

FORMATION OF SOFT SKILLS AMONG STUDENTS USING COURSERA: KAZAKHSTAN EXPERIENCE

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Abstract This article is devoted to one of the topical issues of the modern system of higher education – the formation of soft skills among students. The authors describe the importance and the most important consequences of mastering soft skills by students. The article gives a historical overview of the appearance of the term «soft skills», based on the analysis of the works of foreign scientists, a classification of the most important soft skills necessary for the successful employment of students is developed. In the article, the authors touch upon another equally urgent problem – the use of mass open online courses for formation and development of soft skills, as an example, Coursera platform, which is becoming popular in the higher education system of our country. The article defines mass open online courses, conducts a historical analysis, and presents a literary analysis on the research topic in the Scopus and Web of Science databases. The authors have designed a model of formation students' soft skills using Coursera, consisting of three blocks, each of which directly affects the formation and development students' soft skills. The article describes the experience of using Coursera platform by students, undergraduates and doctoral students of the Karaganda University named after academician Buketov. The authors conducted a survey among students in order to determine the effectiveness of using Coursera platform, the survey was based on the pedagogical faculty of the Buketov Karaganda University with students of the educational program 6B01101 – Pedagogy and Psychology. According to the results of the study, recommendations were given to students and teaching staff for the further development of acquired skills, and the authors also announced the principles of selecting the most effective courses necessary for the professional activities of future pedagogues.

Keywords: students, formation, classification, model, platform, soft skills, coursera, mass open online courses

Basic provisions

The prerequisites for studying the issue of our research were the signing of a memorandum of understanding between the Ministry of Science and Higher Education, the Ministry of Digital Development, Innovation and Aerospace Industry of the Republic of Kazakhstan and Coursera. Thanks to the signing of this memorandum, Kazakhstan regional universities have gained access to mass open online courses (hereinafter referred to as MOOCs) and more than 10 thousand students across the country have the opportunity to form and develop their soft skills.

The development of higher education in accordance with the modern trends of the modern world plays an important role in the development of competitiveness in

Kazakhstan and the world labor market. As part of our research, we will outline the importance of students acquiring soft skills based on the Coursera platform, which will contribute not only to the versatile development of the student's personality, but will also contribute to the acquisition of certificates that future graduates will need in the professional direction.

The course catalog is very extensive and offers students the opportunity to familiarize themselves with various fields. The specifics of the courses depend on the soft skill that the student would like to develop. The Coursera platform promotes the development of soft skills, namely, it provides an opportunity to unleash your hidden potential. Working with the platform is a kind of simulator for the formation of soft skills. For example, by logging on to the platform, a student searches for a course of interest to him, thereby forming active search skills and critical thinking skills that allow him to select the most effective courses for himself. The deadlines of the courses allow students to form time management. The exchange of opinions at the forum allows you to develop communication skills, as students are given the opportunity to comment on courses in both Kazakh and Russian, as well as in English.

According to the chosen research topic, we need to perform a number of tasks:

- 1) research and disclosure of the basic soft skills acquired by teachers with the help of MOOCs;
- 2) conducting a survey among students in order to determine the effectiveness of their acquired soft skills on the Coursera platform.

As a result of the first task, we determined which soft skills can be acquired on the basis of the international Coursera platform. As part of the second task, a questionnaire has been developed for students to determine the pros and cons of studying on this platform.

Introduction

In the modern world of global changes, the higher education system is undergoing various reforms. Higher education has a long and rich history, but it should also change in accordance with modern trends, because higher education is the engine of progress of an entire nation.

According to the Concept of development of higher education and science in the Republic of Kazakhstan for 2023-2029, lifelong learning, which has become an actual trend in recent decades, increases the competitiveness of people through the development of intelligence, structured thinking, adaptability and self-organization, expanding the circle of acquaintances, opportunities and ideas about the world, improving psychological health [1].

Lifelong learning involves mastering new skills necessary to become a qualified specialist in your professional field. The knowledge of modern graduates should not stop at a four-year study at the university, but should constantly develop in step with the times. The modern system of higher education provides huge opportunities for the development and acquisition of new knowledge.

