



## **AKADEMA: ANADOLU UNIVERSITY MOOCS INITIATIVE**

**Hila Seda Yildiz<sup>1</sup>,**

**Irfan Sural<sup>2i</sup>**

<sup>1</sup>Yasar University,  
Centre of Distance Education,  
Izmir, Turkey

<sup>2</sup>Eskisehir Osmangazi University,  
Faculty of Education,  
Computer and Instructional Technology in  
Education Department,  
Eskisehir, Turkey

### **Abstract:**

The 21st century is perhaps the most promising period for individuals to develop their social, cultural and professional skills. With the developments in information and communication technologies, learning activities have become a part of daily life. Today, Massive Open Online Courses (MOOCs) are the courses offered by both universities and independent providers. Within the scope of this research, AKADEMA MOOC initiative, which was developed and presented by Anadolu University, one of the mega universities in the world, was introduced. In addition, various statistical data covering the first two periods in which the lessons were provided to the learners were shared in descriptive dimensions and detailed information was given about the learner profiles.

**Keywords:** MOOCs, AKADEMA, open courses

### **1. Introduction**

The 21st Century is a period in which the vital experiences of individuals are governed by various technologies, in other words, technology-oriented experiences are surrounded by individuals. In this period, individuals are working extensively and need alternative methods to meet their growing educational and lifelong learning needs. With each screen we carry with us, we have more accessible learning experiences and a virtual field where we can learn new things according to our own time and space preferences. When it comes to learning experiences, Open and Distance Learning is an essential way to accessible, effective, efficient and sustainable learning. Open and

---

<sup>i</sup> Correspondence: email [isural@gmail.com](mailto:isural@gmail.com)

distance learning has enabled learners to learn at their own pace and in the environment. Thus, the development of learning centered approaches and techniques has led to a paradigm shift from teaching to learning. When it comes to learning experiences, Open and Distance Learning is an essential way to accessible, effective, efficient and sustainable learning experiences. Thanks to the Information and Communication Technologies (ICT), education has become a vital form of learning where learners can continue their learning process in extracurricular activities.

Developments in communication technologies are a form of enrichment of traditional teaching methods, in which learners collaborate to produce products or ideas, and constructivist and connectivist thinking activities.

According to Siemens (2005), Connectivism consists of processes that are made by social learning and through social networks, consisting of information networks similar to an organism that must be strengthened with new information and which are provided by the learners on their own will. The information networks mentioned in these processes are created and fed on the internet, and the task of the teacher is to introduce learners to these networks. Learners can contribute to these networks at any time, which is offered by flexible learning. Flexibility is an important feature in Open Learning applications, which have become increasingly important from past to present.

Open and flexible learning systems and processes provide freedom of learning for learners, mentors and the community. In these systems, individuals do not have to go to a campus, building or class in order to meet their learning needs, or it is not obligatory to take lessons from a teacher assigned to him/her except for one's will. Open Learning Resources, namely OERs, is the embodiment of this thought. When these sources are examined in terms of philosophical foundations, it is possible to come across such concepts as "right to education for all" and "openness". Although openness is a philosophical view, it is a general phenomenon of transparency. Openness is linked to freedom, but not freedom. Openness in education can be considered under the topics open access, open standards, open licensing, open management and open software ("Going naked - Openism and freedom in academia", 2014). OERs covers various files and resources such as video, picture, sound, learning activities, text documents (Falconer et al., 2013). OERs also include these features and different types of licensing.

