Quantitative Analysis of MOOC for Language Training

Tetiana Sharova, Ostap Bodyk, Valentyna Kravchenko, Alina Zemlianska, and Natalia Nisanoglu

Abstract—The article provides a quantitative analysis of online language courses located on such online platforms as Coursera, Udemy, Edx and Alison. Communicative and linguistic competencies are necessary characteristics of an active citizen who interacts effectively with the surrounding society. Also, in the conditions when the internationalization processes are increasing knowledge of a foreign language becomes very important. Massive open online courses (MOOC) are considered to be a promising and powerful means of language training. Today, they have combined the possibilities provided by the Internet, the quality content, and the best teaching practices. We have found that MOOC can be used for distance and blended learning, as well as in the process of self-education. When designing online language courses for MOOC you should consider certain criteria and requirements. The topics of the online courses, level of complexity, quality educational content, practical orientation, interactivity, availability of feedback, etc. are of special importance. We found that the analyzed platforms have several identical functional features: multilingual interface, a possibility to choose the language of courses, a possibility to obtain a certificate, the availability of links to related courses, the availability of headings, a possibility to search for courses by keywords. In total, we identified 5,159 online courses for learning 21 languages. The Udemy platform has the largest number of online language courses (4,270 courses). The most popular languages appeared to be English (1,760 courses), Spanish (544 courses), French (451 courses), and Chinese (450 courses). The least popular languages, which are represented by only one online course, are Swedish, Latin, Noongar, and Tibetan. We found that such online platforms as Coursera and Edx provide courses that give users an opportunity to obtain a professional certificate, specialization, or a degree.

Index Terms—MOOC, online courses, language training, language.

I. INTRODUCTION

The modern world is characterized by such features as the acceleration of globalization and integration processes, focus on the international ties strengthening, the destruction of communication barriers at a distance, etc. Under these conditions, communicative, social, and linguistic competencies are of special importance, since they help to build a constructive dialogue between partners, as well as to avoid conflicts and establish new relationships, including the international ones.

In order to train an active citizen who is able to live comfortably in society and perform his professional duties efficiently, the mandatory component of the modern professional's training [1], [2] is the development of humanitarian competencies, in particular the language ones. In addition, knowledge of a foreign language is very important in the context of European integration and internationalization.

Modern transformations in the education system have influenced the choice of methods and means for future professionals' training in the humanities [3]. To increase the effectiveness of language learning, it is necessary to use information and communication technologies (ICT) in the classroom [4], as well as blended learning [5] or students' independent work. Various studies have proven the effectiveness of multimedia presentations [6], supplementary program tools such as Kahoot, EDpuzzel, Quizlet [5], online platforms such as Edmodo, TEDed [4], Learning Management Systems (e.g., Moodle) [7], author's software systems for specialized purposes [2], YouTube, virtual social networks, etc.

Massive open online courses (MOOCs) are considered to be a promising and powerful means of language training. Today, they have combined the possibilities provided by the Internet, the quality content, and the best pedagogical practices. MOOCs are considered to be a multilingual and global phenomenon [8] which helps to expand opportunities for formal and non-formal education [9], including higher education.

The relevance of MOOCs and the importance of language training have led to the emergence of research works and publications in peer-reviewed journals. The quantitative analysis of the online MOOC platforms for Foreign Language learning is presented in [9]. The research [1] provides the quality assessment of the online language courses according to certain criteria. MOOC is used to study English [10], Russian [11], Spanish [5], and other languages. The effectiveness of MOOC has been confirmed while training employees [12], software engineers [13], etc.

It should be noted that MOOC offers language courses for users with different levels of language training. It all depends on the specific online platform and the learning goal that the developed online course implements. Taking this into account, we find it relevant to carry out a quantitative analysis of online language learning courses located on different MOOC platforms. The obtained results will help to develop a general idea of the most popular languages available for learning with the help of MOOC.

