Integrating collaborative learning and scaffolding to manage the cognitive load of international medical students in ESP learning

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Global communication, the call for a sufficient education and relevant information bulk, which would enable promotions in one's career, as well as cultural development, requires an excellent command of the English language. English, the language of international communication in business, education, and research, specifically English for Specific Purposes (ESP), makes it possible to promote individual development and broaden the worldview.

Therefore, the tasks of higher education, along with the professional training of students, also consist of training specialists, which allows them to become capable of making optimal decisions in their chosen field, possess creativity, implement acquired self-education skills, and coordinate their cooperation in a team of professionals.

Here, the problem of adaptation and integration of international medical students in the educational process and ESP learning arises. The teachers of the Foreign Languages department are doing their best to involve the international medical students in the process to the utmost.

It may be noted that the key adaptation and integration aspects that are supposed to influence the international medical students' desire to learn English for Specific Purposes may include the need for research and career perspectives, which present the demand for international collaboration and personal development through

the diversification of mental skills and cognition. It is obvious that learning ESP improves thinking abilities, sharpens memory, trains sound judgment, and reasoning. It would inevitably enable students to convey their ideas clearly and, consequently, enter international companies and research projects, collaborate with colleagues worldwide, make a successful career, and promote integration into the global scientific and professional environment. Therefore, ESP is a key for communication in the international scientific and business environment, which would facilitate the professional development of students.

Interactive teaching methods have become increasingly motivating in the Foreign Languages department. The teaching process results from active interaction between the teacher and the students. A collaborative approach in teaching presupposes modelling true-to-life case histories, compiling role-play conversations, e.g., a Doctor-Patient model, to teach medical students to collect the information for a case history in the relevant environment.

Communicative language teaching (CLT) is as close to the real environment as possible. In blended or distance learning conditions, with absent or scarce offline classes, students may find adapting to the virtual learning environment challenging and even consider themselves isolated. Implementing the communicative method of language teaching involves using computer technologies. Students feel comfortable and motivated to present projects that interest them, under the guidance of a teacher, using information technologies, online platforms and mobile applications.

Collaborative Learning (CL) presents one of the basic principles in teaching ESP employed in the ESP teaching of foreign medical students. CL presents a set of practices to improve speaking skills development, involving strategic collaboration, continuous learning, and adaptive management. Cooperative language learning in distance education in tertiary studies integrates CL and scaffolding that proved to be effective in managing cognitive load for English for Specific Purposes learning [1; 2; 4; 7].

Medical students are meant to process and memorize a great amount of theoretical material; therefore, they risk being overloaded with the information to be processed. Hence, cognitive load management is vitally important. Cognitive load management supposes reducing the mental effort required to complete a task by abridging redundant information or task complexity to avoid cognitive overload, which leads to decreased concentration and performance. The theory of cognitive load management has proved to be efficacious since it was formulated by John Sweller [5]. The scholar concluded that working memory has limited capabilities, so learning methods should not overload it with additional actions or information that does not directly contribute to learning.

The external cognitive loads should be reduced and managed to ease the adaptation of the international medical students in the educational process. If the educational trail is excessively difficult or confusing, and extraneous loads interfere with the process, this leads to excessive external cognitive load. Therefore, the mental load correlates well with the students' existing knowledge. The tasks have to be facilitated and made less complicated to minimize the internal cognitive load. For instance, texts or diagrams overloaded with information should be replaced by more straightforward, less complex, or shorter ones.

The collaborative learning approach may help to manage the cognitive overload of the international medical students. It involves students working together on activities or tasks in groups small enough to ensure that everyone participates. The group work of the students is aimed at a common result though each student performs an individual task. So, collaborative learning is a method where a group of students works together to achieve a common goal, rather than just completing individual tasks, distinguishing it from unstructured group work (which can lead to challenges such as inefficient communication or potential misunderstandings). A collaborative learning approach can involve working on a shared project or individual tasks that achieve a desired effect. It can also include competition between groups to ensure more effective collaboration. Unlike other group work, collaborative learning

involves active interaction and dependence on the contribution of each group member to achieve an overall result, thus making the tasks less complicated.

Collaborative learning includes positive interdependence, personal involvement and interaction, group work, individual responsibility, and social skills development. Peer learning (more prepared students help their peers), project work (each student performs their part of the work), and team contesting may serve as examples of sharing or reducing the students' cognitive load.

The scaffolding learning approach is another learning approach that contributes to better adaptation and integration of international medical students in the educational process. Scaffolding learning approach [3; 6] is a teaching approach where educators provide temporary, adjustable support to help students master new skills or concepts that are beyond their current independent abilities. This support is gradually withdrawn as the student becomes more competent, ultimately enabling them to perform the task or understand the concept independently.

The goals of scaffolding are to enhance student proficiency and foster their development as self-regulated learners which can be accomplished by providing an academic assistance grounded on the student's needs and the complexity of the context. As students succeed and show sufficient results in their studies, the instructor's support can be either converted, or withdrawn for a while.

To conclude, the above-mentioned methods and approaches proved to be the methodological prerequisite for optimizing the learning-teaching process in higher medical educational institutions and are aimed at the adjustment of the educational process and ESP learning for international medical students to make it manageable, more straightforward, and understandable, and less complicated.

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AI Literacy for Beginner and Elementary Second Language Learners: A Pedagogical Framework

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The proliferation of AI-powered tools like chatbots, speech recognition software, and adaptive learning platforms has fundamentally reshaped the landscape of second language education. For beginner and elementary learners, who are grappling with foundational vocabulary and grammar, these tools offer an accessible and non-judgmental environment for practice. However, simply providing access to these technologies is insufficient. Without a solid understanding of how AI works, its limitations, and its ethical implications, learners risk developing a superficial reliance on technology, hindering the development of critical thinking and genuine communicative competence.

AI literacy is no longer a fringe topic but an essential skill for the 21st century. In language education, this means more than just knowing how to type a prompt into an AI-powered chat-bot’s interface. It encompasses a full set of learner's abilities, including understanding the basic mechanics of AI and its role in language learning;