

ОЦЕНКА УЧЕБНЫХ ПЛАНОВ В НАЦИОНАЛЬНОМ УНИВЕРСИТЕТЕ ВНУТРЕННЕЙ МОНГОЛИИ (КИТАЙ)

Адукинфу¹, Оюнгоо Б.², Лхагвасурен Ц.²

¹Национальный университет Внутренней Монголии, Китай;

²Монгольский национальный университет медицинских наук, Улан-Батор, Монголия)

Резюме.

Целью работы стала оценка учебной программы “Лечебное дело” Национального Университета Внутренней Монголии (Китай).

Материалы и методы. Использовался метод одновременного дискриптивного анализа. В исследовании были включены стороны учебного процесса – обучающиеся, организаторы и преподаватели данного Университета. Были проанализированы учебная программа, её составные компоненты, опросники, записи интервью, ведомости, соответствующие правовые и нормативные документы, отчёты.

Результаты. Во «входах» реализации учебной программы высшего образования Медицинского факультета необходимо улучшить состояние библиотеки, доступ и обеспечение интернет среды, возможности проведения научно-исследовательской работы, кооперативной работы участников учебного процесса. В «процессах» учебной программы необходимо усовершенствовать методы обучения, а система оценки обучающихся по некоторым параметрам не соответствует международным критериям. В «выходе» отмечается, что данную учебную программу недостаточно признают в местном и международном масштабе. Признанность и положение выпускников в социальной и медицинской области достаточны.

Заключение. Методом одновременного дискриптивного анализа проведено исследование «входов», «процесса» и «выходов» программы высшего образования (бакалавриата) в Национальном университете Внутренней Монголии (Китай), установлены направления, требующие улучшения.

Ключевые слова: медицинское образование; бакалавриат; Национальный университет Внутренней Монголии; дискриптивный анализ.

UNDERGRADUATE MEDICAL CURRICULUM EVALUATION AT INNER MONGOLIA UNIVERSITY FOR NATIONALITIES, PRC

Aduqinfu¹, B. Oyungoo², Ts. Lkhagvasuren²

¹Inner Mongolia University for Nationalities, China;

²Mongolian National University of Medical Sciences, Ulanbaatar, Mongolia)

Summary.

Aim: to evaluate the curriculum “General Medicine” of the Inner Mongolia University for Nationalities (China).

Methods. The method of simultaneous descriptive analysis was used. The study included the sides of the educational process – students, organizers and teachers of this University. We analyzed the curriculum, its constituent components, questionnaires, interview records, statements, relevant legal and regulatory documents, reports.

Results. At the “entrances” of the implementation of the higher education curriculum of the Faculty of Medicine, it is necessary to improve the state of the library, access and provision of the Internet environment, the possibility of conducting research work, and the cooperative work of participants in the educational process. It is necessary to improve teaching methods in the “processes” of the curriculum, and the system of assessing students in some parameters does not correspond to international criteria. The exit notes that the curriculum is not well recognized locally and internationally. The recognition and position of graduates in the social and medical field is sufficient.

Conclusion. The method of simultaneous descriptive analysis was used to study the “inputs”, “process” and “outputs” of the higher education (bachelor’s) program at the Inner Mongolia University for Nationalities(China), and directions for improvement were identified.

Key words: medical education; bachelor’s degree; National University of Inner Mongolia; descriptive analysis.

The latest trend in healthcare is directed to provide client-friendly, evidence-based and full-service care to all members of the community (healthy and diseased), and ensuring continuous quality of health care, and promoting public health, protection and improving the quality of life through public service delivery.

The World Federation of Medical Education has approved the standards of the curriculum for undergraduate medical education addressed to member countries. Under the standard item 1.4, each school is recommended to align its medical education to the needs of the community, to support medical knowledge and technological advancement, to ensure the continuity of the physician’s learning environment, to utilize information technology advancement, and to adapt to the change in the system of health care delivery.