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II. Background Research

A. Importance of Language Training for Today's Specialists

In modern conditions, specialist training is based on a competency-based approach. In our research work, the term "specialist" denotes a person of any profession who either works or is temporarily unemployed, who wants to improve his/her qualification or get an additional profession. During their studies, specialists or students acquire a certain list of competencies (general and professional ones) in accordance with the chosen specialty. We understand competencies as a dynamic set of personal qualities, knowledge, abilities, and practical skills that help to perform professional and other activities effectively.

Alongside the professional knowledge and skills, humanitarian competencies, in particular social, communicative, and linguistic ones become highly important for the future specialist. Social competence means a tolerant attitude towards interlocutors, responsibility for the behavior and decisions, and the ability to avoid and resolve conflict situations, even though the Internet [14]. Communicative competence is responsible for effective communication with other people. It includes language competencies, in particular knowledge of a foreign language and the ability to use it in accordance with the situation [15].

In general, language can be considered the basis of any culture. The people who know the state language and literature will have a better understanding of their culture, national traditions, etc. Knowledge of a foreign language will ensure intercultural communication and strengthen intercultural ties [11]. A foreign language course is a mandatory discipline in higher educational institutions [2]. In Ukraine, to enter a Master's course, you must take an exam in a foreign language. At the same time, under the conditions of globalization processes, the demand for learning a foreign language is growing [1].

Language competencies are usually formed while learning the state language and literature, as well as in the process of foreign language training. Learning a foreign language in higher education institutions is realized both through general language training and in-depth foreign language course according to the specialty. For example, the work [13] studies a system of exercises based on communication strategies for future programmers' general and special language training. Mastering communication strategies in the process of learning English will allow programmers to communicate freely in the professional environment. Also, to develop a foreign language competence you can get a tutor, attend language courses or training, including online ones.

Learning a foreign language means that students are eager to take an active part in their studies. Group work, exchange of knowledge between students, mutual assistance in completing the tasks [9], communication with native speakers, etc. contribute to the effective acquisition of foreign language skills. For language training you can use powerful capabilities of ICT such as: multimedia presentations and the Internet information resources [6], Web 2.0 and Web 3.0 technologies [1], applied online platforms [2], LMS [7], MOOC [9] and other tools.

B. Key Features of Language Learning MOOC

In times of the COVID-19 pandemic, the organization of educational activities, as well as teaching and learning methods, has undergone significant changes [16]. As a result, it has become especially important to use electronic educational resources, including MOOC, to provide online education. MOOC significantly helps to implement the principle of open education. They can be seen as a means for the democratization of education which provides equal opportunities for all who wish to develop their own competencies [8], [17] on condition that appropriate digital devices and access to the Internet are available.

Mass education is implemented in MOOC through the involvement of a large number of users to take online courses on various topics. In this case, users can be: a) students who receive additional information to study academic disciplines at university; b) employees undergoing advanced training [12]; c) teachers who master the technologies of the effective use of MOOC in the educational process [18]; d) other users who wish to upgrade their professional skills free of charge or at a reasonable price [10].

The main advantages of MOOC include the following:
- a large number of online courses on various topics;
- better and more various educational opportunities, including those for lifelong learning [11];
- the use of MOOC during blended learning, or students' independent work;
- the work with online courses in a flexible mode [12] without reference to classroom hours;
- the opportunity to obtain a certificate after successfully completing an online course;
- availability of free online courses [19].

Online language courses are located on different platforms: Coursera, edX, MiriadaX [9], FutureLearn [10], [20], OpedupED, Coursade [1] etc. As of 2014, there were about 40 major MOOC platforms that contained online language courses. The work [9] states that this number is approximate, as online language courses are constantly being developed in different countries, organizations, universities, etc.

Most of the well-known MOOC have English-language educational content [21]. At the same time, we have recently witnessed an increase in the number of multilingual online courses for students' academic support [8], as well as national online platforms that contain content in the state language. For example, for the Ukrainian-speaking region, the most well-known MOOC, where language courses are presented, are EdEra, Prometheus, OUM [19].