The main trend of modern Kazakh higher education is the use of the triple helix model. This model assumes the interaction of universities, business and the state. It

follows from this that universities train and educate future specialists according to the requirements of the state and business, thereby contributing to the improvement of the economic growth of the country. Now the concept of the country's universities are aimed at forming not only hard skills, but also soft skills.

The opportunities provided by the Ministry of Science and Higher Education play an important role in shaping students' skills, including not only technical, but also soft skills such as communication, collaboration, adaptability and critical thinking. The Coursera international platform allows you to implement the tasks of the ministry, creating an environment for growth and development, and actively contributes to the formation of soft skills. With access to a wide range of online courses provided by Coursera, students have the opportunity not only to deepen their knowledge in various fields, but also to develop the skills necessary to successfully adapt to the changing conditions of the labor market and social environment. Such cooperation not only provides students with high-quality education, but also gives them valuable tools for their personal and professional growth, which ultimately contributes to the strengthening of society and the economy as a whole.

Over the past decade, there has been an increasing interest in «soft skills» in the areas of lifelong empowerment and lifelong learning. Skills are the most important factors of competitiveness and job opportunities for graduates and wherever employees are on their career path. Structural changes, such as globalization, technological progress, digital processes and automation, require relevant new skills from marketing specialists.

Materials and methods

In this article, using the analysis of scientific psychological and pedagogical literature on the problem of research, generalization of pedagogical experience and survey methods, an attempt was made to identify the main soft skills for future teachers acquired through courses on the Coursera platform, which allow creating effective learning conditions for achieving success in teaching students. To determine effectiveness, it is necessary to understand the essence of soft skills and the Coursera platform.

What is actually called soft skills? Soft skills is a difficult term to define, and it needs to be taken into account in context, since in some industries soft skills can be considered as hard skills [2]. Soft skills are not cognitive, human, personal, applied, necessary, employable and 21st century skills – all these are synonyms related to soft skills [3-5].

Nobel Prize winner James Heckman defined soft skills as skills that predict success in life [6]. Soft skills have traditionally been considered desirable, but not mandatory. This concept has changed rapidly, and in most industries it has become a key one. One study found that only 25% of long-term success at work depends on technical skills. Another study showed that 85% of success is achieved through soft skills [7].

These types of skills are becoming increasingly important when deciding on a job. They play an important role in becoming a responsible, self-confident and persistent

professional. In addition, this type of skills increases professional flexibility and adaptability in conditions of overproduction and technological innovation.

As part of our research, before the launch of the Coursera platform, a lecture was held at the Pedagogical faculty of the Karaganda University named after Academician Buketov, in which the main advantages of learning with the help of MOOCs were revealed, as well as the main types of soft skills necessary for future teachers were revealed at the lecture.

Researcher David Cormier when he wrote about a similar course held at the University of Manitoba, created by Siemens and Downes [8], coined the term «mass open online course».

Mass open online courses (MOOCs) existed before the COVID-19 pandemic, an event that led to the rapid development of online learning platforms that were officially used by schools and universities in order to be able to continue their activities outside of the full-time environment. Currently, we can associate the word «platform» used for educational purposes, such as teaching or presenting research, with Microsoft Teams, Google Classroom, Zoom, since 2012, free online courses have been opened on platforms such as Coursera for everyone from all over the world and at any level of training [9].

Karaganda University named after Academician Buketov provides students, undergraduates, doctoral students and teaching staff with access to more than 150 courses in three languages in various fields. Each student has the right to choose one or another course independently, being not tied to his professional direction. For example, a student of the educational program «Pedagogy and Psychology» can master the Python information program and learn the basics and elements of IT technologies. Given that the list of courses provided is extensive, each of the courses are aimed at developing the skills provided in the classification: basic soft skills; digital and Technical Skills, Core Teaching Skills and Analytical Skills.

To determine the effectiveness of using the Coursera platform, we conducted a survey among students of the pedagogical faculty of the educational program 6B01101 – Pedagogy and Psychology. The questionnaire was developed using a Google form, which contributed to the mass, accessibility and easy processing of the questionnaire.

