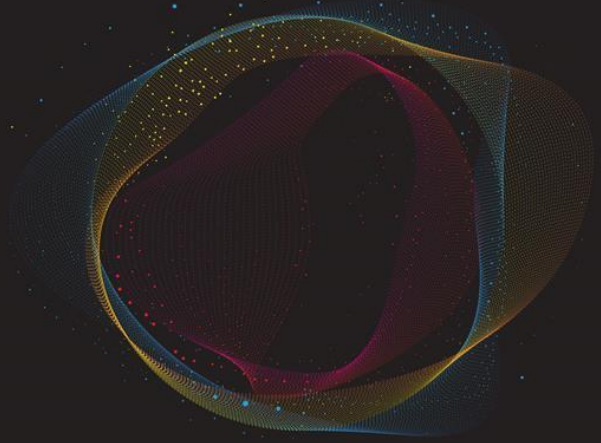
# 8th International Conference On Future Learning and Informatics: Data Revolution

Health • Agriculture • Tourism



20-22 | OCTOBER | 2020

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# Book of Abstracts

## Future-Learning 2020

## 8th International Conference on Future Learning and Informatics: "Data Revolution"

Muğla, TURKEY, 20-22 October, 2020


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# ORGANISERS

## İstanbul University

İstanbul University can trace its origins back to 1453 when it was founded by the Ottoman Sultan Mehmed II as a school of philosophy, medicine, law, and letters. It has gone through many iterations since then, serving as a madrasah (Islamic theological school) and as an institution of higher education called the Darülfünûn (House of Sciences) in the 19th century, before being established as Istanbul University in 1933 after Mustafa Kemal Atatürk reformed Turkey's education system.

İstanbul University brings together the East and the West, the past and the future; also, it is the leading University raising competent individuals who produce beneficial knowledge for the country and humanity. İstanbul University continues its activities at 12 campuses in Beyazıt-Central, Laleli-Vezneciler, Vefa, Horhor, Avcılar, Çapa, Cerrahpaşa, Şişli, Kadıköy, Bahçeköy, Bakırköy and Büyükçekmece; however, its symbol is the historical campus at Beyazıt. Istanbul University's core values are: to protect and glorify Atatürk's principles and the Republic's Acquisitions, participation, respect for the environment and human beings, and absolute harmony with ethical values.

## Muğla Sıtkı Koçman University

Muğla Sıtkı Koçman University was established in 1992 as a state university with four proposed faculties: The Faculty of Arts & Sciences and Humanities, the Faculty of Economics and Administrative Sciences, the Faculty of Technical Education and the Faculty of Fisheries.

Since its establishment, Muğla Sıtkı Koçman University has been in pursuit of quality higher education and research in order to contribute to the sociocultural, scientific, and technological development of Turkey. Developing a systematic and comprehensive education programme for the thorough dissemination, discovery, and application of knowledge requires a competent infrastructure.

Today, Muğla Sıtkı Koçman University encompasses a two million square meter campus surrounded by a spectacular mountain view and smaller university sites and schools across the province. Currently, the university services over 32,000 students and employs over 1,300 full-time academic staff.

## Turkish Informatics Foundation

The Turkish Informatics Foundation ("TBV") is a non-governmental organization with its headquarter located in Istanbul. Its aim is "to transform Turkey into an information society." TBV was founded in April 1995 by 178 founding members from 114 different institutions, and today the organization has more than 400 members. The main objective of the organization is to provide a necessary foundation in enabling the Turkish society to become an information society, and in doing so, to organize and develop scientific research and activities and specifically to research the effects of new technologies on the social and economic lifestyles of the society, to create and provide projects and policies and to provide reliable sources and qualified information.

## Republic of Turkey Ministry of National Education

The Ministry of National Education (Milli Eğitim Bakanlığı) is a government ministry of the Republic of Turkey, responsible for the supervision of the public and private educational system, agreements, and authorizations under a national curriculum. The ministry is headed by Ziya Selçuk.

The Ministry of National Education (MoNE) in Turkey manages one of the largest educational systems in Europe. Administrative legislation and supervision related to formal and non-formal education (except for higher education) are performed by the Ministry of National Education.

Educational services at all levels are provided substantially (more than 90 %) by public education institutions, and for those institutions, MoNE regulates the teacher employment and relocation and imposes the curriculum; timetables, textbooks used in the classroom, and explicitly use tests to monitor teaching practices in the classroom.

As an example of initiatives in the STEM area, MoNE's current curriculum encourages lower secondary schools' teachers of mathematics and science to collaborate and integrate their coursework with STEM education. MoNE also has a wide network of schools, relations with all of the stakeholders, and a sound network system including local, regional, and national authorities.

There are, for example, 81 Provincial Educational Authorities which include District Educational Authorities, so it has the capacity for well-planned, coherent science

and mathematics education within schools by supporting the development of local clusters for sharing advice and support on curriculum planning and subject leadership.

MONE has the impact of working on collaborations between specialist science and engineering schools to deliver outstanding science and engineering education; to share expertise in the planning and delivery of STEM education in schools.

**Informatics Association of Turkey**

Informatics Association of Turkey (TBD) which brings people working in the information technologies area in Turkey together under one roof, is the oldest informatics organization in the country with the highest number of members. TBD was founded by eight people who called themselves informatics specialists in April 1971 and was able to announce its establishment and aims in a short time to larger circles with the Informatics Special Edition of Electrical Engineering Journal and through its own journal that started in spring 1972.

TBD has been the major factor in organizing informatics sector as a new area of work; defining the professional tasks and standards, etc.; spreading Turkish informatics terms; getting necessary precautions to be taken by State Planning Industry (DPT) and Ministries so that the profession can evolve at the state level and being able to use computerized power productively, to this end establishing DPT EBİ Continuous Specialization Board that provide support and supervision for strategy development and feasibility of new investments, putting the issues of informatics and information technology centres on the Five-Year Development Plans and Annual Activity Programmes, discussing these issues in depth during TBD National Informatics Congresses, starting efforts to computer literacy through formal education, starting computer engineering at higher education level and computer operation at secondary education level; in summary laying the foundations of the idea of informatics and gradually a society based on informatics.

**“Aurel Vlaicu" University of Arad**

"Aurel Vlaicu" University of Arad continues the tradition of local higher education started with the Institute of Theology (1822), the Faculty of Veterinary Medicine and Zootechnics (1947), and the Associate Engineer Institute (1972).

"Aurel Vlaicu" University of Arad (1990) is a distinct academic community that operates in accord with the provisions of the Romanian Constitution as well as with the laws pertaining to higher education. AVU promotes and upholds all European conventions regarding higher education. The university employs a highly trained teaching staff and offers the best possible amenities for didactic and scientific-related activities. At the moment, the university hosts nine faculties with nine departments and 11 research centers, three institutes, and one business incubator across 47.903 $m^2$ of didactic spaces, state-of-the-art computer labs, conference and lecture halls, etc. The faculties` curriculum plans are correlated with the European Credit Transfer and Accumulation System (ECTS) so that diplomas issued within the EU as well as study periods abroad can be recognized. The Erasmus + programme offers students the opportunity to attend classes within a different university, either foreign or domestic. All ERASMUS + students are guaranteed complete academic recognition for their studies abroad.

**The Scientific and Technological Research Council of Turkey (TÜBİTAK)**

The Scientific and Technological Research Council of Turkey (TÜBİTAK) is the leading agency for the management, funding, and conduct of research in Turkey. It was established in 1963 with a mission to advance science and technology, conduct research, and support Turkish researchers. The Council is an autonomous institution and is governed by a Scientific Board whose members are selected from prominent scholars from universities, industry, and research institutions.

TÜBİTAK is responsible for promoting, developing, organising, conducting, and coordinating research and development in line with national targets and priorities. TÜBİTAK not only supports innovation, academic and industrial R&D studies but also, in line with national priorities, develops scientific and technological policies and manages R&D institutes, carrying on research, technology, and development studies. Furthermore, TÜBİTAK funds research projects carried out in universities and other public and private organizations, conducts research on strategic areas, develops support programs for public and private sectors, publishes scientific journals, popular science magazines, and books, organizes science and society activities, and supports undergraduate and graduate students through scholarships.

# CAPTURES FROM THE ORGANISATION COMMITTEE MEETINGS







Nurhayat Kocatürk
Emre Akadal
TBD Aydın Kolat
serra iPad'i
Ayşe Kula
Muge Adnan
Sevinc
Çiğdem Selçukcan
Naz Fulya Özkarabacak
Eyüp Şen
MURAT GEZER
Ahmet
Fidan


Nurhayat Kocatürk
Ayşe Kula
TBD Aydın Kolat
serra iPad'i
Muge Adnan
Sevinc
Emre Akadal
Çiğdem Selçukcan
Naz Fulya Özkarabacak
MURAT GEZER
Connecting to audio
Eyüp Şen
Fidan

# PREFACE OF THE EDITORS

At such times when data and information technology are of paramount importance, especially nowadays due to social distance conditions, education is more than a means for providing jobs for young people. Education is now destined to have a multidimensional role for individuals, companies, and institutions through which they can improve and strengthen their traits to survive in a highly volatile world.

Future Learning 2020 aimed to discuss future innovations in the fields of learning and informatics, particularly the impact of informatics applications on learning experiences. For the eighth time, the conference encouraged a productive debate on strategies for developing the most effective methods, techniques, and technologies that will serve humankind in the lifelong learning process. Data is a treasure that is generated in our daily lives. Hence, "Data Revolution" has been chosen as the theme of Future-Learning 2020. The main tracks of the conference were e-Learning, Health, Tourism, Agriculture and Education.

The **8th International Conference on Future Learning and Informatics (FL2020):** ***Data Revolution*** organised by Istanbul University (Department of Informatics and Computer Research and Application Center) due to the Corona Virus outbreak was held as an e-conference on October 20-22, 2020, with the partnership of Ministry of National Education of Turkey, Muğla Sıtkı Koçman University, "Aurel Vlaicu" University of Arad (Romania), Informatics Association of Turkey (TBD) and Turkish Informatics Foundation (TBV).

FL2020, as previous Future-Learning conferences, provided a unique forum for the interchange of ideas, advances, and applications among academicians, teachers, administrators, practitioners, and companies in the fields of Information Technology, Teaching and Learning, and Digital Information Resources.

The FL2020 Program Committee has developed an exciting program that included the following events: six invited talks, seven panels, a total of 34 paper presentations in eight sessions. The panels on the topics "Data Revolution in Health," "New Technologies in Health," "Data Revolution in Agriculture," "New Technologies for Agriculture Education," "Data Revolution in Tourism and New Technologies in Tourism Education," "How Did the Pandemics Change the Education?" followed by a closing panel were held in Turkish with the full participation of national panelists and audience.

The abstracts of the papers included in the book have not previously been published. All papers have undergone a peer-review process and were selected based on

rigorous standards. In the course of the conference, they were presented by the authors or co-authors and discussed in highly interactive sessions.

We would like to express our gratitudes to the Rector of Istanbul University, Prof. Mahmut AK, for his patronage and support in organising such an important international event and to the Rector of Muğla Sıtkı Koçman University Prof. Hüseyin ÇİÇEK for providing tools, instruments, and necessary means for the completion of this conference online in a most successful way. In the same spirit, we also would like to express our thanks to the Rector of "Aurel Vlaicu" University of Arad, Prof. Ramona Lile.

We greatly appreciate the keynote speakers: Dr. Cenk TEZCAN (Turkey), Prof. Alex GRECH (Malta), Dr. Woodrow W. CLARK II (USA), Prof. Luis Miguel CARDOSSO (Portugal), Prof. Gabriela KELEMEN (Romania), and Prof. Levent ŞAHİN (Turkey).

We would like to thank all members of the Program Committee for their effort in putting together such a comprehensive program. Sincere thanks go to all authors, attendees, chairpersons, advisory and honorary committees, and conference secretariat for making this conference a good success. Last but not least, the organising committee members deserve special applause and mention for their effort and time in organising the conference.