Ensuring the continuous development of the curriculum has important advantages such as international accredita-

tion of the curriculum, allowing students to exchange credits, as well as mutual acceptance of graduates’ diplomas with foreign universities. Based on the evaluation of the program, it would be possible to identify the skillset of graduates. Thus the implementation will provide us valuable information about knowledge, skillset and attitudes that must be passed down by teachers, in addition to clear qualifications of specialists the employers could expect.

Modern medical education system has been developing for almost 500 years since its origin in China. Since the founding of the new China, the medical education has never been so successful. It has been remarkable success, the result of improved training of human resources and as well as advancement of scientific research and medical services.

However, depending on the historical and economic reasons, the Chinese medical education standards differ from that of developed countries. Today we face the need to grad-

ually unify the doctors' under standardized management and to develop medical education to international level. In this context, innovation in the curriculum for undergraduate medical students remain essential. Established in 1958, the Inner Mongolia University of Nationalities – one of the universities of China specialized in medicine- has produced over 7000 doctors since its opening of the curriculum for undergraduate medical students in 1987. Despite the many changes to the curriculum during the past ten years, including the content of credits for hours and improved interrelationships of courses, there are still difficulties in educating specialists in medical schools.

In order to implement the WFME's "Guidelines of conducting training directed at providing comprehensive competence in regional and international scale", it has become essential to conduct comparative studies of curriculum, to define contents, proper planning of resources, and to improve the program.

Study aim: to evaluate the curriculum for undergraduate medical students at Inner Mongolia University for Nationalities, PRC.

Research methods

The research has been conducted with descriptive and analytic models simultaneously. In order to evaluate of the curriculum for undergraduate medical students at Inner Mongolia University for Nationalities of China, the participants and implementer as well as following materials have been studied: training programs, components, questionnaires, interview records, results, relevant rules and procedures, and reports. Questionnaire has been statistically analyzed on SPSS-17 software.

Results

We have collected the data from 23 members of the management team of Inner Mongolia University of Nationalities, 137 faculty members and professors, 268 students from 1-5 grades, 331 graduates and 35 employers.

Current evaluation of the curriculum for undergraduate medical students.

The quantitative and qualitative analysis of the criteria for assessing the current situation of the curriculum is divided into program inputs, processes and outputs, and each section has been identified, as followed by.

In Program inputs section, the result of comparative satisfaction survey from participating parties on "Environmental and technological situation related to curriculum implementation" item shows differed greatly between faculty members and graduation assessments (figure 1).

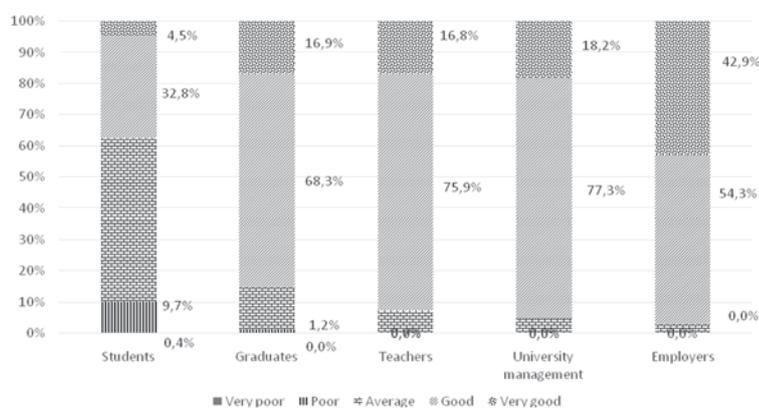


Рис. 1. Оценка учебной среды (заинтересованные стороны) /
Figure 1. Assessment of learning environment (stakeholders)

Students' satisfaction regarding the availability of equipment, information technology tools, laboratories, clinical environment, and utilization status and healthy and safe learning environment were worse than teachers

and graduates (91.9-96.4 percent and 51.2-63.7 percent respectively). This indicates that improvement in the learning environment of the students is absolute necessary. Furthermore, the survey indicates that current students, trainees and graduates have evaluated the learning environment, training materials, especially instructions and guidance of organizing trainings as "inadequate", which shows improvement is necessary on quality standards.

