

ABSTRACT BOOK



**INTERNATIONAL CONFERENCE ON
TRANSITION OF TRADITIONAL
UNIVERSITIES TO ONLINE MODE
(ICTTUOM)**

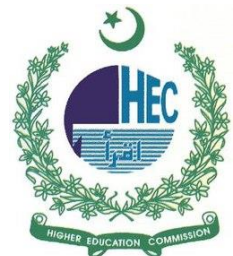
10-11 May 2023

ABSTRACT BOOK

INTERNATIONAL CONFERENCE ON TRANSITION OF TRADITIONAL UNIVERSITIES TO ONLINE MODE (ICTTUOM) 10-11 May 2023

**ORGANIZED BY:
FACULTY OF EDUCATION INTERNATIONAL ISLAMIC UNIVERSITY,
ISLAMABAD
AND
DIRECTORATE OF DISTANCE LEARNING, IIUI**

**IN COLLABORATION WITH
IQBAL INSTITUTE OF RESEARCH AND DIALOGUE,
HIGHER EDUCATION COMMISSION PAKISTAN
AND
PAKISTAN SCIENCE FOUNDATION**



CONFERENCE THEMES

- Adaptation to New Technologies
- Best practices in Online Learning
- Blended Learning
- Communication Challenges in E- Learning During COVID-19
- E-Learning Strategies
- Evaluation in Online Learning
- Future of Online Learning for universities
- Learning Management Systems
- Needs and Challenges of Online Learning
- Research Models & Paradigms in Online Learning

CONFERENCE MESSAGES

Message of the President IIUI

The major purpose of higher education is to magnify the existing body of knowledge by providing solutions to different problems and improving teaching and learning practices at all levels of education. In this regard distance education mode is one of the best options to educate the masses, to produce skilled workers, to cater the learning needs of semi-skilled workers and professionals. Arranging two days International Conference on Transition of Traditional Universities to Online Mode (ICTTUOM, 10th-11th May 2023) will be really beneficial for professionals, policy makers, students and distance learners. Distance mode envisages that people can continue their education and trainings throughout their lives. Similarly, different phrases e.g learn from “the cradle to the grave” learns from “the womb to the tomb” or learn from “the cradle to the cremation” can be twisted to highlight the significance of online and distance learning. Dissemination of knowledge through distance mode will be a crucial response of Higher Educational Institutions to deal with all the challenges. Renowned universities of the world have particular focus on Open and Distance Learning. I appreciate the efforts made by Prof. Dr. N. B. Jumani, Vice President, Administration & Finance, Prof. Dr. Samina Malik, Vice President, Female Campus, Prof. Dr. Mohammad Asmat Ullah Khan, Director, DDL; Prof. Dr. Muhammad Sarwar, Dean, Faculty of Education; Dr. Fouzia Ajmal, Focal person ICTTUOM-2023. Dr. Muhammad Zafar Iqbal Iqbal, Incharge Programs, DDL; Dr. Syed Mushraf, Incharge web portal; Mr. Mudasir Ahmad, Dy. Director, DDL and all members of the organizing committee. I do hope that emerging issues pertaining to DDL will be discussed in this conference and experts will search out a way forward to solve the issues. I am hopeful that this conference will meet the expectations of the academic community and conference will add new knowledge in the existing body of knowledge about distance and online learning



Prof. Dr. Hathal bin Hamoud Al-Otaibi
President IIUI

Message of the Vice President (Administration & Finance), IIUI

Nowadays, it becomes easy for students to gain immensity of knowledge through online mode. A vast variety of online courses is at your threshold. Online mode of learning is a panacea that provides opportunities to the masses to manage their learning according to their own choice, time and space. All reputed universities of the world are offering online short courses and degree programs. Likewise, universities are adopting blended learning approaches to facilitate the learners. International Islamic University, Islamabad (IIUI) successfully shifted all programs to online mode during Pandemic-19. The fundamental purpose of online learning modes is to provide greater access to the masses within limited financial resources. I feel proud that Directorate of Distance Learning and Faculty of Education, International Islamic University has organized two days International Conference on Transition of Traditional Universities to Online Mode (ICTTUOM-2023). This really appreciable that the academicians, professionals, researchers from different countries and from all over Pakistan and those who are joining this event through online mode. A link to this conference will be available at IIUI website and participants can join the conference through live streaming. This is the need of the day to discuss the future of online learning for universities and the need and challenges of online learning in this conference. I hope that this conference will provide an opportunity for all of us to learn about different trends and innovations in the field of distance education.



Prof. Dr. Nabi Bux Jumani
Vice President (Administration & Finance)

Message of the Vice President (R & E)/Academics

Online and Distance Learning is playing a significant role in the development of the education sector. Well known universities of the world are offering online academic programs through distance mode of learning. There is a dire need to analyze different online learning approaches through arranging seminars and conferences to sensitize the youth to understand the need and importance of online learning. I am confident that different issues pertain to quality of online and distance learning, online learning approaches and challenges we are facing will be discussed in ICTTUOM-2023. I am really happy to see that Directorate of Distance Learning is going to organize a two-day International Conference on Transition of Traditional Universities to Online Mode (ICTTUOM, 10th-11th May 2023). I truly appreciate the efforts made by the management of the Faculty of Education and Directorate of Distance Learning for organizing this conference.



Prof. Dr. Ahmed Shuja Syed
Vice President (R & E) /Academics
International Islamic University, Islamabad

Message of the Vice President, Female Campus

Traditional education system leaves learners at the mercy of note taking and collection of learning material. On the hand a variety of online learning apps facilitate distance learners to learn in paper less environment. On the other hand, Online Learning is a flexible and cost-effective learning approach during the 21st century. This approach facilitates learners to schedule their learning activities according to their own convenience. Particularly it is a panacea for professionals and provides them career advancement opportunities. Online learning mode accommodates everyone's learning needs, likewise, content can be easily updated. This conference will provide an opportunity for professionals, experts and academicians to evaluate the pros and cons of different online learning approaches. I do appreciate the efforts made by the Faculty of Education and Directorate of Distance Learning team for organizing International Conference on Transition of Traditional Universities to Online Mode (ICTTUOM). The organizing Committee has invited renowned keynote speakers to enlighten the audience about the latest developments in distance education and E-Learning fields. I do hope that organizing this conference will not only provide a valuable forum for the experts to share their expertise, but it will also be a networking opportunity for the participants. I wish all the success for this event.

Prof. Dr. Samina Malik
Vice President, Female Campus



Message of the Dean, Faculty of Education

Online education is a better option to achieve your educational dreams for a number of reasons; you can switch to your learning at any time. It reduces traveling costs; facilitate institutions to cater the learning needs of a large group. If you are interested in opting for online learning, regional boundaries and long distances will never matter. Along with other benefits, online learning or joining virtual classrooms are more feasible for the people who are advancing their education while working. You can enjoy autonomy in deciding your own schedules. Online learning allows you to create your own customized learning environment. Students can easily communicate with their instructors. Youth need to improve searching skills and communication skills to get benefit from different online programs. Directorate of Distance Learning has a dedicated and motivated team. I would like to appreciate the efforts of conference organizing committee, Members of the Directorate of Distance Learning core committee, Incharge Programs, and faculty members Faculty of Education for organizing International Conference on Transition of Traditional Universities to Online Mode (ICTTUOM).