We acknowledge the sponsorship of Enocta and SONGÜR Limited Şirketi for their support in the realisation of the FL2020 conference.

**Editors**

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# INVITED SPEAKERS

# ALEX GRECH



Department of Media and Communications
Faculty of Media and Knowledge Sciences - University of Malta
Malta

Dr. Alex Grech is a strategist, change consultant, and academic. He is the founding Director of the Commonwealth Centre for Connected Learning. He advises governments, public institutions, startups, and NGOs on projects impacted by disruptive technologies. He teaches new media at the University of Malta within the Faculty of Media & Knowledge Sciences, is an expert on the EU Blockchain Observatory & Forum, and is a member of the board of the Centre for Distributed Ledger Technologies at the University of Malta. He is also a consultant to the EC on the European Blockchain Services Infrastructure (EBSI) initiative. Alex holds a Ph.D. in Internet Computing from the University of Hull and is a Chartered Accountant by profession. Alex's research interests are in digital citizenship, digital literacy, blockchain & identity, social media, and power.

**Title of Speech: Emerging Technologies & Digital Education: rethinking strategies for troubled times**

The talk will lever on the first-hand experiences of the speaker in two key projects supported by the European Commission. The DEL4ALL project is being upscaled because of COVID-19 to fast-track a community of practice working with emerging technologies (blockchain, AI, augmented reality, internet of things) as a means of redefining the needs of digital education. The European Blockchain Services Infrastructure (EBSI) project identified blockchain diplomas as one of the first four use case studies to illustrate the benefits of self-sovereign identity to European

citizens. The talk will discuss the strategies being deployed in these two projects and examine their potential adoption by higher education institutions and learners seeking workable solutions to long-lasting challenges.

# LUÍS MIGUEL CARDOSO



Polytechnic Institute of Portalegre
Centre for Comparative Studies - University of Lisbon
Portugal

Luís Miguel Cardoso as a Ph.D. in Modern Languages and Literatures (Comparative Literature) by the University of Coimbra. In December 2018, he concluded his Post-Doctoral research on Communication, Education, and Literacies (Pedagogical Innovation in Higher Education) at the University of Seville (Spain). Adjunct Professor of the Department of Language and Communication Sciences of the Polytechnic Institute of Portalegre (Higher School of Education and Social Sciences), Dean of the School of Education and Social Sciences from February 2010 until January 2018, and President of ARIPESE – Association for Reflexion and Intervention in Higher Education Schools Politics from November 2015 until May 2018. Main interests in teaching and research include Science and Communication Languages, Education and Pedagogical Innovations, Literacies, Literature and Cinema, and Higher Education Management. National coordinator for the Public Polytechnics, during the Portuguese integration in the European Bologna Process, in Media and Communication Sciences, Member of several international organizations concerning Education, Communication, Literacies, Comparative Literature, Narratology, Film Studies, and Higher Education Management and reviewer of several international journals. Published papers in national and international journals and is a member of C3i - Interdisciplinary Research and Innovation Coordination of the Polytechnic Institute of Portalegre and CEC – Centre for Comparative Studies of the University of Lisbon.

**Title of Speech: Challenges and Horizons for Education and Technology**

The society of the twenty-first century is deeply heterogeneous, increasingly demanding in the codification and decoding of messages due to its complex, multicultural nature, in a permanent technological vortex, with a clear discursive hybridism, with different media and interactive information platforms, information oceans for which we rarely have the time and tools to analyze, filter and assimilate. Thus, there is a triple need for change: educational systems must understand the challenges of this new society of technology and information must follow the new faces and characteristics of our students, immersed in cyberculture, and must provide new educational practices, carried out by a new teacher. It is urgent to train the trainers for this new reality, with information and communication technologies, image, teaching platforms, new didactic resources, multiliteracies, always with critical thinking (because technology is not enough), and always being aware that teachers are the agents of scientific, technical and emotional change. For this triple shift, one factor is fundamental in the process of rethinking pedagogical innovation in Higher Education: specific skills motivated by a constantly evolving society. As stated in the OECD report (OECD, 2018, p.6): "The concept of competency implies more than just the acquisition of knowledge and skills; it involves the mobilisation of knowledge, skills, attitudes, and values to meet complex demands. Future-ready students will need both broad and specialised knowledge." Our task is to understand all these changes, accept the challenges, and broaden our horizons in Education and Technology.

# GABRIELA KELEMEN



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Gabriela Kelemen is a full time professor of the Faculty of Educational Sciences, Psychology and Social Work of “Aurel Vlaicu” University, and she is the head of the Department of Pedagogy, Psychology and Social Work, and also the editor in chief of Journal Plus Education.

She has a Ph.D. in Educational Science obtained at the Faculty of Psychology and Educational Science, of University Babes Balyai Cluj Napoca, under the direction of Vasile Chiş, Ph.D.

Her domain of expertise is Pedagogy of preschool and primary school, Romanian Language didactics, Psycho Pedagogy of play, Psycho Pedagogy of learning disabilities, Fundamentals of Special Education Methodology of integrative activities, The didactics of early learning activities and young schooling, The competence profile of educators for early education and young schooling.

She has published over 60 scientific papers. She is the author of more than 12 books as a unique author or in collaboration, and she has participated in over 60 scientific gatherings.

**Title of Speech: Contemporary Methods and Approaches in Educational Training Teachers**

Nowadays, a society with all that it implies requires well-balanced training of the young generation so as they would be able to face social challenges. Moreover, it is necessary to pay increased attention to the training and education of students who wish to pursue a teaching career. This paper wants to stress the importance of initial training of future teachers involves. It is based on the results collected from a five-year-long study that has been investigating how students from the study programme Primary and Pre-school pedagogy acquire their theoretical and practical knowledge at the Faculty of Education Sciences in Bachelor and Master degree studies. The study suggests strategies to improve initial teacher education and ways of linking theoretical knowledge to practical abilities. Studying how students learn, we have identified two ways of thorough training for the teaching profession. Both are very important if properly and rigorously corroborated. The first of them refers to the study of theoretical components recorded in the curricula, and the second refers to the right practical application of theoretical knowledge.

# CENK TEZCAN



Medical Futurist, B-Wise
Turkey

Cenk Tezcan has over 25 years of experience in the Healthcare Field. He worked at Marquette Hellige, Bilkent Holding group, and Intel Co. in different managerial positions. He is experienced in turn-key hospital projects, medical equipment planning, digital health, and event management. He has a wide international experience by making projects at countries like; Russia, Kyrgyz Rep., Turkmenistan, Albania, Romania, Moldova, Ukraine, Azerbaijan, Iraq, etc. He is one of the thought leaders for mHealth and manages the first mHealth pilot project on behalf of Social Security Assc. (SGK). He wrote the book - mHealth as a paradigm shift for healthcare - for TUSİAD (Turkish Employers Assc.) that is published in March 2016. He is well-experienced in business development and project management. He is co-founder of BeWell and B-wise, working on consultancy for turn-key hospital projects, innovation, R&D projects, start-ups, PPP health projects, mHealth, etc. He is multitasking, result-oriented, customer-focused, and got good presentation skills. He conducted his own event named 'Healthcare CIO Forum' for three years. He conducted and directed a TV program at TRT titled "future vision" for 13 series in 2012. He is a well-known Turkish futurist.

He is a key-note speaker speeching on; Futurism, Mobile health, Health informatics, the Future of Healthcare, etc.

He is teaching Medical Informatics, Future Studies, and Wellness & Happiness at Bilgi Uni., Medipol Üni. METU and Hacettepe University.

*Specialties:*
Hospital Design
Turn-key Hospital Projects
Medical Equipment Planning
mHealth (Mobile Health)
Telemedicine
e-Health
Innovation in Health
Futurism
Elderly Care (Home Care)
Health Tourism
Business Management
Business Development
Project Management
Government Relations
Shared Economy
Event Organization
Business Matchmaking
Health Tourism
Health Promotion
Wellness & Happiness
Trendspotting

**Title of Speech: Human and Life in the Future**

The world is in great change as a result of the rapid development of technology. It is obvious that change will lead to dizzying transformations in the coming period. The way we look at health, our living habits, and the increase in expectations in the future will cause the health sector to be shaped accordingly. COVID-19 epidemic we are facing is a good proof that proves my claim, such that it has radically changed our lifestyles and social lives, and it seems to remain so. Epidemics, climate change, demographic trends will bring together our approach to human health, measures, and remedies that we do not think about today.

Population growth, aging of the population, unhealthy living habits, the inadequacy of health personnel, and increasing costs despite the lack of service

quality; promises a more planned, healthier future where new technologies are used more intensively, data and analysis-based, not only disease treatment but also not being sick will gain importance, health will go beyond the hospital, new players, new business models, and innovative ideas will be popular.

Biotechnology, including artificial intelligence, digitalization, and genetics, shines like the stars of the future. Thanks to wearable technologies in which all kinds of sensors are used, chronic diseases, which are considered to be one of the biggest problems of the future, are monitored remotely 24/7; We are evolving into a future where aging is stopped or even reversed with changes in life habits, telephone applications, and natural additives, where needed organs are produced in the laboratory and printed in 3D printers.

In a system where life data is collected, shared, analyzed, and turned into information for diagnosis and treatment, medical errors are expected to decrease sharply (According to a Johns Hopkins study that lasted eight years, it is estimated that 250,000 people die annually from preventable medical errors in the USA alone). I'm talking about a future where a smart watch we wear on our arm, an earring, a tattoo on our shoulder; the sensors in our toilet will detect cancer cells before they form a tumor.

In the life of the future, we will use technology more to stay healthy. We will live in the middle where food and medicine are produced that are suitable for our DNA. We will prioritize the goal of "prolonging the time we live healthy" instead of "prolonging life expectancy," which is the goal of today's medicine. We will watch the increase in the 'average life expectancy' and the increase in the 'maximum life expectancy' brought about by technology and welfare. It will be considered normal for people to live to be 120, maybe 150, moreover, by preserving their youth. Conducted researches show that our genetic structures affect our healthy life spans by 15-20%, the environment by 20%, and living habits by 50%. In light of this knowledge, researchers say the secret to a healthier, longer life lies in the use of new technologies as well as the human race's adoption of healthy living habits.

# LEVENT ŞAHİN



Department of Labour Economics
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Turkey

He started his undergraduate education in 1998 by winning Çanakkale Onsekiz Mart University (ÇOMÜ) Biga Faculty of Economics and Administrative Sciences (İİBF) Department of Labor Economics and Industrial Relations (ÇEEİ).

After graduating from the Department with a degree in 2002, he started his master's degree and as a research assistant in the same year, where he received his undergraduate education. He completed his Master's Degree in 2005 with his thesis titled "Legal Framework of Remuneration in Human Resources Management," and after working as a research assistant at the same University for one more year, he transferred to Istanbul University Faculty of Economics Department of CEEE in 2006 and started his Ph.D. studies. He completed his Ph.D. in 2010 with his thesis titled "Youth Unemployment Problem in Turkey in the Process of Harmonisation with the European Union."

In 2011, he was appointed as an Assistant Professor at the Department of CEEE at the Faculty of Economics of Istanbul University and was awarded the title of Associate Professor in the field of "Social Policy" one year later. Levent Şahin, who has been working as a Professor Doctor in the Department of CEEE at the Faculty of Economics at Istanbul University since 2017, has many national and international articles, papers, and scientific research projects in the fields of Labor Economics, Social Policy, and Management.

He is one of the two authors of the book "Transportation in İstanbul from Past to Present," "Youth Unemployment in the Process of Adaptation to the EU," and the author of the book "Strategic Education Management in Businesses-Guideline

Model." Şahin's specific fields of work include topics such as Global Labor Market Analysis, Strategy Development and Strategic Management, Human Resources Management, Entrepreneurship Culture, and Entrepreneurship Practices and Modern Management Techniques.

