DIAGNOSTICS OF THE LEVEL OF FORMATION OF THE PROFESSIONAL AND COMMUNICATIVE COMPETENCE OF FUTURE DOCTORS

Y. M. Lukash

Luhansk State Medical University, Rubizhne

INTRODUCTION

The high level of the professional and communicative competence of a specialist is a prerequisite for the successful professional activity and its further development. In the light of this, every person involved in any professional field should not only have certain professional and communicative knowledge and skills but also have the experience of using these knowledge and skills in practice, including unusual situations, as well as constantly increase their own level of competence in professional activities.

Recently, a great deal of emphasis has been placed on the process of formation of the professional and communicative competence of future masters of medicine, which corresponds to the real needs of modern medical practice. Higher medical education should provide high-quality training of future medical professionals and it is an important part of reforming of the healthcare sector and implementing of social priorities of the state since the quality of providing medical care for the population depends on the level of training of future doctors.

Many researchers have recently turned to the problem of diagnostics of the formation of a certain kind of competence when training future professionals for the purpose of selecting the appropriate forms, methods and tools of educational interaction and cooperation of teachers and students in the process of solving competency tasks.

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Zh. Bissenbayeva et al. studied the problem of forming the abilities of communicative competence “as the main component of the professional qualification competency of a modern specialist” and developed a model of communicative competence formation [1].

P. Kudabayeva et al. diagnosed the level of formation of future language teachers’ intercultural communicative competence in order to form intercultural communicative competence of future specialists [4].

S. Praliev et al. (2013) defined the professional and communicative competence as an integrative component of the professional competence. They stacked to the opinion that the professional and communicative competence included “possession of technology of professional communication” [10].

I. Puchkova specified such a concept “as competence in a communication”. A scholar defined it “as a part of integrated and professional competence and the most important tool for professional activity in its various spheres” [11].

The problem of professional and communicative competence in the medical staff activity was investigated by Yu. Leha, V. Melnyk, I. Tsymbaliuk, V. Shadrykov, I. Kuznetsova, V. Bohoslovskyi, B. Karavaieva, A. Shehonin, T. Brazhe and others.

**The aim of the work** – to analyze and highlight the real state of the level of the formation of the professional and communicative competence of future doctors.

**The main body.** The criteria and indices of the formation of the professional and communicative competence of future masters of medicine are important elements of evaluation.

“A criterion is a basis, a measure for the evaluation, classification or definition of something. Index is a sign, evidence or substantiation of something; data on the results of a particular work or process; phenomenon or event, which gives an opportunity to draw conclusions about the course of a particular process” [2].

T. Butenko specifies the following criteria of the formation of the professional and communicative competence: cognitive (cognitive activity for the obtaining of communicative skills), activity-based and communicative (communicative skills), emotional and evaluative (the ability to assess communicative competence and avoid mistakes) [3].

T. Khudyakova and L. Filatova define the following criteria of “the professional communication competence” as motivational and axiological component and operational component. Motivational and axiological criterion “reflects axiological priorities of a person and personal qualities”. The indices of operational criterion “include specific competences, mastering of which, a future professional will be able to efficiently solve actual practical tasks” [5, 6].

M. Matsueva defines such indices of professional and communicative competence: communicative knowledge, skills and abilities. These indices meet the following criteria: knowledge of types, methods and techniques of communication and the degree of development of their own skills of communicative partners; ability to organize and manage the process of communication, ability to maintain a positive emotional tone (when discussing complex problems), ability to solve conflicts, ability to listen to a communicative partner; ability to assess a communicative situation and to build communication effectively [8].

O. Lazarev highlights the following criteria for professional and communicative competence: motivational, cognitive and pragmatic. The indices of the motivational criterion for professional and communicative competence include the presence of cognitive interest in professional terminology and professional concepts; the presence of cognitive and communicative needs; the presence of external and internal motivation for obtaining professional communicative elements; the desire to improve the cultural and intellectual level. The indices of the cognitive criterion are the amount of knowledge of professional communicative elements; the quality of knowledge of professional terminology and professional concepts; understanding of the essence and features of professional terminology and professional concepts; the ability to synthesize, analyze, summarize and structure professional terminology and professional concepts. According to the researcher, the indices of the pragmatic criterion of the professional and communicative competence of future specialists comprises the effectiveness of knowledge of professional communicative elements, the formation of practical skills of using of professional terminology and concepts in oral and written speech; practical activity, aimed at the executing of professional and communicative tasks; revealing of creative communicative and speech activity; participation in associations, clubs, societies of professional communicative orientation [7].