Taking into account the multilingualism and diversity of online language courses, the developers ask some logical questions: "How can we make an online course more attractive to potential users?", "How can we increase the percentage of users who complete the course?", "How can we take into account different levels of users' language training?" To answer these questions we should consider the main factors which facilitate the successful implementation of online learning [22]: sustainability, quality of the education content and MOOC, interactivity, instructor, learning analytics, demographics, etc.

When designing a MOOC course for learning a foreign language, one should focus on the following criteria [1]:

content (availability of multimedia, authentic and useful content, various activities that ensure the development of language competence); pedagogy and teaching methods (providing communication and cooperation between participants, formation, and support of motivation for learning, use of game technologies, instructors who will provide feedback from students); assessment (current and final one which demonstrates the student's level after taking the online course; the opportunity to leave feedback and comments, as well as to make appropriate adjustments to the content and structure of the course); availability of funds for the social community functioning; ensuring mass character, protection of personal information, the convenience of work; type of commercialization.

The topics of online courses are important for students. They help users to find a proper course for their needs and interests. In turn, taking a particular online course may meet the user's personal interests (internal motivation) or be stimulated by external factors. They may be comments of a teacher who teaches a similar discipline, higher grades in the subject, an additional requirement for employment or training, etc.

The complexity of the online course and the relevance of the learning content to its purpose also have a great influence on the user's desire to complete the course. Since language learning involves the improvement of practical skills, such online courses should be practice-oriented. In this context, it is useful to determine the relationship between students' perceptions, intentions, and behavior when taking a practice-oriented language course [23]. Thus, the student has to master a course independently, and the teacher has to carry out a role of an active assistant who organizes the educational process [6].

It should be noted that for the humanities, in contrast to the natural disciplines, the tasks involve a variety of methods for the assessment of knowledge (open text answers, multiple-choice tests, expression of your position on the course board, writing comments, etc.) [24]. It is quite understandable because the humanities mean the ability to reason, communicate, discuss theoretical issues, and so on.

III. METHODOLOGY

Such platforms as Coursera, Udemy, Edx and Alison were used to provide a quantitative analysis of online language courses. The general characteristics of the MOOC used for the research were determined on the basis of pre-developed criteria:

C1 – multilingual interface;

C2 – a possibility to choose the language of teaching;

C3 – availability of the paid educational content;

C4 – issuance of a certificate after the successful completion of the course;

C5 – an opportunity to obtain a diploma after taking a series of online courses on certain topics;

C6 – availability of the section "Popular courses";

C7 – availability of the section "For beginners";

C8 – availability of the section "Best courses";

C9 – display of the related online courses;

C10 – availability of the section "For students";

C11 – availability of the section "For business";

C12 – a possibility to find an online course using the built-in search service.

When determining compliance of the online platform with the selected criteria, it was assumed that compliance with one criterion has a value of 1 point, and non-compliance with the criterion – 0 points. The most relevant online platform will be the one that scores the most points.

The quantitative indicators of online courses on the selected online platforms were obtained as of August 2021. The section "Categories – Teaching & Academics – Language Learning" was used to calculate the number of language courses on the Udemy platform. A sample of online courses according to various criteria was obtained by filtering under the sections "Features", "Subtitles".

On the Alison platform, there are 2,378 online courses. The section "Course Categories – language" was used for the quantitative analysis of language courses. To obtain additional characteristics, the courses were filtered by the following indicators: Language, Course Type (Certificate / Diploma), Most Popular / Most Recent.

The online platform Coursera contains 3,900 courses on various topics. The section "Explore" – "Subjects" – "Language Learning" was used to search for language courses. The section presents a significant number of courses, but there is no possibility to count them (the system does not show the total number). Therefore, to provide a quantitative analysis of language courses, we used the section "Popular skills" which is available in the section "Language Learning". To find the total number of language courses to learn a certain language, you must specify the subject and type of the document that will be provided upon graduation. Such filtering allows you to choose only those courses from the whole array of training courses that meet the query and allow you to learn a certain language.