Prof. Dr. Muhammad Sarwar
Dean, Faculty of Education
International Islamic University, Islamabad



Message of the Director, Directorate of Distance Learning

In the present era, distance education and online learning is playing dynamic role in promoting higher education globally. Distance education is the learning platform particularly for those students who cannot afford to get higher education due to financial constraints. Distance education is accessible without any discrimination to the students particularly for those who are residing in remote areas. Distance education has also played significant role in improving the women education particularly in developing countries. Now-a-days a variety of distance education programs are being offered by reputed universities. Leading universities are offering independent study course through networking in which students contact with their teachers/tutors/instructors through computer/internet or through or electronic mail. I congratulate the Faculty of Education and Directorate of Distance Education for organizing International Conference on Transition of Traditional Universities to Online Mode (ICTTUOM).



Prof. Dr. Mohammad Asmat Ullah Khan
Dean, Faculty of Computing/
Director, Directorate of Distance Learning
International Islamic University, Islamabad

ICTTUOM-2023

ORGANIZING TEAM

Patron in Chief	Dr. Hathal Bin Hamoud Al-Otaibi President, IIUI
Conference Chair	Prof. Dr. N. B. Jumani VP (A & F) IIUI
Conference Co-Chair	Prof. Dr. Samina Malik VP (Female Campus)IIUI
Conference Co-Chair	Prof. Dr. Muhammad Sarwar Dean, Faculty of Education, IIUI
Conference Co-Chair	Prof. Dr. Mohammad Asmat Ullah Khan Dean, Faculty of Computing/ Director, Directorate of Distance Learning
Conference Focal Person	Dr. Fouzia Ajmal Asst. Professor, DTE, IIUI
Conference Manager	Mr. Mudassir Ahmad Dy. Director, DDL, IIUI

MANAGEMENT/ORGANIZING COMMITTEE

Directorate of Distance Learning	Faculty of Education	Iqbal International Institute of Research & Dialogue
<ul style="list-style-type: none"> • Prof. Dr. Asmat Ullah Khan, Dean Faculty of Computing & Information Technology • Dr. Muhammad Zafar Iqbal Ch, Incharge Academics DDL • Mr. Junaid Azhar, Incharge Web, DDL • Dr. Syed Musharraf • Mr. Alhasan, AD Protocol Section • Mr. Atiq Rehman, Dealing Officer DDL 	<ul style="list-style-type: none"> • Prof. Dr. N. B. Jumani, VP (A&F) IIUI • Prof. Dr. Samina Malik VP (F.C) IIUI • Prof. Dr. Muhammad Sarwar, Dean Faculty of Education • Dr. Shamsa Aziz, Chairperson, Department of Teacher Education • Dr. Azhar Mahmood, Chairperson (ELM) • Dr. Muhammad Munir Kayani, Associate Professor • Dr. Shazia Naureen, Assistant Professor • Dr. Munazza Mahmood, Assistant Professor • Dr. Zarina Akhtar, Assistant Professor • Dr. Sheikh Tariq Mehmood, Assistant Professor • Dr. Muhammad Nasir Khan, TRA • Dr. Alina Raza, TRA • Dr. Humaira Imran, TRA • Dr Sufi Amin TRA • Ms. Sumaira Batool, TRA • Ms. Rabia Mumtaz, TRA • Ms. Bushra Rehman, TRA Education • Ms. Naila Bashir, Assistant Director • Ms. Raffiqa Nazli, Assistant Director 	<ul style="list-style-type: none"> • Mr. Syed Hassan Aftab IRD • Dr. Maryam Siddiqua Lodhi IRD • Mr. Syed Mansoor Ali Shah IRD • Mr. Irfan Ullah IRD • Mr. Alhasan, AD Protocol Section

ABSTRACTS OF GUEST SPEAKERS

INTERNATIONAL SPEAKERS

SHARPENING THE SKILL OF WRITING DURING COVID-19: EXCLUSIVE APP OR MICROSOFT TEAMS?

Maha R. Sourani
Professor, Linguistics & Educational Technology
Lebanese University, Lebanon

ABSTRACT

Due to the threat of the new pandemic, academic institutions all around the world are grappling with how to retain teaching and learning while keeping the teaching staff and their students safe. The Lebanese University (UL) has mandated that all faculties transfer their courses online, resulting in the transformation of education into a digitally-mediated model. This action-oriented study will provide a brief run through several preferred applications, blogs, and live streaming techniques. Participants of this study represented a convenient sample of students from the FLSH at UL. Collected data were quantitatively analyzed prior to the administration of the independent variable as well as after its usage. Thus, one group (equally split into five sections) attended an EFL course via SouranyApp (exclusive CMS for writing), and the other group attended the same course via Microsoft Teams platform. The sample represented a total population of 70. Quantitative data illustrating the attitudes and standpoints of the experimental group was collected through two group-administered student surveys (pre/post questionnaires 1 and 2, and post questionnaire 1). Another instrument used for obtaining relevant information for the research topic was written exams (rubric). Findings revealed that the post-experimental group did show significant improvements after the use of the virtual learning mode via Sourany App compared to the minimum and maximum scores that did not vary to a large extent, after the usage of Microsoft Teams platform for the control group. Hence, it became a necessity to recommend shedding light on the roles that teachers need to play amidst these crowded platforms, and applications especially since artificial intelligence is having significant attention lately in the field of teaching languages.

"NAVIGATING TO THE FUTURE OF HIGHER EDUCATION USING INSTRUCTIONAL TECHNOLOGY"

Prof Dr. Victoria Brown
Florida Atlantic University USA

ABSTRACT

The future of higher education will be different as the landscape changes due to the recent rapid adoption of distance learning technologies. Both faculty and students better understand the potential of these technologies in the delivery of instruction. As institutions move forward, strategic planning about what are the best strategies for creating and delivery of high-quality education. The goal is to use the best of traditional and online instruction to develop a better future for higher education.

**MEDIA COMPETENCE FOR A MEDIA SOCIETY (DIVERSIFICATION OF COMPETENCE
IN MEDIA SOCIETY
SHARING THE RESPONSIBILITY FOR REASONABLE USE OF MEDIA)**

Prof. Dr. Thomas Alfred Bauer
University of Vienna, Austria

ABSTRACT

We are facing a number of challenges for a literate society regarding media including increasing mediatisation media of society. Societies need to manage social life in the modus of media. Techniques, aesthetics and ethics of social attention need to be focused. Science-logical claims exist in the meaning of media. Medio-logy requires to be focused in the mean of social environment. Personal use, individual identity contextual relevance, is qualities of media. Political, social and public spheres are required to be developed for mediatization. Four level competencies are important for media literacy including media knowledge, media analysis, media critics and media creation.

DIGITAL TRANSFORMATION OF UNIVERSITIES - THE ROAD TO HYBRID LEARNING

Ramya Srinivasan
Senior Customer Success Director - Coursera

ABSTRACT

Higher education has changed drastically over the last two years. Universities are witnessing growth in hybrid learning models, with a new found expansion in their online teaching capacity. This hybrid learning presents higher education with immense opportunities, and challenges. Universities need a three-pronged approach across strategy, policy and pedagogy to identify the right hybrid model for their institution and students. The talk will answer two questions: What does it take to embark on a digital transformation journey, and what are its benefits?

