# EVALUATING PROFESSIONAL QUALITIES OF MEDICAL STUDENTS

**Maria Kichula, Kateryna Oleksii, Tetiana Korolova**

*I. Horbachevsky Ternopil State Medical University, Ternopil, Ukraine*
kishylamj@tdmu.edu.ua, oleksij@tdmu.edu.ua, tkachuktv@tdmu.edu.ua

Currently, the higher medical education should reflect a practical sphere of public health care as well as improvement of the quality of education of future doctors. Doctor's activities involve almost all spheres of human life; therefore, the problem of training a highly skilled expert is urgent in the sphere of public health as doctors should have high professional and ethical expertise for more effective functioning of medicine. The research was conducted in the 2016/17 academic year at the Faculties of Medicine and Dentistry of I. Horbachevsky Ternopil State Medical University among 286 third-year and fourth-year students: 140 students of the experimental group (EG) and 146 students of the control group (CG). 24 experts (specialists in medicine) took part in the ascertaining phase of the pedagogical experiment. The special study course "Professionally important qualities of future doctors" in the EG was carried out in the form of experimental teaching while in the CG the traditional methods of teaching were used. The comparison of the results of students' professional qualities evaluation obtained before and after the experiment allows us to state that there is a substantial increase in professionally important qualities of the EG students compared to the CG students. This paper mainly presents the idea that professional (ability to apply knowledge into practice, ability to work with a specialised literature, ability to remember a large amount of information, knowledge and use of foreign language in professional activity, adequate professional self-assessment, desire for improvement) and volitional (responsibility for the life and health of a patient, fast reaction and ability to take decisions, resistance to psychical and emotional stresses, restraint and persistence, self-control) qualities are the most important professional qualities of future doctors. Therefore, moral (attentiveness, decency, honesty, mercifulness, altruism) and social qualities (responsibility, communicative skills, tolerance, ability to build trust) are less significant for future doctors. The experimental testing of the level of professional qualities development of medical students has proved that future doctors should interpret theoretical knowledge into practical activities, constantly improving it by working with expert literature, should be able to control their emotions and react quickly in critical situations.

**Keywords:** diagnostics; professional qualities; criteria; validity; method; expert assessment; training; workshop.

## Introduction

In the current context, the demands for specialists, who have profound knowledge in speciality as well as a well-established professional and ethical culture, gradually increase. Development of a professional culture of the future specialists foresees them having the necessary level of professional, moral and ethical qualities in addition to the appropriate level of professional competencies. The urgency of the problem of strengthening the efficiency of the future doctors' professional culture development stipulates the need for determination, studying and analysis of the totality of these qualities. Professionalism is viewed as an individual doctor's competency (Veloski, Fields, Boex, & Blank, 2005).

The overview of scientific sources has proved that the development of a future doctor's personality in the process of the training is carried out in several directions: essential professional abilities, mental processes and experience, sense of responsibility for a successful professional activity, professionally significant qualities.

Currently, the real situation regarding the problem of training a medical worker to deal with patients and development of their professionally significant qualities is still unclear; scientifically substantiated recommendations for effective implementation of the mentioned process are absent.

The practice of teaching medical students at a university and the survey conducted among the third-year and fourth-year students of I. Horbachevsky Ternopil State Medical University has proved that their professional qualities remain wanting.

The number of scientists has recently studied the notions of professional qualities, their norms, ideals, values, functions, content, and structure, and has determined their components Bekh (2014), Tiurina (2016), Sokolova (2006), Uledov (1996), Khoruzha (2016), Chorna (2016), etc. Moral characteristics of the future medical workers have been extensively studied by the experts in medical ethics and deontology (Grando ,1994; Lisitsyn, 1995; Ostropolets, 1998; Chebotariova, 1997).

The current society has set demanding requirements to education at medical schools based on the modernisation of technical and vocational education, its content and structural innovation of cultural and artistic aspects, conduction of which takes place following the new requirements of economic development. Individualisation and activation, considering personal qualities and interests of the students, as well as intensification on the grounds of transfer of the point of influence to individual work and active methods of

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education, become the priority directions of educational process improvement within the framework of the system-value approach (Nikogosyan & Aseyeyva, 2017, p. 34).

The article **aims** to reflect the professionally important qualities of future doctors and determine the level of their readiness for professional activity. To achieve these goals, the following tasks are faced: 1) to determine the criteria and indicators of formedness of professional activity based on expert assessment; 2) experimental verification of the impact of the suggested special course on the results of students' professional qualities evaluation.