On the Edx platform, there are 3,467 online courses. They relate to various areas of human activity, from architecture to the social sciences. The section "Language" was used to search for language courses.

After obtaining quantitative indicators for each platform, we built a generalized table that contains summarized information for different online platforms. Those data helped us to identify an online platform that contains the largest number of language courses; they also helped to identify the most popular languages and other characteristics.

IV. RESULT

The variety of educational electronic resources which are available on the Internet meets any educational needs. In the case of MOOC, the user chooses the desired course, registers for it, and begins to study. The result of such courses, as a rule, is the acquisition of knowledge and a certificate of their successful completion. You can register for several courses at the same time and take them simultaneously / sequentially if necessary.

Before taking a course in a certain language, you need to choose the appropriate online platform. Coursera, Udemy, Edx, and Alison are among the online resources that are in high demand among users and provide online language

courses. Table I demonstrates the results of compliance of the selected online platforms with criteria C1–C12.

TABLE I: THE RESULTS OF COMPLIANCE OF THE ONLINE PLATFORMS WITH THE SELECTED CRITERIA

Criteria	Coursera	Alison	Edx	Udemy
C1	1	1	1	1
C2	1	1	1	1
C3	1	0	1	1
C4	1	1	1	1
C5	1	1	1	0
C6	1	1	0	1
C7	1	0	0	1
C8	1	1	0	1
C9	1	1	1	1
C10	1	1	1	1
C11	1	1	1	1
C12	1	1	1	1
Total	12	10	9	11

According to the data obtained, the full similarity of the considered online platforms was revealed by 7 criteria: multilingual user interface (C1), a possibility to choose the language of teaching (C2), an opportunity to obtain a certificate after the successful completion of the course (C4), display of the related online courses (C9) which allows you to go to online courses on similar topics, the availability of sections for students (C10) and business (C11), a possibility to set up an automatic search for an online course (C12).

The online platform that meets the maximum number of criteria is Coursera. Udemy is also quite a convenient online platform, but it does not provide an opportunity to obtain a diploma after the successful completion of a series of online courses. The Alison platform offers its users free and quality online courses. However, there is no section "For beginners". The Edx online resource does not contain free content; it does not allow you to get acquainted with the most popular courses or courses intended for beginners.

The total number of language courses that are available on the Udemy platform under the heading "Language Learning" is 6,233 courses. The user can try various filtering options and find the best option for an online course. Among the total sample of language courses, almost all the courses should be paid for (5,566 online courses, 89.3%). Some online courses contain quizzes (1,911 courses, 30.7%), cases (517 courses, 8.3%).
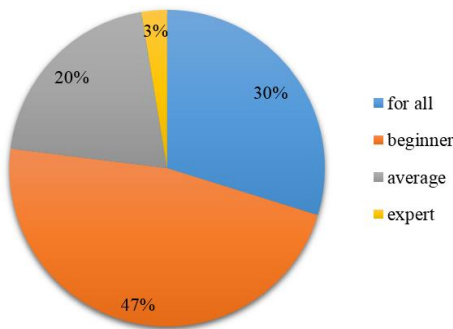

Fig. 1. Levels of difficulty of the Udemy online courses.

The cost of courses on the Udemy platform is different, depending on the content and the number of lecturers involved. By adding online language courses to your account, you can also view information related to a specific language: the history of the language, more about the language, the most frequently asked questions about the language.

In order to ensure educational differentiation, some courses have a corresponding level of difficulty: beginner (2,941 online courses, 47%), intermediate level (1,272 courses, 20%), expert (163 courses, 3%). Only 1,857 online courses (30%) of the total number of language courses are designed for any level of training (Fig. 1).

It should be noted that the focus of online courses on the level of training allows users to avoid wasting time on the course which may be uninteresting or too difficult.

Filtering of online courses under the section "Feature" allowed us to identify 1,801 courses with subtitles (28.9% of the total number of language courses). However, if you filter the courses by the "Subtitles" criterion, then nearly 2,015 courses with subtitles become available for you (Table II).