NATIONAL SPEAKERS

BEYOND TRADITIONAL E-LEARNING

Dr. Muhammad Tanvir Afzal,
Director and Professor, Shifa School of Computing
Director Campus, Park Road Campus
Shifa Tameer-e-Millat University
Islamabad, Pakistan

ABSTRACT

Prof. Afzal has been working in the area of Digital Libraries and Digital Innovations since the last 15 years as an active researcher, teacher, and executive trainer. This talk will focus on the innovative notions that could support digital learner to grasp the concepts by exploiting the available content on the Web using state-of-the-art technologies. This talk will open up discussions on the innovative features to facilitate digital learner in the true spirit as expected from HEC and HEIs. Digital learner is left in disarray by the contemporary systems. This talk will highlight the pain areas of digital learner and how can the learners be supported with the recent advancements in computing and technology.

ONLINE AND HYBRID LEARNING: A MUST TRANSITION FOR PAKISTANI UNIVERSITIES

Prof Dr. Shoab A. Khan
National University of Sciences and Technology (NUST)

ABSTRACT

Covid 19 has forced many universities to explore online learning option to continue their academic activities. Post covid, most of them are reverted to physical class room teaching. Including both public and private sector, Pakistan has 218 universities accredited by the Higher Education Commission (HEC) of Pakistan. Many of these universities are also clustered in big cities like Islamabad, Lahore and Karachi. It is critical for Pakistan that good universities must offer online courses and degrees to outreach every growing population spread across the geographical boundaries of the country. My talk shall discuss the framework for transformation of universities to offer online certificates, courses and even complete degrees. The universities may also offer some of these courses in hybrid or blended mode. Any such transformation requires, thorough comprehension of the teaching techniques, HW and SW to support effective online teaching.

NAVIGATING THE TRANSITION FROM TRADITIONAL TO ONLINE EDUCATION: OPPORTUNITIES, CHALLENGES, AND BEST PRACTICES

Prof. Dr. Asmat Ullah

Dean, Faculty of Computing/ Director, Directorate of Distance Learning, IIUI

ABSTRACT

The ICTTOUM Conference focuses on the theme of online education as a viable alternative to traditional education in today's technological landscape. The keynote speech covers the importance of the theme, advantages and challenges of online education, successful transition practices, and the future of online education. The COVID-19 pandemic has highlighted the need for online education as a viable alternative to traditional education. The presenter believes that online education has the potential to become the primary mode of learning and calls for educators and policymakers to support it. The speech concludes with a Q&A session to allow the audience to ask questions and share their thoughts.

USE OF E-LEARNING INITIATIVES TO IMPROVE STUDENTS' LEARNING

Prof. Dr. Tamim Ahmed Khan
Bahria University Islamabad Pakistan

ABSTRACT

Stunting is associated with an underdeveloped brain, with long-lasting harmful consequences, including diminished mental ability and learning capacity, poor school performance in childhood, reduced earnings and increased risks of nutrition-related chronic diseases, such as diabetes, hypertension, and obesity in future (UNICEF). Stunted students differ from mainstream students as they take more time to learn a new skill and are considered as being low achievers. Stunting is the most prevalent form of child malnutrition and according to an estimate by WHO, 161 million children worldwide were falling below -2 standard deviations from the length-for-age/height-for-age. We investigate the impact of academic achievements evaluation considering local language and curriculum. Online-learning tools provide an effective way to continue the learning process especially using online learning management systems. With the advent of e-learning technologies and digital device, we face a change in student's learning style and behavior. Student's interaction with these e-learning platforms such as LMS, can generate large amount of data that can be studied to find out interesting student learning trends and patterns. Artificial intelligence techniques, such as Process Mining (PM), models students' learning as sequences of interactions and performs statistical information about these patterns. We combine outcome based education with e-learning and observe students behaviors and their interaction styles using LMS, and provide insights on their progress. We critically analyze this data through interaction pattern mining in order to check the impact and effectiveness of outcome based education in online education and propose to use machine learning and deep learning models for students' performance predictions.

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Theme: Needs and Challenges of Online Learning
Paper ID: ICTTUOM-001

THE WORLDWIDE SPREAD OF SMARTPHONE CULTURE FOR DIGITAL LEARNING AND ITS IMPACTS ON PAKISTANI SOCIETY

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ABSTRACT

Under the unbearable and unstoppable forces of the pandemic, the transformation of the international system in the digital world has become an undeniable reality and an irrefutable truth for all states. This transformation has changed the mainstream societal outlooks of the nations due to the worldwide spread of Covid-19. The irresistible worldwide force of coronavirus compelled the states from around the world to adopt a common culture of multileveled social distancing, which has resulted in the digitization of societies across the globe. This scenario has promoted an international culture of smartphone technology in the world and integrated it with the traditional education systems of the states. Thus, the promotion of digital learning in the world disturbed the conventional social structures of the states, including Pakistan. Analogous to various other states, the government of Pakistan was also forced to adopt new means of information communication technology and supported a countrywide digital culture based on different Android Software Applications. In the absence of an effective and active digital monitoring mechanism of Islamabad, the transformation of society in the smartphone culture indirectly promoted cyber malpractices in the student communities of the country. Thus, the central theme of this paper revolves around the idea of digital learning under the shadows of smartphone culture and its impacts on the traditional structure of Pakistani society. It is an academic endeavor to address the role of potential challenges in undermining Islamabad's existing cybersecurity legislative practices at the societal level. The main objective of this research seeks to provide a comprehensive account of different argument validating the worse impacts of worldwide spread of digital culture on Pakistani society. The achievement of this objective made this study qualitative research based on a combination of a descriptive and analytical methods. The quest for maintaining symmetry between the primary and secondary sources of data has led this study towards various online surveys and policy documents of different government departments. The inclusion of online declassified documents and the interactions with the local epistemological communities are also considered primary sources of data in this research. In the end, this research attempted to provide a few recommendations for the government of Pakistan to overcome the persistently growing multifaceted malicious activities of the society in the recently emerging smartphone culture. This research has proved that the smartphone culture has become an essential part of society, and the government of Pakistan needs to develop a comprehensive legislative framework for indigenous digital culture.

Key Words: *Digital Learning, Smartphone Culture, Pakistani Society, Android Software Applications, Education System.*

Theme: *Theme: Adaptation to New Technologies*
Paper ID: *ICTTUOM-002*

ADAPTATION TO NEW TECHNOLOGIES: DIGITAL CITIZENSHIP AWARENESS AMONG DISTANCE LEARNERS

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ABSTRACT

Educational technology acts as a backbone for the development of online and distance learning; digital citizenship is an essential skill all students need to possess. Responsible technology use is imperative for maintaining a safe learning environment and preparing students to be capable users in a technology-enabled workforce. For online education the knowledge of digital citizenship is required. As technology is measured in the 21st century, being a digital citizen one of the existing problems is the carelessness of standards and proper utilization of the internet and technology somewhere else. Students at the entire level are using different devices, such as smart phones, desktops, or laptops to locate information for educational and individual intentions, to mingle, post on blogs or negotiations, and to buy goods from online sellers. This study was intended to assess that how Distance learners aware of digital citizenship and its nine indicators. Major objectives of the current study were; to explore distance learners' familiarity concerning digital etiquette, digital access and digital law, to find out distance learners' understandings concerning digital communication, digital literacy and digital commerce, and to examine the awareness relating to digital rights and responsibility, digital safety and security as well as digital health and wellness in distance learners. This study was quantitative in nature. Population of the study was all distance learners of Sarhad University of Science and Information Technology Peshawar. Sample of the study was B.Ed 1.5 and B.Ed 2.5 distance learners. Stratified sampling was used in the selection of sample. In this study, the self-developed instrument was applied for the collection of data. Data were analyzed through SPSS where Percentage and frequency were used as statistical tools. The data were presented in the form of tables. The major results of the study were; Majority of the respondents agreed about digital access, digital communication, digital etiquette, digital law and digital literacy, while majority of the students have less knowledge and awareness about digital health and wellness, digital rights and responsibilities, digital safety and security and digital commerce.