The research **hypothesis** is that medical students training would be more effective using the implementation of the special course with the workshops that contribute to the development of important professional qualities of future doctors.

**Methods**

To achieve the aim the following methods have been used:

– theoretical – analysis, synthesis of pedagogical, socio-pedagogical, socio-psychological sources for determining the degree of the studied scientific issue development, generalisation to substantiate the essence of forming the motivation of medical students to achieve success in studying in a higher education institution;

– empirical – questionnaire, testing, observation, oral questioning, interviews, analysis of the results of activity, which helped to identify the level of readiness of medical students to participate in the pedagogical workshop and their awareness of the forms and methods of extracurricular work;

– mathematical and statistical methods for quantitative and qualitative analysis of data obtained during the research process.

*Participants*

The empirical research was conducted at I. Horbachevsky Ternopil State Medical University. 286 third-year and fourth-year students majoring in General Medicine and Dentistry specialities who after graduation from the university are awarded a master's degree, 24 experts (specialists in medicine) took part in the ascertaining phase of the pedagogical experiment. Among them, 140 students of the experimental group (EG) and 146 students of the control group (CG) were involved in the research. During the academic year, the special 72 academic hours' course "Professionally important qualities of future doctor" was conducted at each third and fourth year of study of each speciality.

*Instruments*

It has been argued and generally agreed that becoming a good doctor requires more than just knowledge-based academic achievements (Barr, 2010), and identifying the desirable personal qualities of future doctors has become an important concern for medical student selection (Powis, 2010).

When forming the EG and CG, we studied the university educational curricula of the selected groups with evaluative judgements of the teachers, who taught the students of those groups.

Consequently, there were equal conditions in the EG and CG as well as approximately the same quantitative and qualitative contingent of participants in the experiment. The teaching methods in the groups were different. In the EG the active factor of impact took place, i.e. the study of the discipline "Professionally important qualities of future doctors" was carried out together with the systematic use of the pedagogical workshop "Development of professionally significant qualities of future doctor". In the CG the curriculum was not changed.

The implementation of educational technology with the use of pedagogical workshops as a form of experimental teaching in the EG was carried out step-by-step throughout the entire academic year. Structurally the training programme "Development of professionally significant qualities of future doctor" was divided into 4 modules according to the directions of work and comprised 18 lessons. Module 1 – organisational integration (lesson 1); module 2 – reflexive-creative integration (lessons 2-8); module 3 – communicative-behavioural integration (lessons 9-12); module 4 – value-motivational integration (lessons 13-18). Duration of the training (one full course) was determined by the conditions and content of the lessons and depended on the number of participants in the class and varied within the range of 27 to 36 academic hours. The training sessions were held once a week for 2 academic hours, one lesson with homework. Each unit included original exercises and modified training exercises that could be applied in accordance with the goal: role-playing, mini-discussions, personal development training exercises, body-oriented training exercises, etc.

One of the most common methods of evaluation of future doctors' professional qualities development is questioning using different types of questionnaires and surveys. They are based on the choice of the optimal

activity of a respondent in various moral and ethical situations. The suggested questionnaire is anonymous, consists of 14 questions: 4 general questions (for determining age, sex, specialty, year of study); 10 open and closed questions for determining the attitude of students to extracurricular work, their interest in this type of activity and their readiness to participate in various forms and methods of extracurricular work. At the same time, the statistical processing of the survey data facilitates the interpretation of the results. The questionnaires reflect results of self-study of students' internal professional and ethical development level, self-diagnostics, which in its turn pays the attention of the respondent to their self-improvement.

The following test methods have been used to determine professionally important skills: the methodology for determining the evaluation of communicative skills of Karelin (1999), the methodology for determining the motivation to succeed of Orlov (2018), the methodology for determining self-confidence estimation of Matsko, Pryshchak, & Pervushyn (2018).

Engagement of 24 specialists in medicine (managers, scientists, lecturers of higher medical schools and medical practitioners) gave grounds to consider the results of the provided expert assessment as credible. They were the heads of the Departments of Public Health of Ternopil Municipal State Administration, Ternopil Communal Municipal Hospital No. 2, Ternopil Communal Municipal Hospital No. 3, lecturers of general, special medical disciplines and humanities of I. Horbachevsky Ternopil State Medical University, practicing doctors of Communal Institution of Ternopil Regional Council "Ternopil University Hospital", Zalishchyky Central District Communal Hospital, and Kremenets Central District Communal Hospital, including the heads of departments, carrying out medical practice and managing medical staff.