Also, this study findings indicate current learning environment is inadequate to meet the need for printed materials, e-learning tools and e-learning environment. On the contrary, the school management, *faculty members* and employers have evaluated the learning environment, learning tools and e-environment as "satisfactory" which shows a great difference in stakeholders' satisfaction level. During a group interview session about the learning environment, library and digital information sources, the students raised several issues including limited laboratory capability, limited capacity, low speed internet and insufficient cabinets. It can be seen that more investment is needed for the improvement of training equipment and tools, better accommodation for students and sufficient training facilities.

Educational program process was evaluated with 4 main criteria. Results of each criterions are described as shown below.

"*Program organization and management*" aimed to assess whether adequate strategies and management efforts are put to ensure the development of the program by optimal allocation of resources to provide quality and continuous training activities in order to create a favorable working and learning environment. The *faculty members* assessment on program management and organization has been evaluated in detail using 12 indicators. The results showed that one in four *faculty members* have put "satisfactory" when asked about the human resource study, analysis, development works for *faculty member* and staff, as well as *faculty members* and students' participation in decision making process of units (26.2 and 26.3 percents respectively).

Only 27.8 percent of *faculty members* evaluated the continuous collaboration with students after graduation to be good. Another 27.8 percent believes that rules and procedures that are required to develop, implement and evaluate programs were "satisfactory". These become the basis of the evaluation of the *faculty members* program management as "unsatisfactory".

"*Activities targeted for students*" were assessed in 4 points, each point designed to evaluate the sufficiency of supporting activities for the provision of self-learning possibilities as well as the effectiveness of implementation based on the needs of students. The university's management team has provided the poorest (2.8±0.5) evaluation score on the accessibility

of student support services such as consultancy services on learning, research methods, career development, employment, psychology and legal assistance. The evaluation by the students on support services for student bodies were relatively lower than that of *faculty members*, school management and graduates (3.6 students). The students' satisfaction level was significantly lower compared to graduates' satisfaction level regarding the support and organizational assistance for student volunteer works, financial support provided for student bodies, funding of club activities, as well as the rightful usage of funds and the transparency of financial reports. Based on the fact that the school management, *faculty members*, graduates and students all agree that student support mechanism is unsatisfactory, it clearly indicates that a radical change is needed in this matter. Student interviews underline that there is a demand for *faculty members'* attention on enhancing the scientific knowledge and research methodology contents given to students.

Faculty members activities were evaluated by 3 main indicators, each dedicated to draw assessment on whether

they are effectively aimed to implement and develop the training program.

In this section, 86.1 percent of all *faculty members* have evaluated the curriculum's human resource policy to be effectively applied, while 83.9 percent of all faculty members believes that the number of professors with PhD degree is sufficient, 75.7 percent said the position based requirements on educators are being met, and 82.5 percent have said that performance and quality based incentives provided to *faculty members* were good.

Faculty members evaluation analysis was made based on criteria such as whether or not the teachers prepare their performance reports, if there are regular external evaluations in place, teachers' teaching methods, whether or not the *faculty members* are evaluated by the students, or whether or not the *faculty members* work and documents are evaluated. These indicators were evaluated "good" in 76.9 percent of *faculty members*.

As a result of interviews conducted with the school management in terms of *faculty member* development matter, the university has started adopting numerous internal policies to promote faculty development. However, it was underlined that further stage development is required, as well as exchange programs for faculties and know-how transfer were a must. The students and *faculty members* ratio 15:1 is considered adequate and current status is 18:1.

"Training activities" were assessed to determine alignment with school's vision and are directed at the optimum result of the program; as well as if the continuous improvement efforts are put in place regarding contents and training methods. During the interview on curriculum contents and innovation, teachers stressed external involvement from government officials on establishing objectives, organizational structures, and programs of Chinese academies of health sciences and medical institutes are hindering academic freedom. The officials often disregard the suggestions of the *faculty members*, students and employers.