Keywords: *Digital, distance, safety, stratified, learner*

Theme: Adaptation to New Technologies
Paper ID: ICTTUOM-003

EFFECTIVENESS OF DISTANCE EDUCATION DURING COVID-19 AT HIGHER EDUCATION: PERCEPTIONS OF STUDENTS

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ABSTRACT

In the present era of information technology, distance education or online education has been referred to as the method of content dissemination and quick learning technique. Distance education is a key component of education in the 21st century. The birthplace of distance education is the United States of America (USA) and then expanded over worldwide after 1998. The main purpose of this study was to investigate the effectiveness of distance education during COVID-19 at higher education and perceptions of students. This research was conducted to achieve objectives which were: to study the students' perceptions of effectiveness about distance education during the outbreak of COVID-19 at the higher education, to find out the effect on students perceptions about effectiveness of distance education during the outbreak of COVID-19 at the higher education, and to determine different problems faced by students of distance education during the outbreak of COVID-19 at higher education. The quantitative research approach was used to analyze this research study and the population of the study was comprised of 153 students of BS level Fall Semester 2021 at Faculty of Social Sciences, National University of Modern Languages Islamabad. The sample has been collected through Universal Sampling techniques. Closed-ended five points Likert Scale questionnaire was used to collect data from the selected population. The reliability of the instruments was checked through Cronbach's Alpha which was 0.81. Data were collected through online Google survey forms. Collected data were analyzed through specific statistical software, IBM-SPSS (Version 23). The Frequency and Percentage techniques were used to analyze the data. The results were obtained in the form of tables. The final results showed that respondents had positive perceptions about distance education and it may be continue, respondents indicated the issue of non-availability of distance learning resources and gadgets and these may be provided. Poor internet connection, load shedding, lack of social interactions during distance learning and health risks were also identified in the finding and these may be countered by proper planning.

Keywords: COVID-19, distance, perceptions, effectiveness.

EFFECTIVE STRATEGIES OF BLENDED LEARNING

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ABSTRACT

Blended learning is a combination of both online and in-person instructional methods. It uses both technology and traditional mode of teaching and learning. It is also known as hybrid learning, mixed-mode instruction, technology-mediated instruction, or web-enhanced instruction. It is the integration of technology and digital media with the typical instructor-led classroom activities. It provides flexible and dynamic learning experiences. It makes learning more productive through engaging students and allowing personalisation. It motivates students for learning. Different blended learning models are being adopted and accepted nowadays because of their flexibility. There are many models of blended learning such as face-to-face driver model, Gamification, a la carte model or Self-Blend Model, Flex Model, Rotation Model, Online-Lab Model, Online Driver Model, Enriched Virtual Model or Remote Learning, the 'Flipped Classroom' Blended Learning, Project-Based Blended Learning, Inside-Out Blended Learning, Outside-In Blended Learning, Supplemental Blended Learning, and Mastery-Based Blended Learning. Blended learning helps in teaching and provides opportunities to learn in a better way. There are many benefits of blended learning that include flexibility, efficiency, cost-effectiveness, student success, collaboration, personalised learning, multiple learning styles, networking, and so on. The objective of this research study is to trace out effective strategies of blended learning. It is a qualitative study using interpretivist paradigm and document analysis as a research method. The phenomenon under study is reviewed and interpreted through documents such as research articles, journals, research reports, books, encyclopedias, literature reviews, and others. The study reveals a variety of effective strategies of blended learning that can be used by the teachers in their classrooms. Effective strategies of blended learning may involve collaborative learning, Max Out Media, including diverse media, using multiple types of instructional materials, keeping traditional teaching methods, incorporating technology for reinforcement, trying digital curriculum, project-based approach, game-based learning, online work, structured work, gradual approach, reflecting and setting goals, using tools for mobile learning, and the like. A teacher can use a variety of blended learning models for instance gamification, self-blend, rotation, flex, face-to-face, and others for the best teaching practices. This study is noteworthy from the viewpoints of education, instructional technology, teaching strategies, distance education, online education, E-Learning, pedagogy, teacher training, electronic media, policy making, curriculum development, and so on.

Key words: *Blended Learning, Strategies, Teaching, Online Learning, In-Person Instruction*

Theme: Needs and Challenges of Online Learning
Paper ID: ICTTUOM-005

ONLINE LEARNING: CHALLENGES AND SOLUTIONS

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ABSTRACT

Online learning is the need of the interconnected and digitized world of the 21st century. There are many advantages of online learning such as flexibility, enhanced access and convenience to courses, interactive learning environment, an extensive range of audience, incentives for teachers, increased student retention and satisfaction rates, and many others. Online learning allows students to take courses in a supportive and convenient environment. Through online education, it is possible to connect the people across the world and in this way education becomes more widely available to a large number of learners. Many challenges are also there in online learning as faced by the teachers and students. For effective use and application of the online learning these challenges need to be addressed. The purpose of this research is to find challenges in online learning and suggest solutions to meet these challenges. It is a qualitative study using interpretivist paradigm and document analysis as a research method. Documents such as articles, journals, books, thesis, internet sites, encyclopedias, and the like containing the information about the phenomenon under study are reviewed and interpreted. The concerned phenomenon of online learning is analysed and assessed in the light of information provided by the documents to find out challenges in online learning and their solutions. Challenges in online learning include digital literacy, technical issues, infrastructural problems, time management, lack of interaction, online distractions, self-motivation, disabilities and special needs, adaptability struggle, lack of instant communication, not receiving timely feedback, assessment challenge, infrastructural problems, course structure and quality, and so on. Solutions to these challenges in online learning involve technical support, a reliable internet connection, wise use of time, stay positive, utilizing educational technology (“EdTech”), increased peer review, providing clear grading rubrics, and the like. Online learning is good but face-to-face learning has its own value. Many subjects like Mathematics, General Science, Physics, Chemistry, Biology, Geography, Computer Science, Environmental Studies, Social Studies, Economics, and others can be best taught in the traditional classroom settings. Online learning can be best used by resolving challenges in its way and getting the maximum output through it. This research study is significant from the perspectives of e-Learning, educational technology, curriculum development, teaching strategies, educational psychology, educational administration, policy making, and the like.

Key words: Online Learning, Challenges, Technology, Motivation, Feedback

Theme: Needs and Challenges of Online Learning
Paper ID: ICTTUOM-006

COLLABORATIVE CLASSROOMS IN ONLINE DISTANCE LEARNING EDUCATION: CHALLENGES AND FUTURE DIRECTIONS

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ABSTRACT

Collaborative learning environment is one of the important aspect of teaching learning process. The concept of teaching has been shifted from teacher cantered to student cantered in 21st century and learning environment become the matter of concern for educators. Similarly, Covid-19 has created a major innovation in teaching learning process and majority of the institutions has been shifted to online mod of teaching. The objective of this study was to find out the opinion of teacher educators about the collaborative learning classrooms in online distance learning mod. It was also under the study that what type of challenges in collaborative learning the teachers face while teaching through online distance mod of teaching. For this purpose, 100 teachers were selected for this study through purposive sampling from those universities of Islamabad who were offering programs on online distance mod. A questionnaire was distributed among theses teachers and data was collected. The findings of the data revealed that it is one of the big challenge for teachers to create collaborative learning environment in online distance learning mod of education as the teachers are not fully equipped with the digital skills for teaching at this mod. The study recommended for in-service teachers training about using digital technology for teaching on online distance mod of learning.