Results

As described in the main provisions, we have identified the main objectives of our research. To solve the first task – the study and disclosure of the basic soft skills acquired by teachers with the help of MOOCs, we need to give a classification of the most important soft skills of future teachers. Based on the research of the following authors: Zhang A., Hendarman A.F., Doherty O. [10-12], we have designed our own classification, presented in Table 1.

Table 1 - Types of soft skills

Types of soft skills	Soft skills
Basic soft skills	Flexibility, Teamwork, Interpersonal communication skills, Initiative, Motivation, oral communication and presentation skills, stress tolerance

Digital and technical skills	Knowledge of social networks, Knowledge of mobile devices, Knowledge of e-commerce, Knowledge of online practices in real time
Core Teaching Skills	Skill of Probing Questions, Explaining, Illustrating With Examples, Stimulus Variation, Reinforcement, Classroom Management, Using Blackboard, Introducing a Lesson.
Analytical skills	Good conceptual and analytical skills, statistical knowledge, problem solving skills, critical thinking, the ability to synthesize information into meaningful and effective reports

According to our classification, we consider it necessary to divide soft skills into subgroups, thereby simplifying the understanding of the importance and significance of soft skills by students.

Prior to the survey, we were able to make a ranking and identified the most popular courses chosen by students. Two courses have been identified from our sample: "Critical Thinking", "Time management for personal and professional activities".

Our survey on the evaluation of the courses studied on the Coursera platform allowed us to understand the degree of effectiveness of the formation and development of soft skills to achieve learning outcomes.

Let's consider evaluating the effectiveness of the courses we have chosen for mastering soft skills. In our opinion, students prefer the courses "Critical Thinking" and "Time Management for personal and professional activities", as they provide an opportunity to develop personal and professional qualities, pose questions by students, organize discussions on theoretical issues taking into account time savings.

In our opinion, students prefer the development of basic soft skills, as they provide an opportunity for the comprehensive development of their personality. The evaluation of the effectiveness of the studied courses on the Coursera platform within the framework of mastering soft skills according to the developed classification is presented in Figure 1.

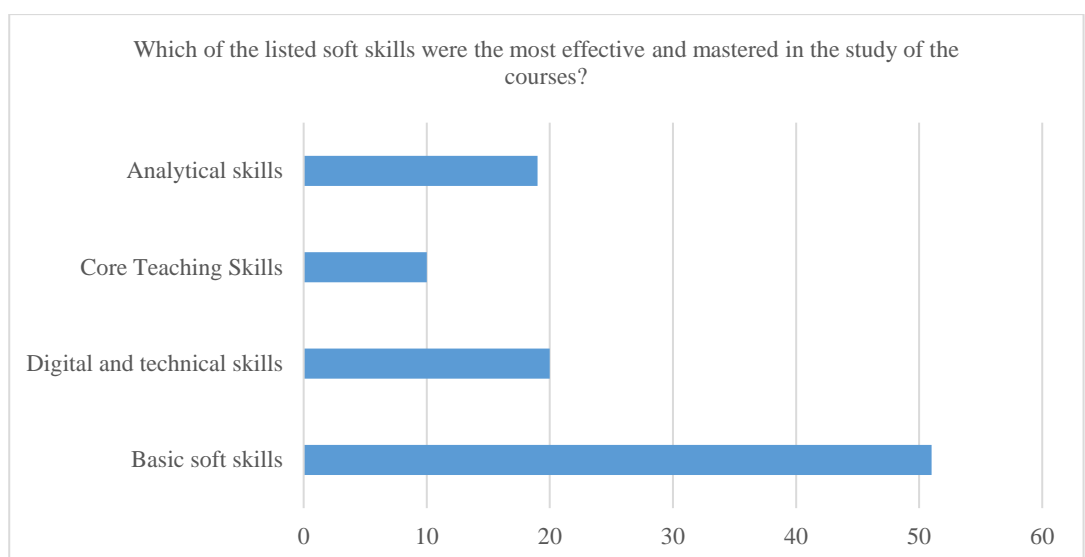


Figure 1 – Evaluation of the effectiveness of mastering soft skills

For students of pedagogical educational programs, there are useful opportunities provided by the university and the Coursera MOOC for acquiring additional knowledge and acquiring relevant skills for further employment, and competitiveness in the professional direction. Lectures and seminars dedicated to explaining the importance and significance of acquiring and developing soft skills provided great support to students in terms of mastering new soft skills.