In addition, university education goals, objectives, and content reforms are usually matched to requirements set by the school's administration or National Education Department or National Health Department. The major weakness of these reforms are made without the participation of students, employers, healthcare organizations, other institutions in the field or the graduates. Therefore curriculum contents differ from international standards.

Satisfaction level on methodology used in training to create knowledge and skillset for practical applications has been evaluated negatively ($p=0.0001$) by the *faculty members* and graduates. The graduates evaluated themselves to be unable to obtain practical knowledge, or in methods for creating new knowledge (2.4 ± 1.2).

Students and *faculty members* agree that most of the trainings are teacher-focused and not interactive. The interviews suggest that teaching methodology must be reformed into a more student-centered system. Students believe that teaching methods of the best international and domestic universities should be tested and more attention should be put on developing students' capabilities. Graduates unanimously support the idea of implementing new methods and voted for the reform of curriculum since the current methodology has proven to be insufficient in terms of providing theoretical and practical skills as a whole package.

The majority of *faculty members* and graduates have good satisfaction level (4 or more points) in relations to the assessment of students based on indicators such as knowledge and skills, determining attitudes, evaluation methods and methodologies used in the training plan for each course, as well as their set-up which are aimed for continuous development of the student (Table 1).

Program output was evaluated by 2 criteria. "Result and effect of the curriculum" was defined by 3 indicators, each

Таблица 1

Оценка преподавателей и выпускников по программе «Оценка студентов» /
Table 1. Faculty members and graduates' assessment on "Student evaluation"

Student evaluation		Faculty members	Graduates	p
		Avg \pm CX	Avg \pm CX	
1	Usage of methods to evaluate knowledge, skillset, attitude and improvement	4.2 \pm 0.9	4.0 \pm 0.8	0.031
2	Evaluation method of each courses used in training plan, its influence on continuous development of students	4.0 \pm 0.7	3.9 \pm 0.7	0.117
3	Transparency, accuracy, fairness and equality of student evaluation	4.2 \pm 0.6	4.0 \pm 0.7	0.013
4	Student achievements	4.1 \pm 0.7	4.0 \pm 0.7	0.008

aiming to determine if the curriculum's results are aimed at the school's vision and mission, and whether or not they meet the stakeholders' needs. Effectiveness was listed on satisfaction survey to determine the curriculum's results, the school's management team concluded it insufficient (13 percent – sufficient), while the graduates believed it was satisfactory (75.3 percent). The management team answered employment surveys and position compliance surveys are taken regularly, but evaluated their participation to be insufficient (43.5 percent unsatisfied) while the graduates believe that their participation is sufficient (73.4 percent sufficient). Evaluation of the time spent until employment since graduation was long for both graduates and curriculum management team (74.4 and 86.9 percent respectively). The position of graduates in the industry and labor market was evaluated at 91.3 percent by the school management and 76.1 percent by the graduates. Contribution of graduates for the development of the field was evaluated sufficient for both management and graduates (73.4 and 76.1 percent). The majority of management team and graduates assessed the success of graduates from the program to be satisfactory.

"Quality assessment and assurance" consisted of 7 indicators assessment. These indicated assured internal quality control mechanism, reviewed regularly by an independent party aimed to continuous development of the curriculum. Domestic and international accreditation was measured by the number of graduates who have entered the upper level of education as well as the students' achievements from international Olympics and competitions was deemed to be sufficient by the curriculum management. However, it was decided that the number of joint international curriculum active for undergraduate education at Inner Mongolia University of Nationalities and the number of foreign students were not satisfactory. Faculties interview suggested that quality and control of curriculums for undergraduate medical students are highly unsatisfactory, while there is a clear lack of performance evaluation systems for curriculums. Agreement on participation of students, graduates, patients and employers is crucial for the improvement of the education system was made.

Conclusion

We analyzed Input Section of the curriculum for undergraduate medical students at Inner Mongolia University of Nationalities and identified significant deficiency in libraries, accessibility and availability of internet based curriculum, as well as research facilities and cooperation between implementing parties of the program. In the Program Process Section, the training methods and evaluation systems did not meet the international requirements in certain fields. Meanwhile on Output Section, certain gap existed on curriculum's accreditation both in national level and internationally. However, the graduates of this curriculum had well-established recognition in social and healthcare sectors.