The method of group expert assessments (GEA) grounds on the assumption that each integral object may be presented as a complex quantitative indicator. It is presented as the sum of the products of the components of an object and relevant to its value coefficient. Therefore, this method is an important technique in determining criteria as well as its indicators used in the research (Alekseeva, 2007, p. 62). Value coefficients reflect the influence of each component of the object on the complex quantitative indicator. Herewith the total sum of the coefficients, by the rationing rule, is equal to one. The quantitative value of value coefficients is determined by a specially selected group of experts. Therefore, in case that the level of development of a professional and ethical culture of a future doctor is integral, it may be determined as a complex quantitative indicator (Alekseeva, 2007, p. 64):

$$Lpec = C_{w1} \cdot CgC + C_{w2} \cdot IC + C_{w3}\, EC, \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (2.2),$$

where, L – the level of formation of professional and ethical culture;

$C_{w1,2,3}$ – value coefficients of each criterion;

Herewith,

$$C_{w1} + C_{w2} + C_{w3} = 1, \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (2.3).$$

As a result of a survey conducted among medical professionals and lecturers of the university, the equal importance of value coefficients for assessing the level of professional and ethical culture development has been established. These values are:

$$C_{w1} = C_{w2} = C_{w3} = 0.33, \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (2.4)$$

To achieve the set aim in the diagnostics of the professional qualities development, the method of conversation has also been used, as it is an integral method of pedagogical work. This method is the main tool of diagnostics of intellectual, emotional and volitional features. It has been established that truthfulness and completeness of the data received through conversation depend on the level of the respondent's ability to correct self-evaluation.

**Results**

According to the research analysis of Alekseeva (2007), Kyshakevych (2001), Savchenko (2005) and implementation of the mentioned methods, we selected 28 professionally important personal qualities of a future doctor. Later these qualities were divided into 4 groups (each consisting of 7 qualities), i.e.: moral, professional, social and volitional qualities. The offered quantity of professionally important qualities (28) and their division into groups (4) was associated with multifacetedness of the profession of a doctor, specifics of the professional activity, constant contact with patients, and requirements to the professional training of a medical worker.

Thus, first of all, it should be noted that before the experiment, the majority of students were convinced that professional (about 42% of the EG students and 43% of those of the CG) and social qualities (about 17% of the EG students and 21% of those of the CG) were significant for a future specialist, while the moral (about 24% of the EG students and 23% of those of the CG) and volitional ones (about 16% of the EG students and 12% of those of the CG) were not essential in their future career. On those answers, we

establishing a tendency in understanding the necessity of implementation of the special course for personal and professional development by students.

In the pedagogical experiment, we studied how the third- and fourth-year students of medical specialities learn the special course in practice, especially the workshop, and developed their knowledge. After all, students' activity during the workshop included the features of educational as well as future professional values.

However, at the end of the experiment, in the EG the number of the students, who believed in professionalism and moral ethics, increased (71% and 5.7% of the EG students). A similar picture was evidenced for students' understanding that social and volitional qualities were needed for becoming a good specialist (33.4% and 29.5% of the EG students). Although, most CG students considered that the professionally important qualities did not influence much on their profession and their rates did not change significantly. The results are represented in Table 1.

**Table 1. Students' assessment of professionally important qualities of a future doctor's personality (by groups) according to their significance before and after the experiment**

| No | Groups of qualities | Before the experiment | | After the experiment | | Dynamics in % | |
|---|---|---|---|---|---|---|---|
| | | EG | CG | EG | CG | EG | CG |
| 1. | Professional | 42.2% | 43% | 71% | 46% | +28.8% | +0.8% |
| 2. | Moral | 24.5% | 23.2% | 45.7% | 27.8% | +21.2% | +4.6% |
| 3. | Social | 17% | 21.6% | 33.4% | 24.1% | +16.4% | +2.5% |
| 4. | Volitional | 16, 3 | 12.2% | 29.5 | 17% | +13.2% | +4.8% |

The analysis of Table 1 proves the increasing number of the EG students, who consider that future career requires constant development and improvement of professional qualities. Students believe that the development of professionally important qualities is compulsory for a future specialist. Moreover, the implementation of the special course with the use of workshop in the EG makes the students get interested in medical activity. The attained results evidence that, on the one hand, there is some positive experience regarding the use of special course in the process of medical training at universities, but, on the other hand, we can experience the lack of systematic, purposeful activity of teachers and students in this direction.