Students' answers about the effectiveness of the Coursera platform for mastering soft skills confirm their desire for additional training. The majority of students chose the Coursera platform, noting its advantages, students attributed to the advantages: accessibility, ease of use, availability of their own application, a specific deadline, testing with the possibility of retaking and identifying students to use the certificate in order to use the credit units of a particular university. Some students used and studied independently before popularizing online courses, one example was the training of students on the Google Academy platform. Several students are familiar with the courses provided by the Platonus and Moodle platforms, but most of the students consider the Coursera platform to be the most effective. The survey results are shown in Figure 2.

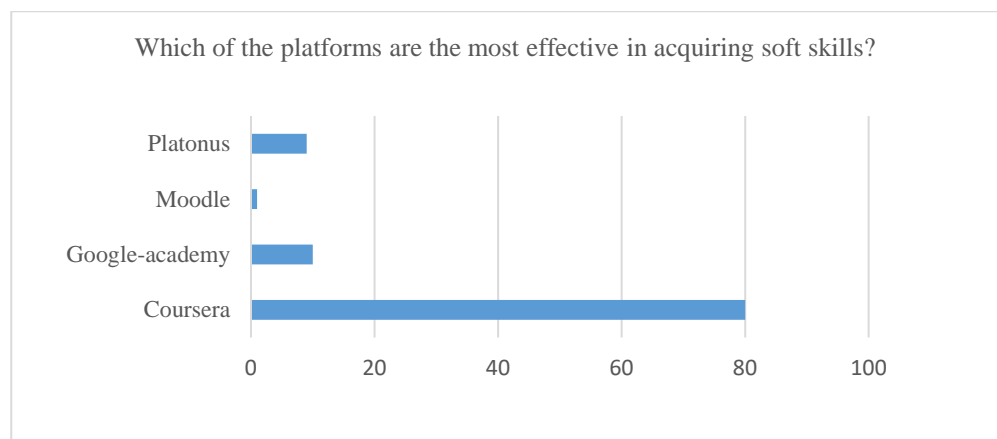


Figure 2 – Efficiency of online platforms

The results confirm the need to use and expand the range of courses for the development of relevant soft skills, which will allow universities to produce not only specialists with developed hard skills, but also specialists with soft skills.

Discussion

Back in the 20th century, it was proposed to consider a person as a computer, dividing it into a software part and a hardware part. But a deeper study of this issue took place in the early 2000s, when they started talking about lifelong learning. Lifelong learning is a form of self-initiated education aimed at personal development. Although there is no standardized definition of lifelong learning, it is commonly used to refer to learning that takes place outside of a formal educational institution such as a school, university, or corporate training.

Before the outbreak of the global pandemic, many educational institutions paid considerable attention to the formation of only solid skills, explaining that it is solid

skills that help in employment and further career. But the global pandemic dictated completely different rules, all the people of the world simply closed down, were left without work, and only those who possessed soft skills could stay afloat without damage to themselves and their business. The need for the formation of soft skills has marked a global trend and made MOOCs advanced in the issue of training. For example, thanks to Coursera courses, more than a million people around the world have mastered new skills.

The global pandemic affected the education system and teachers, who faced problems face to face, one of which was the low level of digital literacy. Teachers were trained daily to master remote platforms for lectures and seminars. This was an indicator that many teachers and students had not mastered the soft skills that were so necessary in covid time. The education system of our country split into before and after and was simply not ready for global changes, so we believe that education should keep up with the times and in accordance with modern trends. The formation of soft skills among students from the university bench will help to produce qualified specialists who will contribute to the economic growth of the country.

In the matter of studying this issue, we have designed a model for the formation of soft skills of students using Coursera. It highlights the main three blocks: theoretical training, practical training and self-education. The block of theoretical training implies the acquisition of systematic theoretical knowledge about the importance and significance of soft skills. The block of practical training implies the application of the acquired knowledge, skills and abilities during training at lectures, seminars and IDST. The self-education block implies that students based on the two previous blocks will be motivated to acquire new knowledge and master new soft skills (Figure 3).