TABLE II: NUMBER OF ONLINE COURSES WITH SUBTITLES

Language	Number of courses
English	1,575
Spanish	164
Portuguese	97
French	42
German	42
Italian	38
Japanese	21
Turkish	14
Chinese	11
Romany	11
Total	2,015

If you filter online courses for learning a specific language (section "Language"), you can learn the following languages: English, German, Spanish, Japanese, French, Korean, Chinese, Arabic, Italian, Russian, and others. Depending on the popularity and number of online language courses, the number of registered users varies (Table III).

TABLE III: NUMBER OF LANGUAGE ONLINE COURSES ON THE UDEMY PLATFORM

Language	Number of courses	Number of students
English	1,435	4,165,367
German	327	894,511
Spanish	406	978,927
Japanese	278	525,614
French	317	772,788
Korean	114	203,119
Chinese	377	669,188
Arabic	293	385,011
Italian	147	284,856
Russian	180	286,449
Portuguese	107	139,342
Turkish	83	–
Vietnamese	59	–
Hebrew	53	–
Hindi	39	–
Sign language	55	–
Total	4,270	8,920,161

The tabular data (see Table III) show that the Udemy online platform provides most courses to learn English (1,435 courses, 23% of the total number of language courses). Accordingly, the number of students registered for online English courses is much higher and amounts to 4,165,367 people. The least popular language on the platform is Hindi

which is represented by 39 courses (6.2% of the total number of language courses).

If we compare the number of courses found in the "Language Learning" section (6,233 courses) and those found with the "Language" section (4,270 courses), the difference between them is 1,963 courses (31.5% of the total number of language courses). It can be explained by the availability of general-purpose online courses which are not attached to a specific language.

In addition, you should focus on the display of similar topics related to the selected online course (related topics). When you want to learn a certain language, you should go to the category "Categories – Teaching & Academics – Language Learning" and select the language from the list provided. You can also focus on related topics ("Popular topics") which deal with other languages.

If you analyze related topics in different languages, for example, French and Japanese, you can see duplication of certain topics. It is quite logical, as the general language competencies are almost the same for all language courses.

In addition to displaying related topics of online courses, the "Newest" section is also useful. When we were carrying out the quantitative analysis of online language courses on the Udemy online platform, there were 279 courses in this section. It indicates that Udemy is dynamically developing and is being replenished with new educational content.

On the Alison online platform, users can get acquainted with 80 courses in various languages (Fig. 2).
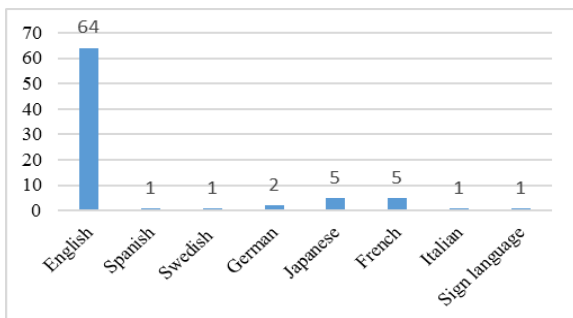

Fig. 2. The number of online language courses on the Alison platform.

Most of the language courses on the Alison platform are developed for learning English (64 courses, 80% of the total number of language courses). It can be explained by the importance of English for international communication. The second and third places in popularity are shared by online courses in Japanese and French (5 courses each, 6.25%). Other languages (Spanish, Swedish, Italian) are represented with only 1 online course, which is 1.25% of the total number of language courses on the platform.

In addition, on the platform, there is an online course on sign language "Basics of British Sign Language". The course is designed for people with hearing impairments or for those who want to learn how to communicate in sign language. In this course, students can learn gestures that indicate colors, objects, animals, days of the week, names of months, verbs. As of July 2021, 562 people are enrolled in this course; the duration of the course is 1.5-3 hours.

Similar to the Udemy platform, the Alison platform displays related thematic sections depending on the language chosen. Thus, the online system adjusts to the user's requests.

