

## **Organization of Medicine Higher Education Students from India Reflective Practice**

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### **Abstract**

**Background:** Modern conditions demand the development of a critically thinking individual who is ready for productive interaction with the world around him, knows how to objectively evaluate his achievements in the learning process, interprets successes and difficulties, analyzes new qualities in himself, and is capable of self-improvement and self-development.

**Objectives:** The article aims to substantiate the principles of future doctors' reflective practice organization for forming their professional readiness.

**Methods:** The method of reflective abilities estimation was based on the teacher's assessment and students' educational and cognitive activity self-assessment. The following structural components were determined: awareness of the compliance of the learning result with the initial goal, self-analysis and self-assessment of one's activity and activity within the educational group. Each component was evaluated on a five-point scale. During classes with 53 students of experimental groups, the teachers used the reflexive polylogue method.

**Results:** The study showed that the level of reflective abilities formation was extremely low at the beginning of the classroom experiment at the end of the first module and amounted to about  $2.1 \pm 0.6$  conditional points after the experiment. At the end of the second module, the dynamics of the reflective abilities development among the students of the experimental group was  $3.4 \pm 0.7$  conditional points and  $2.3 \pm 0.5$  of the control group students. After the final control of the first module, the average success score was 146.8 points out of the

maximum possible 200. After calculating the results of the second module, during which students performed reflective exercises, the success rate was 155.1 points. However, in the 3rd year, the overall average success score of the third module control was decreased to 148.4 points.

**Conclusions:** High reflective skills development in higher education students is the key to productive learning. The reflective person can evaluate the methods and results of the learning and analyze the received information and the level of its understanding and correlates with success. Self-awareness allows for establishing shifts, progress in educational activities, understanding the development of personal thinking, etc. Reflection plays an important role in the educational activities of medicine higher education students.

**Keywords:** reflection, organization of reflective practice, professional training of future doctors, reflective exercises.

The topic studied is based on the analysis of numerous data on applying the reflective practice in medicine (S Yaylaci et al., 2021; K Koshy, 2017; S Mamede et al., 2004). Especially many new literature sources that we found in PubMed dealt with the use of the reflective practice in nursing (T Zhan et al., 2023; M Patel et al., 2022; Tashiro J et al., 2012; R Beam et al., 2010). We were primarily interested in data on the principles of organizing future doctors' reflexive practice in their training. The ability to consciously reflect on one's professional activities is generally considered important to acquire medical experience and, therefore, for education. (S Mamede et al., 2007). The positive effect of introducing medical students to reflective practice has been widely reported in recent publications (J Lim et al., 2023; T Shimizu 2022; S Yaylaci et al., Chaffey et al., 2012; C Watkins et al., 2012). When teaching students, especially foreign ones, at the present stage of medical education, much attention is paid to Pedagogy and Psychology (OV Tkachenko et al., 2022; OV Gancho et al., 2022), physical education (VO Zhamardiy et al., 2020; VO Zhamardiy et al., 2020), Microbiology, Virology and Immunology (OV Gancho et al., 2022; MM Ananieva et al., 2017) and other special disciplines.

However, there needs to be more empirical research on applying the reflective practice in the medical education system. Teaching medical students of reflective practices can become a promising direction in medical education. This article provides examples of the application of reflective practice using the polylogue method (IN Semenov, SYu Stepanov, 1983) in international students from India Microbiology, Virology and Immunology teaching at Poltava State Medical University.

## **Introduction**

The personality of higher education students is the priority of modern medical education. Therefore, the students are in constant professional and personal development in educational and professional activity conditions. The demands of individual development in critical thinking are the productive interaction with society, objective evaluation of the achievements in the learning process, interpretation of the successes and difficulties, analyses of own new

qualities and capability of self-improvement and self-development. It determines the need to organize students' reflective practice as an essential educational process component.

The study of organizing future doctors' reflective practice in forming their professional readiness is primarily related to the general understanding and definition of the concepts "reflection" and "reflective practice".