**Title of Speech: The Future of Distance Learning in the Digitalisation Process**

Since the beginning of human history, the world has constantly been developing and changing. It is clear that this change is inevitable as long as it exists. A careful look at the development breakdowns reveals that the onset times of milestones are dramatically shortened. The best example of this is the fact that the information society, which made itself felt better in the 1980s, is leaving its place in the super-smart society in a very short time. Therefore, it is imperative that developing countries also take their place in these transformations. They need to move strongly to not only the consumer but also the producing position. Moreover, it is necessary that the products or services they produce have the feature of providing added value. Otherwise, it is inevitable for developed economies to be classified as countries that have to use the digital they produce. Catching up with the digital society is a must; taking a position outside of this transformation is suicide. When we look at the technological instruments of Industry 4.0 and the human-oriented technological world dynamics of Society 5.0, it is easily understood that global employment trends will not have any intention of returning to the past. In other words, the "vented factory" period, in which labor developed and continued its existence based on body and arm strength since the Industry 1.0 period, left its place to a completely different period in the 1980s, in which "knowledge" gained importance and the power of thought rather than manual power of labor was utilized. Walking assembly lines, unlimited productivity increases on material factors are not as important as before; instead, we live in an age where knowledge craftsmanship and the added value it can produce gain much more importance. Of course, the necessity of blending this knowledge with technology is another reality. In that case, it is necessary to establish education systems that will support the 21$^{st}$-century developments and to provide individuals with the competencies that are the sum of the necessary knowledge, skills, behaviors, and attitudes. Moreover, the compatibility of these competencies with the competencies demanded by the business world is another necessity.

The period we live in has completely moved away from a structure where only information is transferred, repeated, and taught. In that case, modern education systems should be designed as models that will provide competency acquisition,

rather than transferring knowledge. Undoubtedly, all countries will want to design an education system in accordance with their own cultural genes and backgrounds, moral structures and values. There is no problem here. However, in this cruel life and competitive environment, besides values education, the competencies that should be gained to students should also be taken into consideration. When the individual graduates from the educational institution, he or she should be equipped to provide basic dominance in all of the living conditions and dynamics.

All stops are important in the story of the emergence of Education 4.0. It is seen that there is no central learning system in Education 1.0 and trainings are received from different institutions to meet the needs of the agricultural society. In the Education 2.0 period, it is sufficient for individuals to be literate, gain work-related skills, and learn subjects such as mathematics, history or geography enough to maintain their daily lives. Inevitably, the education system focuses on memorization and learners are often evaluated with multiple choice exams according to their ability to recall the information they have memorized. Education 3.0 represents a social structure in which employees in the information society begin to take on new roles. Understanding and solving problems, analyzing the big picture, producing and synthesizing new information, developing suggestions for the solution of problems, and perhaps at least as important as these, in this new era where individualization is much more, practices of participation in management are increasing and governance principles are given importance. Being able to do it with a teamwork order should be seen as the biggest output that education systems want to reveal on individuals in this period.

When we look at the general structure of Education 4.0, it is easily understood that Industry 4.0 and the 21$^{st}$ century are an important expansion for the acquisition of skills and competencies demanded by the business, social and economic world. Because 21$^{st}$-century skills have a structure that demands both a versatile individual development and the positive impact of this development on working and living together with others, it is obvious that Education 4.0 should be evaluated from a broad perspective in terms of gaining these competencies to individuals and should be addressed in an integrated and interactive systematic, starting from pre-school education to graduate education. Therefore, Education 4.0 should not be associated only with higher education. In fact, if the innovative effect of Education 4.0 instruments is to be increased, especially at the higher education level, its basic skills should be experienced and gained at previous education levels.

Examining the instruments of Education 4.0, which is the education of the Industry 4.0 society, actually constituted one of the most original parts of this study. From a global perspective, it is possible to gather education models applied in the world around four groups. These are according to the development levels of the countries; traditional education, home education, distance education, and co-education, which can be a combination of these. The traditional education method constitutes a harmonic structure of Education 2.0 and 3.0. In other words, when evaluated in general, it is possible to specify the modern education models of the digital world as home education, distance education, and coeducation. It is possible to say that the education model most suitable for the genetic codes of Education 4.0 is distance education. A well-designed distance education model will have a flexible structure in accordance with the philosophy of Education 4.0, will enable individualized learning, will be an internal motivation and satisfaction tool for learners, have an interdisciplinary and beyond structure, and perhaps most importantly will be innovation-oriented.

In addition to this modern point of view, considering the differences in the development levels of the countries, it would not be wrong to say that the co-education model is the correct education model for many countries. Because in this education model, which tries to prepare the learners and teachers for the digital world while preserving the advantages of face-to-face education, on the one hand, a correct curriculum and course setup will be a great development mechanism in terms of social development. At this point, in line with the aims, objectives, and principles of educational institutions, which courses will be given face-to-face and which ones will be given by the distance education model will be of great importance.

# ABSTRACTS

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# History with Virtual Reality

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**Abstract:** In the study, it was aimed to determine the contribution of 6th and 7th-grade students to the ability to visualize written text, improve their learning skills, and the acquisitions gained through the use of virtual reality for the history course. For this purpose, the mobile virtual reality application (History with Virtual Reality) was developed with the help of virtual reality technology in education technologies by the researcher. The mobile application, which is developed, also presents the Ottoman history, including time, virtualized space, and events with three-dimensional scenario-based learning. In the application, students act in accordance with the scenario via virtual reality glasses. ADDIE methods were approached as an instructional system design model in the development of the scenario in the application. When the scientific literature is examined, it is seen that studies in the field of virtual reality applications and educational technologies have achieved successful results with high percentages. Therefore, this study is important in terms of using virtual reality approaches to narrate history. In the quantitative dimension of the research, the student group will be chosen objectively, a quasi-experimental model will be used. Qualitative data obtained from the research will help determine the effect of the application on students and learning skills. According to the results of the research, suggestions will be made to some institutions in the education sector and some private companies for the development of new virtual learning technologies.

**Keywords:** Virtual Reality, Education Technologies, History Teaching, Virtual Environments for Education, Virtual Education, Virtual Learning

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# An Approach based on the Active Contour and GrabCut Synergy Using Super Pixel Cluster Regions in Automatic Segmentation of the Human Ear

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**Abstract:** Nowadays, biometric information is needed extensively in e-health, tourism, and other fields. Biometric includes discriminative, universal, permanent measures and criteria for authentication and validation of exactly who individuals are. The ear region is a human body region containing valuable biometric information that is subjected to a few physiological changes depending on the individual's age. Manual, semi-automatic, or fully automatic segmentation of the ear region in various methods related to the use of the ear region in obtaining biometric information is a popular area of research. In our study, we present an approach that applies superpixel cluster regions, active contour detection based on geodesic information, and foreground separation by graph cutting to segregate the human ear region from the image by fully automatic segmentation from the background. According to the results obtained from the experiments in our study, when compared to the ear region marked by the expert, the programmatically obtained foreground has been obtained very high values considering the similarity (i.e., intersection over union) rates of the ear region. In our study, the success of the proposed approach both qualitatively and quantitatively is demonstrated by experimental results.

**Keywords:** Clustering, Biometric, Image Segmentation

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# Emotional Well-being During Distance Learning

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**Abstract:** Emotional well-being during distance learning is necessary if we want to build a better safety society. Many students are experiencing high levels of stress as schools close due to the coronavirus pandemic. They're separated from friends and stuck at home. They might be worried about getting sick. Students whose families are experiencing financial worries or illness are especially vulnerable. But there are ways we can help support students socially and emotionally during distance learning. The aim was to ensure the socio-emotional wellbeing of primary school students during distance learning. By gathering data via observation techniques, surveys, interviews, and desk research, we found that teachers need easily accessible materials – materials that can all be found in one place, resources in their mother tongue that are practical, easy to use, and easy to implement. The most convenient solution, as envisioned by our team, is to have a web that will provide a list of activities, materials, links, and other resources for teachers, which will help them communicates and talks with students through different techniques and activities and will teach them to deal with emotions. One of the main aspects of this platform is to be a catalyst for creating a community around the concept of social-emotional wellbeing. The site is envisioned to act as a social network that will allow teachers, social workers, pedagogues, and psychologists to connect with each other, as well as contribute to it and be rewarded for their efforts as a result. Mmaterials and activities can be proposed, and administrators can evaluate and approve them prior to publication. Another feature is that the parents will have the option to contribute

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as well, they will be able to download these materials, so they can help at home. While most students are learning at home, teachers have been asked to create single units of work that can be completed by all students regardless of location. Good planning will ensure consistency in learning outcomes.

**Keywords:** Resources, Social-emotional Well-being, Remote Learning

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# Hybrid IT Class Model as a Solution Proposal for the Lack of Information Technology Education Environment at Secondary Schools*

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**Abstract:** Correct structuring of information technology education environments has become important in order to train students who can meet the needs of the age in information technologies and software courses and to obtain the expected efficiency from them. The basic knowledge and skills that those who are information technology literate should have are no longer limited to coding and basic electronics knowledge. Smart device design, game development, graphic design, video editing, 3D modeling know-how, and skills are also to serve the ideal to produce domestic technology of Turkiye today. In this study; The Hybrid Computing Class was designed, developed, and implemented as an environment where researching and

*This work has been produced from the master thesis titled "Use of Mini Computers for Information Technologies and Software Lessons at Middle Schools: Example of Hybrid IT Class" completed in 2019 under the supervision of Dr. Zerrin Ayvaz Reis and Assoc. Prof. Dr. Serhat Bahadır Kert, in the Department of Informatics, Institute of Science, Istanbul University.

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developing students can express themselves, and the study was built on the transition process of this model and put forward as a solution to the lack of information technology education environment.

**Keywords:** Information Technology Education Environment, Hybrid IT Class, Production with Informatics, Innovative Learning

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# Effect of Smartphone and Internet Usage on Vocational Education

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**Abstract:** The usage areas and intensities of technological devices in daily life are increasing. In this regard, the effects of these devices in the field of education have started to be seen more. With the practices that support vocational education practices, students' professional perceptions and skills are tried to be developed. Knowing and implementing these studies by university students can also increase the effectiveness of these practices. The aim of this study is to investigate of the smartphone and internet usage of university students involved in vocational education processes. In this context, study was carried out with qualitative techniques. The study designed in a case study pattern, data was collected through a semi-structured interview form. The data obtained were carried out by face-to-face interview method and voice recordings were taken during the interviews in line with the participants' permissions. After the transcripts of the voice recordings, the data obtained were subjected to content analysis. Among the findings of the study, Research, Smart Phone, Internet Usage and Professional Development themes were revealed. In the study, it is understood that the use of smartphones and the internet

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positively affects the professional development of students. In this context, it is prominent that the smartphone and mobile internet give the opportunity to make an instant research on the subject or a problem. Via the internet, watching videos for vocational purposes and accessing articles have been identified as important advantages of these tools. However, in case of uncontrolled usage, it was stated that it negatively affected the skill acquisition in the lessons. These negative situations were expressed as being unable to focusing for courses, distraction and smartphone addiction. Among the suggestions of the study, it was stated that more vocational practices should be produced to increase the vocational skills of students. In addition, faculty members can be provided lists to students for vocational practices and websites to increase students' smartphone and internet usage efficiency.

**Keywords:** Smartphone, Mobile Internet, Mobile Technology, Vocational Education

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# Personalized Medicine and Computer-Aided Anatomic Modeling

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**Abstract:** This study was designed to model the anatomical shape of the aortic valve morphology for custom-sized aortic composite graft production. A geometric model of the aortic complex was created, allowing user input in order to make it applicable in cardiac surgery. The aortic valve has a consistent shape which can be described mathematically, dependent on the root diameter. The geometric model of these mathematical structures was developed with the Bézier technique, that is, by obtaining a curve or surface that can be controlled by the designer. Primarily, the boundary Bézier curves of the aortic valve tissue to be modeled were determined, which then revealed a frame of the surface. In the next step, within this frame, aortic leaflets were obtained by interpolations for obtaining of the aortic valve using the patients undergoing aortic valve replacement operation. After the 3-dimensional computer-aided design displaying was finished in Blender, the aortic valve complex was exported as a stereolithographic document, and the model of aortic root was printed using polylactic corrosive fibers. These findings show that one's own size and characteristics aortic valve can be produced from the actual stem cell. The geometric modeling of heart valves, obtained by 3D imaging, can be adapted to the production of custom-sized prosthetic valves. Evaluation and analysis of the

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geometric structure and anatomical features of the heart valves using geometrical modeling have been developed as an adjuvant method for clinical experiments.