For example, when learning French, users may be offered such thematic sections as Travel / Grammar / Vocabulary. However, when learning German, other thematic sections will be displayed: Customer Service / Sales / E-commerce / Sales Management / Grammar / Vocabulary / Customer Experience / Translation (Fig. 3).
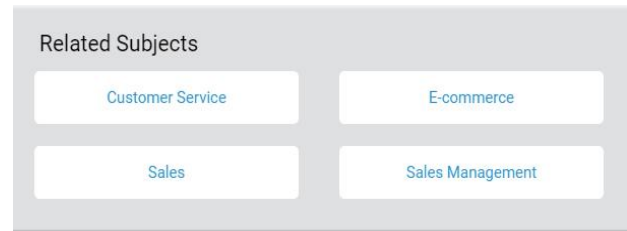

Fig. 3. Display the related sections of the online courses.

After successfully completing the course, students can download a certificate or diploma, depending on the purpose of the course and its content. There are 73 online courses (91.3% of the total number of online language courses), which allow you to obtain a certificate. After graduation, the diploma can be obtained in seven (8.7%) online courses.

In order to access language courses on the Coursera platform, you should use the section "Language Learning" – "Popular Skills". You can search for a specific language using the filter by the following criteria: language, level, duration, subject, skills and abilities, partner, educational product. The summarized data on the number of online language courses on the Coursera platform is displayed in Table IV.

TABLE IV: NUMBER OF ONLINE LANGUAGE COURSES ON THE COURSERA PLATFORM

Language	Number of courses that award a certificate	Number of courses that provide a specialization	Number of courses that award a professional certificate	Number of courses that award a degree	Total
English	158	25	2	1	186
Korean	22	2	–	–	24
French	109	18	1	–	128
Japanese	20	3	–	–	23
Chinese	56	9	1	–	66
Russian	133	21	1	1	156
Spanish	112	19	1	–	132
Total	610	97	6	2	715

As you can see from the above data (see Table V), most of the language courses on the platform are designed to learn English (186 courses, 26% of the total number of language courses), Russian (156 courses, 21.8%) and Spanish (132 courses, 18.5%). The least number of courses are in Japanese (23 courses, 3.2%) and Korean (24 courses, 3.4%). It should be noted that most of the courses on the Coursera platform have recently become available for speakers of Ukrainian.

In addition to taking online courses for a certificate (610 courses, 85.3% of the total number of language courses), students can master a series of courses and get a specialization (97 online courses, 13.6%), a professional certificate (6 courses), or a degree (2 online courses). In the case of a diploma, everyone should understand that the course consists of 3 to 7 courses which are mandatory. You can get a diploma only after completing the block of online courses. This way the user can get a specialization online.

Often in such cases, the user gets one general certificate, which reflects the number of courses in the series, the duration of the training, and the content.

When planning to learn a foreign language on the online portal Edx, the user should go to the section "Language" and choose the necessary course. Edx contains online courses in English, Chinese, French, German, Italian, and other languages (Table V).

Analyzing online language courses, the user can see Portuguese and German in the sample. However, when selecting these languages, the user will not see any online courses. There is only information about these languages and the expediency of learning them. Therefore, there is number "0" but not a sign "–" next to the specified languages in the tabular data.

According to the data obtained (see Table V), the most popular language on the Edx platform is English. The number of online English courses is 75 courses (75.7% of the total number of language courses). The next most popular languages are Chinese (6 courses, 6%) and Spanish (4 courses, 5.3%).

It should be noted that language courses make up only 2.9% of the total number of online courses on the Edx platform. In addition to taking regular online courses, the user has an opportunity to receive a professional certificate. There are only 14 courses with a subsequent professional

certificate, which is 14.1% of the total number of language courses.

After obtaining quantitative indicators for all the online platforms, we have an opportunity to generate and analyze the generalized data (Table VI).