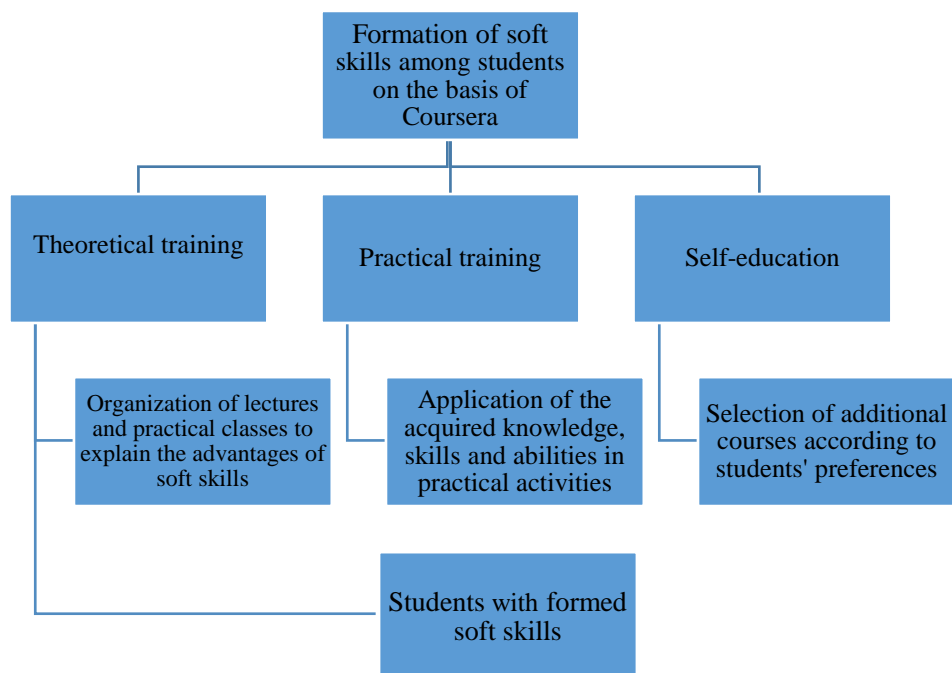


Figure 3 – A model of students' soft skills formation using Coursera

According to our research, we can assume that students are interested in acquiring new knowledge and mastering new skills. Using MOOCs from the 1st year of university, students can master more than 20 skills necessary for their professional growth. The advantage of CAR washes, in particular, the Coursera platform is the issuance of certificates of completion of the course with the right to credits from world universities. Each student can share a certificate on LinkedIn, which is similar to the world labor exchange.

Conclusion

Thus, in our opinion, soft skills are more difficult to quantify as opposed to hard ones, and it is more difficult to predict how soft skills will affect fitness in the workplace. In the field of teacher training, the possibility of employment has become a problem, since there are significant discrepancies between the skills acquired by graduates at the university and the skills required by employers. The main conclusion of the study is that students do not understand the importance and importance of mastering soft skills, since teachers at the university often do not pay due attention to soft skills, not considering them a basic necessity. In the last few years, there has been a growing demand worldwide for the development of soft skills within the most popular MOOCs and offers that offer specific knowledge for any field.

When organizing MOOCs on the basis of their universities, management and teaching staff need to understand that the most effective course data will be when students know what soft skills will be mastered. There are several principles when choosing MOOC courses that allow you to acquire new knowledge, skills and abilities:

- selection of relevant and correct training courses taking into account the achievements of science and technology;
- adaptation of the content and methods of face-to-face teaching to the conditions of distance learning, which ensures maximum interactivity of the learning process;
- the use of various MOOCs that involve the maximum number of soft skills in the process of mastering, providing an activity-based and interactive approach to the learning process;
- consistency and consistency of mastering the course content;
- consistency of evaluation tools with learning outcomes;

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COURSERA КӨМЕГІМЕН СТУДЕНТТЕРДІҢ SOFT SKILLS ДАҒДЫЛАРЫН ҚАЛЫПТАСТЫРУ: ҚАЗАҚСТАНДЫҚ ТӘЖІРИБЕ