**Keywords:** Aortic Valve Complex, Geometric Modelling, 3-Dimensional Printing

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# Developing a Text Mining Based System for Educational Institutions: Implementation of Machine Learning Techniques in Aspect-Based Sentiment Analysis Studies

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**Abstract:** In this study, an aspect-based sentiment analysis study was conducted using the comment data collected from the okul.com.tr platform. First, comments were collected on okul.com.tr platform. Aspects in each comment have been identified. Each comment is tagged by adding the moods of aspects. This labeling process was controlled by four different people. After the labeling process is completed, the process of creating the model has begun. A machine learning model has been developed using multilayer artificial neural networks. Some of the labeled comment data (70%) were used for the training of the model, and the other part (30%) was used for testing the model. 95% success was achieved on the data set used with the model.

**Keywords:** Data Mining, Machine Learning & Deep Learning, Artificial Neural Networks

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# Using Learning Management System Logs to Predict Undergraduate Students' Academic Performance

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**Abstract:** Learning Management Systems (LMS) are being increasingly used with the impact of digitalization in education. When using LMS's, students are unintentionally producing big amounts of data called logs which can be used for developing artificial intelligence models to predict educational variables. Unlike web server logs, LMS log reports contain the information on the students' interaction with the learning materials and content so that the variables referring to their interaction with the course in general can be created using LMS logs. In this study, five classification algorithms (KNN, Naïve Bayes, SVM, CART, and C5.0) were conducted on the dataset created using the log data accessed from the Moodle LMS of "Basic Computer Applications" course in which 93 undergraduate students were enrolled for 10 weeks. For each student, the log records were transformed to a set of attributes which shows the number of logins, material downloads, attempts for assignments, uploaded assignments, messages sent to Instructor, course and lesson page views as well as total time (in second) spent in the course page, average session time, total time spent for assignments and exams, and total time spent in video pages. Since the created dataset was imbalanced, simple over-sampling and SMOTE (Synthetic Minority Over-Sampling Technique) techniques were applied and three more datasets were created besides the imbalanced dataset. Results showed that all classification performances were above 80% in each dataset. CART and SVM

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algorithms were observed as the most successful classifiers of students' academic performance with 97% accuracy if the KNN algorithm is ignored because of the overfitting problem seen in its performance. To sum, the results of this study have showed that LMS logs can be used to predict the academic performance of students by applying classification algorithms.

**Keywords:** Data Mining, Classification, Academic Performance, Learning Management System

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# Software Development for Virtual Organizations: Celiac Disease Information Management Example

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**Abstract:** Today, access to information has accelerated especially with the development of information and communication technologies and has created an information process accepted by the society. Although this situation provides a rapid communication opportunity, it also brings problems if not managed correctly. Information sharing in virtual environments may cause false information transfers that are not known to be accurate, out of date, and which are visible to everyone while they should be confidential. With the thought that the stated problems can be solved by the correct management of information, a web software has been developed for the effective management of information in virtual organizations.

Although the development of the software was provided with a case study of celiac disease, it is thought to contribute to the organization and access to accurate information for patients suffering from other health-related diseases. The use of the software is in the testing phase, and it will be actively implemented after the tests for the accuracy of the information are completed.

**Keywords:** Virtual Organizations, Knowledge Management, Celiac Disease, Web Based Software

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# Data Gathering and Analysis of Smart House

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**Abstract:** Each day people facing with data. Data are characteristics or information, usually numerical, that are collected through observation. In a more technical sense, data is a set of values of qualitative or quantitative variables about one or more persons or objects. It is very important to collect and use data on time. The concept of "smart house" is increasingly being heard nowadays. It is generally acceptable that a smart house has efficient building management, local management and business management systems. A smart house increases the business value of the environment created by the adaptability and flexibility provided by the location and the communication systems. Smart House introduces a modern, robust automated system that allows to integrate all of the main operating subsystems such as: supply of gas and water, energy supply, lighting system, heating systems, microclimate systems, other remote controls. The smart houses are often pointed as one of the main constituents of smarter living environments. The presentation provides the smart house definition from different scientific literature sources, criteria defining smart building, explanation of smart house technology, examples of smart houses in Lithuania, smart house data model, smart house adaptation to the needs of disabled people.

**Keywords:** Data, Smart House, Smart House Data Model

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# Face to Face Education and Integrated Remote Training: Evaluation of Teachers and Students

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**Abstract:** Fatih project applications since November of 2010 by the Ministry of Education in Turkey started. With the Fatih Project, interactive boards were started to be used in schools and an online education platform called education IT network was developed and it was aimed to support the project and support distance education. However, there is no basic information about how often the EBA system is used on the web. When the literature scans of education informatics network are examined, the number of studies examining teachers' opinions about EBA and EBA is very low. Therefore, the purpose of this study was determined as the evaluation of the adequacy and limitations of the distance education system in terms of teachers and students. 90 teachers selected from various schools are the working group. 90 teachers and 18 questions attitude scale were applied. The scale results were graphed and the attitudes of the teachers about the eba system were examined and suggestions were made about their developable sides.

**Keywords:** EBA, Education Information Network, Fatih Project, Educational Technologies, Fatih Project, Interactive Board

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# Evaluation of Bitcoin Use in Tourism Enterprises with SWOT Analysis

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**Abstract:** Increasing global competition, social, cultural, technological and economic developments in the information age as well as the occurrence of financial crises around the world have been effective in increasing the use of crypto money. The first and most well-known of cryptocurrencies, Bitcoin, has been followed by countries and businesses since 2009. Besides technological developments, other developments (pandemics, economic crises, etc.) have accelerated the process of replacing concrete money with digital money. Therefore, it seems inevitable in the future to buy and sell services with Bitcoin for businesses that aim to follow the future and integrate innovations into their services. In this context, the aim of the study is to examine Bitcoin comprehensively in terms of tourism businesses and to reveal its strengths and weaknesses, threats and opportunities. Results obtained from the situation assessment made using SWOT analysis It is seen that Bitcoin offers positive contributions such as low cost, fast and secure transactions in terms of tourism businesses, increasing profitability by eliminating brokers who receive commissions, and ensuring international commercial mobility in a common currency. Nevertheless, the existence of different country policies for internationally operating tourism businesses, and the deficiencies in legal definitions as digital

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money, appear as important problems in preferring Bitcoin. Governments and tourism-related stakeholders have important roles in eliminating the weaknesses and threats identified as a result of the SWOT analysis.

**Keywords:** Tourism Enterprises, Bitcoin, Cryptocurrencies, SWOT Analysis

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# Health Literacy

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**Abstract:** Health literacy is the ability of the person to read, understand, and use health information to make effective and appropriate decisions about health. Health literacy is defined by the World Health Organization as the cognitive and social skills that determine the motivation and ability of individuals to access, understand and use information through the means that help individuals maintain and contribute to their health. Gamification is an innovative approach that provides opportunities to increase learner motivation by providing rewarding systems and competitive elements with digital game design techniques, providing more effective, productive and attractive experiences in learning processes, to provide dedication to processes, to facilitate deep learning and remember important information with positive behavior change and concentration increase. In gamification, rewarding systems and competitive elements used in games are used with digital game design techniques to make the learning process more efficient. Gamification should be considered as a new approach that can be used to ensure the sustainability of learners' motivation and learning concentrations and learning experiences in e-learning processes, and that will enable learners to have more meaningful learning experiences by using motivation-enhancing strategies in ensuring health literacy. Effective use of health services individually increases of the level of social health, reducing the cost and increasing the quality of health services will be possible the use of gamification elements, health literacy education and awareness-raising.

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**Keywords:** Health Literacy, Health Education, Gamification

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# Health Tourism Risks

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**Abstract:** Health tourism is tourism activities aimed at obtaining health or health services. Health tourism is a multi-stakeholder activity that is not limited to health institutions, has an economic, cultural, social and legal dimension, requires effective coordination between institutions, the market is growing day by day and contributes positively to health economy and development. Visits to healthcare institutions for a certain period of time with modern and/or alternative medicine methods are called health tourism, in order to gain health, health protection or health promotion from different countries of the country of residence, in order to achieve physical and spiritual well-being. The need to receive urgent or unplanned health services during travels for different purposes is called tourism health. The concept of health tourism, which includes many health presentations in order to offer healthy life, is addressed under 3 main headings; medical tourism, thermal tourism, elderly and disabled tourism. The main factors affecting health tourism are political, economic, social, technological, cultural, language and religion differences between countries, differences in health and care systems of countries, and differences in medical technologies and materials. There are requirements that play an active role in overcoming the differences that may create risks or obstacles for health tourism. Professionals and organizations providing services as well as those receiving health tourism are at varying degrees of risk. For the success of health tourism, economic, geopolitical, security, sociocultural and legal risks, especially epidemic burden and risks should be handled with a holistic approach.

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**Keywords:** Health Tourism, Risk Management, Total Quality Management in Health

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# Valuing Apples: from the Mystic Apple to the Digital Apples of the 21st Century

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**Abstract:** Apple is one of the first pieces of food mentioned in the earliest stories and books of mankind and different values were attributed to apple throughout the whole history. Various societies contributed to the appreciation of it placing it in their lullabies or fairy tales as well as in their daily communication and diet. Even if it seems to be so common, humble, and accessible, the lack of it is also interpreted in different ways. Yet, nowadays, it became one of the main food of the 21st century as well. Following a quantitative and descriptive methodology and analyzing the values attributed to Apple, this paper provides a glimpse of its history and aims to analyze the 'Apple' case in Turkey regarding it not only as a 'mystic' product affecting the whole humanity but also as an agricultural product to be paid attention with the new trends in food processing in its developing aspects. Whereas the agricultural people spend more time and energy in producing better crops all around the world, the apple case in Turkey puts a shade on modernity placing apple growers away from sustainability, innovation, and productivity. Dwelling on the media coverage of the past few years regarding the apple as a content, the paper aims to introduce the main value of the apple as a product of agriculture and handles the problem of what to do in the case of apple production in its modern sense. Field research is enriched as to provide qualitative reports based on the focus group

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discussions and interviews with the apple producers and decision-makers as to put forward how apple is priced or degraded. In conclusion, it provides a needs analysis format, a systematic approach to the problem as a process of identifying and evaluating the apple case. As the results put forward, growing apples require valuing them. It also requires better-established facts, better-trained people, and concentrating more on the specific needs of employees, customers, suppliers, etc. These needs are often referred to as "gaps," or the difference between what is currently done and what should be performed. So re-valuing apples requires to bridge the gap between the mystic apples and the digital apples of the 21st century. Today's farmers, should become a part of the network, enrich their cultivation methodology and innovation capacities as to reach to precision agriculture substructure and techniques to be able to become a part of the smart agriculture. Otherwise, they keep on just swallowing the mud of the field or consuming the fake news instead of reality.

**Keywords:** Apple, Growing Apples, Branding, Media Literacy of Farmers, Smart Agriculture, Precision Agriculture

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# An Impact Assessment Study in Distance Education: MSKÜ Example

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**Abstract:** In recent years, many higher education institutions have initiated a move to convert traditional face-to-face courses to online courses or to support face-to-face courses with online courses for various reasons. Having different advantages such as the provision of lectures through virtual classrooms, sharing materials via learning management systems, conducting effective electronic exams, reporting both student and lecturer effectiveness via course management systems; distance education applications have quickly become part of the general operating agenda of many universities.

In this study, findings are presented from the analysis of qualitative data collected from students who took common compulsory courses (associate or undergraduate degree level) provided via distance education) at Muğla Sıtkı Koçman University, Turkey.

