diversity und Karriereentwicklung in der medizinischen Aus- und Weiterbildung» der GMA einen Beitrag leisten zur Sensibilisierung von Studierenden, Lehrenden und weiteren in der medizinischen Lehre tätigen Personen zum Thema rassistische Diskriminierung im Gesundheitswesen. Dabei soll unter anderem auf die Bedeutung von Lehrangeboten zur Vermittlung von Rassismus kritischen Kompetenzen in der medizinischen Ausbildung hingewiesen und deren Entwicklung mit ausgearbeiteten Empfehlungen unterstützt werden. Um eine vertiefte Auseinandersetzung mit Rassismus auf diversen Wirkebenen anzuregen und deren Fortbestand in der Ausbildung zu miniminieren, werden theoretische Hintergründe beschrieben, Definitionen hergeleitet und eine Erhebung der aktuellen Integration von Lehrangeboten im Studium der Humanmedizin in den deutschsprachigen Ländern durchgeführt und Empfehlungen zur Entwicklung von Lehrangeboten als auch zur Qualifikation der Lehrpersonen dargestellt.

Auftraggebende

Gesellschaft für Medizinische Ausbildung (GMA)

Partner:innen

GMA Ausschüsse «Kulturelle Kompetenz und Global Health» und «Gender, Diversity und Karriereentwicklung in der medizinischen Aus- und Weiterbildung»

Team IML

Daniel Bauer, Felix Schmitz

Projektinformation

Laufzeit: 2021-2024

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Head of Group "Research"

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Self-Directed Learning (SDL) in Clinical Work-Life

How can specialists be supported in highly individualized learning processes with the help of modern tools?

2018 2019 2020 2021 2022 Research

To guarantee high-quality services, health professionals are required to successfully maintain their extensive knowledge base. Health professionals are forced to consistently stay up-to-date in their field in which new knowledge is evolving continuously. There is a strong need for effective support during their lifelong self-directed, learning processes.

Objective

We investigate the SDL processes from different perspectives:

i) Elements of the learning process,
ii) the view of work and organisation psychology (models and effects on individuals and systems),
iii) needs and expereinces of health professionsl in their daily lifes,
iv) elaborating technical tools supporting the learning process, and needed features and functionalities.

Partner

Prof. Dr. med. Andreas Raabe, University clinic for neurosurgery, Insel-Hospital Bern
Dr. phil. Jodie Freeman, Institute of Complementary and Integrative Medicine, University of Bern
Prof. phil. Achim Elfering, and Linda Christa, both Institute of Psychology, department of work and organisation psychology, University of Bern

Team IML

Prof. Dr. phil. Sissel Guttormsen
Dr. phil. Felix Schmitz
Dr. sc. ETH Philippe Zimmermann

Publications

Planned

Project information

Running time: 2018 - 2023

Prof. Dr. phil. Sissel Guttormsen Schär
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Gender gap phenomenon

Gender differences in the career motivations of health professionals.

2020 2021 2023 Research

Despite numerous attempts to promote equality between women and men, there are still significantly more men in top positions in Switzerland. This gender gap phenomenon is not only found in companies, but is also visible in socially-oriented professions such as medicine and psychology.

Aims

This project seeks to investigate whether there is a gender difference in career motivation among students of medicine and psychology. It will also examine whether career motivations change in a gender-specific manner over the course of the degree, and which of the influencing factors that are already known are most influential.

Partners

IML: Prof. Dr. phil. Sissel Guttormsen, Dr. phil. Felix Schmitz
Institute of Psychology: Prof. phil. Achim Elfering, Ellen Surdel (Student)

Publications

Planned

Project information

Running time: 2020 - 2023

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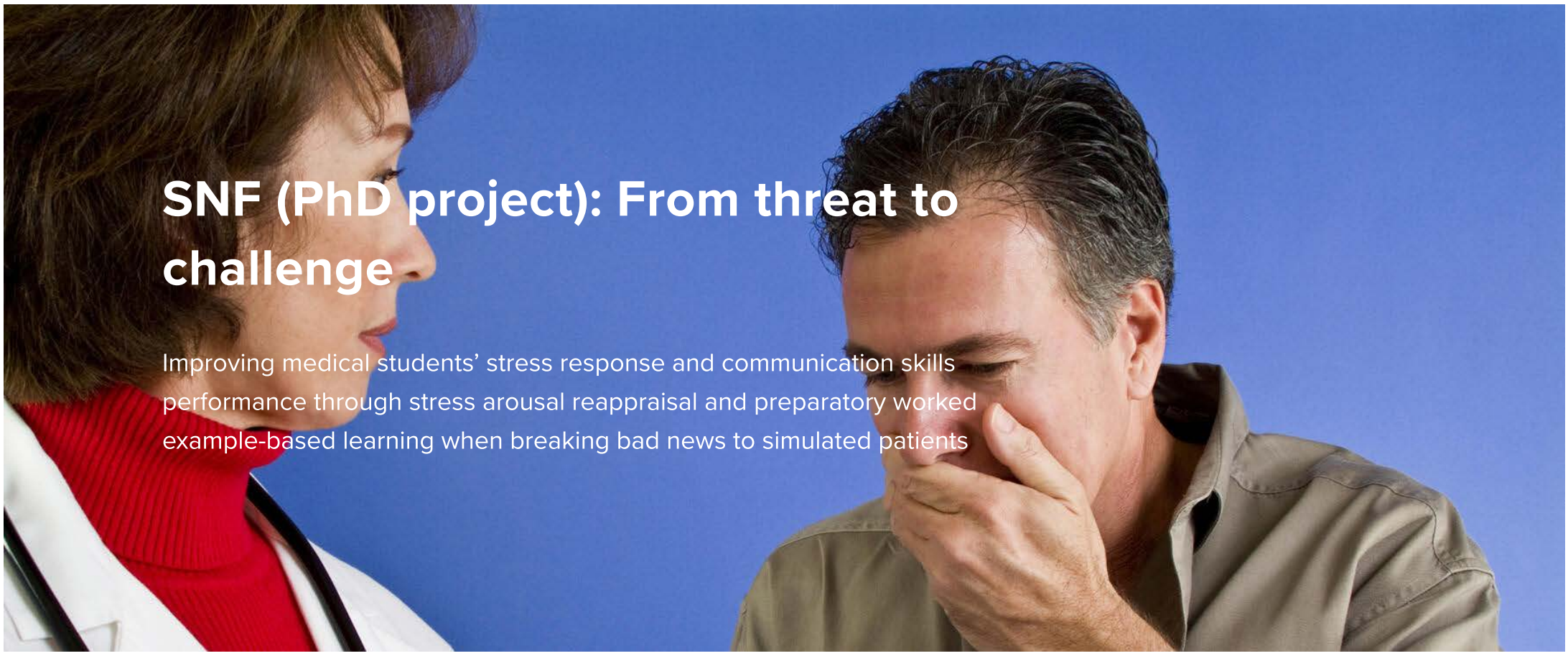

SNF (PhD project): From threat to challenge

Improving medical students' stress response and communication skills performance through stress arousal reappraisal and preparatory worked example-based learning when breaking bad news to simulated patients

2021 2022 Research

Braking bad news (BBN) to patients is a frequent and stress-evoking task for many physicians. Medical students do already practice this demanding task in communication trainings with simulation patients. The intensity of their stress reaction is comparable to that in the real situation and can lead to a decrease of their BBN skills performance.Therefore, it is important to provide strategies that help medical students to effectively deal with this highly stressful communication task.

Aims

The aim of this project is to explore the effects of the strategies «stress arousal reappraisal» and «preparatory learning with worked examples» on medical students' stress response and BBN skills perfromance. For this purpose, 200 medical students from Swiss universities will be tasked with BBN to simulation patients. BBN skills performance, cardiovascular activity, stress hormone release and the subjective stress perception of the students will be recorded.

Financing

SNF project 100019_200831

Project Team

Team IML:

Michel Bosshard (PhD candidate), PD Dr. med. Christoph Berendonk, MME, Dr. phil. Felix Schmitz, Prof. Dr. phil. Sissel Guttormsen

Project partners:

Dr. Patrick Gomez (Uni Lausanne), Univ.-Prof. Dr. Urs Markus Nater (Uni Vienna)

Project Information

Project period: 2021 - 2025

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Michel Bosshard
PhD student

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SNF (PhD project): Digital Learning and Teaching (DLT)

Implementing effective digital learning and teaching in higher education beyond the Covid-19 pandemic. Aligning key players' needs, bringing distant communication close and supporting students' individual learning.

2021 2022 2023 2024 Research

The pandemic has shown the importance of well-designed Digital Learning and Teaching (DLT). Many of the current applications and implementations have weaknesses. The role of the teaching organisations, as well as the needs of lecturers and students are not well understood nor well met. In this project we aim at understanding keyplayers needs and implementing specific solutions, while invesitgating their effectivity. In order to keep up the current disruptive DLT development, DLT needs a conceptual framework.

Aims

We address the following overall research question: How can medical schools effectively support lecturers and students with DLT?
Study I: We aim at exploring how requirements and needs are aligned between the key players in Swiss medical schools, to set the stage for future developments.
Study II: We investigate the impact of students' simulated patient encounters with video vs. face-to-face on perceived 'social presence', acceptance and performance.
Study III: Various means to support individual learning for students in a DLT context will be investigated.