Reflective practice is defined as a special type of internally motivated analytical activity aimed at realizing its value-semantic, procedural and effective components to clarify, correct or improve them (IN Semenov, SYu Stepanov, 1983).

The techniques for reflective abilities development are diverse. There are oral discussions, written questionnaires, and artistic or graphic depictions of changes occurring with a higher education student during an educational lesson, month, or semester.

It is necessary to accustom students gradually to the importance of reflective practice awareness and skills development to conduct it. Reflection occurs during goal-setting, topic, and semester results evaluation. However, the students should be morally adjusted with a clear understanding of their main attention focus.

I. Semenov and S. Stepanov proposed the reflexive polylogue method for reflexivity formation and development. The method is based on the student's reflection formation through the collective search and decision-making course (IN Semenov, SYu Stepanov, 1983). The method involves the following stages:

1. Studied material problematization. It is an important condition to create a holistic image of the problem situation and understand the various conditions of its development.
2. Active proposals and ideas from the study group to find and resolve controversial issues. This stage is essential in reflection formation because the students actively participate in the discussion. Based on every student's opinions, the concept of the problem of interest understanding and ways of solving it are formed. Social reflection is actively involved.
3. Collective discussion and finding of a solution. At this stage, students look for the most optimal solution to a given problem from all previously proposed versions by understanding each proposed idea's negative and positive sides.

This stage involves reflective understanding and analysis. It involves an intensive study of all these possible options (IN Semenov, SYu Stepanov, 1983).

For the students' reflexivity development stimulation in higher education, it is important to ensure the conditions for students' creative and divergent thinking.

The content of education becomes the object of own thinking system. In other words, acquirers should become full-fledged subjects of educational activity, not just objects of pedagogical influence.

At the same time, despite many studies, the question of future doctors' reflective practice organization in their professional training remains open.

## **Objectives**

The article aims to substantiate the principles of future doctors' reflective practice organization for their professional readiness forming.

## **Methods**

To identify the influence and depth of educational interaction on the development of reflective skills, we conducted an experimental study based on Poltava State Medical University during 2021-2022 while "Microbiology, Virology and Immunology" teaching which is divided into 3 modules. 103 2nd-3rd years students from India of the International Faculty majoring in "Medicine" took part in the experiment. Among them 53 students of the experimental group and 50 students of the control group were examined.

The method of reflective abilities estimation was based on the teacher's assessment and students' educational and cognitive activity self-assessment. The following structural components were determined: awareness of the compliance of the learning result with the initial goal, self-analysis and self-assessment of one's activity and activity within the educational group.

Each component was evaluated on a five-point scale. During classes with students of experimental groups, the teachers used the reflexive polylogue method (IN Semenov, SYu Stepanov, 1983). Reflection exercises were performed during the second module. The average performance of students was determined at the end of each module.

Statistical processing of research results was carried out on a computer using the Microsoft Excel Office 2010 program. The probability of difference between groups was determined using the Student's t-test.

## **Results and discussion**

The organization of higher education students' reflective practice in studying was based on the following principles: evident purposefulness, adequacy and availability of educational material, completeness, awareness, individualization, educational communication, creative approach to learning, and positive stimulation. Developing and forming a student's reflective position can be managed by changing and adjusting the educational process. The most significant role in its development is played by the purposeful organization of the educational process by the teacher, who constantly engages students in reflection, introspection, critical thinking, looking at oneself from the outside, analyzing activities, understanding the learning process, and evaluating the results. The department teachers tried to use the reflexive polylogue method during classes (IN Semenov, SYu Stepanov, 1983). The leading indicators of effective educational activity that contribute to the successful formation of reflective skills are focused on the following:

- productive, creative activity;
- students' independent search for ways and options to solve the educational task set;
- active reproduction of previously learned knowledge in new, unfamiliar conditions;
- using a set of various educational technologies aimed at organizing learning through

interaction;

- information is viewed as a tool for achieving learning goals, not its outcome.