Key words: Collaborative learning, teachers, online distance learning, challenges.

Theme: Needs and Challenges of Online Learning
Paper ID: ICTTUOM-008

ONLINE TEACHING AND RESEARCH DURING COVID-19 PANDEMIC

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ABSTRACT

COVID-19 outbreak has caused a downward spiral in the world economy and caused a huge impact on the higher education system. The sudden closure of campuses as a social distancing measure to prevent community transmission has shifted face-to-face classes to online learning systems. Exploring the capacity of this sector to adapt in the state of uncertainty has become more significant than ever. Drawing on the experience of teaching. the Research Methods and Techniques subject during lockdown, this has thrown the focus on utilizing eLearning tools and platforms for effective student engagement which may have limitations of accessibility and affordability for many students. The pandemic has exposed the shortcomings of the current higher education system and the need for more training of educators in digital technology to adapt to the rapidly changing education climate of the world. In the post-pandemic situation, the use of eLearning and virtual education may become an integral part of the higher education system. The higher education institutions and universities need to plan the post-pandemic education and research strategies to ensure student learning outcomes and standards of educational quality. We argue that it is critical to move beyond fixed pedagogical frameworks to harness the productive capacities of adaptive teaching. There are multiple factors that help in enhancing remote learning. These factors include getting feedback from students, offering flexible teaching and assessment policies. Recording online lectures and getting support from teaching assistants are also vital features. These instructional strategies will serve as an excellent tool in running online classes.

Key Words: *E learning, Covid-19 Pandemic, Teaching Technique*

SHIFT OF TRADITIONAL EDUCATION TO ONLINE LEARNING

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ABSTRACT

Technology is the one thing that ensured the continuity of education and facilitates the learners to a greater extent. The shift of education from on-campus routine to online learning, during lockdown has affect the student learning experience at university level. Students and teachers were forced to go online, as not having any other choice in order to continue with their learning. In this paper, the research has been done on the students toward their attitude from face to face to online education mode. Last year, students from Air University of Islamabad were asked to complete a questionnaire. The answers were at various levels from positive way of discovering the new study methods to very negative where the education has lost and they were referring to leave studies. The idea of moving from traditional style of teaching to modern way has proved the dilemma of human ability to shift from one way to another way in no time. The demand of learning E- technology within days to continue the mode of study has opened new way of techniques for teachers and students. In this paper the idea is to draw a complete picture of ongoing online teaching-learning activities and how students have taken it during the lockdown period including establishing the linkage between change management process and online teaching-learning process in education system amid the COVID-19 outbreak. This paper also discussed the transformation of ideas for students. Almost half of the targeted students were in the favor of both online and on-campus education system and expressed their preference for mixed learning. This paper gives a full picture that how digital technologies has provide flexible and active educational opportunities where many students are open to learning experience despite missing traditional approaches to study.

Key words: Covid-19, Online Education, Study Methods, E-Technology, University Students

Theme: *Communication Challenges in E- Learning during COVID-19*
Paper ID: ICTTUOM-011

CHALLENGES FACED TO ONLINE EDUCATION & LEARNING IN PAKISTAN DURING COVID-19 PANDEMIC

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ABSTRACT

The objective of this research is to uncover issues that online learning and education in Pakistan during the Covid-19 pandemic encountered by teachers and students. The social, economic, and political systems around the world have all experienced COVID-19 as anightmarish. In Pakistan, one of the most damaged sectors is thought to be education. The developed nations have already switched from traditional classroom settings to online learning environments, while Third World nations like Pakistan were most negatively impacted because they lacked the necessary technology for online learning at any point during the COVID-19 pandemic. There have been several difficulties in getting teachers and students to adopt new technology. The study focuses on the sample society, which consists of students, teachers, and administration from all departments at the six universities in Lahore City that are the subject of the study. The researcher used triangulation in order to carry out the reliability and validity of the data for results. In this study, closed- ended questionnaires were used in a mixed-method research design. In order to conduct triangulation, the researcher issued a polling survey to students (475), a questionnaire to teachers (25), and the management in addition to conducting management interviews (19). This study offers advice to online teachers in Pakistan on how to overcome their difficulties. The results show a negative attitude toward faculty members using online learning environments for teaching and learning. The difficulties faced by faculty members prevented them from providing effective teaching and learning. Faculty members also needed extensive expertise in teaching online and were not provided the right training to deal with the technical difficulties. This study will assist educators in improving the quality of online teaching in Pakistan by identifying suitable solutions and suggestions by exploring the experiences and difficulties faculty members have with online education and learning.

Keywords: *Online Education & Learning, Pakistan, Covid-19 Pandemic, Online Teaching & Learning Challenges*

**CAPITALIZING THE UNCERTAINTY: DYNAMIC CAPABILITIES, BLENDED LEARNING
ADOPTION, AND COMPETITIVE ADVANTAGE OF BUSINESS SCHOOLS**

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ABSTRACT

Based on the theory of dynamic capabilities, this research examined how and when business schools' dynamic capabilities turn uncertainty into opportunities for sustainable competitive advantage in a rapidly changing global environment by facilitating efficient and effective integration of emerging technologies in teaching-learning activities. The currently most appreciated approach of blended learning adoption has been examined as a mediator in this context. The industry uncertainty was tested as a moderator of the link between dynamic capabilities and blended learning adoption. A cross-sectional quantitative design was used to conduct this correlational study and draw causal inferences based on the proposed hypotheses. The population for this study consisted of Deans and Directors (the managers) of over 225 business schools under the administrative control of HEC recognized public and private sector universities in Pakistan. Organizational-level data was collected from a sample of 118 Deans and Directors during their participation in the 9th Deans & Directors Conference held by the National Business Education & Accreditation Council (NBEAC) of Pakistan on 14-15 March 2022 at Marriott Hotel, Islamabad. The structural equation modeling-based path analysis has been performed using Smart PLS software to examine the proposed model. Results indicated that dynamic capabilities promote sustainable competitive advantage of business schools via the adoption of a blended learning system. The industry uncertainty showed a negative direct association with the adoption of blended learning but strengthened the positive effect of dynamic capabilities on adopting a blended learning system. It reveals that business schools with high dynamic capabilities will thrive on gaining a sustained competitive advantage during times of high uncertainty. The findings offer evidence-based insights for business school managers about what facilitates the effective implementation of blended learning and how it could affect the organizational competitiveness and bottom line during uncertain times. Results also offer significant value for the key stakeholders of higher educational institutions, i.e., policymakers, administrators, academicians, students, and the industry, who may aspire to implement blended learning to compete in the emerging, uncertain, and challenging global education industry. The theoretical, practical, and social implications of these findings are critically discussed

Keywords: *Blended learning, dynamic capabilities, business schools*

EFFECT OF ONLINE MATHEMATICS RESOURCES ON ACADEMIC ACHIEVEMENT AT SECONDARY LEVEL

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ABSTRACT

Progress in this world can be made by raising quality of education. Academic activities are shifted to online resources which are the only tools for students to continue their educational process. Government of Pakistan has taken an initiative to raise the standards of education by introducing the use of technology in the government institutions of Islamabad. The objective of this study was to find the effect of online mathematics resources on academic achievement at secondary level. A quasi-experimental design was used. The design of study was pre-test, post-test, non-equivalent control group in which two groups were selected, one was controlled group and other was experimental group. Experimental group was given a treatment of six weeks by using technology which included multimedia, videos in English and Urdu languages, quizzes, and games. Convenience sampling technique was used for the selection of sample. A sample of 60 students of grade 10 was selected. Each class of experimental group and controlled group comprised of 30 students. Mathematics was selected as a subject of study. Instrument used for collection of data was pre-test and post-test. Same test was used for pre-test and post-test. The test was validated by the experts of Allama Iqbal Open University Islamabad, Pakistan. The reliability of test was determined by Kuder Richardson's (KR-21) formula. The research tool was pilot tested on random population other than sample of study. Kuder Richardson's value calculated by using formula was 0.748. The results of experiment showed that the mean scores of students in post-test which were taught by using technology were significantly higher than those taught by using traditional method. Adequate access to technology should be provided to teachers and students. Proper training and refresher courses of teachers should be organized time to time. It was recommended that for educational purposes technology should be used at government level in all government institutions in an effective way.