Financing

SNF project 100019_200811

Project Team

PhD-candidate:

Dr. med. Artemisa Gogollari (PhD candidate)

PhD supervisor: Prof. Dr. phil. Sissel Guttormsen

Co-referee: Prof. Stefan Schauber, University of Oslo (Norway)

SNF Projekt:

Prof. Dr. phil. Sissel Guttormsen (Main applicant)

Dr. med. Kai Schnabel, MME (Co-Project applicant)

Prof. Dr. Dr. med. Sören Huwendiek, MME (Project partner)

Dr. phil. Felix Schmitz (Scientific collaborator)

Further project partners:

Dr. med. Christian Schirlo, MME (Universität Luzern)

Dr. med. et PhD Stephan Gysin (Universität Luzern)

Dr. rer. biol. hum. Daniel Tolks (Universität Bielefeld, D; LMU München, D)

Project Information

Project period: 2021 - 2025

Dr. med. Artemisa Gogollari
PhD student

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PhD project: Online and blended learning in Precision Medicine

Improving our understanding of teaching and learning methods acceptable and applicable for frontline healthcare professionals.

2020 2021 2022 2023 Research

Healthcare professionals are required to complete CPD (continuing professional development) but this too often becomes a tick box exercise. Education offerings for active healthcare professionals must be practical to individual needs and offer different teaching methods, whereby learning becomes a fluent, adaptable and continually moving entity tied to the needs of each individual health professional. This project will apply empirical methods to develop a best practice approach for education needs assessment to design, plan and implement a blended learning training programme to deliver a new topic, Precision Medicine, to frontline healthcare professionals.

Aims

PhD Thesis: Implementing evidence based education to design and implement online and blended learning in Precision Medicine in the context of continuing professional development (CPD)

The results of this research will inform the design, planning and implementation of a national online and blended training programme in Precision Medicine across Switzerland.

Financing

This research is part of the FRONTLINERS project in Precision Medicine funded by Health2030 described here.

Project Team

PhD candidate: Ms. Sharon Mitchell M.Sc, IML, University of Bern

PhD supervisor: Prof. Dr. phil. Sissel Guttormsen, IML, medical faculty, University of Bern

PhD co-supervisor: Prof. Dr. med. Idris Guessous, Division and Department of Primary Care Medicine, Geneva University Hospitals and Faculty of Medicine, Geneva

Co-referee: Professor Janusz Janczukowicz MD, PhD, MMedEd, Medical University of Lodz, Polan

Team IML

Dr. phil. Felix Schmitz, Head of Research group in ASCII, IML, medical faculty, University of Bern

Daniela Schmid, UX expert at ASCII, IML, medical faculty, University of Bern

Overall Project PI

Prof. Dr. med. Idris Guessous, Division and Department of Primary Care Medicine, Geneva University Hospitals and Faculty of Medicine, Geneva (PI)

Prof. Dr. Dr. med. Gérard Weber, Department of Medicine, University Hospital CHUV, Lausanne (Co-PI)

Prof. Dr. med. Jaques Cornuz, Unisanté, Faculty of biology and medicine, University of Lausanne, Rue du Bugnon 44, 1011 Lausanne (Co-PI)

Prof. Dr. phil. Sissel Guttormsen, IML, medical faculty, University of Bern (Co-PI)

Project information

Running time: 2020 - 2023

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PhD project: Post-graduate medical education programs

What makes post-graduate medical education programs (CME) at the University-level attractive?

2021 2022 2023 2024 Research

The number of participants of post-graduate medical programs increases significantly in later years. There are manyfold challenges in this context, which need to be addressed in order to provide best-practice and up-to-date CME programs in the future: (1.) digitalization, (2.) globalization of knowledge, (3.) relevance for the society and professional development, and (4.) privіding high quality, innovative teaching and learning opportunities.

Providers of CME programs must face these challenges to survive in the global competition and to attract candidates to join these programs. One way of addressing those challenges is to focus on the post-graduate program participants' needs and interests, as in the field of marketing with the strategy and concept of 'customer centricity'. This concept which normally embraces a company's strategy, structures and processes, and generates knowledge about its customers and the company's` culture, - is recently also used as a method for modelling continued educational offers at a university level.

Aims

This PhD project will help us to develop a differentiated understanding of attractiveness of CME programs, including usefulness, accountability, practicality, return on investment, acceptability, etc.. Research on the structure, content and orientation of such programs is rare. This project sets out to fill this gap. The application of a new and efficient approach, gives structure to the research and supports a change of perspective, which is promising.

Team

IML: Melanie de la Rosa (PhD Candidate)
Prof. Dr. phil. Sissel Guttormsen (PhD Thesis advisor)
Dr. phil. Felix Schmitz (Project partner)

Co-Referee: Prof. Ara Tekian, PhD, MHPE, University of Illinois, Chicago (USA)

Project information

Running time: 2021 - 2025

Melanie de la Rosa
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PhD project: Entrustable Professional Activities in Old Age Psychiatry

Improving residency training with Entrustable Professional Activities (EPA's) in Old Age Psychiatry.

2020 2021 2022 Research

PhD title: «Identifying and Implementing Entrustable Professional Activities to improve Old Age Psychiatry Residency Training»

The purpose of this research project is to investigate needs and requirements for an EPA-based curriculum in Old Age Psychiatry in Switzerland, to identify a set of EPAs specifically for old age psychiatry and to develop assessment methods of some of the identified EPAs. With the proposed studies, we expect to have a foundation to further develop a competency-based curriculum for residency training in old age psychiatry in terms of residents' achievement of learning outcomes, improving patient safety and patient care quality.

Aims

The overarching aim of this PhD is to investigate the residents needs in Old Age psychiatry, to develop EPAs for a competency-based curriculum in Old Age psychiatry and to implement assessment and teaching methods for the identified EPAs.

Team

PhD candidate: Seraina Lerch (IML)
PhD supervisor: Prof. Dr. Dr. med. Sören Huwendiek, MME (IML)
Co-supervisor: Prof. Dr. med. Stefan Klöppel
Co-referee: Prof. Dr. med. Mathieu Nendaz
Further supervisor: Dr. med. Severin Pinilla, M. Ed. (IML)

Partners

University Hospital of Old Age Psychiatry and Psychotherapy Bern, Graduate School for Health Sciences Bern

Project information

Running time: 2020 – 2022

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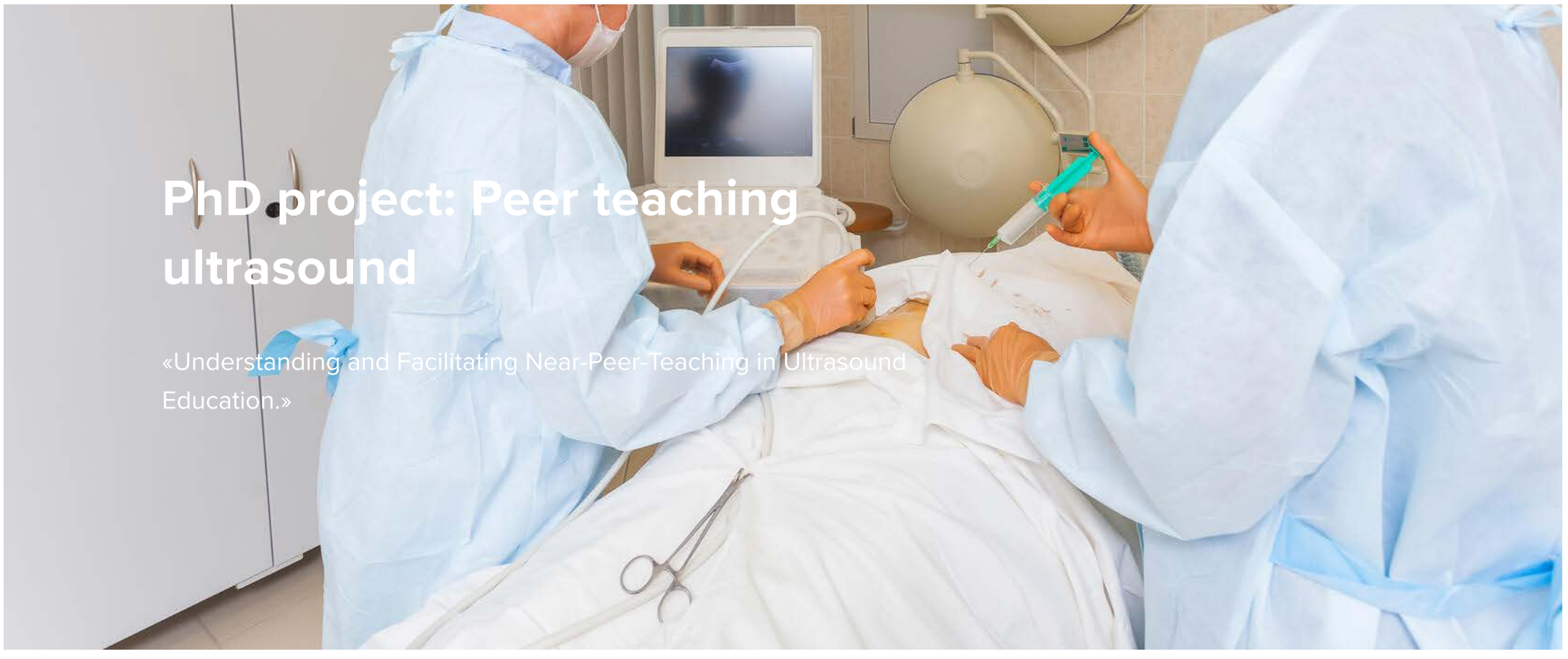

PhD project: Peer teaching ultrasound

«Understanding and Facilitating Near-Peer-Teaching in Ultrasound Education.»

