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CONTEMPORARY APPROACH TO ONLINE EDUCATION AT THE MEDICAL SCHOOL APPLYING SOCRATIC SEMINAR OR SOCRATIC CIRCLE TO LECTURING

K. S. Shumilina, S. M. Kornienko, D. Ye. Lapshin, R. S. Vastyanov

Odesa National Medical University, Odesa, Ukraine

Abstract

We have sought the answer to a problem of online education introduced by COVID-19 pandemic. We suppose online education is to be the most dynamic form of professional learning which takes place at a distance with the use of effective informational and communicative tools. Our objective was to be focused on solving specific professional issues, to create conditions for effective learning based on our professional experience, with its maximum use. Socratic Dialogue is a brand that symbolizes the improvement of the quality of thinking in clarifying and solving problems in questioning in the community. Socratic seminars are one of the pedagogical technologies that provide the opportunity for students to actively practice in a wide variety of academic and professional skills. Its systematic procedure is used to examine a text through questions and answers founded on the beliefs that all new knowledge is connected to prior knowledge, that all thinking comes from asking questions, and that asking one question should lead to asking further questions. The goal of this study was to have participants work together, seek and gain deeper understanding of

concepts in the text through thoughtful dialogue rather than memorizing information that has been provided for them. Our focus was to explore multiple perspectives on a given issue or top and student's decision-making for the clinical cases provided. The method has helped us to identify students which lack any concrete knowledge or are not able to implement theoretical knowledge into solving practical tasks. The method also improved creative and critical and clinical thinking of the students who were actively engaged in the process not only during the class but also by preparing effectively for the class. We prioritized flexibility, individualization of learning, and put emphasis on self-study of the students. The authors voluntary move away from the truly philosophical direction in the introduction of Socratic dialogue into the methodology of modern teaching students in medical and biological disciplines and implement this learning option as an auxiliary one in online learning. Finally, authors analyzing the efficacy of a new teaching methodology in which the initiative of the conversation, its directions and possible branches from the original premise are provided to the students themselves.

Keywords: online education; Socratic dialog; Socratic seminars; professional learning; clinical thinking; methodology of teaching; teaching efficacy

Introduction. We have sought the answer to a problem of online education introduced by COVID-19 pandemic. We suppose online education is to be the most dynamic form of professional learning which takes place at a distance with the use of effective informational and communicative tools.

Our objective was to be focused on solving specific professional issues, to create conditions for effective learning based on our professional experience, with its maximum use. We aimed not at the formal transfer of knowledge, but at developing the activity of participants in its acquisition. We were searching for informational educational approach that might be used to present the structured educational material of the discipline, to ensure current control, intermediate certification, as well as management of cognitive activity of students in the process of educational programs implementation.

Thus, **the purpose of this work** is to justify the need to use an alternative method of providing direct and feedback between teachers and students during online learning and thus increase the effectiveness of distance learning.

Our approach was student-oriented and considered further regularities:

- the relationship and interdependence of the results of the pedagogical process to the involvement of students in this process;

- the relationship between the effectiveness of personality-oriented learning and the conflict of interests of the subjects of educational interaction;
- interdependence of students' attitude to the educational process, success in it and personal orientation of the pedagogical process;
- recognition of the student's individuality, his self-worth and uniqueness;
- differentiation of learning;
- creating opportunities for self-realization in learning;
- variability of learning, which involves a variety of content, forms, methods of teaching;
- designing a subject in which the educational process of studying a particular discipline is a model of science;
- humanization of educational content;
- systematization and consistency of the knowledge;
- coordination of scientific and educational knowledge;
- providing cognition and psychological development of the students.

Socratic Dialogue is a brand that symbolizes the improvement of the quality of thinking in clarifying and solving problems in questioning in the community. This form of philosophical practice, founded by the ancient Greek Socrates, is now used by both education and pragmatic business [3]. The rational orientation of the Socratic dialogue is to "identify, clearly define and resolve problems" [2] largely determined its fundamental viability in practical application. By the 21st century, classical Socratic discourse has been transformed, showing derivative properties in form, content and methods.

Implementation of Socratic circle into online lecturing have been far more successful than we even expected. The method allowed us to manage learning activities of the students more effectively, to stimulate their educational and cognitive activities, to provide a rational combination of various types of educational and cognitive activities taking into consideration the didactic capabilities of each of them in accordance with the level of learning material, to combine rationally various technologies of presentation of educational material (text, graphics, audio, video, animation).

Socratic seminar (also known as a Socratic circle) is a pedagogical approach based on the Socratic method and uses a dialogic approach to understand information in a text.

Socratic seminars are one of the pedagogical technologies that provide the opportunity for students to actively practice in a wide variety of academic and professional skills. The term "Socratic Seminar", as proposed by Matt Copeland, was first coined by Scott Buchanan

to put this approach into practice at St. John's College, and then developed in collaboration with the Center for Socratic Practice, the Touchstones Project, the Paideia National Center, a coalition of major schools and other organizations and projects [5].