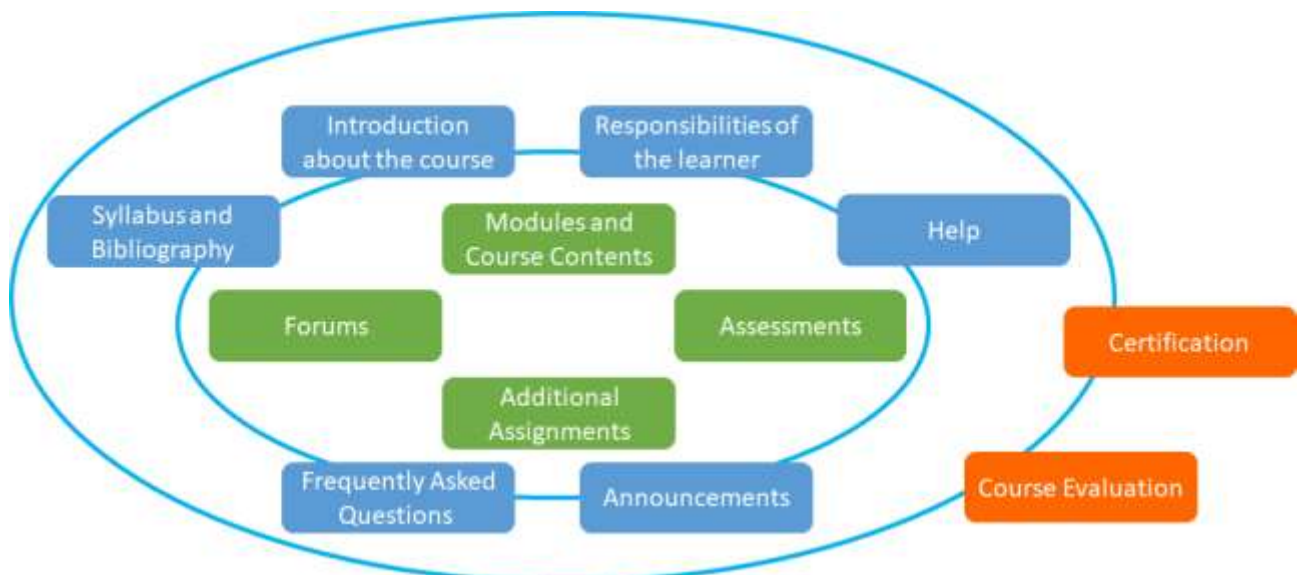
One of the highlights of the projects carried out by the Organization for Economic Co-operation and Development (OECD) is that open learning sources can help informal, nonformal and formal learning, especially at the higher education level (Ischinger, 2007). The development of information technologies and digitalized learning resources encourage universities, other institutions and individuals to use and production of OER. MIT OpenCourseWare is one of the first examples of OER movement worldwide. Rice University's Connexions project, Carnegie Mellon University's Open Learning Initiative project, and Open and Sustainable Learning Center of the Utah State University are other examples of OER use in higher education (Ischinger, 2007). One of the remarkable developments in the lifelong learning movement is Massive Open Online Courses (MOOCs) which explained in the next heading.

## 2. Massive Open Online Courses

Massive Open Online Courses (MOOCs), a widespread application of connectivist learning theory, are open and flexible constructs that enable a large number or mass learning (Clarà & Barberà, 2013). Whenever they want, learners can take as many courses as they want from the world's major universities and lecturers, wherever they want, and if so, they can count and certify these courses. The "openness" situation means that it is open in terms of access to the course resources, system and classes (free user registration may be required in certain situations). Being massive it can be personalized the learning processes of many learners along with their networks, and their environment. The fact that the courses are online means that their content and interactions will be carried out online (Siemens, 2013). The effect created by MOOCs is so challenging that 2012 is expressed as "CAACs year" by Pappano (2012).

Designed by Stephen Downes and George Siemens, "Connectivism and Connective Knowledge Course (CCK08)", presented in 2008, is the first MOOC in history (Siemens, 2013). Today, YALE University offers certification programs and micro-learning facilities on different subjects and areas of expertise through platforms such as Udemy, edX and Coursera, the most successful universities in the world such as Harvard, MIT, Stanford, UC Berkeley and UCLA; (Blake, 2014) as well as on the recognition and certification of courses taken at the same time.

MOOCs are presented in different formats according to the orientation, audience and course design they offer, but also contain the components shown in Figure 1 basically.



**Figure 1:** Components of MOOCs

Removing time and space limitations, MOOCs offer learning processes based on autonomous learning, low cost and easily accessible communication technologies. In addition to all these, the factor of interactivity is seen as an important element in MOOCs, which brings informal and contextual learning experiences. But; learning-

centered processes, the need for effective learning of learners, the potential to transform into a chaotic atmosphere for learners, digital literacy; time, effort and learning autonomy requirements, as well as their shaping throughout the process are also described as the disadvantages of MOOCs (de Waard, 2011).

Today, practices, researches and studies about MOOCs are increasing day by day (Liyana Gunawardena, Adams & Williams, 2013). It is especially noteworthy that the dropout is the subject of this research area. According to Daniel (2012), participation in the Circuits and Electronics course offered by MIT was 155,000, of which 7,157 students could complete the course. Such a rate does not constitute a significant problem for some researchers, but is seen as a problem to be solved for some researchers. At this stage, the motivation of learners and the sustainability of the courses may need to be studied.