2020 2021 2022 Research

Young doctors nowadays need to perform simple ultrasound investigations early on in their clinical career and ultrasound education is thus shifting to undergraduate medical education. Performing ultrasound scans is a complex skill with procedural and pattern recognition aspects best taught in small groups with just-in time feedback and verbalisation of cognitive processes. Near-peer teaching is increasingly used by medical schools to alleviate ultrasound teaching responsibility for faculty. Near-peer teaching is defined as an educational strategy in which one student teaches one or more fellow students whereas the teaching student is more advanced in the same curriculum. Little is known about near-peer teaching in the context of ultrasound education.

Aims

The overarching aim of this PhD is to investigate how near-peers support fellow students in learning practical ultrasound skills.

Team

PhD candidate: PD Dr. med. Roman Hari, MME (BIHAM)
Local PhD supervisor: Prof. Dr. Dr. med. Sören Huwendiek, MME (IML)
Supervisor: Prof. Dr. phil. Diana Dolmans (Maastricht)
Daily supervisor: Ass. Prof. Dr. phil. Rene Stalmijer (Maastricht)

Partners

BIHAM, School of Health Profession Education Maastricht

Project information

Running time: 2020 – 2024

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PhD project: Continuing Professional Development conferences

"Improving the outcome of conferences on Continuing Professional Development (CPD) for healthcare professionals."

2019 2020 2021 2022 Research

There are four prominent challenges encountered during conferences for CPD which include:

Firstly, the success of conferences is often evaluated with traditional metrics e.g. participant satisfaction indicators. Secondly, conference attendees are often seen as a homogenous group. Thirdly, it is often dismissed that novice members attend conferences as a way of integrating into the community of practice. Lastly, visiting a conference is an established way of disseminating information, however, taking the knowledge from conferences and translating it into practice is difficult.

Objective

The overarching aim of this PhD is to investigate how to evaluate and improve large-scale health professional conferences, in order to support learning and induce physician practice change.

Project team

PhD candidate: Sai Sreenidhi Ram
PhD supervisor: Prof. Dr. Dr. med Sören Huwendiek, MME,
Second supervisor: Prof. Dr. Kevin Eva, Centre for Health Education Scholarship, Vancouver Canada
Further supervisor: Prof. Dr. med. Daiana Stolz, Universitätsspital Basel

Financing

European Respiratory Society (ERS)

Team IML

Sören Huwendiek, Sai Sreenidhi Ram

Project information

Running time: 2020 – 2023

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PhD student

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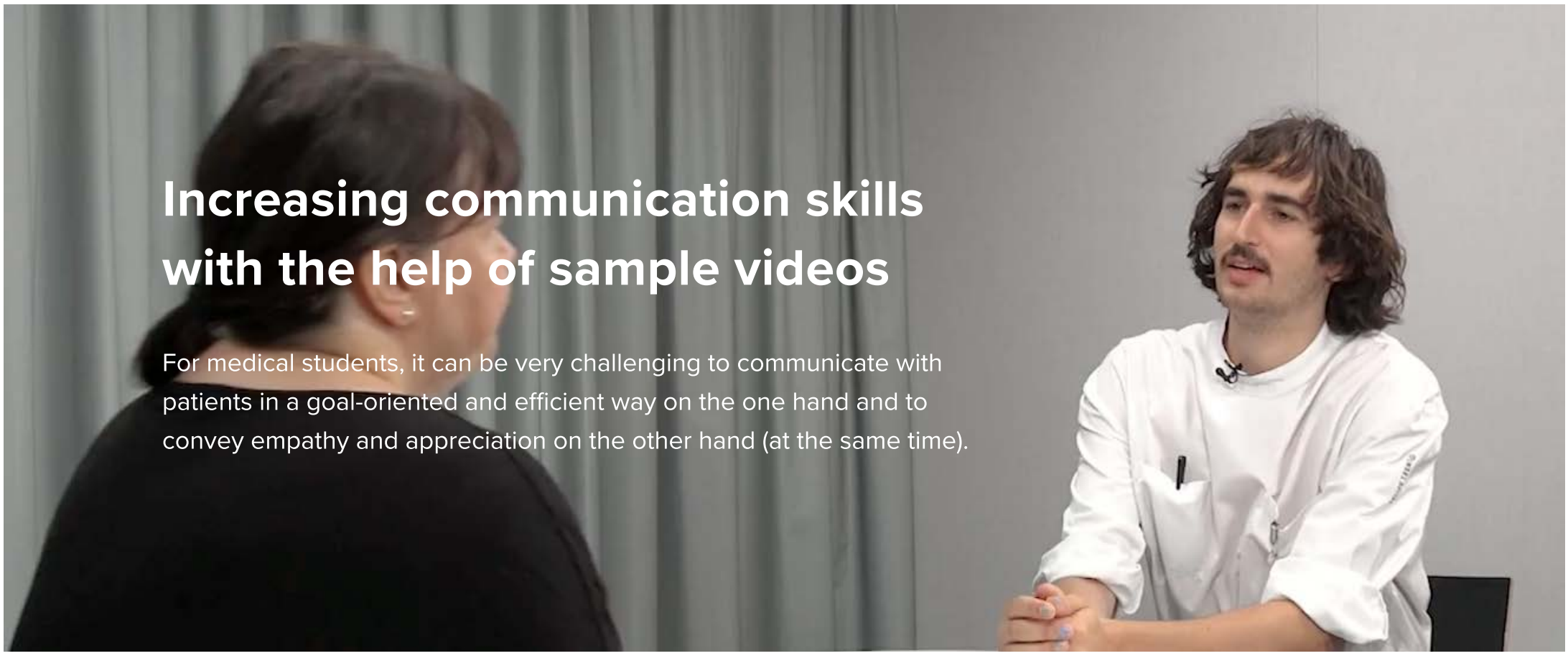

Increasing communication skills with the help of sample videos

For medical students, it can be very challenging to communicate with patients in a goal-oriented and efficient way on the one hand and to convey empathy and appreciation on the other hand (at the same time).

2022 2023 2024 Education

Since the students only very rarely receive feedback on their communication behaviour and they also observe such suboptimal behaviour from their superiors or role models, corresponding patterns are too rarely broken. In this way, corresponding misconduct can be passed on into the further education period (and beyond).

Aims

The project «Improving communication skills» aims to sensitise medical students to typical mistakes in patient:in conversations by means of example videos. In these examples, typical mistakes are contrasted with exemplary communication behaviour. The project is intended to give medical students the opportunity to recognise faulty communication behaviour early in their training - and to recognise which alternative forms of behaviour can be important for building a good doctor-patient relationship.

Team

Nick Lüthi, Felix Schmitz, Ulrich Woermann

Project information

Project period: 2021-2024

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Team leader of learning media

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MedSurf

Numerous online learning programs like MorphoMed, RadioSurf or CliniSurf, which were developed at the Department for Education and Media AUM at the IML in conjunction with specialist representatives from the Faculty of Medicine, need to be updated.

2016 2017 2018 2019 2020 2021 2022 Education

To enable continued use of these very popular learning programs in the future, a transition from both a technological and creative perspective is essential.

Objective

Our online learning programs need to comply with the latest standards and need to be seamlessly usable with the whole range of modern devices. New features like a comprehensive search function or deep linking improve the user experience.

Through the development of an author system for learning content also the creation of complex didactic scenarios is supported.

The following learning modules were realized with MedSurf:

- MorphoMed for Anatomy, Histology and Pathology
- RadioSurf for radiology of the chest, the skeleton and the head
- ChiroSurf for surgery
- DentoSurf for dental medicine

More learning modules are in preparation. A list of all our online learning programs can be found here.