TABLE V: NUMBER OF ONLINE LANGUAGE COURSES ON THE EDX PLATFORM

Language	Number of courses that award a certificate	Number of courses that award a professional certificate	Total
English	63	12	75
Chinese (Mandarin)	6	1	7
French	1	–	1
Italian	4	–	4
Japanese	1	–	1
Latin	1	–	1
Nungar	1	–	1
Russian	2	–	2
Spanish	4	1	5
Arabic	1	–	1
Tibetan	1	–	1
Portuguese	0	0	0
German	0	0	0
Total	85	14	99

TABLE VI: NUMBER OF LANGUAGE COURSES

Language	Number of online courses				Total number of courses	Including online courses		
	Udemy	Alison	Coursera	Edx		Number of courses that provide a specialization	Number of courses that award a professional certificate	Number of courses that award a degree
English	1,435	64	186	75	1,760	25	14	1
German	327	2	–	0	329	–	–	–
Spanish	406	1	132	5	544	19	1	–
Japanese	278	5	23	1	307	3	–	–
French	317	5	128	1	451	18	1	–
Korean	114	–	24	–	138	2	–	–
Chinese	377	–	66	7	450	9	2	–
Arabic	293	–	–	1	294	–	–	–
Italian	147	1	–	4	152	–	–	–
Russian	180	–	156	2	338	21	1	1
Portuguese	107	–	–	–	107	–	–	–
Turkish	83	–	–	–	83	–	–	–
Vietnamese	59	–	–	–	59	–	–	–
Hebrew	53	–	–	–	53	–	–	–
Hindi	39	–	–	–	39	–	–	–
Sign language	55	1	–	–	56	–	–	–
Swedish	–	1	–	–	1	–	–	–
Latin	–	–	–	1	1	–	–	–
Nungar	–	–	–	1	1	–	–	–
Tibetan	–	–	–	1	1	–	–	–
Total	4,270	80	715	99	5,164	97	19	2

According to the data obtained (see Table VI), there are 5,164 online language courses on the considered platforms. Most language courses are presented on the Udemy platform (4,270 courses, 82.8% of the total number of language courses). The fewest number of online language courses are presented on the Alison platform (80 courses, 1.5%).

Of the 20 languages analyzed, the largest number of languages is presented on the Udemy platform (16 languages). The fewest number of languages are presented on

the Coursera platform (7 languages), although each language has a significant number of online courses. All of the four MOOC offer online courses in English, Japanese and French.

The analysis of the total number of online language courses on all the platforms revealed that the most popular languages are English (1,760 courses, 34.1% of the total number of language courses), Spanish (544 courses – 10.5%), French (451 courses – 8, 7%) and Chinese (450 course – 8.7%). All the platforms provide one course to study the

Swedish, Latin, Nungar, Tibetan languages. We hope that the situation will change for the better and the number of online language courses will increase while the quality of the educational content will be preserved.

In addition to taking courses that provide a certificate, users have an opportunity to use the Coursera online platform in order to obtain a specialization (97 courses) or a degree (2 courses to learn English and Russian). Professional certificates are available on the Edx (13 courses) and Coursera (6 courses) platforms. The certificates can be obtained after taking an online course in English (14 courses), Spanish (2 courses), Chinese, French, Russian (1 course each). At the same time, the Udemy and Alison platforms do not provide such opportunities. Therefore, we can conclude that the Coursera platform has the widest opportunities for additional specialization among the analyzed MOOCs.

V. Discussion

We are convinced that the use of MOOC has great educational potential for everyone. These electronic educational resources are used by students of higher educational institutions [11], employees [12], teachers [18], and others.

At the same time, the number of online language courses is increasing every year. For example, the research [9] mentions 26 online courses on 14 MOOC platforms. At that time, both the Coursera and EdX platforms contained three online language courses. Currently, these platforms offer 715 and 99 online courses respectively (see Table VI). The increased interest in language courses is proved by the increase in the number of languages that can be learned. The research [9] mentions 6 languages (English, Chinese, French, German, Spanish, and Valencian). Now we have online courses in 20 languages, which are located on the four analyzed MOOC. In our research, we focused only on quantitative indicators. The content analysis of online courses in different languages is still relevant and needs further research.