When examined Turkey, AKADEMA offered by the Anadolu University ([akadema.anadolu.edu.tr](http://akadema.anadolu.edu.tr)) and Atademix offered by Erzurum Atatürk University ([atademix.atauni.edu.tr](http://atademix.atauni.edu.tr)) platforms are quite remarkable. In the Atademix platform, a total of 12 courses have been offered in the fields of statistics, project preparation and linguistics since 2015. In AKADEMA platform provided by Anadolu University, 55 courses are given under 12 categories as of 2017. In addition to these two universities, Yaşar University offers 20 MOOCs in both English and Turkish, and some of these courses are designed specifically for the visually impaired. Koç University also offers MOOCs in various fields (Aydin, 2017). Yet another example of the Turkey-based initiatives is the Üniversiteplus platform which has 46 courses and 14 certificate programs provided by Istanbul Technical University, Yeditepe University and Boğaziçi University.

### **2.1. Anadolu University AKADEMA Project**

Founded in 1981 by Anadolu University, the Open Education Faculty provides open education services in North America, Azerbaijan, Albania, Bosnia and Herzegovina, Bulgaria, Kosovo, Macedonia and Western Europe in addition to Turkey. In addition to the open education services and certificate programs offered by Anadolu University in line with the principle of learning, the AKADEMA platform has been open to everyone and made available to the public free of charge.

The main purpose of AKADEMA platform is to provide free and online lifelong learning opportunities for individuals from all age groups and from all strata, which is independent of time and space.

AKADEMA, besides being a MOOC platform, also have the characteristics of social responsibility project as a product of Anadolu University's Open Education background. The course completion certificate is presented to learners who have successfully completed the courses on the AKADEMA platform, which consists of a total of 55 courses under the categories of Fine Arts, Music Education, Science and Technology, Management and Economics, Language Learning, Social Sciences, Research and Evaluation, Law, Health, Sports and Personal Development.

### **3. Method**

In this study, descriptive research design of quantitative methods is used. This type of research corresponds to identifying the characteristics of an observed phenomenon or exploring correlations between two or more entities. Quantitative researches are systematic and objective researches carried out with the analysis and interpretation of numerical data. It is used to define the variables, to determine the relations between the variables and to examine the cause-effect relations between the variables. In this study, a single survey model, one of the quantitative research methods, was used.

#### **3.1. Data Collection**

This study has two different data sources. In order to obtain the first data set, a registration form has been created for collecting the personal information of the learners. Course selections are then recorded via this form. In the registration form, demographic information such as gender, date of birth, education status and marital status were collected. However, learners are offered the opportunity to register as many courses as they want through their own management panel. Apart from the data collected via this form, the analytical tool was used to monitor system records, which consist of usage data of the system. With the help of analytical tool, access to the system according to time and region and most registered courses, etc. information was collected.

#### **3.2. Data Analysis**

Collected data in this study were analyzed using Tableau Public software. Tableau Public is a software developed for researchers to perform descriptive data analysis and data visualization. At the same time, it provides direct access to the data by linking to different databases.

In the data analysis process, the data obtained with Google Analytics tool was first transferred to Tableau Public software. Cross tables were created by defining various parameters after cleaning and arranging data. The data is visualized by determining appropriate graphic types.

#### **3.3. Participants**

This research covers participants who have been enrolled in the system between 01.01.2017 and 01.04.2017. Name, surname, T.C. identity number, e-mail address, gender, date of birth, province and district, level of education and profession data were obtained from the participants using registration form located at [akadema.anadolu.edu.tr](http://akadema.anadolu.edu.tr). In Table 1, data on participants' age, gender, and education levels are shared.