Ordering customer

Faculty of Medicine, Bern

Team

Institute of Anatomy, University of Bern
PD Dr. med. Gudrun Herrmann

IML
Dr. med. Ulrich Woermann, MME
Dr. med. Nick Lüthi, MME
Andrea Gottsponer

Thomas Guthruf
Simon Habegger
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Project information

Running time: since 2016

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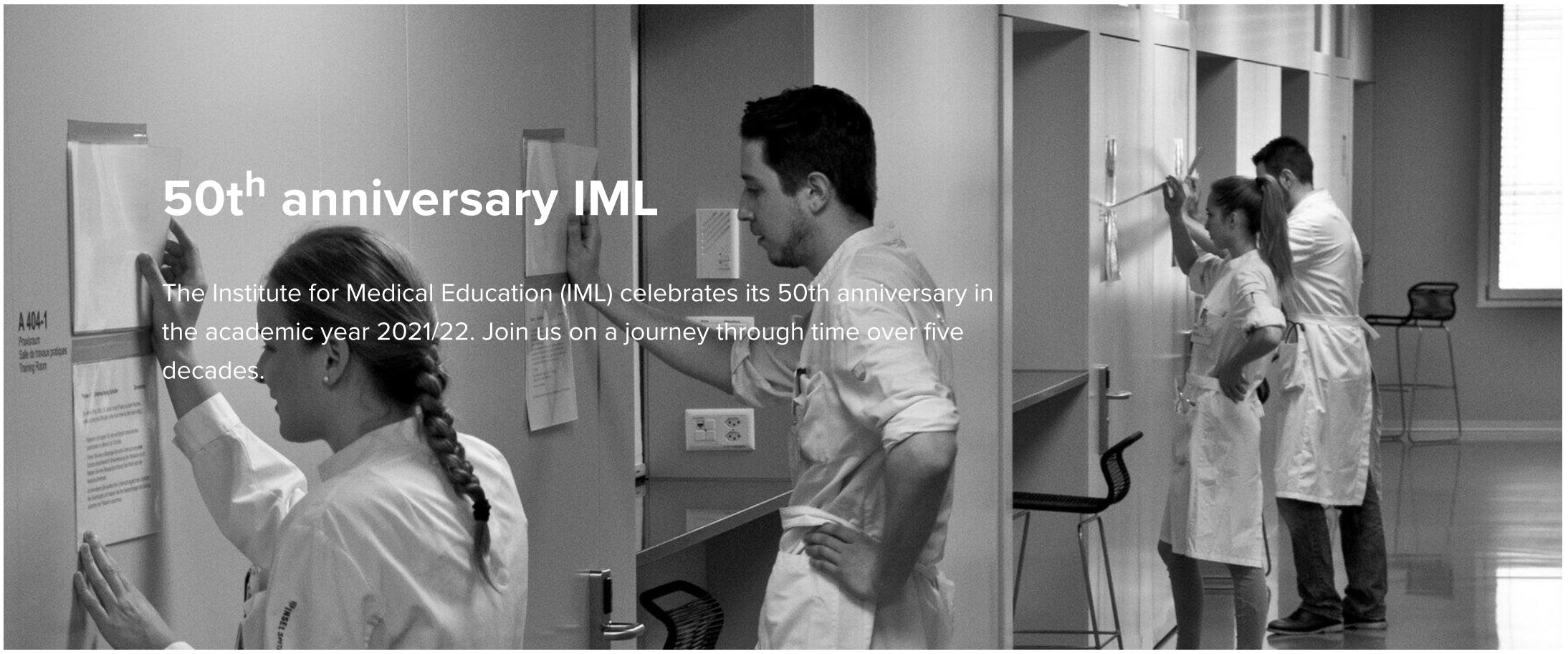


50th anniversary IML

The Institute for Medical Education (IML) celebrates its 50th anniversary in the academic year 2021/22. Join us on a journey through time over five decades.

Text: Dr. med. Patrick Jucker-Kupper, Elisabeth Pacher Wiedmer, Dr. med. et MME Ulrich Woermann-Walthert,

15.05.2023

2021 2022 2023 Research

What contribution has the Institute made to the development of medical teaching since its foundation? What were the milestones? Who were the influential personalities? How have these developments affected the training of medical professionals? Where does the Institute stand today?

From IAE and IAWF to IML

The Institute for Education and Examination Research (IAE) was founded in 1971, originally founded from the Department of Education Research (AAF) created in 1969. In 1991 it was renamed the Institute for Education, Training and Continuing Education (IAWF) and in 2005 the Institute for Medical Education (IML).

Milestones in medical education

At the beginning of the 1970s, the Bern Reform Model, as a pilot within the framework of the «Rossi Plan», brought about a surge of innovation in medical education. Among other things, there was a reduction in lectures in favour of «bed side teaching» delivered as group and block teaching (1973). Other important changes were the introduction of «problem-based learning» in the 1990s, the aptitude test for admission to medical studies in 1999 (numerus clausus) and workplace-based assessment (2011). Today's Clinical Skills Training (CST) is a further development of group teaching. As part of the reorganisation of CST, the first OSCEs with simulated persons (SP) were conducted in 2002. In 2009, the first communication trainings with SPs took place. The creation of the medical didactic master's course (Master of Medical Education MAS, 1999) was initiated by the then IAWF, and is still an internationally successful programme today.

Of particular national and international significance were the introduction of the Bologna system (from 2006), facilitation mobility of medical doctors across European borders. The development of the new federal examination for human medicine and its introduction (2011) in accordance with the new Medical Professions Act (MedBG, 2006) was also a landmark milestone. The Institute has followed and also helped to shape this entire development.

The medical education landscape continues to transition, shaped by societal needs, as seen by the recent shift to online teaching and assessments as a result of the Covid-19 Pandemic.

We hope you will enjoy reading it and that it will provide you with exciting and instructive insights into the medical cosmos. The commemorative publication should be available from the beginning of 2023.

© IML Example practical course examination (OSCE)

Commemorative publication

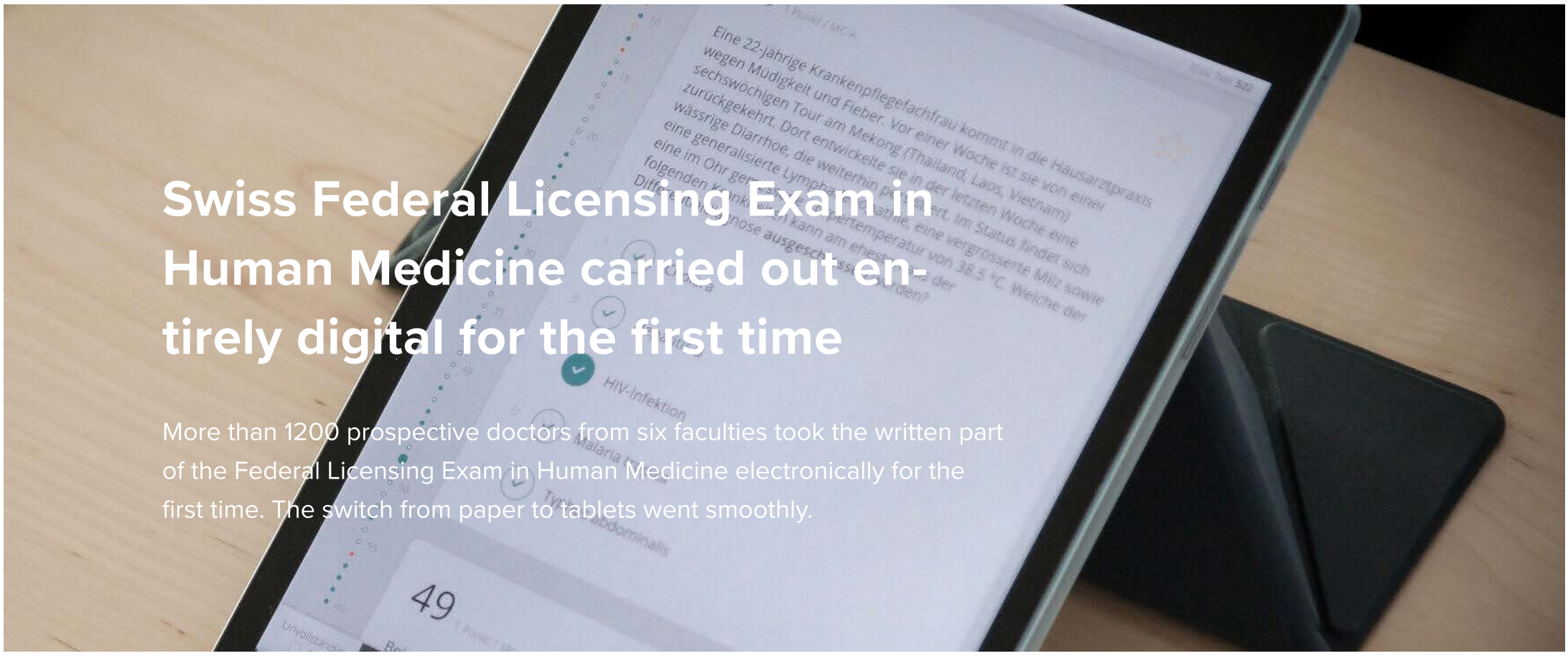
LINK TEST

Microsite

Link

Picture: Production of an educational film under the direction of Prof. Hannes Pauli (1970)

© 1970 Swiss Radio and Television, licensed by Telepool GmbH Zurich



Swiss Federal Licensing Exam in Human Medicine carried out entirely digital for the first time

More than 1200 prospective doctors from six faculties took the written part of the Federal Licensing Exam in Human Medicine electronically for the first time. The switch from paper to tablets went smoothly.

09.05.2023

2022 Service Examic

The Federal Licensing Exam in Human Medicine (FLE) according to MedBG was held for the 12th time in August and September. What was special about this year's event was that the students took the written part of the FLE digitally on tablets and no longer with paper-based exam booklets and answer sheets. The practical part of the exam has already been supported digitally since 2015, with the candidates' practical skills being assessed with checklists on tablets. Passing the EPH is a prerequisite for the licence to practise clinically and for further training of the future doctors. It is described in the Medical Professions Act (MedBG), which forms the legal basis for all academic medical professions (human medicine, dentistry, veterinary medicine, pharmacy and chiropractic). A special characteristic of the federal licensing examinations in Switzerland is that they are conducted in several languages.