During the COVID-19 pandemic, distance education has played a principal role in the implementation of higher education activities both in Turkey and worldwide. Turkey's Muğla Sıtkı Koçman University (MSKU), with a student population exceeding 40,000 students, has conducted a gradual move towards the synchronous

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delivery of common compulsory courses since 2012 as a means of converting face-to-face courses to distance courses across various faculties. Considering the data obtained in the study and the impact of the pandemic, it was decided that common compulsory courses at MSKU, considered the courses most suited to self-learning, would be delivered asynchronously whilst all other courses would be synchronous during the 2020-2021 Autumn-Winter semester. Video content for asynchronous course delivery were recorded, with authentic course materials (e.g., lecture notes, presentations, quizzes, etc.) and supplementary materials added to the course management system and made available to the students enroled to each course.

The aim of this study was to determine any problem issues, to offer appropriate and effective solutions, and to deliver improvements after an impact evaluation of moving the common compulsory courses from face-to-face to distance education. The study was designed as a case study, with qualitative data collected through focus group interviews, and content analysis technique employed in its subsequent analysis. Administrative and educational results were determined in light of the findings, with solutions suggested and a theoretical framework proposed for their implementation.

**Keywords:** Distance Education, Common Required Courses, Qualitative Data Analysis.

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# Prediction of Student Academic Success in Distance Education Using Machine Learning

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**Abstract:** In the education process, it is important to be able to make predictions about the academic success of the students by analyzing the current situation parameters, to increase the quality of education, to take measures to eliminate the deficiencies and negatives and to prepare the correct strategic plans. Measuring and analyzing the demographic and behavioral data of the students along with their academic development data will provide healthier results. Learning management systems used in distance education record many of the aforementioned data. Although it is possible to analyze the data by human experts, it is a difficult process that requires intensive labor and attention. Machine learning is an artificial intelligence discipline that enables to make successful future predictions with the models produced based on the available data. In this study, predictions were made using three different machine learning algorithms over a data set consisting of demographic, academic, and behavioral measurements of 480 students obtained through a multi-agent learning management system. In the study, besides estimating student academic success, it was aimed to find out which algorithm showed higher success. In the learning process with logistic regression, random forest and k nearest

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neighbors algorithms, random forest showed the highest performance with an accuracy of 86.4%.

**Keywords:** Academic Success Prediction, Machine Learning, Distance Education

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# On-line Learning of Prisoners

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**Abstract:** The paper concentrates on different approaches to prison education during the service of their prison sentence in correctional facilities. Education can be considered to be a significant factor of social reintegration of prisoners which plays a vital role in their reintroduction back into society. Education rehabilitation belongs to the forms of so-called penitentiary treatment, it means, in-prison rehabilitation programmes. Speaking in broader terms, education of prisoners can be understood as assistance to develop basic personal hygiene practices, to develop the prisoner's moral values and to prepare the prisoner for future forms of learning. In the narrower sense, education can be taken to denote the pedagogical process aimed to provide, increase or enhance knowledge and specific qualifications, either in the form of a regular study or various types of vocational training. Correctional facilities in the Slovak Republic currently provide different educational programmes to be undertaken as courses or regular education programmes corresponding to education provided by various educational institutions. The authors attempt to analyse the individual forms of prison education programmes, pinpoint the weaknesses in the sphere of prison education and discuss the options of online prison education,

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reflecting on the current system of prisonership or the conventional forms of treatment of prisoners serving their prison sentence. Furthermore, the authors present their opinions and considerations *de lege ferenda* leading to streamlined access of prisoners to education in the sphere of online learning or in the sphere of university education while serving their prison sentence*

**Keywords:** Education, Online Learning, Imprisonment

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# Study of the Impact Of Collaboration Among Learners During the Learning of "Object-Oriented Programming"

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**Abstract:** Object-oriented programming concepts are often seen as problematic by many students because students fail to find a proper object-oriented design for a given problem. Some scientists think that the problem lies in the switch of the vision of problem modeling from a familiar vision for students to a different, object-oriented one. Other scientists see that it is not the object-oriented paradigm itself that causes the problem, but rather the existing tools (languages and environments) available to teach it. In this paper, we propose a novel collaborative learning method called LISA (Learn, Imagine, Share and Approve) for learning Object Oriented Programming, and it can be used in any other course with a similar pedagogical structure. In order to test our method, we designed a system called POOLISA. Results of the test were very promising and in favor of using the proposed method.

**Keywords:** Project Based Learning, Collaborative Learning, Programming Learning, e-Learning.

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# Investigating the Relationship Between Learners in Conflict by Using Text-Based Sentiment Analysis

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**Abstract:** A conflict is in a dispute between two or more people with different perceptions on the same subject. In this situation, it is important to know when the conflict situation arises and to affect a qualified person to play the role of rescuer. In a distance learning system or in a project-based learning situation, learners can fall into this situation when they interact with each other. The conflict appears and it may influence the relationship between learners as well as their cognitive levels. When a conflict arises there are two situations, either to continue with the conflict or to resolve it. Among the solution that exists to resolve a conflict, resolution with mediation.

The objective of this work is to propose a new approach for recommending a rescuer based on a few criteria. These later are extracted from the profiles of learners who are in conflict. This recommendation may involve relationships between learners, to detect whether this recommendation is related to the needs of the learners. To do this, we propose to integrate a textual emotion detection system for online learners. This system is called VADER (for Valence Aware Dictionary for sEntiment Reasoning) is an open-source application for sentiment analysis, it consists of 7,517

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entries in the English language, including abbreviations and slang words. It is developed by Hutto and his colleagues in 2014. It has been used in many systems and it has many benefits. Indeed, emotions are recognized as indicators for expressing our needs. In other words, when a person feels a positive emotion, it defines that his need is satisfied. Whereas, when the person feels a negative emotion, it defines that his need is not satisfied. These emotions can influence the relationships between learners. Improving learners' relationships has important, positive and long-lasting implications for both learners' cognitive and social development. However, those learners who have close, positive and supportive relationships with each other will attain higher levels of achievement than those learners with more conflict in their relationships.

To validate our approach, we propose to implement a human learning system by the integration of a tool for automatic analysis of feelings between learners. These will be used as a criterion for conflict resolution. Our system facilitates the process of detecting relationships between learners from textual interactions. This proposition is new and it can even be applied in several systems.

Ultimately, the integration of emotion in Project-based learning system will greatly improve and enhance the learning process as well as discovering a new strategy to some problems due mainly to learners' isolation.

**Keywords:** Conflict Resolution, Mediation, e-Learning, Project-Based-Learning, Sentiment Analysis

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# How Can We Use Artificial Intelligence in the Undergraduate Medical and Pathology Curriculum?

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**Abstract:** There are many studies showing that artificial intelligence can be successfully applied in education. Artificial intelligence has begun to be used in medical education, which consists of enormously complex information and which continues throughout life. Cognitive psychology revealed that knowledge is best remembered when it is taught in a way that it can be used, practiced and evaluated. In this context, artificial intelligence applications can be useful in clinical reasoning, as well as assessment and evaluation in medical education. In addition, "smart educational systems" that enable students to receive personalized education as a result of measuring their learning levels are also promising. Here, in the light of current national and international publications, the latest developments in the field of medicine and pathology are presented. Articles in English in international large medical databases, Pubmed and Medline Complete, and national Turkish publications in ULAKBİM and DergiPark databases published between January 2000 and July 2020 are searched for analysis. The keywords "undergraduate medical education and artificial intelligence", "undergraduate pathology education and artificial intelligence", "machine learning and undergraduate medical education" and "machine learning and undergraduate pathology education" during international search, and “yapay zeka ve tıp eğitimi”, “makine öğrenmesi ve tıp eğitimi”, “yapay zeka ve patoloji eğitimi ve “makine öğrenmesi ve patoloji eğitimi” during national search are used. Though publications on the use of artificial intelligence in medical

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education in international databases have been increasing in recent years, they are still very scarce. As a result of the literature review, 37 publications are found, 32 of which are about the use of artificial intelligence in the field of learning in medical education, 4 on the use of assessment and evaluation, and 1 on curriculum analysis and development. Examples of artificial intelligence applications in medical education so far include virtual patient simulator projects such as ATTENDING, GUIDON, TeachMed and TOUCH, etc., virtual reality surgery simulation applications, robot simulated patient applications, chatbot /teacherbot applications and wearable sensors. Although there are no publications on the use of artificial intelligence in pathology education, we think that it can be used in student learning and evaluation. Thus, projects can be developed in the fields of macroscopy / autopsy training, creating chatbots and creating case-based digital microscopy platforms. Technical problems (difficulty in developing models, difficulty in creating content, inadequate doctor-engineer cooperation, etc.) and doubts about whether it will work (difficulties in evaluating its effectiveness, having a narrow application range, etc.) are some of the obstacles related to the development of artificial intelligence applications in medical education. In order for these applications to be successful, it is necessary to take into account the issues such as current educational theories and pedagogical information, student modeling and institutional planning. The most effective results can be achieved through teamwork in which medicine, education, computer experts and students are together during design. It is clear that artificial intelligence will be used more frequently in the fields of diagnosis, prognosis and treatment in medicine in the near future. Training of medical students with a curriculum where they can see and comprehend artificial intelligence applications and experience them in their own education will enable them to be more prepared and equipped for the future.

**Keywords**: Artificial Intelligence, Undergraduate Medical Education, Pathology

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# Predicting the Success of University Students in Distance Education Courses by Using Machine Learning Methods

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**Abstract:** The fact that learning activities are transferred to digital platforms in a rising speed day by day, makes it easier to personalize learning and to identify the factors affecting learning. Achieving academic success in learning platforms depends on several variables. The interaction of the learner with the course contents, the duration of the study on the course materials, and the participation rate in the virtual classes are some of these variables. In order to evaluate the academic performance of students and to predict students' success, data mining applications in the field of education has been determined in the relevant literature (Sin & Muthu, 2015). In addition, students'- success are frequently analyzed with machine learning methods (Vrushali, Prooja & Monali, 2017; Kaur, 2018; Dalton, Beer, Kommanapalli & Lanich, 2018). In this context, the elimination of the negativities which decreasing the success of students and taking measures to increase efficiency of learning process can only be possible by handling the student data to be obtained from the learning environment and analyze them with data mining and machine learning methods. Therefore, new generation learning methods should include

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online learning components such as big data, cloud computing and social networks (Anshari, Alas & Guan, 2016). In this study, it is aimed to predict the success of university students in distance education with various machine learning algorithms. In order to reach more data, learning data in English-I course, which is taught as a common and compulsory course in all departments, was used.

In this study, the data of students who are taught in the English-I course in Kilis 7 Aralik University in fall semester of 2019-2020 academic year was used as a sample. In this context, data of 910 students were examined. Students 'course success score was predicted by using the "education progress level" data and "total spent time to use the system" data, which were reported by the students' learning management system by using machine learning algorithms. The dataset was processed by using the Support Vector Machines, Naive Bayes, K Nearest Neighbors and Random Forest Algorithms with the Weka program. 66% of the data was used as training data and 34% as test data. 100 iterations were used for the Random Forest Algorithm, and the value of the parameter K was determined to be 25 for the K Nearest Neighbors algorithm.

According to the findings of the study, Support Vector Machines predicts the results with 99.03% accuracy. K Nearest Neighbors Algorithm performed well with 98.38% accuracy. The Random Forest Algorithm made a successful prediction with an accuracy of 97.73%. However, the lowest performing algorithm was the Naive Bayes Algorithm with an accuracy of 92.56%.

With this study, it has been shown that the level of completion of activities and the spent time in the learning management system is directly effective on students' achievements. Especially in the recent days, because of the Covid19 epidemic, which has a global impact, it is more important to determine the factors which affecting students' success in distance education because almost all countries have made a rapid transition from formal education to distance education method.