Keywords: *online resources, mathematics education, academic achievement*

CRITICAL ANALYSIS OF THE USE OF MULTIMEDIA AND OPEN EDUCATION RESOURCES

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ABSTRACT

In this knowledge concentrated environment, future of education greatly depends on the meaningful and cognitive use of technology. Multimedia is an extraordinary technological tool used in the teaching learning process. It is the combination of a variety of media including audio, video, graphics etc. In our classrooms multimedia is the use of technology for the sake of technology. Which is the passive use of technology without generation of new knowledge and skills. However, both students and teachers use multimedia without taking into account the basic principles of multimedia theory, information processing theory and cognitive load theory of learning. This results in increased cognitive load of students which is a big hindrance in the processing of information in working memory, as a result no deep learning and understanding of concepts will takes place. On the other hand (OERS) or open education resources such as Moocs, Moodle, Khan Academy etc., providing online learning material which is assessable to both teacher and students. Moreover, OERs are available 24/7 and anyone can access, anytime, anywhere base. Furthermore, these are free of cost and there is no copyright restriction. Copy right which was a big issue of web 1.0 is now successfully resolved by web 2.0. So, the challenge is the credibility and reliability of OERs. Objective of this paper is To Critically analysis the use of multimedia and open education resources, to explore the effectiveness of multimedia in teaching learning process, to explore the various aspects of open education resources and their effectiveness in education and to give the educational implications of Multimedia and OER for further improvement of teaching learning process. Through intensive study of literature ten out of fifteen articles from 2001-2019 on the same theme will be analyzed. It was concluded the effectiveness of multimedia and OERs can be enhanced by proper training and workshop. Training regarding the use of these ICTs should be mandatory for both students and teachers . Keeping in view theories and philosophies of digital learning tools. Moreover, separate funds for government and private sectors should be allocated for the implications of these technologies. Government should make sure the availability of high-speed internet facility in both rural and urban areas of Pakistan. Care should be taken while using multimedia, number of slide should be less and not overloaded with too much text. In addition, teachers should also make students aware about the authentic open education sources.

Key words: *digital learning, multimedia, OERS, multimedia theory, web 2.0*

Theme: Best Practices in Online Learning
Paper ID: ICTTUOM-016

INVESTIGATION OF TEACHERS' PRACTICES FOR STRENGTHENING DIGITAL LITERACY SKILLS IN ONLINE LEARNING

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ABSTRACT

Regarding the global scenario because of the pandemic, the world is moving towards virtual. The need for digital literacy is inevitable. Therefore, this study aimed to investigate teachers' digital literacy skills and practices for strengthening digital literacy skills in online learning. This study had three research objectives: to assess the level of digital literacy skills of the teachers; to investigate teachers' practices to strengthen digital literacy skills in online learning and to discover the hindrances in strengthening the digital literacy skills of the teachers. This study was quantitative and descriptive. Researchers implemented a survey technique to collect the primary data. All male and female teachers teaching at the secondary school level in the Faisalabad division were the population. A sample of four hundred fifty teachers was selected through a simple random method. Researchers developed a questionnaire based on a five-point Likert scale was used to collect the primary data. Before the execution of the questionnaire, the validity was ensured by experts' opinions, and reliability was confirmed by pilot testing. The questionnaire's reliability occurred as ($\alpha=.82$). After data collection, the same were analysed in SPSS, and statistical tests like mean scores, standard deviation, and t-tests were carried out. Based on data results, it has been revealed that teachers had a moderate level of digital literacy skills, a moderate level of practice for strengthening digital literacy skills in online learning, high level of agreement towards the hindrances in practicing digital literacy skills in online learning. Furthermore, this study also discovered an important positive relationship between teachers' practices and strengthening digital literacy skills ($r=.761$). Moreover, this study revealed that male teachers had better practices and digital literacy skills than female teachers.

Keywords: Practices, Digital Literacy skills, Secondary teachers, Online learning.

Theme: Blended Learning
Paper ID: ICTTUOM-017

**ESTABLISHING RELATIONSHIP BETWEEN BLENDED LEARNING, MOTIVATION LEVEL
AND MENTAL HEALTH OF UNDERGRAD STUDENTS IN PRIVATE SECTOR
UNIVERSITIES OF LAHORE**

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ABSTRACT

The study focuses on finding out the cause and effect relationship between blended learning mode, students' motivation and mental health. The pandemic situation of COVID 19 forced the higher education institute to opt for online or blended teaching learning mode, since the student were not habitual of such activity before, so it was observed that they had certain issues regarding motivation level and their stress/mental health. Research objectives were further transformed into Null and Alternative hypotheses based on gender and semester of the respondents. For this study a causal comparative (ex-post facto) research design is used. Data was collected using motivation and mental health scales from 106 students of various undergraduate programs of private sector university. The reliability of the tool was .812. The tool consisted of 30 items and 3 sub scales. Validity was established by expert opinion. Data was collected in person and online using google docs. The link was shared via social media. Later it was analyzed using descriptive and inferential statistics. Using Pearson Momentum correlation, the results showed that students found themselves motivated ($r = .586$) during a blended course. Students agreed that blended learning was an effective approach, and lastly students believed that their mental health was affected ($r = -.432$) during a blended course. The study recommended courses/training for students for managing their mental health and stress while blended learning classes. The study also recommended to find the perception of teachers regarding blended learning considering the same factors so that improvements can be made in their teaching strategies.

KeyWords: *Blended Learning, Higher Education, Motivation, Mental Health, Relationship*

EFFECTIVENESS OF ONLINE LEARNING AND FACE-TO-FACE TEACHING PEDAGOGY

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ABSTRACT

The study report indicates that online education's demographic profile and attributes play an important role in making online teaching more competitive. Online learning has given students the ability to have a free conversation without fear of the environment of the classroom. The following are the areas based on which the issues of the Need for Technological Upgradation of Hardware and Software, Increase in Evaluation, and Lack of Differentiation in Teaching Strategies affect the efficacy of online teaching. The emphasis on making online teaching an efficient teaching platform depends on the availability of state-of-the-art technical features of systems and software that both students and teachers can run. The study offers new insight into the need for online teaching for students who have a prevailing view that online teaching provides them with various advantages. Face-to-face learning is an instructional method where course content and learning material are taught in person to a group of students. This allows for a live interaction between a learner and an instructor. It is the most traditional type of learning instruction. The teaching methods such as tutorials, workshops and seminars can be used for smaller groups; in general these require students to be more interactive it focuses on several elements, including lectures, capstones, team projects, labs, studios. Face-to-Face Instructional Strategies are case study analysis, debates, demonstrations, games, group collaborative project, in-class writing and mini-lecture. Data were collected via semi-structured interviews, classroom observations, questionnaires, and focus group discussions. All data were analyzed for patterns that might offer insight into the problems tutors and teacher-learners were facing as they worked through the Classroom Action Research module and tutorial. The research team identified several problematic aspects of each course, including excessive lag time between the first and second courses, insufficient examples of model classroom action research projects, a lack of supervised practice of action research techniques, variability of tutorial quality, and a mismatch between course assessments and the content and purpose of the courses. While the findings of this study focus primarily on two courses offered by UT, they offer insight into the challenges of providing in-service teacher development via distance education in the Indonesian context. Using the Chi-square test, rotated component matrix, standard deviation, mean, range, variance, Kaiser-Meyer-Olkin (KMO) and Bartlett's test, rotated component matrix, and demographic profile analysis and online learning attributes, the study also provides a comparative analysis. The report provides scope for future research as well.