The quantitative analysis of language courses on the Coursera, Udemy, Edx, and Alison platforms allowed us to identify the languages that receive the most attention. These are English, Spanish, French and Chinese. The prevalence of online English courses on well-known MOOC platforms is indicated in the research [25].

However, there are languages that are not represented on the platforms at all: Armenian, Polish, Romanian, Ukrainian, Bulgarian, Belarusian, and others. In our opinion, this situation can be explained by the following: a) a low number of people who speak this language; b) relatively low rating of the country among other states. These hypotheses are debatable and need further study. At the same time, some languages that are not presented on the well-known MOOC can be found on national online platforms. For example, it is true of the Ukrainian language that can be learned on such Ukrainian-language platforms as EdEra and Prometheus.

A similar situation applies to the language of instruction. Although much of the MOOC has English-language educational content [10], [21], national online platforms create online courses in the state languages [19].

Taking into account a great number of online language courses located on different MOOC, the competition between them is quite logical. To attract more students and increase the percentage of completed online courses, developers should consider a certain list of conditions and factors [1]. First, it is necessary to analyze the needs of end-users, their learning motives [10]. The course marketing, feedback, assessment, etc. are also important [23]. It is impossible to achieve success in the course promotion without its proper preparation and implementation.

Various online platforms have made it possible to provide online education during a pandemic. However, access to the Internet and the availability of appropriate digital gadgets remains a problem. This is especially true for students with low socio-economic status [26].

On the other hand, teachers who use MOOC in foreign language classes must have some digital competence [5]. The same goes for teachers/developers of online courses [11]. Unfortunately, some teachers still do not understand the importance of using ICT in the educational process or refuse to implement them at all [4]. The reasons for this attitude are the low level of information competence, increased workload on teachers and students in the development of courses using ICT, lack of computers and/or software.

To solve this problem, it is necessary to organize courses for teachers, to conduct them individually or in groups [18], to demonstrate the capabilities of MOOC in order to ensure qualitative learning of students [20]. At the same time, the work [27] emphasizes the need to encourage teachers to develop and use online courses.

VI. Conclusion

Thus, MOOC is a modern electronic educational resource that implements the principle of education openness and provides access to a variety of online courses for many users. MOOC can be used during university studies, self-education, or advanced training. Developers of online courses must take into account the requirements for the structure of the course, the quality of the educational content, interactivity. In turn, higher education institutions can use the possibilities of MOOC to organize distance and blended learning.

The comparison of the functional capabilities of Coursera, Udemy, Edx, and Alison allowed us to reveal the same features such as multilingual interface, a possibility to choose the language of courses, a possibility to obtain a certificate, the availability of links to related courses, the availability of headings, a possibility to search for courses by keywords.

On the analyzed MOOC, there are 5,164 language online courses for learning 20 languages. The largest number of online language courses is on the Udemy platform (4,270 courses, 82.8% of the total number of language courses). The smallest number of language courses is located on the Alison online platform (80 courses, 1.6%). Such platforms as Coursera and Edx give an opportunity to take online courses and obtain an additional specialization (97 courses), a professional certificate (19 courses), or a degree (2 courses).

The most popular languages presented on online platforms are English (1,760 courses, 34.1% of the total number of language courses), Spanish (544 courses – 10.5%), French (451 courses, 8.7%), and Chinese (450 course – 8.7%). It is

quite logical, as the most common languages are Chinese, Spanish, and English. The least popular languages, which are presented by one online course, are Swedish, Latin, Nungar, and Tibetan.

In our opinion, the content analysis of the online courses, which are predominant on the MOOC platforms, is an important direction of further research.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Tetiana Sharova developed the structure of the article, wrote and refined the paper. Ostap Bodyk collected and analyzed the information on the online courses on the Coursera platform. Valentyna Kravchenko analyzed the Edx and Alison platform. Alina Zemlianska analyzed the courses on the Udemy platform. Natalia Nisanoglu generalized the data and drew up the References. All the authors approved the final version.

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