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Аңдатпа. Бұл мақала заманауи жоғары білім беру жүйесінің өзекті мәселелерінің бірі – студенттердің soft skills дағдыларын қалыптастыруға арналған. Авторлар студенттердің soft skills дағдыларды игеруінің маңыздылығы мен өзектілігін сипаттайды. Мақалада «soft skills дағдылар» терминінің пайда болуының талдауы келтірілген, шетелдік педагогтердің еңбектерін талдау негізінде студенттерді сәтті жұмысқа орналастыру үшін қажетті ең маңызды soft skills дағдылардың жіктелуі жасалды. Мақалада авторлар тағы бір өзекті мәселені қозғайды – soft skills дағдыларды қалыптастыру және дамыту үшін жаппай ашық онлайн курстарды пайдалану, мысал ретінде еліміздің жоғары білім беру жүйесінде танымал болып келе жатқан Coursera платформасы. Мақалада жаппай ашық онлайн курстарға анықтамалар берілген, тарихи талдау жүргізілген, Scopus және Web of Science дерекқорларында зерттеу тақырыбы бойынша әдеби талдау ұсынылған. Авторлар Coursera көмегімен студенттердің soft skills дағдыларын қалыптастыру моделін жасады, олардың әрқайсысы студенттердің soft skills дағдыларын қалыптастыру мен дамытуға тікелей әсер ететін үш блоктан тұрады. Мақалада академик Бөкетов атындағы Қарағанды университетінің студенттері, магистранттары мен докторанттарының Coursera платформасын пайдалану тәжірибесі сипатталған. Авторлар Coursera платформасын пайдаланудың тиімділігін анықтау мақсатында студенттер арасында сауалнама жүргізді, сауалнама БВ01101 – Педагогика және психология білім беру бағдарламасының студенттерімен академик Бөкетов атындағы ҚарУ педагогикалық факультетінің базасында жүргізілді. Зерттеу нәтижелері бойынша студенттерге және профессорлық-оқытушылық құрамға алған дағдыларын одан әрі дамыту үшін ұсыныстар берілді, сондай-ақ авторлар болашақ педагогтардың кәсіби қызметіне қажетті ең тиімді курстарды таңдау принциптерін ұсынды.

Тірек сөздер: студенттер, қалыптастыру, жіктеу, модель, платформа, икемді дағдылар, Coursera, жаппай ашық онлайн курстар

ФОРМИРОВАНИЕ SOFT SKILLS У СТУДЕНТОВ С ПОМОЩЬЮ COURSERA: КАЗАХСТАНСКИЙ ОПЫТ

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Аннотация. Данная статья посвящена одному из актуальных вопросов современной системы высшего образования – формирование гибких навыков у студентов. Авторы описывают значение и важнейшие последствия овладения студентами гибких навыков. В

статье дан исторический экскурс появления термина «гибкие навыки», на основе анализа трудов зарубежных педагогов разработана классификация наиболее важных гибких навыков, необходимых для успешного трудоустройства студентов. В статье авторы затрагивают еще одну не менее актуальную проблему – использование массовых открытых онлайн курсов для формирования и развития мягких навыков, в качестве примера используется платформа Coursera, которая становится популярной в системе высшего образования нашей страны. В статье даны определения массовым открытым онлайн курсам, проведен исторический анализ, представлен литературный анализ по теме исследования в базах данных Scopus и Web of Science. Авторами была спроектирована модель формирования гибких навыков студентов с помощью Coursera, состоящая из трех блоков, каждый из которых непосредственно влияет на формирование и развитие гибких навыков у студентов. В статье описан опыт использования платформы Coursera студентами, магистрантами и докторантами Карагандинского университета имени академика Букетова. Авторами проведено анкетирование среди студентов с целью определения эффективности использования платформы Coursera, анкетирование проводилось на базе педагогического факультета КарУ имени академика Букетова со студентами образовательной программы 6В01101 – Педагогика и психология. По результатам исследования были даны рекомендации студентам и профессорско-преподавательскому составу для дальнейшего развития приобретенных навыков, также авторами были озвучены принципы подбора наиболее эффективных курсов, необходимых для профессиональной деятельности будущих педагогов.

Ключевые слова: студенты, формирование, классификация, модель, платформа, мягкие навыки, Coursera, массовые открытые онлайн курсы

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