Key Words: *Distance Learning, Classroom Action Research, Teacher Professional Skills*

BLENDED LEARNING AN INNOVATIVE CHALLENGE: PERCEPTION OF UNDERGRADUATE STUDENTS

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ABSTRACT

Blended Learning is blend of online learning activities, pedagogical methods and instructional technologies with face to face teaching. It is a unique approach to impart knowledge and skills and it enhances interaction, understanding and involvement of students and teachers in the learning process. This is now globally, recognized teaching pedagogy in all kinds of higher education institutions and an innovative challenge of 21st century specifically during pandemic period. The purpose of the study was to investigate perception of undergraduate students about blended learning. This was a descriptive research in which a survey was conducted by using structured questionnaire. Objective of this research study was to investigate the perception of students about advantages and challenges of blended learning. The sample of the study was 50 undergraduate students, randomly selected from the target population of a public university of Pakistan. The data was collected online and it was analyzed by descriptive statistical analysis. From the findings it was concluded that students perceived digital illiteracy, Internet connectivity, technical problems, frustration, social isolation, lack of technical support service and access to personal devices as limitations of Blended Learning. The students appreciated Blended Learning as it developed computer skills , communication skills, provided easy access to authentic resources, timely feedback from instructors and enhanced their confidence .It was recommended that by opening more computer laboratories with provision of technical support services and regular training of students from the university would overcome limitations of Blended Learning.

Key Words: *Blended learning, undergraduate students, limitations, advantages, perception, technical support services, communication skills*

Theme: *Blended Learning*
Paper ID: *ICTTUOM-020*

EVALUATION OF BLENDED LEARNING APPROACH FOR TEACHER TRAINING PROGRAMS

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ABSTRACT

This study focuses on evaluation of blended learning approach for teacher training programs. The purpose is to ensure instructional quality, effectiveness and efficiency. The study was based on the following objectives: To find out the current practices of blended learning approach for teacher training programs at International Islamic University, Islamabad, to investigate the problems faced by educators and students with respect to blended learning approach in distance education and to find out the strength and weaknesses of blended learning approach for teacher training programs. The study was based on the following research questions: What are the current practices of blended learning approach for teacher training programs at IIUI? What are the strengths of blended learning approach for teacher training programs? What are the major problems teachers of teacher training programme regarding blended learning approach at IIUI? What are the major problems of students of training programme regarding blended learning approach at IIUI? Qualitative and Quantitative stately was used, The present study was delimited to Directorate of Distance Education, International Islamic University Islamabad. A mixed methods approach was used for this study. The population of the study comprised of 12 faculty members and 124 students of Directorate of Distance Education IIUI. Census sampling technique was used in the selection of sample. A questionnaire was developed on a five-point rating scale for students. The focus of instrument was on the following points: current practices of blended learning approach, students' academic outcomes, student's conceptual understanding and knowledge construction. A structured interview was conducted to get views of the faculty members of Directorate of Distance Education. The focus of structured interview was Professional development, teacher satisfaction, and delivery of instruction, blended learning design features and strength and weaknesses of blended learning approach. Research tools were validated through experts and Cronbach Alpha test before administration. The researcher used SPSS programme for analysis of data. Statistical calculations like percentage and mean were used to gauge the frequency and tendency of the students. The data of academicians collected through structured interview was transcribed qualitatively. On the basis of findings, it was concluded that Blended learning is highly effective in teaching learning process. It offers great opportunities to teachers as well as students to remain in contact. It improves the overall capacity of students and teachers.

Keywords: *Evaluation, Blended Learning, Approaches, Learning, Effectiveness*

CHALLENGES OF THE ONLINE EDUCATION SYSTEM, IN THE CONTEXT OF PAKISTAN'S PRIMARY EDUCATION SYSTEM

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ABSTRACT

The effects of the rapid development of technology can be seen in every sphere of life, especially in the field of education, its impact is distinctive from all other fields. Among all other types of technology, the significance of educational technology has exponentially increased due to its direct link to education in the modern age. The idea of a traditional education system has completely changed over the past few years, this phenomenon can be observed after the global outbreak of the coronavirus pandemic in the form of an online education system. Moreover, like all other countries, this global outbreak had a massive impact on Pakistan, where the education sector was more affected as compared to other sectors. The majority of the country's population comprises villages and rural areas, where technology is almost non-existent, which makes them deprived of the emerging online learning system. This deprivation can be seen in schools mostly at the primary level, where even the basic necessities are not met, then providing modern systems of acquiring education would be extremely unfathomable. Hence, whilst making education policies, it is tremendously important to take special notice of these requirements. Therefore, the sole purpose of this study is to analyze the challenges of online learning systems at primary-level education in Pakistan. The article opts for a qualitative research method including semi-structured interviews with primary-level teachers from 10 schools in Karachi and Islamabad, and we have also opted for a secondary method of collecting data i-e, through previously written articles and research papers on the given topic. The study would conscientiously conclude to indicate the importance of modern techniques of education for future developments and requirements to solve such educational problems in schools at the primary level.

Keywords: *Online Education, Primary Education, Technology*

INVESTIGATING THE ONLINE LEARNING CHALLENGES DURING THE COVID-19 PANDEMIC: A CASE STUDY

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ABSTRACT

Every facet of society has been impacted by the COVID-19 pandemic. To stop the virus from spreading, governments all around the world temporarily transferred physical classes online, which has created significant disruption to the global education system. The main objective of the study was to highlight the challenges faced by students during Covid-19 in learning at the university level. For this, students of the university of education Attock campus were selected randomly. The study design was descriptive. The population of the present study consisted of students who were taking online classes at the university of education Attock campus. A sample of 200 students was drawn. The technique of simple random sampling was used for this purpose. A self-developed questionnaire for teachers was used to collect data. Frequency tables were used to represent the findings. The results of the research indicated that the students faced a lot of problems during online learning. These included challenges related to technical, economic, learning environment, learning resources, and physical and mental health challenges. Based on the findings, it may be recommended to introduce a course relate to the usage of information technology or conduct special training before online classes. Not all educators and learners have access to all digital apparatus, Wi-Fi, and the Internet. The availability of appropriate digital modes, internet connectivity, or Wi-Fi connectivity connection can be very bothersome, affecting numerous learners to miss out on learning chances. Administrations must make a struggle to confirm that every learner uses the required resources. Students should make sure that all learning applications work on smartphones if they do not have a laptop. Teachers can present lessons in a variety of formats, meaning they can use video, audio, and lessons. It is beneficial for teachers to get quick feedback on their lectures with video lectures, computer-generated meetings, and so on and to maintain an individual relationship with the learners. Training and orientation programs on online teaching and learning tools and tactics may also be delivered regularly so that students, teachers, and staff can have a better understanding of the various components and intricacies of online education. Therefore, steps must be taken to diminish the digital difference. Further studies may be conducted to assess the challenges faced by college students, teachers, and administrators.