We also asked the experts to give their assessment of the qualities regarding their significance in daily professional activity in the form of a questionnaire. They determined professionally important qualities of a future doctor. At the beginning of the research, the aim and tasks of the experiment were explained to each expert. The general results of the expert assessments are presented in Table 2.

**Table 2. Overall rating of the expert assessment of professionally important qualities of a future doctor (by groups) according to their significance (1 – the most important quality, 7 – the least important quality**

| No. | Moral qualities | Professional qualities | Social qualities | Volitional qualities |
|---|---|---|---|---|
| 1. | Attentiveness | Ability to apply knowledge into practice | Love to profession | Responsibility for the life and health of a patient. |
| 2. | Decency | Ability to work with a specialised literature | Responsibility | Fast reaction and ability to make decisions |
| 3. | Honesty | Ability to remember a large amount of information | Education | Ability to work |
| 4. | Mercifulness | Knowledge and use of foreign language in professional activity | Communicative skills | Resistance to psychical and emotional stresses |
| 5. | Altruism | Adequate professional self-assessment | Tolerance | Restraint and persistence |
| 6. | Sympathy | Desire for improvement | Ability to build trust | Self-control |
| 7. | Courage | Scientific research | Observation | Purposefulness |

The analysis of the attained results proves that the vast majority of the experts (84%) define professional and volitional qualities as the most important professional qualities of a future doctor.

Studying this problem in accordance with the mentioned qualities allows distinguishing the following criteria of professional development of a future doctor:

- Cognitive – CgC;
- Instrumental – IC;
- Emotional – EC.

According to these criteria, it is possible to get a complex criterion (CC) of the development of professionalism and ethics of future doctors, which represents the arithmetic sum of indexes: CgC+IC+EC. It is calculated according to the formula:

$$CC = \frac{CgC + IC + EC}{3}$$

Notes: CC – complex criterion of development of professionalism of a future doctor,
CgC – cognitive criterion;
IC – instrumental criterion;
EC – emotional criterion.

The complex criterion of professional development of a future doctor and each indicator is represented as initial, actual and dynamic. The initial indicator is defined at the beginning of the experiment; the actual indicator is established as a result of the experimental work, and the dynamic one represents the difference between actual and initial data.

The levels of professionally important qualities development are determined according to the presence of moral and ethical values, ethical and pedagogical knowledge, skills and abilities of a future doctor. They may be low, average or high. The mentioned levels require the thresholds of their manifestation according to the previously identified criteria (Table 3).

**Table 3. Levels of the development of a professional and ethical culture of future doctors by criteria and their indicator**

| **Level** | **Criteria** | **Indicators** |
|---|---|---|
| *Low (insufficient)* | Cg | Professional incompetence (lack of professional knowledge, skills, expertise, basic professional competencies which determine the ability to solve professional tasks and make qualified decisions; unawareness of the importance of their availability in the system of professional tasks); misunderstanding of the nature of professional and ethical culture; lack of creativity (inability to generate original ideas and to produce various approaches to problem-solving). |
| | I | Undeveloped communicativeness (inability to choose the best ways of communication in a situation of interaction, to form professionally appropriate relationships, to substantiate and defend own position, to use communication styles appropriately, to establish a dialogical communicative orientation while interacting with objects of influence); lack of informational skills (ignorance of modern computer technologies and inability to use them in practice; inability to find, store, use and transmit professionally necessary information, work with its large volume); lack of ability to draw conclusions, analyse and correct mistakes in the choice of tactics of professional and ethical behaviour. |
| | E | Lack of reflection (ability to carry out self-examination, self-assessment of results of activity); low level of internal motivation for professional training and further professional activity; an undeveloped system of moral and ethical values; an undeveloped sense of dignity, honour, and responsibility. |