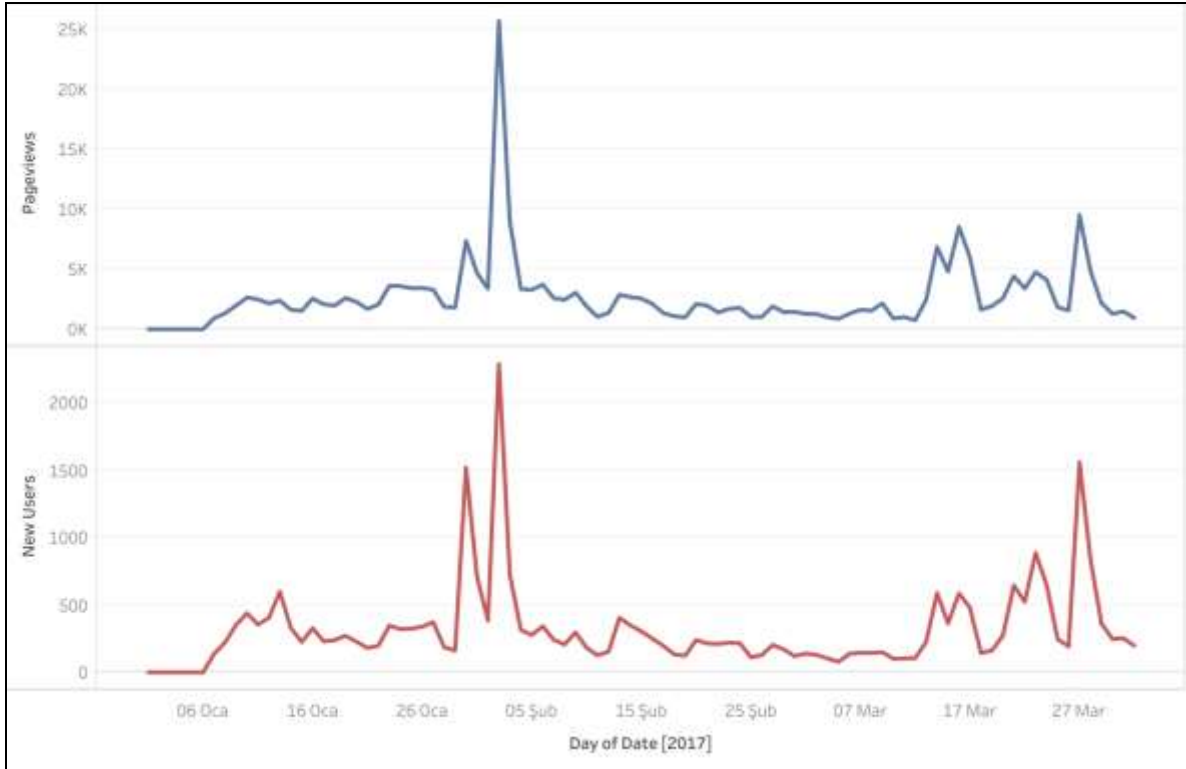
**Table 1: Demographic data of users registered to AKADEMA system**

	Frequency	Percent	Valid Percent	Cumulative Percent
<b>Age ranges of registered users</b>				
15-25	2292	23,1	27,9	27,9
26-35	2646	26,7	32,2	60,1
36-45	2680	27,0	32,6	92,8
46-55	471	4,8	5,7	98,5
56-80	123	1,2	1,5	100,0
N/A	1701			
Total	9913	100	100,0	
<b>Educational levels of registered users</b>				
Primary Education	208	2,1	2,1	9,4
High School	870	8,8	8,8	71,4
College	1823	18,4	18,4	89,8
Bachelors	5277	53,2	53,2	62,6
Masters	1010	10,2	10,2	100,0
Doctorate	725	7,3	7,3	7,3
Total	9913	100,0	100,0	
<b>Gender information of registered users</b>				
Female	3901	39,4	39,4	67,2
Male	3255	32,8	32,8	100,0
N/A	2757	27,8	27,8	27,8
Total	9913	100,0	100,0	

When Table 1 is examined, it appears that some of the participants do not want to share their gender and age information. It is seen that the age profile changed between 25 and 45 and most of the participants were trained at the undergraduate level. It is noteworthy that participants in different profiles are included in the system due to the flexibility provided to learners both in terms of education and age. This can be thought of as a reflection of the openness and flexibility characteristics of online learning environments.

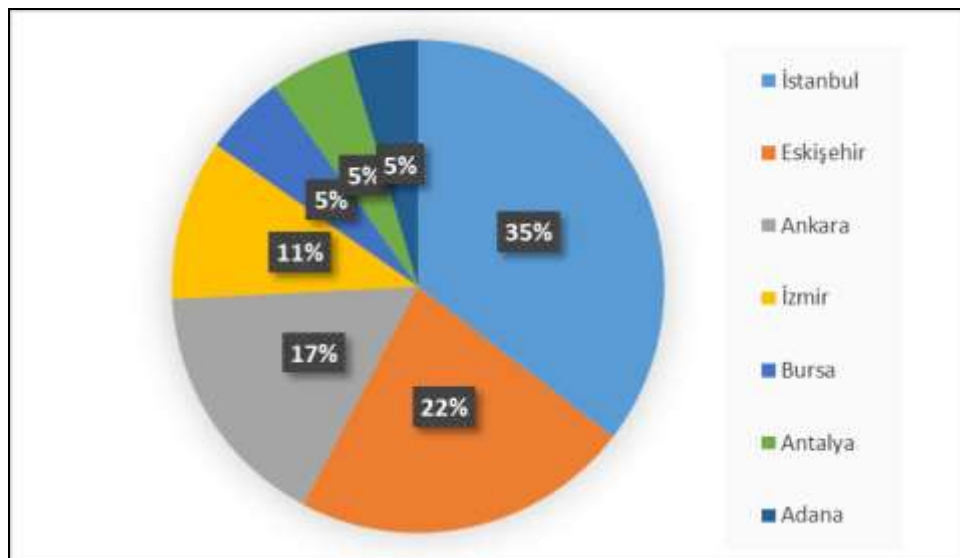
#### 4. Results

Within the scope of this research, the patterns of students' registration behaviors on the AKADEMA platform were revealed. The number of new users and pageviews of the AKADEMA platform is given in Figure 2.