Its systematic procedure is used to examine a text through questions and answers founded on the beliefs that all new knowledge is connected to prior knowledge, that all thinking comes from asking questions, and that asking one question should lead to asking further questions. Our electronic educational and methodical complex contains work program of the discipline, textbooks, manuals or lecture notes, materials for seminars, practical, laboratory classes and independent self-work of the students, test tasks for the discipline, guidelines for students to perform individual tasks.

The goal of this study was to have participants work together, seek and gain deeper understanding of concepts in the text through thoughtful dialogue rather than memorizing information that has been provided for them.

The seminar typically involved a passage of text, a chapter from a book or material from a lecture that students had to read beforehand and then the lecturer facilitated a dialogue in between them by asking questions specifically from the topic or presenting them a description of a clinical case where they had to gather all the data necessary for a diagnosis, to make a differential diagnosis, and to construct a comprehensive individualized treatment plan for a specific patient and this particular case. They had to take into consideration a patient's chief complaint, social history, medical history, dental history, data of extra-oral and intra-oral examination provided. It was also obligatory to supplement the treatment plan with schedule of follow-up visits and preventive care. Sometimes, a facilitator would structure two concentric circles of students: an outer circle and an inner circle. The inner circle focused on exploring and analyzing the text through the act of questioning and answering. During this phase, the outer circle remains silent. Students in the outer circle were much like scientific observers watching and listening to the conversation of the inner circle. When the case has been fully discussed and the inner circle finished talking, the outer circle provided feedback on the dialogue that took place. This process alternated with the inner circle students going to the outer circle for the next meeting and vice versa. The length of this process varied depending on the text used for the discussion. The doctor might have decided to alternate groups within one meeting, or they might have alternated at each separate meeting. The doctor's role was to ensure the discussion advanced regardless of the particular direction the discussion took, to collect the mistakes which were done during the discussion, to undertake

measures for their elimination, and to guarantee that the future doctors would have patient-oriented approach for the treatment of the cases in their medical practice.

By asking and answering questions we stimulated students to have a cooperative argumentative dialogue between each other in order to promote the formation of critical thinking and by doing so we induced the formation of clinical thinking of the future doctors. Topics that needed more in-depth discussion were supplemented by guidelines from the doctor following by explanations and demonstrations. For a particularly difficult chapters or cases students have worked through different issues and key passages through control and direction of the more experience students engaged in a discussion with assistance from the doctor.

Our focus was to explore multiple perspectives on a given issue or top and student's decision-making for the clinical cases provided. We have asked our students a series of questions formulated as tests of logic and facts intended to help us to find out how successfully they are able not only to memorize the information from the books and lectures but also to manipulate the information they have received. Questions were open-ended, focusing on broad, general information notwithstanding students had to generate rather specific, factual answer. The doctor have kept the topic focused by asking a variety of questions about the topic or clinical case itself, as well as questions to help clarify positions when arguments become confused. The doctor also sought to coax reluctant students into the discussion, and to limit contributions from those who tend to dominate. We prompted the students to elaborate on their responses and to build on what others have said. The doctor guided the students to deepen, clarify, and paraphrase, and to synthesize a variety of different views.

Such an examination challenged the specific knowledge of the subject of the interlocutors, bringing out inadequacies and inconsistencies in their individual efforts to become a successful doctor, and usually resulting in additional discussion and as a consequence additional homework. Our awareness of those inadequacies professed the imperfections of online education and claimed us to searching for implementing other educational methods into our practice. We engage students in such discussions, cross-examining, and testing. The lecturer argues, and the interlocutor - the student - agrees or disagrees proving his position based on his previous and current knowledge and ability to work with information. They had to listen actively in order to respond effectively to what doctor have contributed. This taught the students to think and speak persuasively using the discussion to support their position. Questions were created to give all the participants the

opportunity to take part in the discussion. According to Socratic circles methodology we specified three types of questions:

1. Opening questions - to generate discussion at the beginning of the seminar in order to elicit a dominant topic.
2. Guiding questions - to help deepen and elaborate the discussion, keeping contributions on topic and encouraging a positive atmosphere and consideration for different points of view.
3. Closing questions - to lead participants to summarize their thoughts and learning and personalize what they've discussed.