**Keywords:** Machine Learning, Random Forest, Predicting Academic Success.

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# Internal Information System for Specific Atmospheric Pollutants in Burgas

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**Abstract:** Burgas is a port city located in the Bay of the Black Sea with a pronounced marine windy area of day and night sea breezes. This suggests strong wind surges often with whirlwinds. Given the port, the airport, the road transport arteries and the industrial enterprises in the city, a specific set of air pollutants is established. Besides traditional carbon dioxide, there is the presence of sulfuric hydrogen, sulfur dioxide, nitrogen dioxide, as well as rich organics of xylene, benzene, toluene, styrene, etc. Monitoring data shall be recorded by automatic measuring stations located directly in a city environment, and their mobility is also possible. Data is stored and backed up reliably in data, which is then processed and analyzed. Data processing is carried out by appropriate software at automatic measuring stations at different time intervals. They are most often one-hour averages and can be presented in digital or graphic form. On their basis, a specific rose of pollution can be made depending on the direction and speed of the wind. This can localize a certain type of pollutant and its location. Its regional distribution in time and concentration can also be predicted. The results can be used by specialists and managers continuously over time, and in the case of particulates, the necessary additional measurements are carried out to establish the exceedance of the permissible standards laid down in the legislation.

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The presented internal information system without internet access supports the construction of regional policies for the protection of people's health and the development of tourism in the Burgas region.

**Keywords:** Information System, Atmospheric Pollutants, Burgas

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*None*

# Digital Education in Dentistry

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**Abstract:** The aim of this systematic review was to investigate the effect of digitalization in undergraduate dental education

A modified PICO-strategy was performed using an electronic (MEDLINE, EMBASE, CENTRAL) and manual search to identify English-language articles published between 2001 and 2020 exploring digitalization, augmented (AR) and virtual reality (VR) technology in dentistry. Publications topics investicated in the review were Web-based knowledge transfer / e-learning (n = 25) dental simulator motor skills (n=40)

E- learning saves time, reduces costs, offers various multimedia matching different learning styles, allows students to learn outside classroom, and has the potential to shift the learning process from passive teacher centered learning to active learner-centered learning. Teachers expertise in online teaching, students readiness to move online, and quality of online contents and design are also defined as online learning success factors. The use of virtual teaching in dental education is gaining acceptance as a complementary method to traditional learning. Integrating virtual patients, a computer simulation of real-life clinical scenarios as part of a student's clinical training is one example on how dental education could benefit from e-learning strategies In order to introduce these new technologies sufficient time must be given for teachers to become familiar with these technologies and a good deal of capital investment in space and equipment will need to be made

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**Keywords:** e-Learning, Augmented Reality, Dental Education, Web Distance Education, Navigation Behavior

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# Determining the Emerging Technologies in Education in the Last Years

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**Abstract:** The aim of this study is to examine recent research articles on emerging technologies and their integration into education. In this study, 219 articles which have been indexed by ISI Web of Science, SCIEXPANDED, SSCI indexes and published between 2017 and 2019, in the subject area of Education & Educational Research were examined. Among these articles, researches that integrate emerging technologies into education have also been addressed. In the reviewing process, the research topic of emerging technology or trend technology and education were analyzed through content analysis. As a result of the research, total of 66 of the 219 articles were excluded due to the fact that 49 of them were not about technology and 17 of them were a review study. In 114 of the 153 articles, the integration of the used technology into education was examined. As a result of the content analysis, it is seen that the focus is mostly on STEM and mobile technologies are the most discussed among the emerging technologies. In 27 of the articles reviewed, it was seen that emerging technologies were expressed as a general title or more than one technology was involved. There are 3 articles examining tools and media, 8 articles

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examining the learning environment and design. The possible reasons for these findings were discussed in the discussion section of this research.

**Keywords:** Emerging Technology, Trend Technology, Education, Technology Integration, Content Analysis

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# A Review on the Distance Education Management in the Universities with the Effect of Digital Transformation During the Coronavirus Pandemic in Turkey

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**Abstract:** The global coronavirus epidemic has led to various transformations in the lives of societies. Reducing spatial cohesion has become a necessity to prevent the growth of the epidemic in all areas. Education has been also moved to online platforms. Distance education allows individuals to mobile education without time and space limitations. In this study, the impact of the epidemic situation in academic education has investigated in Turkey. The aim of the study is to examine the adaptation process of universities in distance education and to investigate the method they choose. In this context, the learning management systems chosen by each university have examined and comparison has made between these systems. These data were interpreted according to the literature and it has been observed that the choice of education management system varies depending on the conditions such as fee, license, open-source code.

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**Keywords**: Distance Education, Education, Learning Management Systems, LMS

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# Designing A Web Based Awareness Training About the Use of Personal Data

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**Abstract:** Internet banking and e-commerce web applications offered on the internet and it makes our way of lives much more comfortable and easier.
The services provided by institutions with these applications have led to the need to collect some personal data to verify the authenticity of the customer. An asynchronous awareness training material has been prepared in order to increase the awareness of the users about General Data Protection Law (GDPR). A pre-test and post-test were applied to measure the awareness levels of the participants before and after the training, and users were allowed to access the training material after completing the pre-test. In the light of the studies and the feedback received from the participants, it has been concluded that the distance education models have not yet reached the desired maturity. The problems that users experience in accessing the LMS, the difficulties they experience while receiving training in the system, and the complexity of the system interface can be given as examples to the areas that constitute the basis for the acquisition of this opinion. As a result of the feedback received, it has been concluded that the web media interfaces where users attend or receive training should be user-friendly, have a homepage that can attract the

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attention of the participant, and design improvements must be made to increase the desire and enthusiasm of the participants to participate in the training.

**Keywords:** Distance Education, GDPR

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# National Program "Together in Student Care" "Learning Technology"

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**Abstract:** In this proposal we will report the outcomes of a module (Module 2) of the projet named "Together we can do more". The purpose of the project was providing a team work between primary school teachers and kindergarden teachers on junior high school subjects. Project participants are Fourth "A" preparatory group "Smile" DG № 66 "Children's Paradise" (Stara Zagora) and First "D" class PS "Kiril Hristov" (Stara Zagora). The cooperation between two institutions will continue in the 2020-2021 school year. The project gave the teachers the opportunity to get acquainted with the specifics of the work in the different stages of education; a partnership with the pedagogy specialists, increase the quality of the educational process by ensuring a smooth transition between kindergarten and first grade and more effective adaptation of the children from the preparatory group in the first grade.
Main goals of the project can be listed as:

-providing opportunities for applying an individual approach in education, based on systematic monitoring of students' achievements and reporting their progress from the preparatory group to the completion of primary education;
- facilitating the transition between the different stages of education;
- creation of partnerships between the school and the kindergarten;

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- updating and expanding the knowledge and skills of teachers about the age characteristics of students during the transition periods.

The project has three basic activities and four success indicators:

Activity 1. Conducting pedagogical situations in the kindergarten.

Activity 2. Planning and creation of didactic materials for lessons.

Activity 3. Teaching lessons from first to fourth grade

The success indicators are a) effective communication and cooperation between teachers from different stages of education, b) providing a unified methodological approach taking into account the individual characteristics of students, c) manifestation of the cognitive activity of the children, increase of their independence and creative expression and d) increased motivation to enter the first grade.

While the expected results of the project are 1) planned and conducted working meetings between teachers from the kindergarten and the primary school; 2) visits of the primary school teacher in a kindergarten to get acquainted with the individual peculiarities of the children who are about to enter the first grade; 3) realize teaching activity in the kindergarten and in the school, related to more successful adaptation of the children to their new social role as a student; 4) developed materials supporting the smoother transition from kindergarten to first grade. Achieved results can be listed as follows:

- creating a partnership between the pedagogical specialists from the school and the kindergarten;
- providing opportunities for applying an individual approach in education, based on systematic monitoring of students' achievements and reporting their progress from the preparatory group to the completion of primary education;
- improving the quality of the educational process by ensuring a smooth transition between kindergarten and first grade.

**Keywords**: Primary School, Education

## References

*None*

# Education under Pandemic Conditions at the Kiril Hristov School: A Success Story

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Kiril Hristov Elementary School (http://ou4szkh.org) located in Stara Zagora, Bulgaria, is a school known for its innovative feature. 98 teachers work in the school, which has a total of 912 students (33 classrooms), and uses the latest educational methods, techniques and equipment (interactive board, touch screen, tablet computers, etc.). This situation makes the school the most preferred school by the parents. Two other important features of the school are that it is the practice school of the Faculty of Education of Trakya University in the city and a member of the Cambridge Schools Association. In this way, the school can always keep the quality level of education high.

The school, which focuses on environmental and ecological studies, carries out international projects and has sister schools abroad. With the COVID-19 pandemic, a solution was sought in the Kiril Hristov school, and within a week, both students and teachers adopted the distance education method very quickly. Synchronous and asynchronous training activities are carried out with the help of Shkolo, Zoom and Classroom platforms. In addition, all educational materials, exam notes, projects and assignments are recorded in this environment with the electronic class notebook application. Parents, an important component of the education system, help the

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school administration and teaching staff by supporting this new environment, practices and their children at home. Experiencing that education can be continued uninterruptedly and without decreasing the quality even in extraordinary situations at our school has given us a great pleasure as the school administration. Our students were not deprived of education, but they could not participate in some activities under normal conditions, and they participated in competitions such as "My Balcony is the World" and "My School is the Best" thanks to online opportunities. Furthermore, regular events in memory of Kiril Hristov, who gave our school its name, were organised online. Another reason why our school is preferred by parents is that we have a very close cooperation with the kindergarten named “Children's Paradise”, which is an exemplary kindergarten in our city. Children are introduced to our school starting from kindergarten and some educational activities in our school are carried out with them. Thus, children who are motivated in the early period start primary school with less stress.

**Keywords**: Elementary School, Education, COVID-19, Pandemic Conditions

## References

*None*

# Collaborative Filtering for Learning Resources Recommendation

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**Abstract:** Within academic communities, to facilitate research and encourage collaboration, it is important that individuals can identify the right expertise or resources and interact with potential collaborators. However, finding a good collaborator may not be easy task for several reasons. The expertise is highly dynamic, difficult to qualify and quantify.

The aim of this work is to propose a collaborative filtering approach for recommending relevant learning resources in a collaborative learning environment. Learning resources may include learning materials (learning objects) and relevant collaborators with whom learning activities can take place. The proposed approach is based on the learner's similarity calculation according to their interests. We have integrated the tags into the collaborative filtering process to provide personalized

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recommendation to the learners according to their interests. Tags allow to better building the learner's profiles by automatic inferring their interests. The proposed approach has been implemented in a collaborative learning system tested on a sample database.