For the purpose of diagnostics of the level of formation of the professional and communicative competence of future doctors we conducted questioning of students of the 1st and 2nd years of study. Empirical research was conducted among respondents aged 17–20 years.
The choice of criteria for the formation of the professional and communicative competence of future doctors depends on the structure of the phenomenon under study, therefore solving this problem is possible on the basis of the definition of the professional and communicative competence and the structuring of the above-mentioned concept, which includes motivational and objective, cognitive and gnostic and behavioral activity-based components. According to this, we define three criteria for the formation of the professional and communicative competence of medical students: motivational, cognitive and activity-based, which, in turn, are revealed through a system of indices, the change of which should reveal the degree of success of the formation and development of competence of a specialist.

The motivational criterion makes it possible to determine the level of formation of motivation for the professional and communicative competence of the medical specialist, the cognitive interest in mastering the professional communication, need for the implementation of professional and communicative activities. The motivational criterion is characterized by motivation of future doctors to improve professional and communicative competence; understanding the value of its formation; an incentive for success and an attempt to avoid failures in situations of interaction; the level of manifestation of the medical and professional, moral, aesthetic, cognitive, creative, social, material, personal motives of the doctor.

The cognitive criterion helps to determine the level of formation of the professional and communicative competence of future doctors, in particular the degree of possession by a medical student of a combination of professional knowledge necessary for effective communicative activities both in professional realization and out of work. The cognitive criterion is characterized by the possession of the skills of communication and interaction with patients, their relatives and colleagues; ability to analyze and predict the process of professional and communicative interaction.

Activity-based criterion enables to determine the level of formation of the abilities and skills necessary for the professional and communicative competence of a future medical professional and the ability to self-control, self-improvement and self-esteem. The activity-based criterion is characterized by the manifestation of adequate orientation of the future doctor in himself, in colleagues, in patients, in situations of professional communication; the ability of future doctors to implement the process of interaction in the situations of medical and professional communication effectively and competently; the level of manifestation of skills and abilities to perceive messages correctly; ability to adapt in medical-professional situations of communication and interaction.

Defining the indices of the formation of the professional and communicative competence of a future doctor, we have guided by the fact that they should cover the main features, characteristics and qualities of the key criteria.

For each criterion, we have developed a set of relevant indices, on the basis of analysis of which one can determine the results regarding the level of formation of the phenomenon under study: motivational (motives and needs for the development of knowledge, abilities and skills in terms of professional and communicative competence, motives leading to effective professional and communicative activities; the ability to self-development); cognitive (knowledge about the professional and communicative specialist; abilities to professional and communicative competence; definition of self-esteem); activity-based (professional and communicative skills, communicability, self-control).

The criteria and indices of professional and communicative competence of future doctors can be disclosed with the help of the selected methods, which in our opinion are most relevant for the disclosure of the selected criteria: a test for determining the need for communication; a questionnaire “Studying of the motivation of formation of professional and communicative competence of future specialists”; a questionnaire “Your communicative self-development”; a questionnaire “The concept of a professional and communicative competence of a medical specialist”; a test for the student’s communicative abilities determining; a “Self-esteem test” (L. Kaidalova); a test of communicative skills (L. Michelson), adapted by Yu. Hilbukh; a test for revealing the level of communicability (V. Kan-Kalika, M. Nikandro); a test for self-control evaluation in communication (M. Schneider).

Defining the criteria and indices of the formation of professional and communicative competence of future doctors has made it possible to differentiate three levels of its formation: high, average and low.

The unified parameters, considering which the aims and content of the professional training are
revealed, are taken into account as the basis of the description of each of the levels. These parameters include communicative needs, topics and situations of communication, communicative tasks, and genres of oral and written language, communicative skills, communicative strategies and tactics, intentions and proposals, language means of their manifestation [9].

Medical students with a high level of professional and communicative skills have broad motivation and needs for the development of knowledge, abilities, skills in the field of professional and communicative competence; essential motivation that leads to effective professional and communicative activity; improved ability to self-development; systematic knowledge of the professional and communicative competence of a medical specialist; strong abilities for professional and communicative competence; high determination of self-esteem; brightly expressed professional and communicative skills; high level of communicability; distinct orientation on self-control.

The average level of the formation of the professional and communicative competence of future doctors is characterized by the conditioned motivation and needs for the development of knowledge, abilities and skills in relation to the professional and communicative competence; partial presence of motivation, which leads to effective professional and communicative activity; partial self-development; partial knowledge of the professional and communicative competence of a medical specialist; conditioned abilities for professional and communicative competence; moderate determination of self-esteem; moderately expressed professional and communicative skills; partial communicability; not entirely distinct orientation on self-control.