| | | |
|---|---|---|
| *ufficient* | Cg | Situational professional competence (presence of professional knowledge, skills, expertise, main professional competences, which determine the ability to solve professional tasks and make qualified decisions; partial understanding of significance of their presence in the system of professional tasks realisation); understanding of norms of professional ethics and their practical meaning; presence of knowledge about the humanistic moral principles of the doctor's work, deontological basis of this profession; use of 'ethical' dictionary; partial understanding of the essence of professional and ethical culture; creativity; situational interest in positive results of their work. |
| | I | Developed communicativeness (the choice of optimal ways of communication, building of professionally appropriate relationships, presence of own position, appropriate use of different styles of communication, establishing a dialogic interaction with objects of influence); informational armament (knowledge of modern computer technologies and ability to use them in practice; ability to find, store, use and transfer professionally necessary information, work with its large volume); ability to choose tactics of professional and ethical behaviour; ability to reflect on one's own actions, but instability in the expressing of moral and ethical qualities; adherence to the norms of professional ethics under the influence of external situational environment. |
| | E | Development of moral and ethical qualities, professional worldview and moral consciousness; situational compliance with professional ethics requirements; the presence of internal motivation for professional training and further professional activity; the system of moral and ethical values; positive person-emotional attitude to the chosen profession. |
| *High (optimal)* | Cg | Perfect knowledge of the nature and content of professional ethics, the deontological basis of the profession of a doctor. Knowledge of development of professional and ethical culture from the point of view of scientific knowledge and life experience; interest in improving professional and ethical knowledge as well as practical skills, desire to professional self-actualisation, taking aim at constant development of professional and ethical knowledge and skills, using them in accordance with the aim and tasks of the professional activity, creativity in completing professional tasks. |
| | I | Ability to effectively use professional and ethical knowledge, to implement it into practical skills and abilities in order to solve professional tasks; ability to make moral decisions appropriate in particular situations, and in accordance with the norms of pedagogical ethics; domination of ethical centring in the choice of methods and approaches of interaction with various subjects of professional activity; presence of skills of cultural interpersonal solution of moral conflicts and resolution of conflict situations; free expression of scientifically grounded thoughts, views; manifestation of creative abilities in realisation of practical abilities and skills of ethical interaction. |
| | E | Formation of ideal image of a doctor, compliance with a professional portrait; the prevalence of dialogical communicative orientation, domination of ethical centralisation, manifested in a stable system of relations to future activities, the world, other people and themselves; a personal, well-grounded position on the demonstration of their own feelings, inclinations and actions. |

Notes:

- Cg – Cognitive;
- I – Instrumental;
- E – Emotional.

Determination of the level of professionally important qualities development of a future doctor requires defining of the qualitative and quantitative characteristics. Qualitative assessment of each criterion consists of the evaluation of each indicator. A six-score scale is used for each indicator. The ranges are: from 0 to 1 score – a low level, from 2 to 3 – a middle level, from 4 to 5 – an optimal level of professionally important qualities development of a future doctor (Table 4.).

**Table 4. Characteristic features of indicator assessment by the levels of professionally important qualities development of a future doctor**

| Level | Score | Characteristics of the indicator |
|---|---|---|
| Low | 0 | The indicator is not expressed. |
| | 1 | The indicator is expressed very weakly. |
| Middle | 2 | The indicator is expressed weakly. |
| | 3 | The indicator is expressed but is observed as limited and ineffective |
| High | 4 | The indicator is expressed but manifests inconstantly. |
| | 5 | The indicator is developed, clearly expressed, manifests regularly. |

In our research, the indicator validity was defined by its ability to quantify what should be evaluated. Reliability of the indicator was determined by checking its stability during a certain time, determined by the qualities of professional and ethical culture development of future doctors.

The suggested special course of study "Professionally important qualities of future doctors" is intended to provide theoretical, practical training and personal development, thus implementing a systematic approach to the training of a physician. The effectiveness of this method is ensured primarily by its inextricable interconnection both at the level of theoretical development and planning as well as at the stage of practical implementation.

As a result of training for the development of professionally significant qualities of a future doctor, the results of the questionnaire to obtain the indicators are presented in Figure 1. Before the training, a low level of professionally significant qualities of a future doctor was evidenced in 24% of the students of the experimental group, after the training it was 13%. Instead, a high level of professionally significant qualities was in 45% of individuals before training, and it was 65% after.

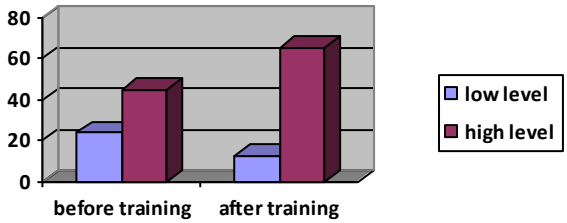


**Figure 1. Comparative diagram of the levels of professionally significant qualities development of a future doctor of the experimental group 'before' and 'after' the training**

Thus, the method used in the EG is more effective than the traditional one used in the CG. Consequently, the hypothesis of the study of the special course implementation effectiveness together with the workshop in the process of training has been established.

