LEANBODY

"LEAN in Medical Education: Reaching for Quality Management Tools to Teach Human Anatomy Effectively in a Multicultural and Multilingual Learning Space"

Summary contribution and project output evaluation framework

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Objective:

In response to the overall project objective of minimising final exam failure and drop-out rates in anatomy courses by assisting successful and comprehensive completion of anatomy studies, and with a view to generating a vital follow-up project to LEANBODY, an artificial intelligence assisted educational technology tool, Anatomy Study AId (ASA) is proposed.

Description:

ASA fills the gap between the delivery of local institution specific strengths of high-quality anatomy education and the high standards of anatomy education evaluation by providing individualised study support to medical students to pursue successful study paths led and supervised by anatomy teachers.

Technology:

The challenge to educational engineers is to devise an artificial intelligence tool that is trained exclusively on textual and image data from the highest quality anatomy textbooks and study materials that add up to a so-called small language model, in contrast to the large language models, LLMs whose proliferation since November 2023 could not have been on the horizon of LEANBODY at the time the project was conceived. The domain specific small language model built for anatomy shall be capable of performing AI tutoring to medical students.

Mechanism of impact on Expected Learning Outcomes:

Anatomy teachers can rely on the efficiency afforded by the blended learning method of the flipped classroom technique in that they can assign e.g. weekly thematic study tasks to be performed by students individually but with the assistance of ASA, completed in the weekly classroom "presence" scenario(s) reinforced by social interaction with teachers and peer as well as in the context of the hands-on reality of anatomy education. The iterative cycle of AI assisted learning continues via thematic mid-term and cumulative final examinations, preparation for which is also supported by ASA. The iterative simulation of mid-term and final exams assist students not only in what but also in how to study and perform in a high-quality, high-standard educational setting.

Impact beyond anatomy education:

The use of ASA improves the AI skills of anatomy teachers and students, a population that is at the forefront of disruptive changes occurring in e-health, where AI applications spread like wildfire in diagnosis, holistic patient health data analytics, health care service delivery, etc. as well as among patients themselves.