Curriculum contents should address professional versatility of an individual, such as, identifying and resolving issues, ethics of medicine, communication, attitudes,

leadership, teamwork, knowledge of foreign language as well as the ability to do research. Furthermore, student-centered training methodology is needed to promote course selection possibilities, problem solving systems, unity and participation of society which will in turn create a concrete evaluation system of students and graduations as well as providing lifelong skills.

Конфликт интересов. Авторы заявляют об отсутствии конфликта интересов.

Прозрачность исследования. Исследование не имело спонсорской поддержки. Исследователи несут полную ответственность за предоставление окончательной версии рукописи в печать.

Декларация о финансовых и иных взаимодействиях. Все авторы принимали участие в разработке концепции и написании рукописи. Окончательная версия рукописи была одобрена всеми авторами. Авторы не получали гонорар за исследование.

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Информация об авторах:

Лхагвасурен Ц. – д.м.н., профессор, академик, e-mail: tsetselkh@gmail.com

Information About the Authors:

Ts. Lkhagvasuren – Doctor of Medical Sciences, Professor, Academician, e-mail: tsetselkh@gmail.com

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ИННОВАЦИИ В МЕДИЦИНСКОМ ОБРАЗОВАНИИ МОНГОЛИИ

Лхагвасурен Ц., Оюнгоо Б., Байарбат Г., Балжиням Б., Самберзул Н.
(Монгольский государственный университет медицинских наук, Улан-Батор, Монголия)

Резюме.

Цель работы: изучение изменений в медицинском образовании Монголии.

Материалы и методы. Аналитический обзор литературы по медицинскому образованию в Европе и Тихоокеанском регионе, сравнение традиционных и современных методов разработки учебных программ. Описание хронологии внедрения современных учебных программ в Монголии.

Результаты. Демократические изменения 1990 года коснулись всех секторов страны, и Монгольский национальный университет медицинских наук также претерпел серьезные изменения в переходный период. Факультеты и специалисты университета сосредоточены на разработке программ с международной квалификацией и региональных потребностей, отвечающих требованиям в этой области. В течение последнего десятилетия наш университет сосредоточился на разработке учебных программ, охватывающих анализ содержания и соответствия зачетных единиц, согласование учебных программ, изменение порядка курсов на полноту и продвижение индивидуального обучения, чтобы соответствовать мировым стандартам и быть признанным западно-тихоокеанскими учреждениями. Мы инициировали реформу медицинской учебной программы по сравнению с европейским медицинским образованием и тесно сотрудничали с Гронингским университетом в Нидерландах и университетом Лидса в Великобритании с 1996 года. Новая интегрированная учебная программа была внедрена в период с 2000 по 2019 год.

Заключение. Медицинское образование в Монголии претерпело серьезные реформы, завершившиеся созданием новой интегрированной учебной программы.

Ключевые слова: медицинское образование; инновации; разработка учебных программ.

INNOVATION OF MEDICAL EDUCATION IN MONGOLIA

Lkhagvasuren Ts., Oyungoo B., Bayarbat G., Baljinnyam B., Sumberzul N.
(Mongolian National University of Medical Sciences)

Summary.

Aim: to study changes in medical education in Mongolia.

Methods. An analytical review of the literature on medical education in Europe and the Pacific, comparing traditional and modern methods of curriculum development. Description of the chronology of the introduction of modern educational programs in Mongolia.

Result. The democratic changes of 1990 had affected all sectors of the country and Mongolian National University of Medical Sciences also went through massive changes during the transition period. Faculties and professionals of the university focused on producing internationally qualified and regional needs met programs in the field. Within last decade our university focused on curriculum development covering content and credit match analysis, alignment of curriculums, reordering courses to comprehensiveness, and promoting individual learning in order to meet the global standards and to be recognized by the western pacific institutions. We have initiated medical curriculum reformation comparatively with