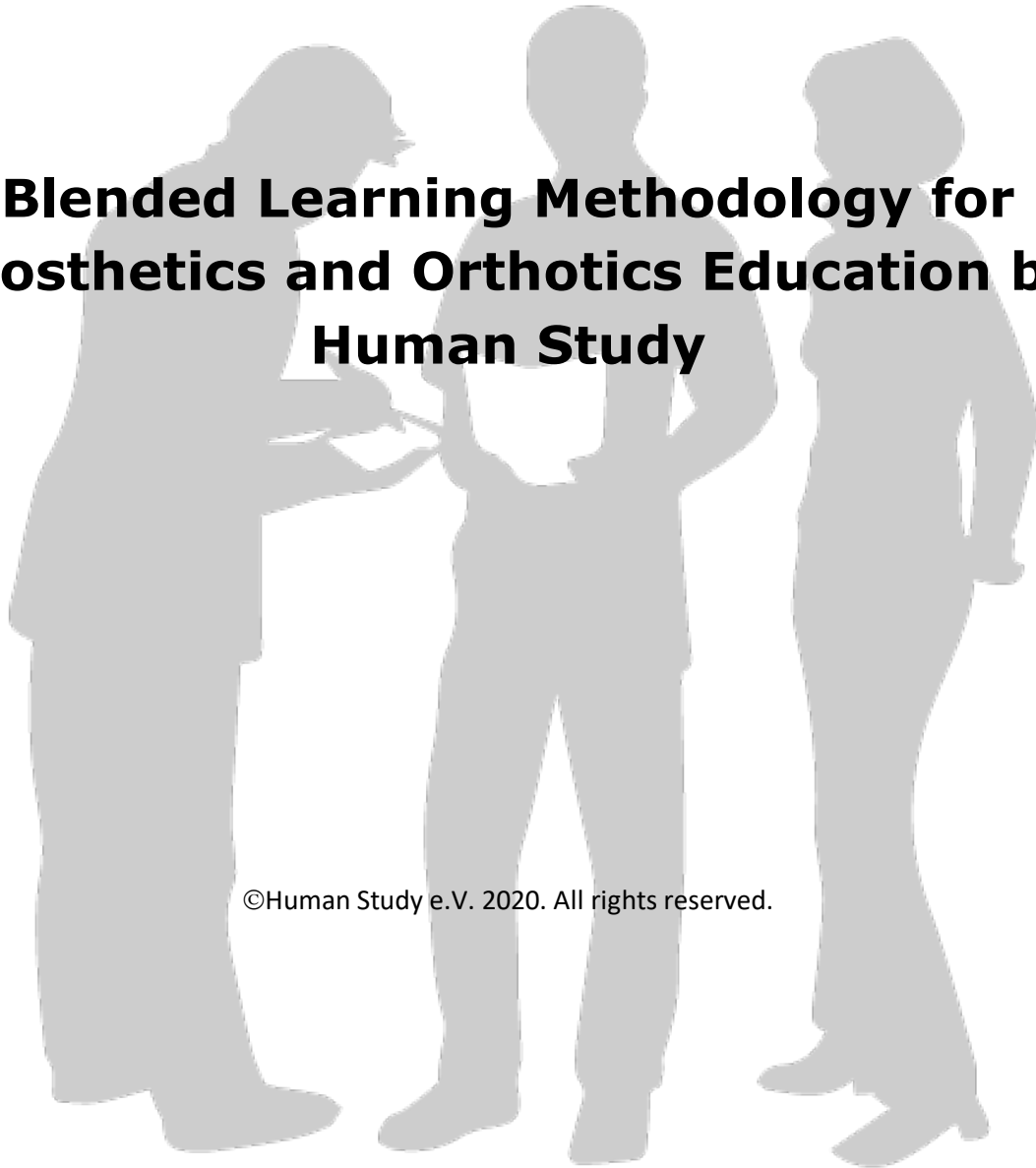


Blended Learning Methodology for Prosthetics and Orthotics Education by Human Study