Educational material that we have used provided identification of the content of the student's subjective experience, in particular the experience of his previous studies. Presentation of material in the textbook (or the doctor's lecture) not only aimed at expanding the amount of knowledge, structuring, integration, generalization of subject content, but also it aimed at the constant transformation of the acquired subjective experience. In the process of learning it is necessary for us to coordinate the subjective experience of students with the scientific content of the acquired knowledge. We actively stimulated students to self-estimating educational activity which content and forms provided everyone with the opportunity for self-education, self-development, self-expression during the acquisition of knowledge. We designed and organized educational material which allowed students to choose its content, type and form in solving problems or clinical cases. We identified and evaluated the methods of educational work used by students independently, stabilized and productively. We provided the control and evaluation of the overall learning process not only the results of it. We guaranteed the educational process which ensured the construction, implementation, reflection, evaluation of the student as a subjective activity. Our goal was to disclose the individual cognitive abilities of each student. We involved the individual student's experience into the learning process which was carried out on the basis of data of initial estimation of knowledge, skills, abilities and determination of their basic abilities for the further development. We created the most favorable conditions for the development of self-knowledge processes and helped the individuals in self-determination, self-realization rather than we formed the predetermined qualities on the basis of averages.

The method has helped us to identify students which lack any concrete knowledge or are not able to implement theoretical knowledge into solving practical tasks. On the other hand the method improved creative and critical and clinical thinking of the students who were

actively engaged in the process not only during the class but also by preparing effectively for the class.

The method of Socratic Circle has promoted students to acquire professional knowledge, to develop problem-exploratory thinking, to develop clinical thinking, to activate research work, to expand the possibilities of self-control of acquired knowledge, and effectively use educational and methodical literature and other materials, including Internet sources. Our students acquired general skills and abilities for their future clinical practice. They formed the skills of cooperation on the basis of tolerance to each other during discussions. The students formed the skills for the analysis of primary sources and additional literature. They formed the skills of logical thinking, analysis, selection and presentation of information or results of self-work. They mastered new forms of medical activity. They formed a positive attitude towards themselves and their group-mates. All the students involved into the study were taught to find effective ways of solving the problems.

Meanwhile it was of service for the doctors to promptly update the content and methods of teaching, to expand the possibilities of control of students' knowledge, and to improve the quality of advanced training technologies for medical professionals. We prioritized flexibility, individualization of learning, and put emphasis on self-study of the students.

We have investigated in particular concerning whether it is a positive method, leading to knowledge. Implementation of the method has facilitated variability of education and advanced nature of educational programs, created compliance of the content of educational programs with the development of new and latest technologies, promoted flexibility of educational programs that provide individualization of training and operational reorientation in professional activities, introduced informational technologies and gradually formed a single informational and educational space of the lecturing practice, and developed special algorithms for elaboration of the purposes, tasks, forecasts of competent decisions in professional activity of the individual (situational training). Students had the opportunity to interact with each other, to exchange tasks, to work on the same document simultaneously, their attention and motivation was significantly improved.

Elencitic examination of the way how the students have perceived explicit knowledge (verbalized) and tacit knowledge (non-verbalized) - the lecturer's clinical experience - during online lecturing was our problem solving and a foundation for an objective estimation of the students' knowledge and control of the quality of education. Our design of thinking is «Discussion leads to solution». We are convinced that as students participate in Socratic

dialogue, they gain experience that enables them to be effective in the process of online education.

Thus, we deliberately move away from the truly philosophical direction in the introduction of Socratic dialogue into the methodology of modern teaching students in medical and biological disciplines and implement this learning option as an auxiliary one in online learning. At the same time, we use the experience of Western European science, whose representatives use the Socratic method and study its effectiveness for a much longer period of time.

Foreign researchers in the philosophy of Socrates explored not only moral and philosophical aspects, but also developed Socratic pedagogy, in particular, having worked out such a form of education as Socratic seminars, and also highlighted their potential in the development of academic, social skills and personal qualities [4, 5]. Attempts to analyze the original methods of additional involvement of students in the study of biomedical disciplines were made by us earlier, however, we note that we placed the emphasis mainly on the more leading role of the teacher/tutor in such events [1, 6]. Currently we are analyzing the efficacy of a new teaching methodology in which the initiative of the conversation, its directions and possible branches from the original premise are provided to the students themselves.

Virtual reality and augmented reality of online lecturing are our further objectives.

Conclusions

1. Online education is the most dynamic form of professional learning which takes place at a distance with the use of effective informational and communicative tools.

2. Socratic Dialogue is a brand that symbolizes the improvement of the quality of thinking in clarifying and solving problems in questioning in the community. Socratic seminars are one of the pedagogical technologies that provide the opportunity for students to actively practice in a wide variety of academic and professional skills.

3. This method has helped us to identify students which lack any concrete knowledge or are not able to implement theoretical knowledge into solving practical tasks. The method used also improved creative and critical and clinical thinking of the students who were actively engaged in the process not only during the class but also by preparing effectively for the class.

4. We deliberately move away from the truly philosophical direction in the introduction of Socratic dialogue into the methodology of modern teaching students in medical and biological disciplines and implement this learning option as an auxiliary one in online learning.

5. We are analyzing the efficacy of a new teaching methodology in which the initiative of the conversation, its directions and possible branches from the original premise are provided to the students themselves.

6. Virtual reality and augmented reality of online lecturing are our further objectives.

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