According to the results of the research, the conclusion has been drawn that the special course of study together with the workshop undoubtedly contributes to a higher level of professionalism of medical students. And the fact that the workshop is a means of professional and personal development that facilitates the development of moral, professional, social and volitional qualities is unquestionable.

**Discussion**

The hypothesis that was put forward during the experiment provided a direct dependence on future doctors' professional readiness formation on the developed pedagogical model and the implementation of pedagogical conditions. In the formative stage of the experimental study, we realised that its success depends directly on the definition of goals and objectives of the research, and the search for the most effective ways of their solution.

The introductory control data have shown that the initial level of formation of professional qualities of future doctors of EG and CG according to all criteria (cognitive, instrumental and emotional) are practically identical and require significant improvement. It should be noted that by comparing the results of the

confirmatory phase of the experiment with the results we obtained in the first assessment of the developing experiment, we state somewhat worse results for all criteria.

The formation of professional qualities of the majority of students by cognitive, instrumental and emotional criteria revealed to be at low and average levels. Such data show the need to optimise the process of forming the professional culture of future doctors by introducing active forms and methods of work, innovative technologies, in particular, training sessions. Our own pedagogical experience proves that this approach is quite practical, as teachers receive ready-made teaching materials for the training and can use any exercises, games, practical tasks, pedagogical situations, professionally-oriented exercises, and practical professional situations, business games as part of their seminars or practical classes.

In the development of training programme we have established the following goal: to develop practical training sessions, envisaging the implementation of all isolated pedagogical conditions; to develop all kinds of skills of future doctors by means of training; to increase the level of professional readiness of medical students; to promote motivation of educational activities, improve theoretical knowledge and practical skills.

Introduction of the elements of educational and pedagogical training as a means of forming the professional qualities of the future doctor gave its positive results. It should be noted that future doctors of EG during the training had the opportunity to freely express their thoughts and share their impressions, argue the choice of their position and defend it, objectively asses their communicative activities, as well as the activities of their classmates. It was established that the introduction of pedagogical conditions through training allowed forming all components of the professional qualities of a specialist, developing empathy, adequate self-esteem, pluralistic feelings, reveal the internal potential, increasing initiative and efficiency, and helped to reduce negative emotions, apathy and aggressiveness in actions of students.

Students of EG learned to be more reasoned and free to express their position, often used expressions like “I believe”, “In my opinion”, “I am considering this way”, and so on. Participation in the training rallied the student team, taught to make important decisions. As a positive point, we should note the fact that students actively developed reflexive skills became more tolerant towards others, learned to treat critically their shortcomings and began intensive work on their correction.

That is, our experimental study confirmed the expediency of introducing the developed pedagogical model and pedagogical conditions for the formation of professional culture into the process of professional training of future doctors. Thanks to mathematical calculations of the obtained results, we can state that the effectiveness of their formation is due to our pedagogical influence. Consequently, considering the results of the experimental study, we increased the number of students who believe that professional and volitional qualities are more important for a future doctor and moral and social can be obtained in the course of practical activity.

The results of the study have inferred that development of a doctor’s personality is determined by the level of professional training, experience, knowledge, skills, qualifications, as well as public relations in the professional field. The specificity of medical activity develops a special medical and clinical thinking, psychological qualities of an individual, which are formed in various forms of their existence and determines the level of their professional competence development. These qualities are being developed, for the most in professional training.

Stern (2004) argues that professionalism is developmental and highly contextually specific, that is, professional development evolves continually throughout the curriculum and its demonstration is much dependent on the context in which the students find themselves.

Archer, Elder, & Hustedde (2008) claim that professionalism is essential in decision making, medical errors, relationships with patients, patient satisfaction and health outcomes. Teaching and evaluating professionalism are important issues in medical education. Recent research (Cottrell, Samora, Shumway, 2012) has found that various strategies are used to introduce the culture of professionalism including the integration of ethics and humanities. Personal and professional development curriculum design should include all aspects of medical practice and interdisciplinary rather than be discrete (Nestel, Robbe, Jones, 2005).