A milestone in exam development

The successful implementation of a coordinated digital written exam at national level is a milestone not only for medical examinations, but also for modern exam development. It is based on a technical development that has been ongoing for more than 10 years. The Institute for Medical Education (IML) of the Medical Faculty of Bern has systematically developed and continuously optimised the software and the entire infrastructure required for it. With the "Examic Assessment Suite®", the IML provides three products: "Measured" for written exams and "EOSCE" as well as “Valuatic” for practical exams. The software packages each consist of several, mutually complementary apps that are used before, during and after the exams (exam creation, exam execution, technical exam monitoring, analysis of exam results). The entire infrastructure had already been tested in advance at all medical faculties in Switzerland in local exams and has in some cases been firmly integrated into the examination process of individual locations for several years. The realisation of such complex projects depends on the optimal combination of technology and organisation. Successful implementation is linked to the trusting cooperation and good preparation of all those involved.

Communication and coordination

Digital assessment involves an increased need for communication and coordination between EPH organisers at local and national levels. Digital implementation is more "dynamic", because critical technical events can occur during an assessment, which could not occur during a paper-based exam. For example, different local IT infrastructure is used in six locations spread over Switzerland and different computer technology is used. A secure and reliable infrastructure and an organisationally optimal implementation are therefore indispensable prerequisites for the digital conduct of an exam as large as the EPH.

> “
> Gaining the trust of all Swiss faculties and maintaining it over several years was a key moment in this project. Setting up the organisation is time-consuming; trust increases efficiency considerably and ensures the timely implementation of such complex projects."
>
> — Andreas Beschorner, Head of the Project Group for the Implementation of the Federal eMC Examination, IML

Arrival in the digital age

The decisive advantages of the digital exam are new types of questions and their enrichment with diverse media as well as more flexible exam questions and content. Students benefit from navigation options and no longer have to transfer their answers to answer sheets, which is prone to error. The production and distribution of paper exam booklets, comment sheets and electronically readable answer sheets is no longer necessary. After the exam, the students' answers and comments are immediately available electronically. This eliminates the need to read the answer sheets and decipher the handwritten comments.

> “
> This year’s Federal Licensing Exam in Human Medicine was the first time that a common exam was realised according to the latest technical possibilities.
>
> — Roger Kropf, Head of the national coordination group for digital implementation EPH

The digital exam also represents a milestone in quality assurance: The EPH is intended to test the knowledge of future doctors as close to practice and reality as possible. The use of videos is a step in this direction. The new technology also makes it possible to expand the classic multiple choice questions with new formats. Examples are long menu questions where answer alternatives only appear after initial typing, or question sequences where the next question only appears after the previous question has been definitively answered.

> “
> For the IML team, it is a great pleasure that we were able to confirm the trust placed in us by the partner faculties through the first successful implementation. However, the rule is that after the exam is before the exam. The whole team is already working on further developments and optimisations.
>
> — Sissel Guttormsen, Director IML

About the Institute for Medical Education

The IML combines experience and expertise in teaching, assessment and development. As a national centre of excellence, the IML supports medical teaching and assessment at the highest level. Since its foundation in 1971, the Institute has been carrying out projects for the Swiss government, medical faculties and other external clients at home and abroad. Through further development and cooperation, new services are created or

extended, such as the entire infrastructure for electronic exams. The Examic Assessment Suite® is a universal product that can be used for a wide range of exams. The IML attaches great importance to continuously expanding and optimising its knowledge and the quality of its products and services through research. In doing so, cooperation with the many partners is of central importance. The interprofessional MAS programme "Master of Medical Education" bridges the gap between theory and practice in order to optimally prepare teachers in the healthcare sector for the challenges of tomorrow.

Links

Article uniaktuell (17.11.2022) in DE

Dr. med. Roger Kropf

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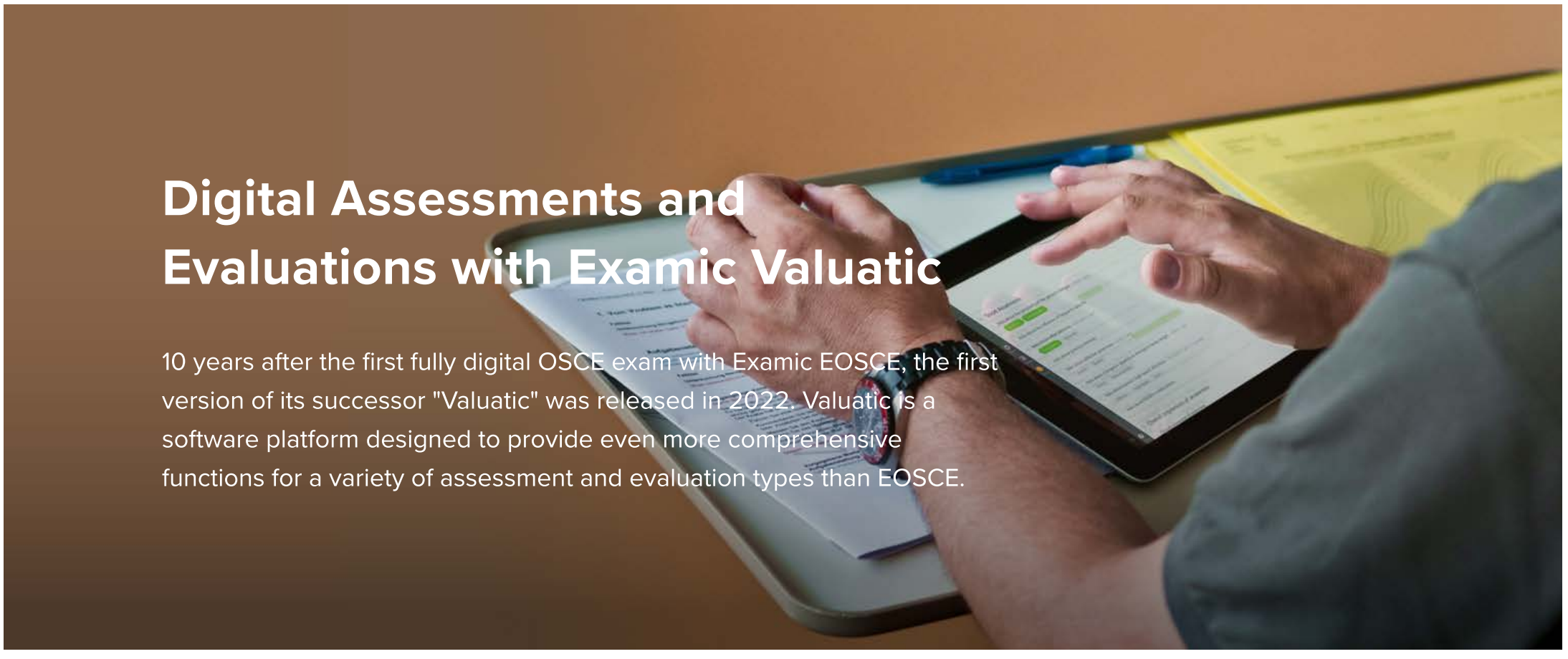

Digital Assessments and Evaluations with Examic Valuatic

10 years after the first fully digital OSCE exam with Examic EOSCE, the first version of its successor "Valuatic" was released in 2022. Valuatic is a software platform designed to provide even more comprehensive functions for a variety of assessment and evaluation types than EOSCE.

09.05.2023

2022 Assessment Development Examic

Valuatic offers all of the most important features of EOSCE and many more!

Powerful checklists

Checklists, now called forms, have been entirely reworked. It is possible to freely arrange sections, questions, descriptive texts and page breaks. Compared to EOSCE, which only supported the single select question type, you can now create free text, multi and single select questions and make them mandatory or optional. Additionally, the value of an answer can change the visibility or optionality of another answer element within the same question (for example: show a free text if a very specific option is selected).

More flexibility

Contrary to EOSCE, Valuatic is not limited to a very strict exam type. With time, it turned out the OSCE scheduler was not as valuable as expected and even became rather difficult to work with, especially when last minutes changes were needed. This is why Valuatic does not enforce any schedule at all. The order of candidates does not play any role. An assessment is created by scanning QR codes, this defines which candidate is assessed by which examiner using which form. There is no more possibility for an examiner to assess the wrong candidate. This gives you the possibility to run a wide range of exam types!

One-Click Distribution

We have also completely rethought how an exam is distributed to devices. With EOSCE, adding an exam on every tablet is quite a hassle. In Valuatic, you can send (or remove) an exam to every tablet with a single click. The only action required on the tablet is to open the app so that it can fetch the exam from the server. And of course, it is still possible to run an exam without the need of a server!

Server Support

Keeping data in-house while running an online exam has been simplified thanks to the support of Webdav in addition to Amazon S3.

Detailed Observation

The observation in Valuatic Studio gives you a more detailed insight on the running exam—such as which candidate is currently being assessed and with which form; how many points each candidate achieved; etc.

Customizable PDF

Valuatic gives you the possibility to customize the header and footer of any generated PDF as well as adding your logo.

Windows App

Valuatic Studio, the equivalent of OSCE-Editor, runs on Windows exclusively. Valuatic Touch, the equivalent of OSCE-Eval, still runs on iPadOS.