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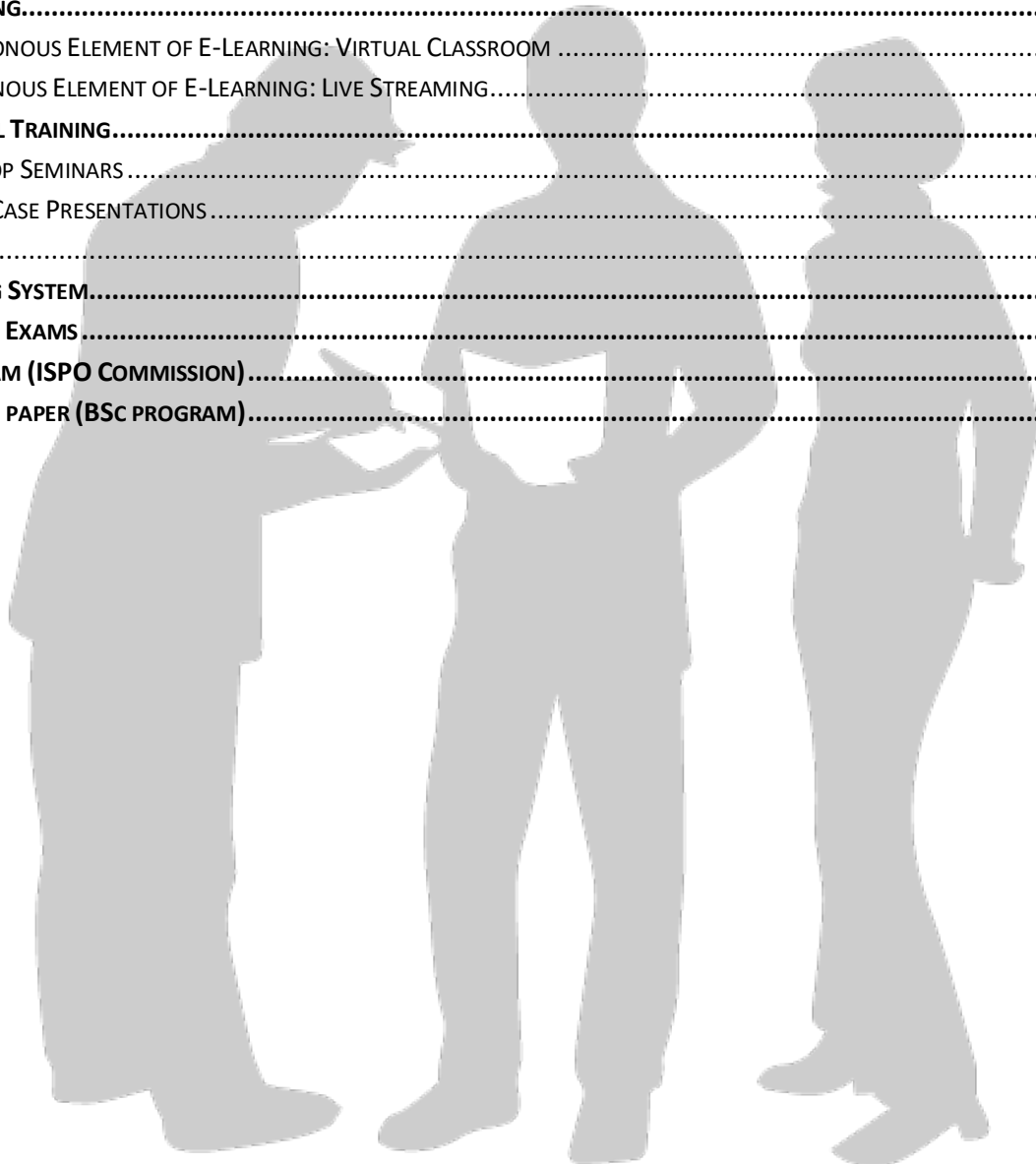
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BLENDING LEARNING METHODOLOGY

Blended Learning Education (BDLE) is a methodology of teaching that employs a combination of two didactic elements – e-learning and onsite training - which complement each other to yield best learning results. Human Study developed a special BDLE methodology to cater to the needs of prosthetics and orthotics (P&O) profession. What are the special needs of the P&O profession? P&O is a paramedical profession for which both knowledge in medicine and engineering is necessary. P&O practitioners must be confident in their knowledge of how a human body functions and moves (biomechanics, physiology), what its structures are (anatomy) and combine that with their knowledge of physics, material science, and production procedures to be able to produce an assistive device according to the specific needs of each patient. P&O practitioners also need to show empathy and understanding for the psychological state in which their patient may be due to the problems she or he is faced with. In our BDLE, we combine theoretical and practical trainings so as to prepare our students for work in actual-live situations with real patients.

E-LEARNING

The e-learning element of our programs is delivered to students via educational online platform (e-platform). Students acquire a password protected access to e-platform where they study (texts, videos, live discussions), submit written assignments, communicate with their teachers and peers, and participate in theory exams. They can log on any time of their choosing and use the platform as often and as much as they need.