The medical students with a low level of professional and communicative competence of future doctors is characterized by restricted motivation and needs for the development of knowledge, abilities and skills in relation to the professional and communicative competence; lack of motivation for effective professional and communicative activity; weak ability to self-development; lack of systematic knowledge of the professional and communicative competence of a medical specialist; low-leveled abilities for professional and communicative competence; weak self-assessment; weakly expressed professional and communicative skills; bad communicability; not distinct orientation on self-control.

The main objective of the diagnostics of the research is to determine the initial level of formation of the professional and communicative competence among the medical students. The control (CG) and experimental (EG) groups of students were selected for the participating in the diagnostic work.

The results of the diagnostics for each index of the formation of professional and communicative competence of future doctors were described separately for the control group (CG – 232 students) and the experimental group (EG – 224 students). The motivational criterion for the formation of professional and communicative competence of future doctors was assessed by the indices: motivation and needs for the development of knowledge, abilities, skills in the field of professional and communicative competence; motivation that encourage the effective professional and communication activity; ability to self-development.

We used a test to determine the need for communication (Yu. Orlov, V. Shkurkin, L. Orlova) in order to identify the level of motivation and needs for the development of knowledge, abilities and skills for the professional and communicative competence of future doctors. The aim of the test was to determine the level of communication needs. The test contained 33 statements, which correlate with the signs of two opposite groups: with high and low level of communication needs. The analysis of the test indicates the following levels: low, below average; average; above average; high. In accordance with the levels defined in our study: high, average and low, we adapted the results of this test as follows: levels below average, average, above average are considered as medium. That is, the score scale for our study looked like this: up to 22 points – low level; 23–29 – average level; 30–33 – high level. The analysis of the results of the conducted testing showed that the presence of motives and needs for the development of knowledge, abilities and skills in relation to the professional and communicative competence for the CG had the following results: 3.9 % of medical students had a high level, 47.8 % of respondents had the average one, 48.3 % had the low one.

Test results for EG: 3.2 % of students had high level, 47.7 % had the average one, 49.1 % had the low one.

The questionnaire “Studying of the motivation of forming of the professional and communicative competence of future specialists” allowed us to identify the level of motivation for effective professional and communicative activity. According to this questionnaire it is necessary to determine the significance of the given statements, numbering them in descending order: successful aspiration for interpersonal interaction; the desire to manage the communicative process, using the possibilities of professional and communicative com-
petence; interest in the professional and communicative activity of a medical specialist; the need to achieve high results in the professional and communicative activity of the future doctor; the desire to be an example for groupmates due to opportunities of the professional and communicative competence, etc. If the students are well motivated, they are induced to effective professional and communicative activity, then this is a high level if this motivation. And if the motivation is poorly formed, then it is the average level, and if the the motivation is not formed, it is a low level of it. Thus, the results of the questionnaire showed that most students of the EG and CG were lack of motivation or have poorly-formed motivation for achieving high results in professional and communicative activity. Namely, in CG 4.7% of respondents had a high level of motivation, 38.8% of them had an average one, 56.5% had a low level of motivation; in EG 3.6% of respondents had a high level of motivation, 38.8% had an average level, 57.6% had a low level.

With the help of the questionnaire “Your communicative self-development” the formation of the ability of medical students to self-development was identified. The analysis of students’ survey results showed that this formation was characterized by the following levels: creative (high), constructive (average), reproductive (satisfactory), adaptive (low) levels. By adapting the results of the survey to the levels presented in our study, we obtained the following scale of results: 9–10 points meant a high level, 3–8 points meant an average level, up to 2 points meant a low one. Thus, in CG 2.6% of students had a high level of self-development ability, 32.8% had an average one, 64.6% had a low level; in EG 3.6% of medical students had a high level of self-development ability, 33.0% of them had an average one, 63.4% had a low level.

Let us calculate the average value of the levels of the formation of the motivational criterion according to three indices, respectively, in CG and in EG, for this we denote the high level with three points (3), the average one with one point (2), and the low level with one point (1):

\[
\bar{x}_{CG} = \frac{\sum_{i=1}^{n} x_{i}}{n} \quad \bar{x}_{EG} = \frac{\sum_{i=1}^{n} x_{i}}{n}
\]

The results indicated that the average score was the same among the students of the CG as well as of the EC and it was less than a low level. This result is a confirmation of the need to build a system for the formation of the professional and communicative competence of future doctors.

The cognitive criterion of the formation of the professional and communicative competence of future doctors was evaluated according to indices: knowledge of the professional and communicative competence of a medical specialist; ability to the professional and communicative competence; definition of self-esteem.