Quick questionnaire was carried out for students reflective practice training.

Applicants of higher education, at the end of the lesson, during the last 5 minutes of class, fill in the following questionnaire using the incomplete sentence method:

"Evaluate your work in the practical session and complete the suggested sentences.

In this semester class, I:

found out...

understood ...

learned...

liked ...

my most considerable success is...

I experienced the most significant difficulties...

I couldn't, but now I can...

I did not understand ...".

Students were also offered small written assignments during online learning in Zoom, such as: "My success in Microbiology, Virology and Immunology studying", "Today's lesson", and " Objectives of my studing ".

A virtual interactive whiteboard in advance was created and sent to experimental groups on Viber to develop the ability to reflect. The name of the method and the tasks to be performed were placed on the whiteboard. It made it possible to visualize the algorithms for performing the proposed tasks, ensured the interactivity of the educational process and organized joint evaluation activities of future doctors. During the reflective practice, the student's attention was drawn to the fact that the answers must begin precisely with the given in the task words. For example, for self-assessment, higher education students were suggested to fill in a table and send it to teachers after the online training in Zoom (Table 1).

**Table 1.** Evaluation of own work results in a group

How did I work in class	Always	Of course	Sometimes	Never
I worked hard in class				
I offered new ideas				
I encouraged others				

I helped others to answer complex questions				
I was explaining others' answers				
I thought it was better to stay silent				

Conducting reflection using the "Three faces" and "Work with signal cards" methods was organized as follows. At the end of the lesson, students were invited to open a pre-created virtual interactive whiteboard with the image of three faces: happy, neutral, and sad, at the specified web address to choose and place a sticker (signal card) on the board, the colour of which corresponded to their mood, and to make their comments about the class. After the classes, an assessment of the level of reflective abilities formation was carried out by students on a five-point scale.

The study showed that the level of reflective abilities formation was extremely low at the beginning of the classroom experiment at the end of the first module and amounted to about  $2.1 \pm 0.6$  conditional points after the experiment. It can be explained by the lack of activities to develop the reflection part of teachers and students at the previous stages of education. At the initial stage of the research (from the second module of the discipline), students of the experimental groups paid attention to the lack of psychological comfort when attempting self-analysis and self-assessment. It has a place if a person is orientated to external influence factors.

Difficulties arose in specifying the reasons for failure if they were related to internal factors (laziness, lack of responsibility, unwillingness to overcome intellectual difficulties, etc.). However, the effectiveness of critical introspection, attention and acceptance of peers' comments, suggestions, requirements, and teacher supervision allowed the experimental group's students to realize the need for reflective practice. At the end of the second module, the dynamics of the reflective abilities development among the students of the experimental group was  $3.4 \pm 0.7$  conditional points and  $2.3 \pm 0.5$  of the control group students. After the final control of the first module, the average success score was 146.8 points out of the maximum possible 200. After calculating the results of the second module, during which students performed reflective exercises, the success rate was 155.1 points. However, in the 3rd year, the overall average success score of the third module control decreased to 148.4 points.

This result can be explained by insufficient attention to the reflective abilities developing at the previous stages of education. However, learning in an interactive mode using the reflective polylogue method caused a qualitative jump in 2nd-year higher education medical students from India reflective practice skills development.

## Conclusions

It was determined that:

1. High reflective skills development in higher education students is the key to productive learning. The reflective person can evaluate the methods and results of the learning and

analyze the received information and the level of its understanding and correlates with success.

2. Self-awareness allows for establishing shifts, progress in educational activities, understanding the development of personal thinking, etc.
3. Reflection plays an important role in the educational activities of students of higher education because it helps students:
  - quickly plan and carry out an educational task in an organized manner;
  - act as an expert in their educational activities;
  - conduct a critical evaluation and verification of the obtained result;
  - carry out effective, independent work with sources of information.

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