ASYNCHRONOUS ELEMENT OF E-LEARNING: VIRTUAL CLASSROOM

This represents the virtual space where all content is posted and a big part of the communication in the class happens. This is the main e-learning tool used in all our programs. All study materials (video recorded lectures, textual study, and quizzes) are posted into the virtual classroom portioned into weeks. Each week is clearly organized in syllabus for each subject, and normally the study materials are made available to students in a weekly rhythm (each week the next lesson/portion is opened).

The virtual classroom is used for submitting student work (assignments and homework). Also, each week is accompanied by a weekly quiz, which students can use to review and test their knowledge.

Virtual classroom also has a discussion forum which is a very good tool for continuous exchange of ideas and questions, where students and teachers can post anything they like to start a communication.

When logged on, students can view upcoming assignments and homework, get an overview of semester schedule (e.g. submission due dates) and revisit all the materials that have already been opened for students in that semester/module.

All activities on the e-learning platform are asynchronous, meaning that they are made available on the platform and students can access at their own convenience, as often as they need. Exception from this are exams, which require presence at a specified time for all students.

The e-learning platform enables a very intensive discussion among peers and between students and their teachers.

Even though e-learning platform is a virtual online space, students can also study offline – they can download materials and read at their own convenience even if internet is not available around the clock (e.g. pdf versions of study notes). Also, all written assignments can and should be prepared offline and only uploaded to the platform when ready for submission.

SYNCHRONOUS ELEMENT OF E-LEARNING: LIVE STREAMING

We use live streaming for live lectures and discussion sessions, but also for organizational meetings with students. These sessions are scheduled on a regular basis (e.g. weekly), depending on the needs of the subject. Organizational meetings are organized normally once per month or as needed.

Theory and oral exams are also organized as live streaming sessions. Exams are proctored and recorded online.

PRACTICAL TRAINING

Practical training in our educational programs is composed of several elements, each contributing to learning practical patient management skills, including evaluation of patient, measurement taking, casting, production procedures, fitting and troubleshooting.

WORKSHOP SEMINARS

The most important element of our practical training are hands-on workshops that are organized once per semester/module. Our practical workshops are demonstrational – trainers demonstrate the production techniques and skills on real patients and students observe; and participatory – students replicate the exact techniques demonstrated by the trainer, hands on patients, under the supervision of the trainer. Students gain first practice with new skills under trainer supervision, acquire professional feedback and do a troubleshooting and discussion session at the end of the workshop. Trainers for these workshops are renowned P&O experts from around the world.

Important element in our practical workshops are model patients. Since our programs are designed for active practitioners in P&O (who are actively involved in production of assistive devices on a daily basis), we aim to work with our students' patients (who are normally treated at the clinic or by the service provider where our students are employed). This has multifarious benefits for the patient, our students, and their employers.

CLINICAL CASE PRESENTATIONS

After the practical workshop, students must complete at least one clinical case presentation where they produce an assistive device in their own workshop using the new learned techniques and skills. Clinical case presentations are submitted (uploaded on the e-platform), presented in online discussions in front of the teacher/trainer and peers, and discussed with peers and teachers.

LOGBOOK

Since our students are all practicing technicians and implement the new learned skills and knowledge immediately and directly on their daily work, they report to us on cases they treat over the semester. To do that, they use a form we developed and call logbook. In our model of education, logbook stands for clinical placement. All logbook entries are supervised and evaluated by the teacher.

TUTORING SYSTEM

Our educational programs are rich in communication. We make sure that each student feels comfortable and taken care of in our programs. To ensure quick response to any query coming from students, our teachers are available through mail and other communication tools, we engage senior students or our graduates to act as tutors, and there is also an IT

specialist and Program Manager to attend to matters unrelated to the subject content. In a thick network of communication points as these, each student feels supported and personally attended to.

SEMESTER EXAMS

At the end of each semester/module there are semester/module exams. These represent milestones towards fulfilling conditions for final qualification examinations (graduation). In Associate P&O program, these exams contain also a practical exam.

FINAL EXAM (ISPO COMMISSION)

A final practical and theory examination is organized at the end of the program, according to the standards set by ISPO. This examination is a qualification exam that is held in front of a commission of ISPO examiners. In order to acquire the ISPO accreditation, students must pass this exam in its entirety.

RESEARCH PAPER (BSC PROGRAM)

By the end of the BSc program (Professional P/O), students undertake a research on their own and prepare a research paper. This research paper is mandatory for acquiring BSC degree from Mahidol University.