In order to study the index of a cognitive criterion of the knowledge about the professional and communicative competence of a medical specialist, namely, to determine how the future doctors operate the basic terminology associated with communicative competence, how they assess their own level of professional and communicative competence, to identify difficulties which they face in the process of professional and communicative activity, the survey “The concept of professional and communicative competence of a medical specialist” was conducted among the students. There were 12 open questions to answer. If the respondent gives 9–12 correct answers, it means a high level of formation of the professional and communicative competence of future doctors, 5–8 correct answers mean that he/she has an average level, and only 1–4 correct answers mean a low level. Consequently, in CG 5.2% of respondents had a high level, 43.5% of them had an average level and 51.3% had low one; and in EG 4.5% of future medical professional had a high level, 44.6% had the average one, 50.9% had the low one.

In order to determine the abilities for professional and communicative competence, a test to determine the students’ communicative abilities, which needed answers “yes” or “no” to 20 suggested questions, was used. Analysis of the results of the survey, having calculated positive answers to the questions submitted, presented the following levels: creative (high), constructive (average), reproductive (satisfactory), adaptive (low). By adapting the results of the survey to the levels presented in our study, we obtained the following scale of results, where 17-20 points meant a high level, 11-16 points meant an average one, less than 11 points meant a low level. As a result, we obtained the following data: in CG 4.3% of the respondents had a high level, 41.0% had an average one, 54.7% had a low one, while in the EG, 5.8% of students had a high level, 42.0% had an average level, 52.2% had a low one.

To determine self-esteem, we used the “Self-Assessment” test by L. Kaidalova, which proposed 32 statements, it was necessary to show the attitude towards them according to the four-point system: “very often” means 4 points, “often” means 3 points, “sometimes” means 2 points, “rarely” means 1, “never” means 0. The analysis of the results was valued in the following way if you scored: from 0 to 25 points it
meant “you are basically confident in your actions”; from 26 to 45 points meant “you have an average self-esteem”; from 46 points and above meant “you have a low level of self-esteem (worry about critical remarks in your address, doubts about the correctness of their actions)”. Thus, in CG 4.7 % of respondents had a high level, 40.1 % had an average one and 55.2 % had a low one; in EG 4.0 % of respondents were characterized by a high level, 41.1 % were characterized by an average level and 54.9 % were characterized by a low level.

Let us calculate the average value of the levels of the cognitive criterion:

$\bar{x}_{CG}$; $\bar{x}_{EG}$.

As shown by the data, the average points of the students of CG and EG were almost the same.

Activity-based criterion of the formation of professional and communicative competence of future doctors was evaluated according to indices: professional and communicative skills; communicability; self-control.

To determine the level of professional and communicative skills of the activity-based component of professional and communicative competence of medical specialists we used test for detecting the level of communicative competence and the quality of basic communicative skills formation by L. Michelson (translated and adapted by Yu. Hilbuh). The scale of the results of this technique is expressed through the ways of communication: dependent, competent, aggressive. Adapting the scale of the results of the study to the levels could be achieved by establishing correspondence: ‘competent’ corresponds to a high level, ‘dependent’ corresponds to an average one, ‘aggressive’ corresponds to a low level. According to the results of the test for the determination of the level of the professional and communicative competence and the quality of basic communicative skills formation by L. Michelson (translated and adapted by Yu. Hilbuh) 3.0 % of respondents in CG had a high level of professional and communicative skills, 45.3 % had an average level and 51.7 % had a low level; 4.0 % of respondents in the EG had a high level, 43.3 % had an average level, 50.9 % had a low level.

For the purpose of obtaining data on the level of development of the activity-based criterion of communicability of future masters of medicine, we applied a test on the level of communicability (V. Kan-Kalkik, M. Nikandrov), in which it was necessary to answer the 15 questions (“yes”, “no” or “sometimes”). The level of communicability according to this method can have the following level results: high, higher than average, average, below average and low. Adapting the results of this methodology to our study, we had the following results: in CG 4.3 % of students had a high level of communication, 46.1 % of them had an average one and 49.6 % had a low one; in the EG 3.6 % of students had a high level of communication, 45.1 % had an average one and 51.3 % had a low one.