**Figure 2:** Distribution of the number of users visiting AKADEMA platform over time

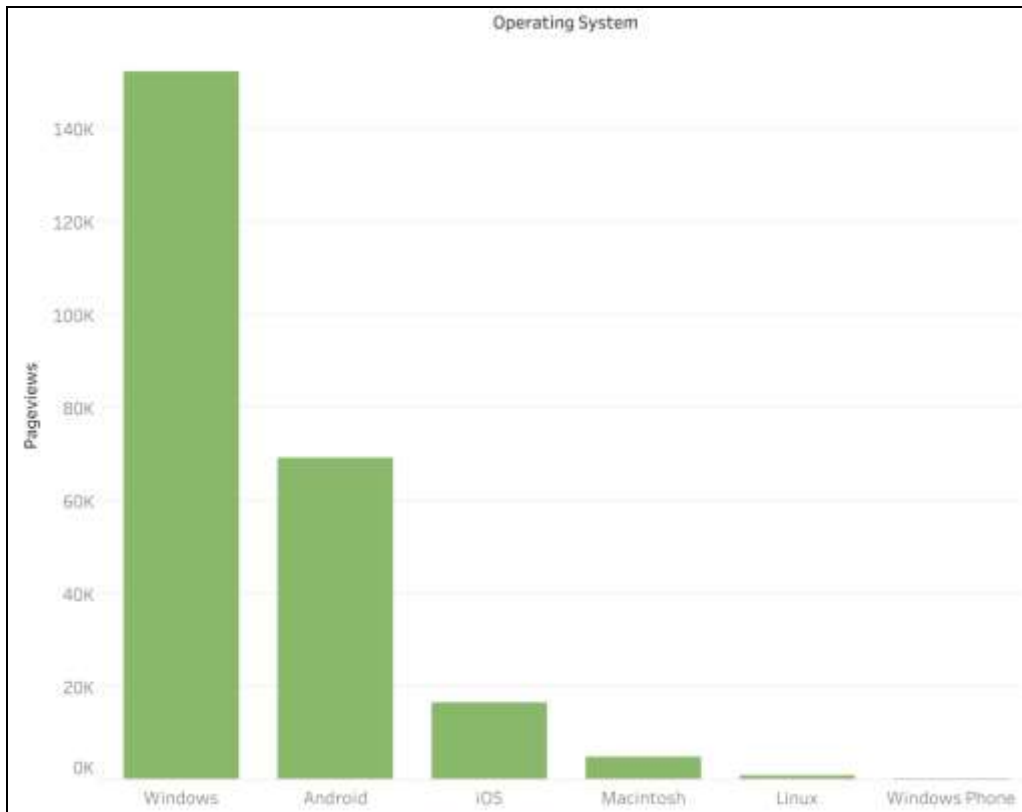
AKADEMA is visited on average by 2K users per day. As you can see in Figure 2, it is seen that the users who visited AKADEMA page especially reached to the maximum on 02/02/2017 and 03/27/2017. Adding new courses and making announcements at these dates are thought to be effective in the number of page views. In Figure 3, the participation to the AKADEMA platform is shown according to cities.



**Figure 3:** Distribution of participation in the AKADEMA platform by cities

When Figure 3 is examined, it is seen that big cities are in first place in terms of demand to AKADEMA. In this context, the highest demand for AKADEMA system came from Istanbul with 35%, followed by Eskişehir with 22%. In Figure 4, it is shown

on which platform the individual users coming to the system are connected via the platform.



**Figure 4:** Operating systems of users in the system

When Figure 4 is examined, it is seen that the number of users connected from mobile devices is very close to the number of users connected from computers in context of pageviews.

The courses in AKADEMA platform consist of different categories as mentioned before. These categories are determined by subject experts according to the content of the courses and presented in the platform as shown in Table 2.