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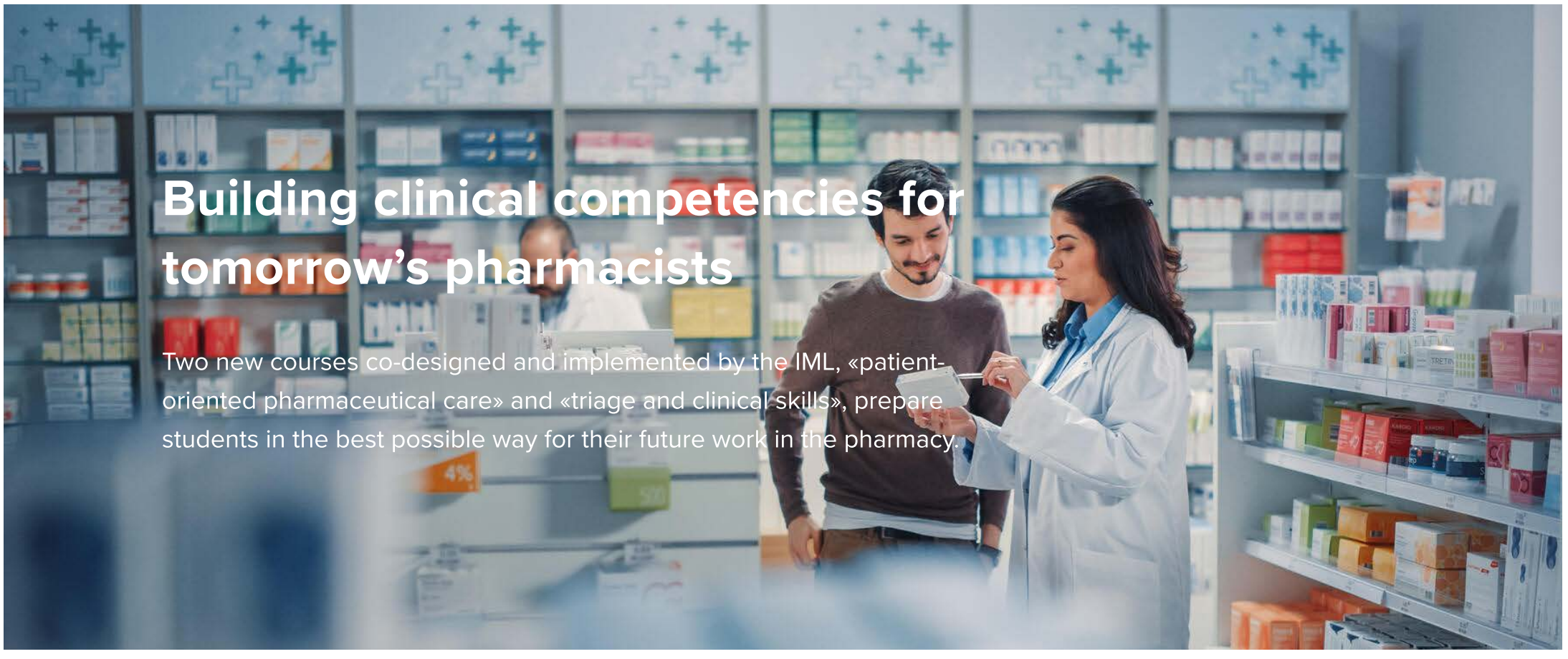

Building clinical competencies for tomorrow’s pharmacists

Two new courses co-designed and implemented by the IML, «patient-oriented pharmaceutical care» and «triage and clinical skills», prepare students in the best possible way for their future work in the pharmacy.

Text: Dr. med. et MME Daniel Bauer, Dr. rer. medic. Tanja Hitzblech, 09.05.2023

2022 2023 Education

The small-group teaching including demonstrations, role-plays, and exercises with simulated clients facilitates practical learning and practice. In this way, we prepare pharmacy graduates to make sensible triage decisions and to communicate in a professional, outcome- and customer-oriented manner. The evaluations of these courses confirm the positive results.

Towards this end, the Department for Education and Media (AUM) at IML has designed and implemented two complementary small-group courses, including examinations, for the new Master's programme in Pharmacy, newly implemented in 2020, addressing triage and clinical skills and professional communication in pharmacy settings. These two courses are not only integrated with the preceding and accompanying lectures, but also with each other and were developed strictly interprofessionally together with colleagues from the Bern Institute of Primary Health Care (BIHAM) in order to also ensure relevance for everyday life in the pharmacy.

The aim of the triage and **clinical skills course** is to enable pharmacy students to select and apply appropriate examinations on the basis of information gathered from their advice seeking clients’ histories. These help them to triage a person seeking advice, whom they then care for and/or refer. The Swiss catalogue of learning objectives in pharmacy in accordance with the MedBG and sources from the Swiss Pharmacists' Association acted as orientation for teaching content. Lecturers experienced in pharmacy care helped to operationalise the contents into concrete learning objectives. Thus, the topics of «injections and vaccinations», «blood», «wound care», as well as various ENT, eye and skin examinations and the determination of vital signs were identified and implemented in the lessons.

The didactic implementation focuses on practical demonstrations and exercises, which is why preparation with scripts and instructional films prepared by the IML is obligatory. The topics are then taught in depth in a classroom setting: in a first session with demonstrations and dry runs, in a second session on each other and/or with simulated clients or simulators, all based on concrete case scenarios from everyday counselling situations in the pharmacy. Further cases for independent practice in the skillslab were created in consultation with GPs. In the faculty's skillslab (BiSS), eight rooms were specially re-designed as «simulation pharmacies». Clinical skills teaching takes place here and the rooms thus offer a natural training environment for future work. These

lessons are supplemented by a formative mid-year OSCE. Assessment in the 5th year of study includes a summative OSCE examination, which not least also prepares students for the Federal Licensing Examination in Pharmacy.

In order to prepare students in the best possible way for their counselling work in the pharmacy, a **communication training course** was also designed and implemented. On the one hand, students should learn to communicate appropriately with all advice seeking individuals, on the other hand, they should also take into account specific characteristics of the person they are talking to (e.g., age, gender, personality traits, etc.).

In small teaching groups of up to a maximum of 9 students, so-called simulated persons (SP) are used to practise using communication according to established communication models in different situations. SP are persons who have been trained to portray a certain client role, including the symptoms of a disease or certain personality traits. The students practise different conversations, for example, on the topics of «patient education», «challenging emotional conversations», or «motivational interviewing». In the SP conversations, students are encouraged to self-reflect on their own conversation management through the simulated situations. In addition, after each teaching block, with the help of special tasks, the activity in the pharmacy is reflected through (observation) tasks. The communication training supports a basic attitude that is characterised by empathy, appreciation, acceptance of the other person with all their attitudes, a holistic view, commitment in contact, and professionalism.

The positive evaluation and effectiveness of the teaching blocks leave the multi-professional team (including medical educators, pharmacists and doctors), which was involved in the conceptualisation and implementation of the two teaching formats, quite delighted.

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Scientific collaborator

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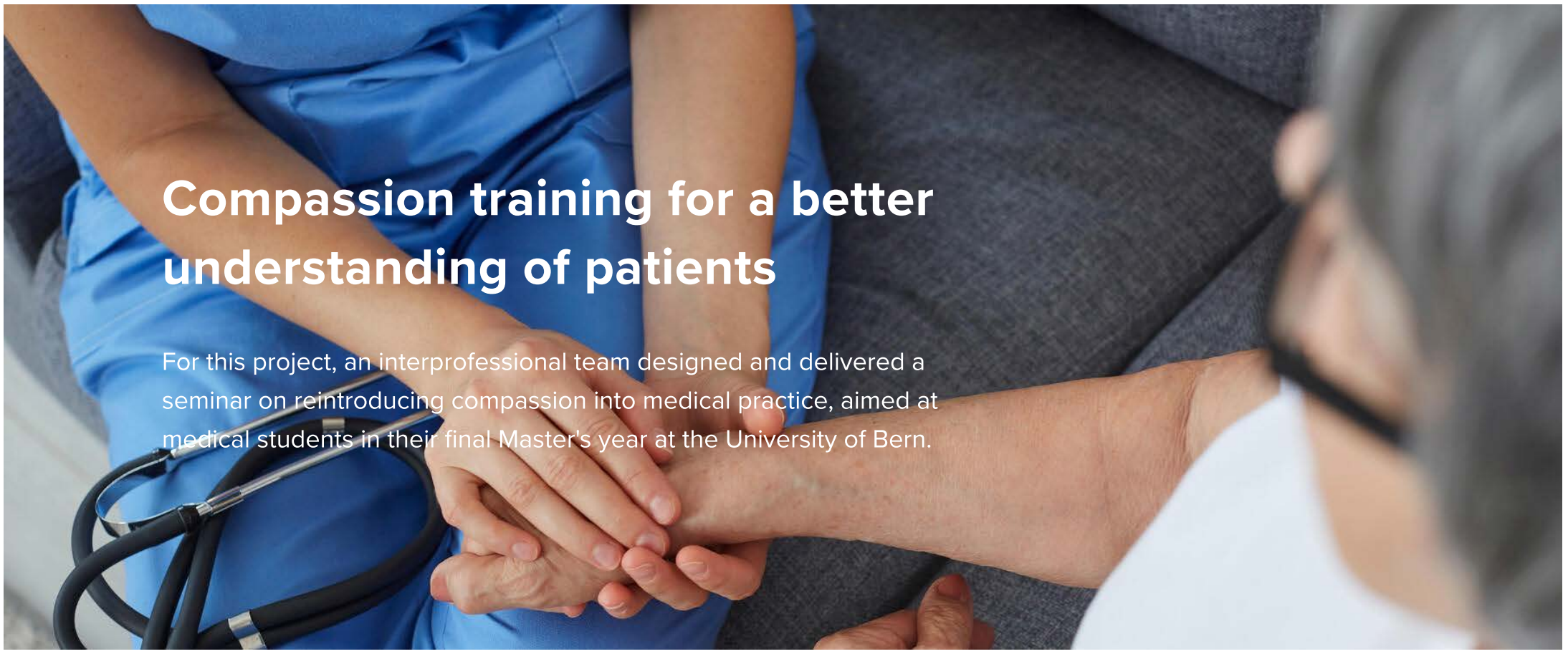

Compassion training for a better understanding of patients

For this project, an interprofessional team designed and delivered a seminar on reintroducing compassion into medical practice, aimed at medical students in their final Master's year at the University of Bern.