Khripunova (2014) defines personal qualities of a future medical worker: assertiveness, tolerance, empathy, to a large extent successfulness of professional functioning, development and self-realisation of personality on all stages of their life (p. 43). The effectiveness of professional qualities development of a future doctor’s personality depends on how well balanced the system of the deal aimed at solving this problem is.

Passi, Doug, Peile and other’s (2010) point of view is that it is not possible to identify any particular methods presented to be more effective than others. Nevertheless, as professionalism is a complex construct, the evidence suggests the use of a variety of teaching methods throughout the curriculum (p. 24).

The reason for choosing the discipline "Professionally important qualities of future doctors" as a means of the development of professionalism is its integrative content. The defined tendencies prove the advance of professional orientation in the process of training of future doctors, which is manifested in the need to work on improving their professional skills, to help others, to gain solid knowledge that helps in solving future complicated professional situations during interaction with patients, to realise their personal potential in the chosen field.

According to Aleksyeyeva (2007), professionally important qualities of a person are both "prerequisites for professional work, and its new developments, since they are improved, and transform while working" (p.5). The educational process at higher medical schools should be focused particularly on the development of the mentioned professional qualities of a person, as their manifestation helps medical workers to perform their professional duties effectively. The scheme of the groups of interconnected professionally important qualities of a future doctor is presented in Figure 2.

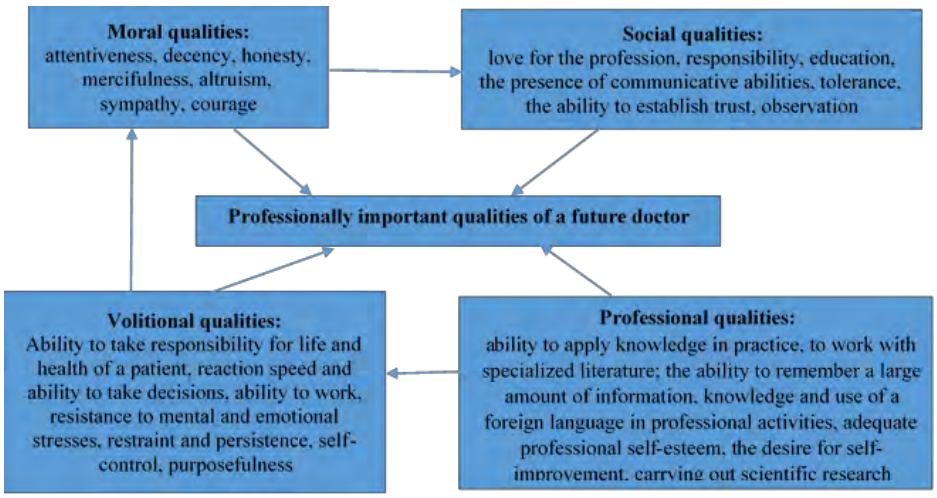


**Figure 2. Professionally important qualities of a future doctor**

This paper highlights the main approaches to supporting future doctors in the development of their professional qualities. Evidence-based strategies for teaching and evaluation of professional qualities have not been developed yet and it takes time to develop and study the main areas identified in this systematic review. Individual, societal and political expectations are continually evolving with increasing requirements for doctors.

## Conclusions

Thereby, the attained statistical data and significant differences between the level of development of professionally significant personal qualities before and after the experiment has proved the effectiveness and feasibility of the suggested special course of study "Professionally important qualities of future doctors" and the workshop "Development of professionally significant qualities of future doctor". In general, during the experimental study, the interdependence of the level of professionally significant qualities development and the complex application of the purposeful method of influence has been established and statistically substantiated.

According to the results of the expert evaluation, a doctor must be able to implement his/her knowledge into practice, work with expert sources, memorise a large amount of information, know and use foreign languages in professional activity; take responsibility for life and health of a patient, make decisions quickly, maintain working capacity and resilience to mental and emotional stresses; love profession, be responsible, educated, have communicative abilities; be careful, decent, honest and merciful. However, the experts consider that responsiveness, courage, self-improvement, research, trust, observation, self-control and targeting are less important for a medical worker than the above-listed qualities. In conclusion, the analysis of scientific sources on category apparatus of professional ethics, its norms, qualities, ideals, values, functions, content and structure of morality has proved that the problem is urgent. The paper doesn't completely cover all aspects of the problem. Further research should be carried out to study the perspectives of development of moral, professional, volitional and social qualities of future doctors.

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