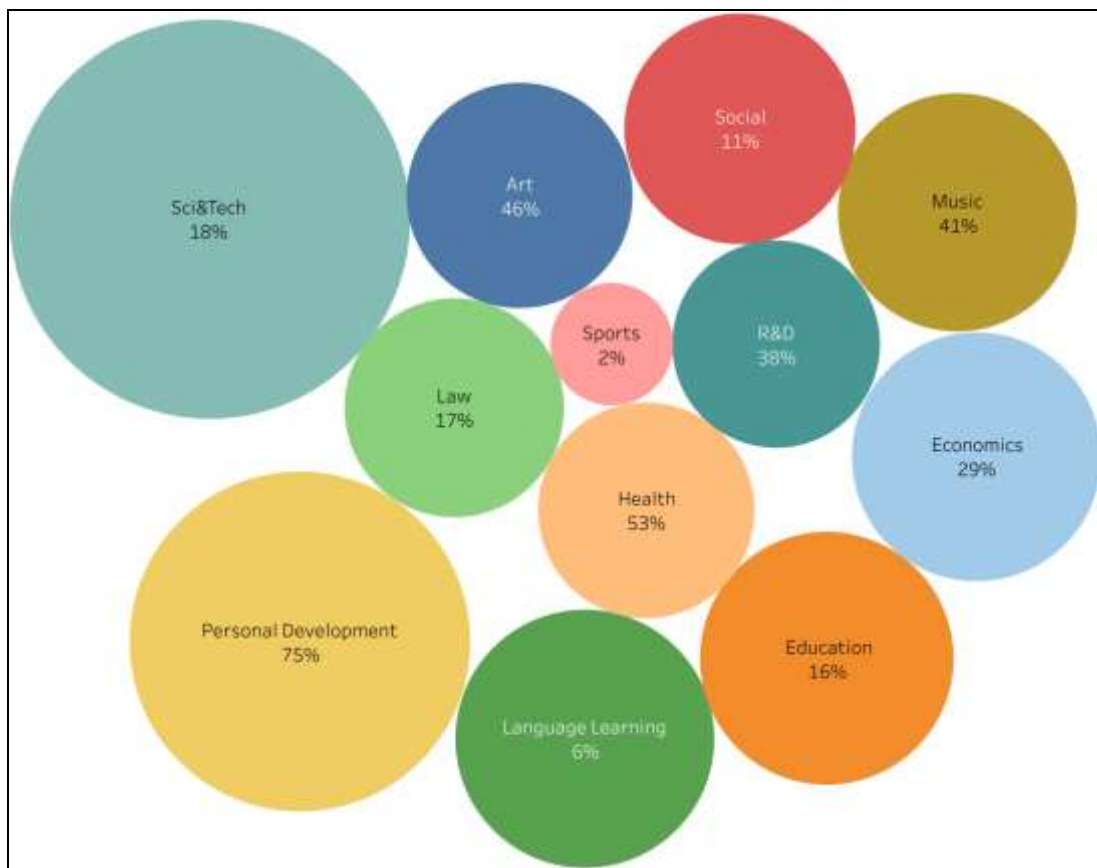
**Table 2:** Course categories and numbers in AKADEMA

Course Category	Numbers of Courses	Course Category	Numbers of Courses
Music	7	Research and Evaluation	5
Arts	5	Health	2
Education	3	Law	1
Social Science	3	Open Educational Resources	4
Language Learning	2	Personal Development	13
Management and Economy	4	Sports	1
Science and Technology	5		



AKADEMA system has 55 lessons in total under 13 categories. These courses are prepared in accordance with the philosophy of open and distance learning, guided or self-study courses. The Personal Development category has 13 lessons and is the category with the most preferred courses as mentioned later in the study. The second category in which most courses are found is Music category with 7 lessons. Figure 5 shows the links between visits and preferences in the context of the categorization of the lessons.