Text: Dr. med. et MME Daniel Bauer, 09.05.2023

2022 Research

Compassionate behaviour towards oneself, towards the patient and drawing up a compassionate care-plan were the three main focuses of the «compassion training», targeting medical students in their final master year at the University of Bern.

The University of Bern supported the development, implementation and evaluation of the seminar through its Förderung Innovativer Lehre FIL grant. Open access funding provided by Inselspital Universitatsspital Bern. The project was awarded the «prize for innovative educational projects» by the Gesellschaft für Medizinische Ausbildung GMA.

Detailed project description published in Medical Education's Really Good Stuff section. LINK / Article as PDF

Full citation: *Felber, S. J., Lerch, S. P., Bauer, D., Liaudet, F., Eychmüller, S., & Lörwald, A. C. (2023). Compassion training: Towards a better understanding of patients through self-exposure. Medical education.*

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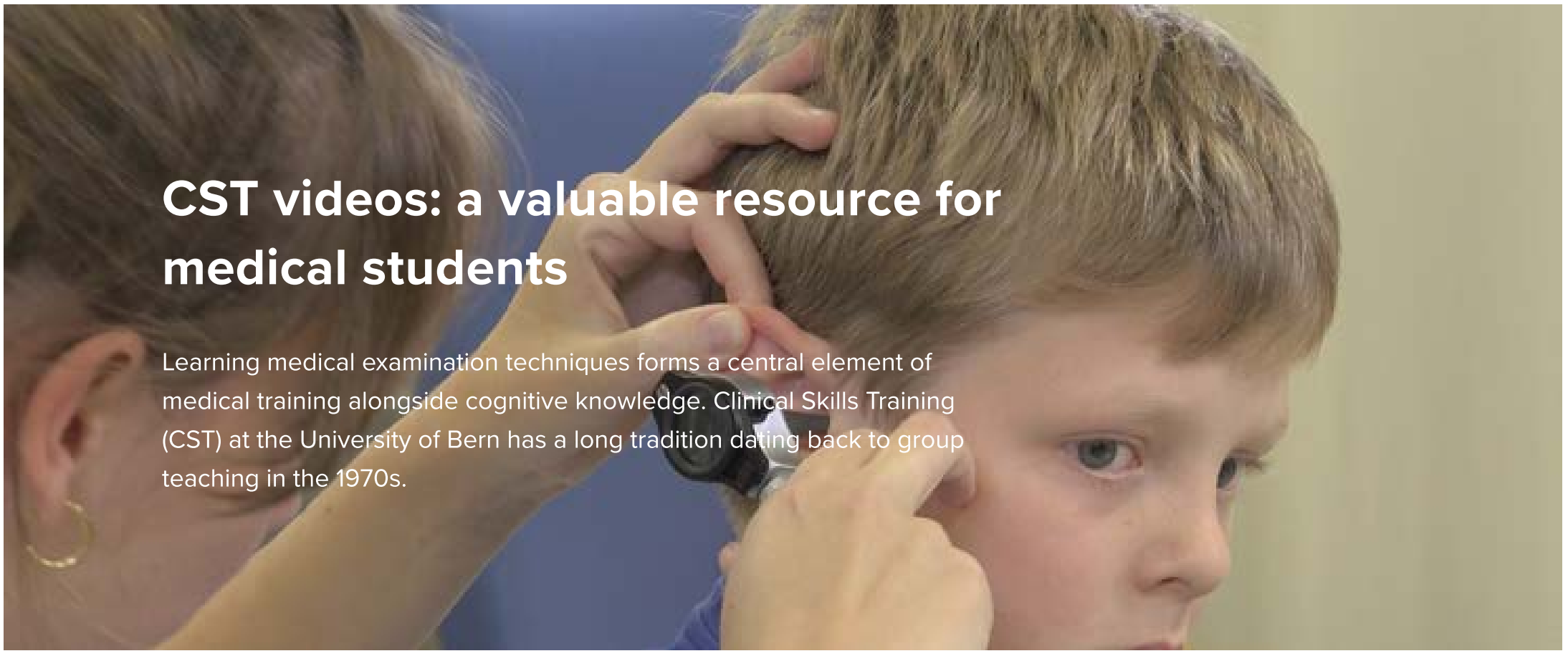

CST videos: a valuable resource for medical students

Learning medical examination techniques forms a central element of medical training alongside cognitive knowledge. Clinical Skills Training (CST) at the University of Bern has a long tradition dating back to group teaching in the 1970s.

Text: Dr. med. et MME Ulrich Woermann-Walthert, Dr. med. et MME Nick Lüthi, 09.05.2023

2022 Education

CST promotes the acquisition and consolidation of general and specific bedside medical skills by teaching and practising general history taking and examination techniques. In recent years, the use of CST videos has established itself as a valuable resource for medical students to learn and improve clinical skills. These allow students to practice on each other in a safe and controlled environment without endangering patients.

The decision «Plus100», i.e. to train 100 additional students each year, prompted the Medical Faculty of the University of Bern to reissue the old videos under the working title «Bern 36». These comprise 44 videos with a duration of between 10 and 30 minutes. Production had already begun before the Corona pandemic, which favoured rapid use for online teaching. A large part had to be produced later under time pressure and the protective measures imposed.

The videos, in combination with the practical lessons, serve as a basis for preparation and later for critical review of what has been learned. Realistic re-enacted doctor-patient interactions show students a variety of different scenarios, and thus a wide range of possible procedures.

CST videos also offer the opportunity to practice and improve skills even when patients are not available or ethical and legal restrictions prohibit practice with patients. However, they cannot replace actual clinical experience, but only serve as a valuable supplement.

In order to ensure the quality and realism of the videos, they were mostly produced with experts from the university environment or within the framework of Master's theses with students. An important role was also played by simulation persons who were used in the videos.

One challenge in using CST videos is to ensure that they are relevant to the needs of students and reflect the actual requirements of the clinical setting. Therefore, these videos are regularly updated and reviewed. The CST videos provide medical students with a valuable opportunity to learn and improve clinical skills. They serve as a supplement to practical experience and are of high quality, realistic and tailored to the needs of the students.

Excerpt from the video «Examination of the spine»

Excerpt from the video «The ENT and lymph node examination in children»

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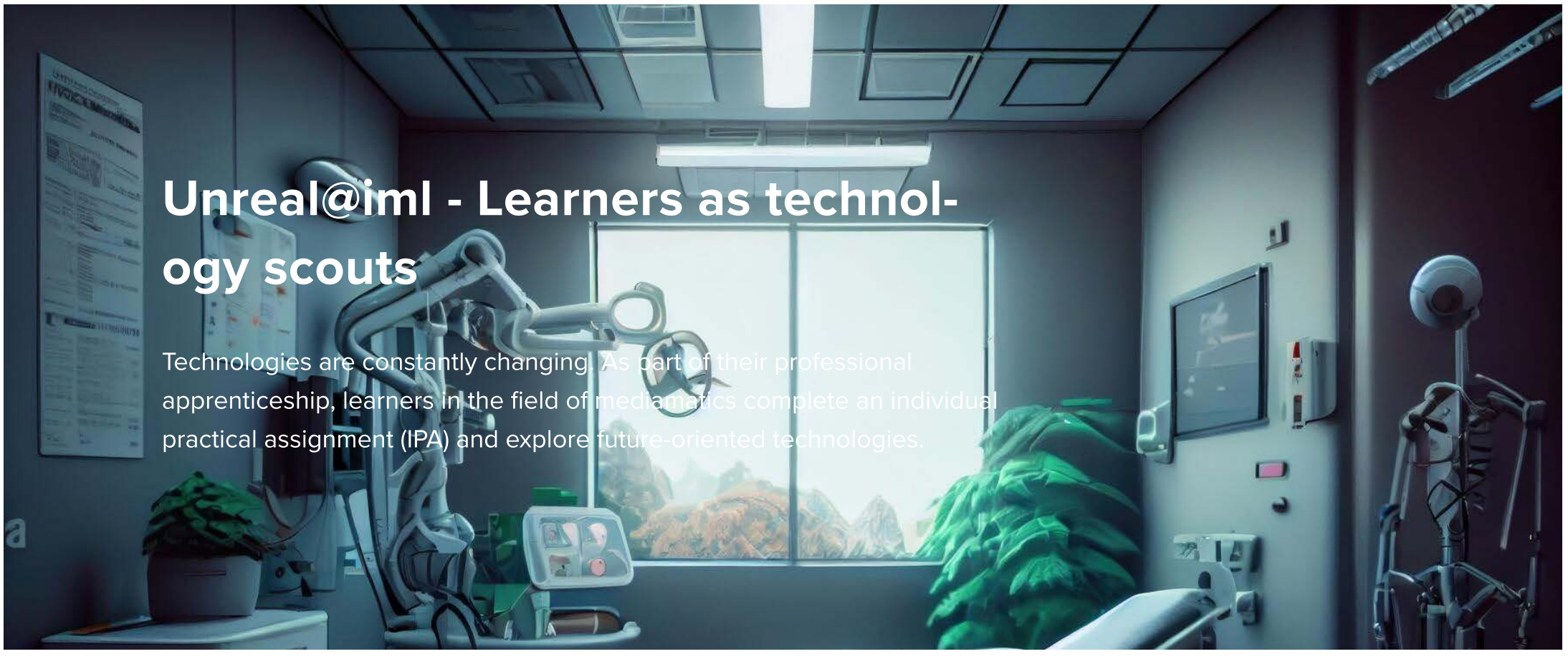