**Keywords:** Recommender Systems, Collaborative Filtering, Learning Materials, Collaborators.

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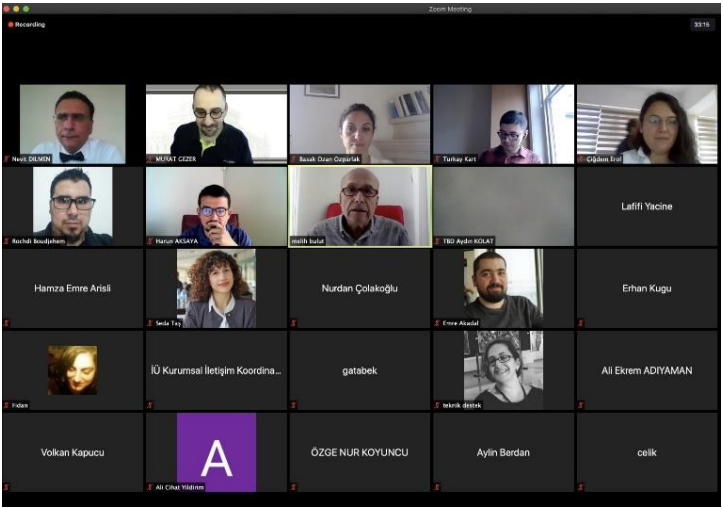
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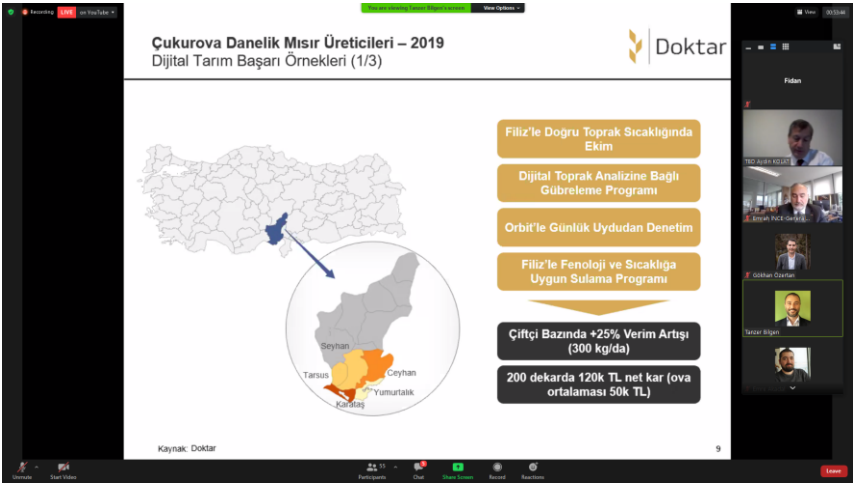
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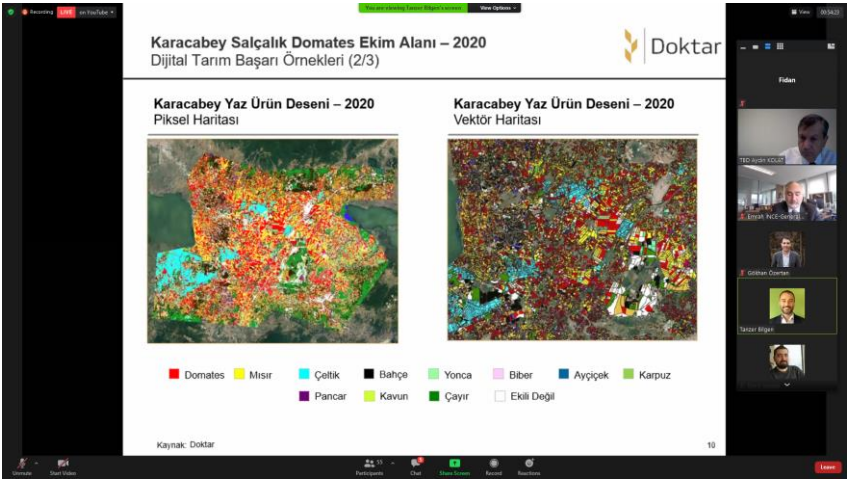


# CAPTURES FROM PANELS

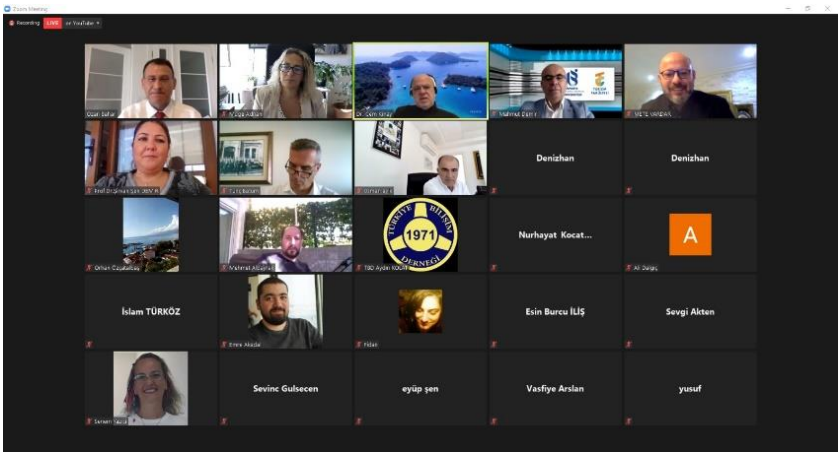
## *Data Revolution in Agriculture* (21/10/2020)



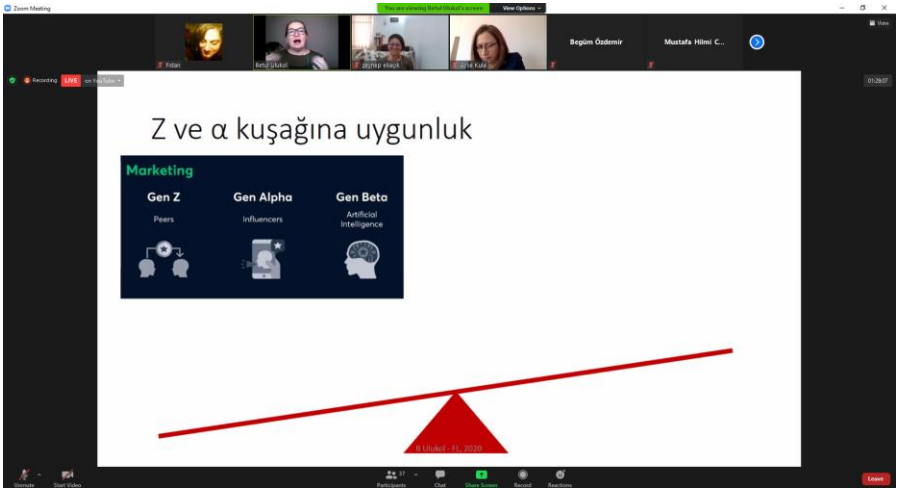



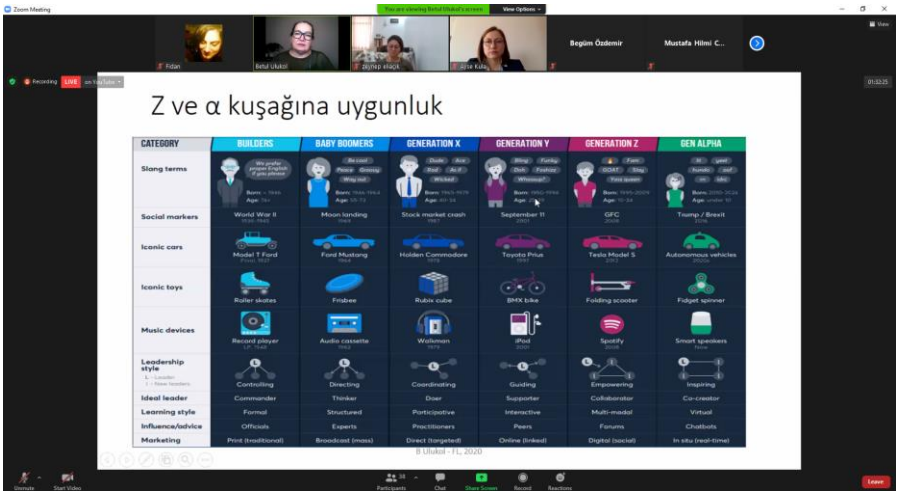


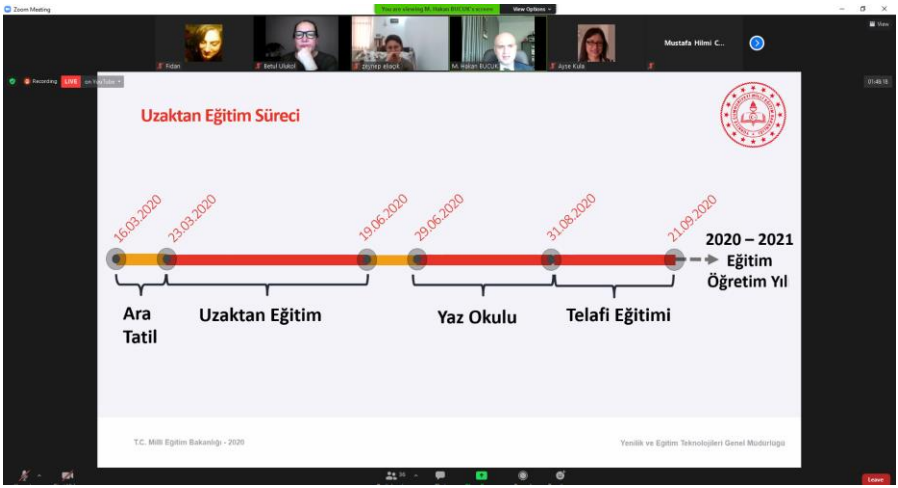

***Data Revolution in Tourism and New Technologies in Tourism Education* (22/10/2020)**

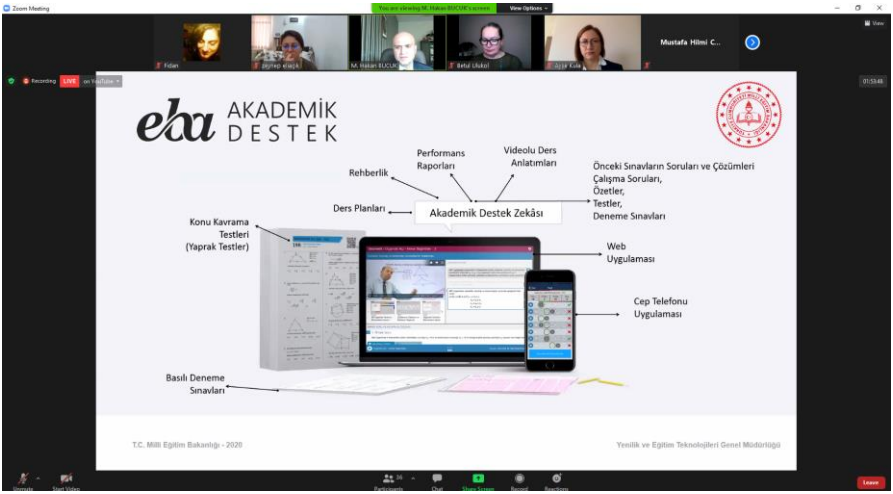


## *How Did Pandemic Change The Education* (22/10/2020)




Uzaktan Eğitim Süreci
16.03.2020
23.03.2020
19.06.2020
29.06.2020
31.08.2020
21.09.2020
2020 – 2021
Eğitim
Öğretim Yıl
Ara
Tatil
Uzaktan Eğitim
Yaz Okulu
Telafi Eğitimi
T.C. Milli Eğitim Bakanlığı - 2020
Yenilik ve Eğitim Teknolojileri Genel Müdürlüğü


eba AKADEMİK DESTEK
Performans Raporları
Videolu Ders Anlatımları
Rehberlik
Önceki Sınavların Soruları ve Çözümleri
Çalışma Soruları,
Özetler,
Testler,
Deneme Sınavları
Ders Planları
Akademik Destek Zekâsı
Konu Kavrama Testleri (Yaprak Testler)
Web Uygulaması
Cep Telefonu Uygulaması
Basılı Deneme Sınavları
T.C. Milli Eğitim Bakanlığı - 2020
Yenilik ve Eğitim Teknolojileri Genel Müdürlüğü