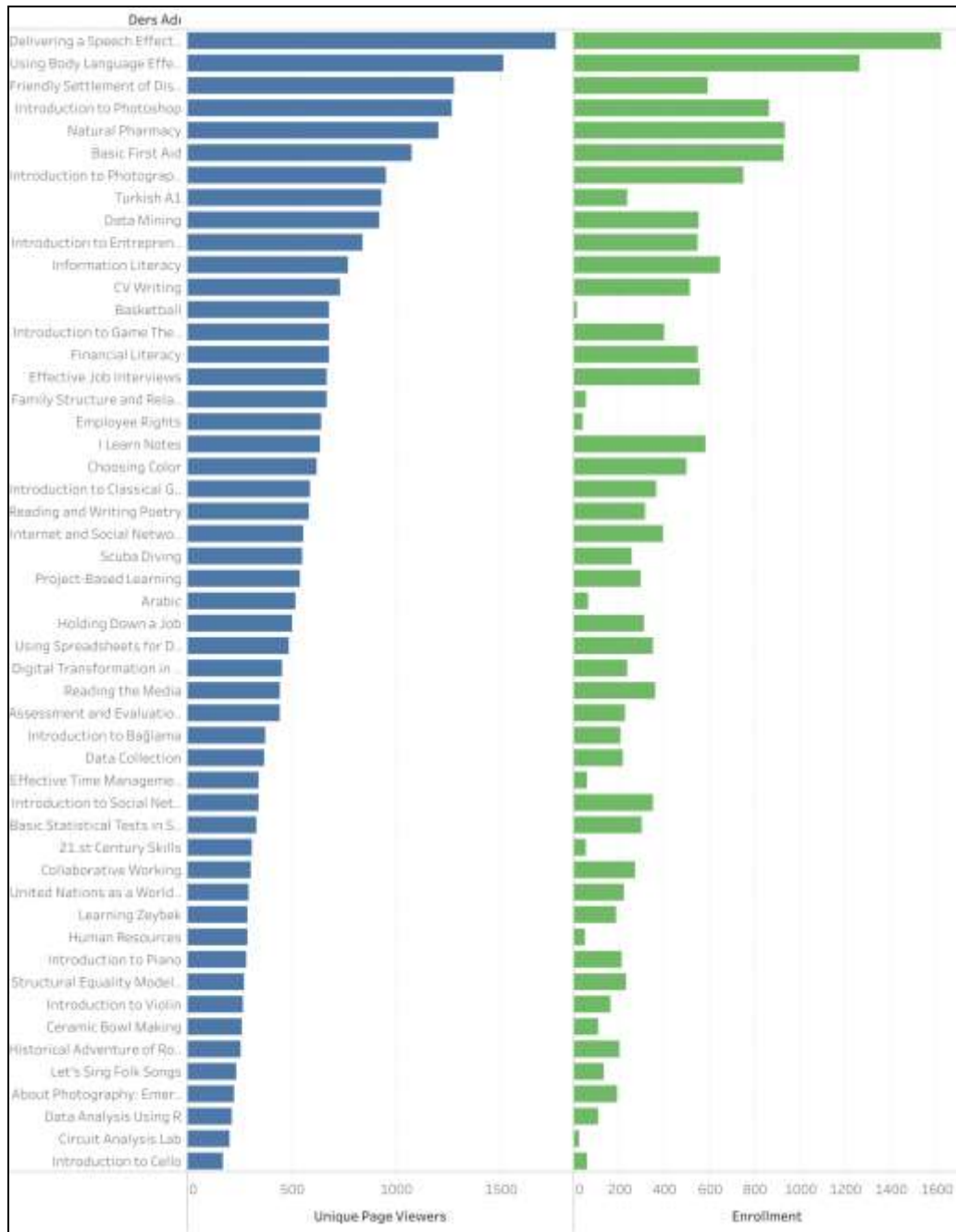
When Figure 5 is examined, it is seen that the most visited course category by users is Sci & Tech. However, it can be said that 18% of those who still examine the category of Sci & Tech are enrolled in these classes. In this context, it is seen that Personal Development is the category with the highest rate of registration. It is noteworthy that even though the Language Learning category is one of the most visited categories, the registration rate is as low as 6%.



**Figure 5:** Visits and preference relations of lessons in the context of categorization

Figure 6 shows statistics of the number of unique users visiting the courses in the system and the number of registered users.

When Figure 6 is examined, it is seen that the most recorded and reviewed courses are "Delivering a Speech Effectively" and "Using Body Language Effectively". The "Basketball" course was one of the less preferred courses, though the rate of visits among these 55 courses was high.



**Figure 6:** The number of unique users and registered users visiting the courses in the system

## 5. Discussion and Conclusion

Today, the learning activity is not only compressed into a certain age range. A variety of lifelong learning opportunities arise for the need of individuals to develop themselves in social, cultural and professional terms. MOOCs, which can be seen as a different reflection of the OERs movement, plays an important role in meeting these needs mentioned before. Many institutions offer free and online courses within this scope and certify those who successfully complete the courses. The MOOC platform AKADEMA, which offers free education without any prerequisites for everyone who wishes, continues to offer unlimited and open training opportunities with the increasing

number of students and courses. Considering the number of projects in our country especially OERs and MOOCs, the importance and leadership of AKADEMA is better understood. In this study, four-month record and usage statistics in the AKADEMA system examined and the data presented. Accordingly, a total of 9913 students enrolled in 55 courses under 13 categories in AKADEMA.

When the age distribution of the learners enrolled in the AKADEMA system examined, it observed that they are predominantly distributed between 15-45 age range. This is an expected result and indicates a new generation of learners with the awareness of lifelong learning. When the education levels of the learners examined, it is seen that the undergraduate students create the majority of learners in the system. Specifically, for the continuation of the learning process, in particular, determining the learning objectives of undergraduate students in learning processes; It is thought that self-directed learning of the learners is known as active in their environments, readiness, goals and other controls. Among the learners enrolled in the AKADEMA system, the shortage of primary school graduates may mean that the awareness of MOOC is low or that the courses opened do not address them.