Unreal@iml - Learners as technology scouts

Technologies are constantly changing. As part of their professional apprenticeship, learners in the field of mediamatics complete an individual practical assignment (IPA) and explore future-oriented technologies.

Text: Adrian Michel, Dr. med. et MME Nick Lüthi, 09.05.2023

2022 Research

In the department for education and media, the learners support us in testing new digital developments. The requirement for the final project is to use a technology that we do not yet know or know little about. In the following, we present the work of Emelie Aebischer, which was completed in June 2022. We show how both the students and the institute benefit from it.

»Unreal Game-Engine in Studio Use": Initial Situation and Solution Approach

Shooting can be done efficiently and professionally in a well-equipped studio. Shooting in the studio usually saves costs compared to shooting on location. Nevertheless, the videos should show the action in the desired environment as much as possible, for example in a doctor's office or in a hospital. The film industry solves this problem with the green screen process: A uniform green background is made digitally transparent and replaced by a suitable background shot. This is done either with specialised cameras or with a digital "paint box". These backgrounds can be easily adapted, e.g. to the light, changed scripts or forgotten details during shooting. Software can arrange backgrounds, adjust lighting as desired and implement changes immediately. A so-called game engine can do all this.

Added value of such platform

Game engines currently form an important component of technological progress and meet the needs of the entertainment industry. They are already used in the development of video games and also in elaborate high-end Hollywood productions. In addition, they will be an essential tool for the diverse tasks of the metaverse. The "Unreal Engine 5" currently offers a proven and at the same time highly innovative platform for the creation of photorealistic 3D worlds in real time.

Digital treatment room - how does it work?

Our mediamatics apprentice has been working on this new area together with her supervisors Adrian Michel and Michael Fluri. First, she installed and tested the preliminary version of the Unreal Engine 5. She was able to take 3D elements from an earlier project, add new ones and use them to create a realistic treatment room. The learner then lit the room and created suitable background shots for our three studio cameras. With the help of

our second learner, Mortaza Shahed, the green screen setup was optimised and test shots were taken. The tested setup allows clients to preview the final result and make interactive adjustments. She planned all the steps herself and carried out the necessary work independently. For an IPA, this was an exceptionally big challenge. See demo video

Learners are ideal technology pioneers: motivated, unbiased, persistent

The goals for the work are defined together. In our experience, learners are unbiased and persistent. They are willing to explore alternative paths and are not afraid of reaching a dead end according to the trial-and-error principle. With this approach, they learn. They are motivated to continue and do not give up. There are no financial risks for the learners.

> “
> Now it could all be done digitally and independently of external influences. This way, we would be faster and more flexible without having to compromise on quality.
>
> — Adrian Michel, Supervisors of the IPA

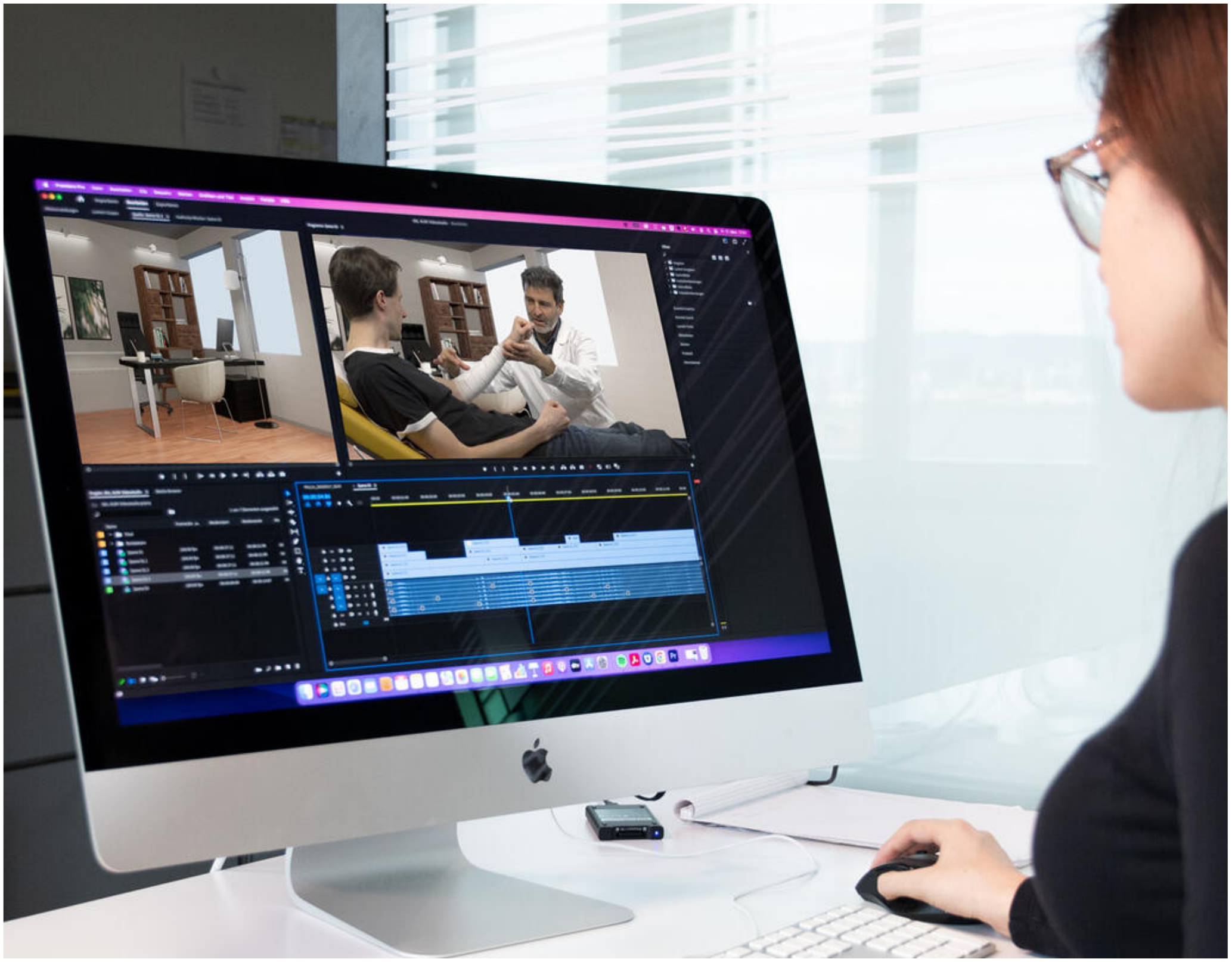
Benefits for the teaching company

In contrast, the teaching company benefits from the experience gained and can build on it.

In the context of IPA, the subject supervisors deal with technologies whose potential they recognise but cannot try out in ongoing projects for economic reasons. Their task is to design an IPA project in such a way that the learners do not fail in it. It is important to keep a balance between requirements and skills. The learners are given a real challenge but not too much. At the end, they should be able to be proud of their work and defend it with motivation in front of the external experts at the examination.

The apprentices have explored new terrain for themselves as well as for the training company, with great benefits for both sides. The training company thus keeps its finger on the pulse of constant technological change and can test what new technologies can do at low cost. In this specific case, the Unreal application enables the creation of recordings that were previously only possible on site in a GP's practice and required time-consuming preparations. The trainer for the apprentices, Adrian Michel, puts it in a nutshell: *«We have no choice. In the future, <real> recordings will be able to be made digitally and independent of external influences. This way we are clearly faster (e.g. emergency bunks), and can produce more flexibly without having to compromise on quality.»*

ecording in Greenscreen Setup and the artificial background plate in Game Engine are composed to a final resul



Thanks to the use of the game engine, adjustments to the background can be made quickly.

The responsible teachers Michael Fluri and Adrian Michel as supporting actors.

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