Determination of the level of self-control of medical students in the process of communication was possible through a self-control test in communication by M. Snyder. The methodology consists of 10 situational questions, each of them is evaluated as correct or incorrect (individually). In the presence of a low level of communicative control, the respondent is straightforward. The respondent with an average level of communicative control is not restrained in his emotional manifestations, but the one with a high level of communicative control has a “gift of reincarnation”, that is, he easily responds to any changes in situations. The scale of evaluation of the testing results is following: high level of communication control (7–9 points), average communication control (4–6 points), low communication control (0–3 points). The participants with a high level of communicative control is characterized as sincere and restrained. The average level of communicative control differs in that the respondents in the behavior with the surrounding people are sincere, but at the same time not restrained in their emotional manifestations. The peculiarity of a low level of communicative control is that the respondents do not consider it necessary to change themselves according to the situation; capable of genuine self-disclosure in communication, but in process of it they are very straightforward. Thus, according to the results of our research among the students of the CG 3.4 % of future doctors had a high level of communicative control, 40.5 % had an average level and 56.1 % had a low level; in the EG – 3.1 % of the respondents had a high level of communicative control, 46.0 % had an average level and 50.9 % of the students had a low one.

Let us calculate the average value of the levels of the formation of professional and communicative competence by the activity-based criterion in the CG and the EG respectively:

$\bar{x}_{CG}$; $\bar{x}_{EG}$.

As seen from the above, the average value among the students of both CG and EG is almost equal.

The results of the diagnostics of the level of formation of the professional and communicative competence of future doctors according to the three criteria, that we have defined, are presented in Table 1.
Table 1. Diagnostics of the level of formation of professional and communicative competence of future doctors (%)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Levels</th>
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<tbody>
<tr>
<td></td>
<td>CG</td>
<td>EG</td>
<td>CG</td>
<td>EG</td>
</tr>
<tr>
<td>Motivational</td>
<td>3.7</td>
<td>3.5</td>
<td>39.8</td>
<td>39.8</td>
</tr>
<tr>
<td>Cognitive</td>
<td>4.7</td>
<td>4.7</td>
<td>41.5</td>
<td>42.6</td>
</tr>
<tr>
<td>Activity-based</td>
<td>3.6</td>
<td>3.6</td>
<td>43.9</td>
<td>44.8</td>
</tr>
<tr>
<td>Total index</td>
<td>4.0</td>
<td>3.9</td>
<td>41.7</td>
<td>42.4</td>
</tr>
</tbody>
</table>

Our results showed that in the control group, a high level of the formation of professional and communicative competence of future doctors by the indices of the motivational criterion was introduced among 3.7 % of the future masters of medicine, by the cognitive criterion – among 4.7 %, by the activity-based criterion – among 3.6 %; an average level according to the motivational criterion was diagnosed in 39.8 % of medical students, according to the cognitive criterion – among 41.5 % and according to the activity-based criterion – among 39.8 %; we found a low level of the formation of professional and communicative competence among 56.5 % of future doctors according to the motivational criterion, among 53.8 % according to the cognitive one and 52.7 % according to the activity-based criterion. In the experimental group, the results showed that 3.5 % of respondents expressed the high level of the formation of professional and communicative competence of future doctors according to the motivational criterion, 4.7 % of them according to the cognitive criterion and 3.6 % according to the activity-based criterion; the average level according to the motivational criterion was characteristic for 39.8 % of future masters of medicine, according to the cognitive criterion - for 42.6 %, and according to the activity-based criterion – for 44.8 %; the low level in this group is characteristic for 56.7 % of future doctors according to the motivational criterion, for 52.7 % of them according to the cognitive criterion, for 51.6 % according to the activity-based criterion.

Thus, the results of the study indicated the insufficient level of professional and communicative competence of future doctors. Taking into consideration the professional activity of medical specialists, the peculiarity of which is the constant communication with people (patients, their relatives, colleagues) on the group and on the interpersonal level, the presence of these criteria for them is very important. Therefore, it is worth focusing on the improvement of such indices of the formation of the professional and communicative competence of the future doctors as the motives and needs for the development of knowledge, skills and abilities for the professional and communicative competence; motives that lead to effective professional and communicative activities; ability to self-development; knowledge of the professional and communicative competence of a medical specialist; ability to communicate professionally; definition of self-esteem; professional and communicative skills; communicability; self-control and, at the same time, satisfy the needs of the interlocutor during communication, which will promote the effectiveness of the professional and communicative process of interaction.

**Conclusions.** The diagnostics of the level of formation of the professional and communicative competence of future masters of medicine according to the certain criteria and indices has proven that the indices of the average and low levels of the formation of the professional and communicative competence of future doctors prevail.

We advocate further research on the substantiation and experimental verification of the effectiveness of the pedagogical conditions for the formation of the professional and communicative competence of medical students in the process of studying the social and humanitarian disciplines.

**List of literature**

5. Organising diagnostics of formation of future english languages teachers’ intercultural communicative compe-


E-mail address for correspondence: yuliaiukash76@gmail.com

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