Although the visiting and preference rates of the courses offered by AKADEMA are the most visited Sci & Tech category; the most registered course category is Personal Development. It is seen that the majority of students enroll in the courses such as "Delivering a Speech Effectively" where they can gain skills related to everyday life.

Universities should provide information about the function of MOOCs, the opportunities they offer, their contribution to the education system and how they can be used. It is necessary to introduce the opportunities that MOOCs can provide a large part of the society. Within the scope of "education for all" approach, these courses should be open to all and free of charge.

Institutions planning to provide MOOCs should act in an organized manner both in terms of learner support services and system infrastructure. It should be emphasized that the design, development, and presentation of the courses should be conducted by professional units.

### **About the Authors**

**Hilal Seda Yildiz** is a Ph.D. candidate in Distance Education Department of Anadolu University Social Sciences Institute. YILDIZ completed her master's education in the same department in 2016. She took her BS degree in Computer and Instructional Technology Education Department in 2014. YILDIZ currently works as an Assessment and Evaluation Specialist at Yasar University. YILDIZ's research areas include open and distance learning technologies, instructional design, user experience, learning support services, intelligent and adaptive learning systems, learning management systems, artificial neural networks, and educational data analysis.

**Irfan Sural** is Assistant Professor in Department of Computer Education & Instructional Technology at Osmangazi University, Eskisehir-Turkey. He has a strong practical as well as theoretical background in the use of technology for e-learning. His research interests mainly focus on personalized learning systems, building distance

education infrastructures, artificial intelligence in distance education, learning management systems and open-source software projects in education. He has contributed to many national and international projects and presented papers on the integration of technology in education.

## References

- Aydin, C. H. (2017), Current status of the MOOC movement in the world and reaction of the Turkish higher education institutions, *Open Praxis*, volume 9, pp. 59-78.
- Blake, D. (2014), Top Challenges Facing MOOCs. Retrieved from <http://moocs.com/index.php/top-challenges-facing-moocs/>.
- Clarà, M., & Barberà, E. (2013). Learning online: massive open online courses (MOOCs), connectivism, and cultural psychology. *Distance Education*, 34(1), 129-136.
- Daniel, J. (2012), Making sense of MOOCs: Musings in a maze of myth, paradox and possibility, *Journal of interactive Media in education*, volume 3.
- de Waard, I. (2011), Explore a new learning frontier: MOOCs, *Learning Solutions Magazine*, volume 25.
- Falconer, I., McGill, L., Littlejohn, A., & Boursinou, E. (2013). Overview and analysis of practices with Open Educational Resources in adult education in Europe. Retrieved from <http://oro.open.ac.uk/50933/1/JRC-Adult%20Learning%20Report%202013.pdf>
- Going naked - Openism and freedom in academia. (2018). Retrieved from [https://en.wikiversity.org/wiki/Going\\_naked\\_-\\_Openism\\_and\\_freedom\\_in\\_academia](https://en.wikiversity.org/wiki/Going_naked_-_Openism_and_freedom_in_academia)
- Ischinger, B. (2007), Can the world be over-educated?, Organisation for Economic Cooperation and Development, The OECD Observer.
- Liyanagunawardena, T. R., Adams, A. A., & Williams, S. A. (2013), MOOCs: A systematic study of the published literature 2008-2012, *The International Review of Research in Open and Distributed Learning*, volume 14, pp. 202-227.
- Pappano, L. (2012), The Year of the MOOC, *The New York Times*, volume 12.
- Siemens, G. (2005), Connectivism: A learning theory for the digital age, *International journal of instructional technology and distance learning*, volume 2, pp. 3-10.
- Siemens, G. (2013), Learning analytics: The emergence of a discipline, *American Behavioral Scientist*, volume 57, pp. 1380-1400.

Creative Commons licensing terms

Authors will retain the copyright of their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied to their work. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions and conclusions expressed in this research article are views, opinions and conclusions of the author(s). Open Access Publishing Group and European Journal of Open Education and E-learning Studies shall not be responsible or answerable for any loss, damage or liability caused in relation to/arising out of conflict of interests, copyright violations and inappropriate or inaccurate use of any kind content related or integrated on the research work. All the published works are meeting the Open Access Publishing requirements and can be freely accessed, shared, modified, distributed and used in educational, commercial and non-commercial purposes under a [Creative Commons Attribution 4.0 International License \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).