# FL2020 CONFERENCE PROGRAMME

## DAY 1 (HEALTH)
## 20 OCTOBER, 2020

| | |
|---|---|
| | **OPENING CEREMONY** |
| **09:00 - 10:30** | **Assoc. Prof. Müge Adnan**, Muğla Sıtkı Koçman University<br>**Prof. Sevinç Gülseçen**, İstanbul University<br>**Dr. Aydın Kolat**, Informatics Association of Turkey<br>**Ahmet Hançer**, enocta<br>**Çağdaş Ergin**, The Turkish Informatics Foundation<br>**Rahmi Aktepe**, Informatics Association of Turkey<br>**Anıl Yılmaz**, Ministry of National Education of Turkey<br>**Prof. Lile Ramona**, Aurel Vlaicu University of Arad<br>**Prof. Hüseyin Çiçek**, Muğla Sıtkı Koçman University<br>**Prof. Mahmut Ak**, İstanbul University<br>***Remarks from International Participants*** |
| | **PANEL (in Turkish)** |
| **10:30 - 12:00** | **DATA REVOLUTION IN HEALTH**<br>**Prof. Melih Bulut (Moderator)**<br>Rad. Dr. Nevit Dilmen, SONOMED<br>Dr. Başak Ozan Özparlak, Ozan & Ozan Hukuk Bürosu<br>Türkay Kart, London Imperial College |
| | **KEYNOTE (in Turkish)** |
| **12:00 - 13:30** | ***Gelecekte İnsan ve Yaşam***<br>**Dr. Cenk Tezcan**<br>Medical Futurist, B-Wise |

| | KEYNOTE (in English) |
|---|---|
| **13:30 - 14:00** | ***Emerging Technologies & Digital Education: rethinking strategies for troubled times***<br>**Prof. Alex Grech**<br>University of Malta |
| | **PANEL (in Turkish)** |
| **14:15 - 16:30** | **NEW TECHNOLOGIES IN HEALTH**<br>**Prof. Işıl İrem Budakoğlu, Gazi University (Moderator)**<br>Prof. Kadriye O Lewis, Children's Mercy Hospital<br>Prof. Melih Elçin, Hacettepe University<br>Prof. Serdar Kula, Gazi University<br>Assoc. Prof. Vildan Özeke, Gaziosmanpaşa Univ.<br>Seval Erdoğan, MSN-QI, RN, CNOR<br>Hikmet Gürbüz, Songür Ticaret |

| | PAPER PRESENTATION SESSIONS | |
|---|---|---|
| | **SESSION 1A (in Turkish)** | **SESSION 1B (in English)** |
| **16:30 - 18:30** | **Doç. Dr. Bahadır Karasulu (Moderator)**<br><br>**An Approach based on the Active Contour and GrabCut Synergy Using Super Pixel Cluster Regions in Automatic Segmentation of the Human Ear**<br>Bahadır Karasulu<br><br>**"Kiril Hristov" Orta Okulu-Stara Zagora (Bulgaristan)**<br>Gospodin Balıkçiev, Aylin Delchev<br><br>**Tıp ve Patoloji Müfredatında Yapay Zeka Kullanımı Nasıl Yer Alabilir?**<br>Sibel Sensu<br><br>**Akıllı Şehir Tasarımında Teknolojik Tabanlı Karar Verme "Triot Uygulaması"**<br>Erkan Akköse<br><br>**Koronavirüs Salgını Sürecinde Türkiye'de Dijital Dönüşümün Etkisi İle Üniversitelerde Uzaktan Eğitim Sürecinin İncelenmesi**<br>Zeyneb Uylaş Aksu, Serra Çelik and Sevinç Gülseçen<br><br>**Sanal Organizasyonlar için Yazılım Geliştirme: Çölyak Hastalığı Bilgi Yönetimi Örneği**<br>Murat Sakal | **Prof. Dr. Nilgün Bozbuğa (Moderator)**<br><br>**Personalized Medicine And Computer Aided Anatomic Modeling**<br>Ferhat Taş and Nilgun Bozbuga<br><br>**Health Turism Risks**<br>Nilgün Bozbuğa<br><br>**Emotional well-being during distance learning**<br>Biljana Lazareska and Biljana Stojanovska<br><br>**Digital Education in Dentistry**<br>Ümit Begüm Güray Efes<br><br>**National Program 'Together in Student Care" Learning Technology**<br>Silvia Stoyanova<br><br>**Internal Information System For Specific Atmospheric Pollutants In Burgas**<br>T. Michalev, Y. Dzelil and Dragomir Dobrudzaliev |

# DAY 2 (AGRICULTURE)
# 21 OCTOBER, 2020

| | PAPER PRESENTATION SESSIONS | |
|---|---|---|
| **09:00 - 10:00** | **SESSION 2A (in Turkish)** | **SESSION 2B (in English)** |
| | **Assoc. Prof. Dr. Çiğdem Erol (Moderator)**<br><br>**Uzaktan Eğitimde Öğrenci Akademik Başarılarının Makine Öğrenmesi ile Tahminlenmesi**<br>Onur Sevli and Vesile Gül Başer<br><br>**Sanal Gerçeklik ile Tarih**<br>Barış Özgen<br><br>**Öğrenme Yönetim Sistemi Log Kayıtlarının Akademik Başarı Tahmininde Kullanılması**<br>Mithat Yavuzarslan and Çiğdem Selçukcan Erol | **Assoc. Prof. Dr. Natalija Lepkova (Moderator)**<br><br>**Study of the impact of collaboration among learners during the learning of "Object-Oriented Programming**<br>Ali Benyounes, Rochdi Boudjehem and Yacine Lafifi<br><br>**Data Gathering And Analysis Of Smart House**<br>Natalija Lepkova<br><br>**Predicting the Success of University Students in Distance Education Courses by Using Machine Learning Methods**<br>Ali Şenol, Tarık Talan and Cemal Aktürk |
| | **KEYNOTE (in English)** | |
| **10:00 - 10:30** | ***The New Normal in Economics***<br>**Prof. Woodrow W. Clark II**<br>Clark Communication | |

| | |
|---|---|
| | **PANEL (in Turkish)** |
| **10:30 - 13:00** | **DATA REVOLUTION IN AGRICULTURE**<br>**Dr. Aydın Kolat, TBD (Moderator)**<br>Prof. Gökhan Özertan, Boğaziçi University<br>Assoc. Prof. Taylan Kıymaz, IFAD Country Programme Officer<br>Mustafa Gezici, TAGEM<br>Emrah İnce, TEKFEN<br>Tanzer Bilgen, DOKTAR<br>Ender Özgün, Vodafone |
| | **KEYNOTE (in English)** |
| **13:30 - 14:00** | ***Challenges and Horizons for Education and Technology***<br>**Prof. Luís Miguel Cardoso**<br>**University of Lisbon** |
| | **PANEL (in Turkish)** |
| **14:15 - 16:30** | **NEW TECHNOLOGIES FOR AGRICULTURE EDUCATION**<br>**Prof. Orhan Özçatalbaş, Akdeniz Univ. (Moderator)**<br>Prof. Bülent Eker, Namık Kemal University<br>Prof. Zeynel Cebeci, Çukurova University<br>Assoc. Prof. Ufuk Türker, Ankara University<br>Sürur Kır, Tarım Akademileri Platformu<br>Hakan Aksoy, MEB |

| | PAPER PRESENTATION SESSIONS | |
|---|---|---|
| **16:30 - 18:30** | **SESSION 3A (in Turkish)** | **SESSION 3B (in English)** |
| | **Assist. Prof. Dr. Mehmet Albayrak (Moderator)**<br><br>**Determining The Emerging Technologies In Education In The Last Years**<br>Ümmühan Avcı, Ayşe Kula and Tülin Haşlaman<br><br>**Artifical İntelligence and Applications in Classroom Activities at Middle School Level**<br>Pehlül Serkan Bilgin, İlayda Karaboğa, Abdurrahim Sargin and Ersen Eyup Doğru<br><br>**Yüz Yüze Eğitim ile Bütünleşik Uzaktan Eğitim: Öğretmen ve Öğrenci Açısından Değerlendirilmesi**<br>Nihat Özgüler and Aydın Özgüler<br><br>**Kişisel Verilerin Kullanımı Hakkında Web Tabanlı Bir Farkındalık Eğitimi Tasarımı**<br>Mesut Özhan and Zerrin Ayvaz Reis<br><br>**Health Literacy**<br>Ekrem Kutbay and Nilgün Bozbuğa | **Prof. Nilüfer Pembecioğlu (Moderator)**<br><br>**Investigating the relationship between learners in conflict by using text-based sentiment analysis**<br>Safia Bendjebar, Yacine Lafifi and Roumaissa Alama<br><br>**Valuing Apples: From the mystic apple to the digital apples of the 21st century**<br>Nilüfer Pembecioğlu and Nebahat Akgün Çomak<br><br>**Forecasting Flight Delays with Regression Models and Cross Validation**<br>Barış Özdiçle<br><br>**Collaborative Filtering for Learning Resources Recommendation**<br>Mehenaoui Zohra, Lafifi Yacine, Dib Amira and Guenfoud Zeyneb<br><br>**On-line Learning of Prisoners**<br>Robert Jager, Simona Ferenčíková and Lukáš Michaľov |

# DAY 3 (TOURISM)
# 22 OCTOBER, 2020

| | PAPER PRESENTATION SESSIONS | |
|---|---|---|
| **09:00 - 10:00** | **SESSION 4A (in Turkish)** | **SESSION 4B (in Turkish)** |
| | **Assist. Prof. Dr. Mehmet Albayrak (Moderator)**<br><br>**Turizm İşletmelerinde Bitcoin Kullaniminin Swot Analiziyle Değerlendirilmesi**<br>Füsun İstanbullu Dinçer, Mithat Zeki Dinçer and Nil Ayduğan<br><br>**Artifical Intelligence and Applications in Classroom Activities**<br>Pehlül Serkan Bilgin and İlayda Karaboğa<br><br>**Uzaktan Eğitimde Bir Etki Değerlendirme Çalışması: MSKÜ Örneği**<br>Nurhayat Kocatürk Kapucu and Müge Adnan | **Assist. Prof. Dr. Vedat Kamer (Moderator)**<br><br>**Ortaokullarda Bilişim Teknolojileri Eğitimi Ortamı Eksikliğine Bir Çözüm Önerisi Olarak Hibrit Bilişim Sınıfı Modeli**<br>Burak Eskici, Zerrin Ayvaz Reis and Serhat Bahadır Kert<br><br>**Akıllı Telefon ve Internet Kullanımının Mesleki Eğitime Etkisi**<br>Feyzi Kaysi, Emrah Aydemir and Sevinç Gülseçen<br><br>**Developing a Text Mining Based System for Educational Institutions: Implementation of Machine Learning Techniques in Aspect-Based Sentiment Analysis Studies**<br>Harun Aksaya and Sevinç Gülseçen |
| | **KEYNOTE (in English)** | |
| **10:00 - 10:30** | ***Contemporary Methods and Approaches in Educational Training Teachers***<br>**Prof. Gabriela Kelemen**<br>"Aurel Vlaicu" University of Arad | |

| | PANEL (in Turkish) |
|---|---|
| **10:30 - 13:00** | **DATA REVOLUTION IN TOURISM AND NEW TECHNOLOGIES IN TOURISM EDUCATION**<br>**Prof. Ozan Bahar, Muğla Sıtkı Koçman University (Moderator)**<br>Prof. Mahmut Demir, Isparta University of Applied Sciences<br>Prof. Şirvan Şen Demir, Süleyman Demirel University<br>Cem Kınay, Magic Life<br>Osman Ayık, TÜROFED<br>Tunç Baturn, Hilton Dalaman<br>Hamdi Güvenç, YDA Dalaman Airport<br>Mete Vardar, Jolly Tour |
| | **KEYNOTE (in Turkish)** |
| **13:30 - 14:00** | ***The Future of Distance Learning***<br>**Prof. Levent Şahin**<br>İstanbul University |
| | **PANEL (in Turkish)** |
| **14:15 - 16:30** | **HOW DID THE PANDEMIC CHANGE THE EDUCATION?**<br>**Prof. Mustafa Hilmi Çolakoğlu, Nevşehir Hacı Bektaş Veli University (Moderator)**<br>Prof. Betül Ulukol, Ankara University<br>Prof. Buket Akkoyunlu, Çankaya University<br>Prof. Şirin Karadeniz, Bahçeşehir University<br>Assoc. Prof. Geray Musayev, Azerbaijan State Univeristy of Economics<br>M. Hakan Bücük, MEB YEĞİTEK<br>Zeynep Eliaçık, İstanbul Ataşehir Akşemsettin İlkokulu<br>Begüm Özdemir, Student |

| | PANEL (in Turkish) |
|---|---|
| **16:45 - 17:45** | **CLOSING PANEL**<br>**Assoc. Prof. Müge Adnan, Muğla Sıtkı Koçman University (Moderator)**<br>Prof. Sevinç Gülseçen, İstanbul University<br>Prof. Soner Yıldırım, Middle East Technical Univeristy<br>Dr. Aydın Kolat, Informatics Association of Turkey<br>Ahmet Hançer, enocta |

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