Keywords: Challenges, Covid-19 Pandemic, Online learning, university level, students' perception

ADAPTATION TO THE MODERN PEDAGOGY FOR SUSTAINABLE EDUCATION

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ABSTRACT

It is about time to change the conventional methods of teaching, in higher education, associated with objectivism, behaviorism, and transmittal models. There is a growing global interest towards teaching methods and their affect upon the achievement of learning outcomes and student's emotional development. This study examines the students' response to the 21st century pedagogy techniques and the importance of pre and in-service trainings for the faculty members in higher education. The three teaching learning techniques; Project Based Learning (PBL), Interactive Learning (IL) and presentations in Assertion Evidence (AE) method are implemented. The sample of the research study includes students from the department of Art and Design, Shaheed Benazir Bhutto Women University, Peshawar. The student's response towards the modern learning methods, PBL, IL and AE, is explored. The students' performance is evaluated through designing and presenting digital posters on the Sustainable Development Goals (SDGs). Students with domestic, physical and mental health issues are facilitated through blended mode of learning. The data on the response from the students was collected through a well-designed questionnaire. The data reveal that most of the students are adapting well and are enthusiastic about the active learning experience. The results reflect an agreement to the shift in pedagogy. Implementing the new learnt techniques is interesting and can be overwhelming at times. The students find it engaging and seem to enjoy the process. From the study demonstrates that the modern teaching learning techniques, may be adopted for active learning, as it produces problem solvers and creative critical thinkers. Moreover, the teaching and assessment methods must be actively engaging to inculcate the 21st century competencies in students and to achieve the four C's i.e Critical thinking, Communication, Collaboration and Creativity. The student-centered approach is helpful achieving the sustainable education goal. Being a part of 21st century pedagogy training as a trainee and a master trainer it has been a realization of urgent need for in-service professional development catering the needs of mainstream practitioners. The faculty is avid about a shift from conventional classroom. The trainings provide an active knowledge and experience sharing platform, based on individual and shared experiences many thought provoking gaps emerge providing a way forward to the faculty.

Keywords: *Project Based Learning, Sustainable Development Goals, Interactive Learning, Blended Learning, Assertion-Evidence.*

COMPARING PERCEIVED MOTIVATION LEVEL OF UNIVERSITY STUDENTS DURING ONLINE AND FACE TO FACE ASSESSMENT

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ABSTRACT

The face of education is changing due to the quickly evolving nature of technology innovation, which has an influence the whole teaching learning process of the students. The use of technology in the classroom increases student motivation. Due to the technological innovation traditional classroom environment is changing from an engaging and comfortable environment to the virtual mode, which has brought a number of changes, it includes the change in teaching concepts, teaching methods, and students' assessment. This research describes difference between students motivation during online and face to face formative assessment. In the present times formative assessment has gone online from face to face mode due to COVID-19. Although online teaching and learning mode was adopt during the COVID – 19 but it is necessary to investigate the difference between online and face to face formative assessment and its role in students' motivation. The study tried to find the difference between the students' level of motivation during face to face and online formative assessment in terms of gender, institution and academic qualification. The study used researcher made motivation scale with alpha reliability of .891to find out level of motivation during the formative assessment. 270 undergraduate students were sampled using cluster sampling technique. Data was collected through online and in person by the researchers. Both descriptive and inferential statistics were used. Results of the study showed that there is no significant difference among students level of motivation and formative assessment through face to face and online mode in term of gender, institution and academic qualification. Overall results indicate that the students motivated during the online formative assessment. The study recommends training for faculty to engage and motivate students in face to face formative assessment.

Keywords: *Assessment, online learning, face to face learning, higher education*

Theme: Needs and Challenges of Online Learning.
Paper ID: ICTTUOM-027

ONLINE EDUCATION: ISSUES AND CHALLENGES

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ABSTRACT

The education system and its tools have greatly experienced a big shift by the practical application of online systems not only for educators but also for learners. Researchers have paid heed to this issue in their recent studies and have illustrated the issues in online courses. In-depth literature review using qualitative approach helped to find different issues in online education. The objectives of this study were to pen down the implementation barriers and problems faced by the instructors in developing strategies and learners getting familiar with the new era of education. The issues of students are related to the presumption, access, preparedness, and participation in online courses. The demonstrators have issues in adopting a different teaching methodology, designing the content, and incorporating multimedia in their lessons. The required data for this study was selected through secondary sources in particular scientific literature and articles published in professional magazines and selected journals. To sort out all these issues in online education, there is a dire need that institutions to develop a proper framework for the teachers and learners and provide authentic facilities for multimedia integration in their teaching methodology.

Keywords: *Instructors, Learners, multimedia integration, online education adoption*

ROLE OF CONCEPT MAPPING STRATEGY AS AN E-LEARNING STRATEGY ON LEARNER'S RATIONAL THINKING

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ABSTRACT

The pandemic caused a paradigm shift of traditional schooling to e-learning. Today amplified knowledge has evoked a debate on the ways of transmitting and sharing information within the distance mode of learning. When any nation is in need to shape its youth's meaningful learning and thinking, then it has to realize the need of a teaching-learning strategy which based on constructivist approach for effective learning outcomes. The present research aims at a pedagogical strategy that helps in nurturing e-learners' rational learning and thinking. The main objective of the research was to investigate the role of concept mapping strategy on the rational learning and thinking of students at undergraduate level. The study was descriptive in nature and survey method was used to analyze the objectives of the study. The undergraduates enrolled in different departments of the University of the Punjab were the target population of the study. Non-random convenient sampling technique was used for the selection of the sample. The research instrument i.e., questionnaire constructed and was validated by the experts. Its reliability was recorded as 0.72. Data was analyzed by using both descriptive statistics (frequency, mean and percentage) as well as inferential statistics (independent sample t-test and one-way ANOVA). The findings of the study revealed that concept mapping strategy had a positive impact on the critical thinking and conceptual learning of students during online education. This ultimately lead to an improved quality of online education. Moreover, the findings highlighted the recommendations for educators, administrators and learners to improve the online system of learning by implementing learner-centered constructive approaches in order to develop logical and creative thinking of students. The goal of this paper is to help the e-learners to develop their proficiency in self-learning strategies during distance learning.

Key words: *Concept Mapping Strategy, e-Learning, Critical Thinking, Meaningful Learning, Distance Learning, Constructivist Approach*

VIEWS OF UNDERGRADUATE STUDENTS ABOUT FACTORS AFFECTING STRESS RELATED TO WORKLOAD AND EXAMINATION DURING ONLINE LEARNING

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ABSTRACT

Stress is a common issue that almost all of us experience at some point in our lives. Academic stress is a serious concern for university students because it can harm their health and future. Examination period, excessive workload, and assignments required a lot of readings, writing and deadline to meet for submission. These are the most stressful causes during online learning. The research was carried out through quantitative survey approach to observe views of undergraduate students about the stress related to students' workload and examination during online learning. Total 510 undergraduates were selected as a sample from 17 departments of the University of the Punjab. The questionnaire was self-developed by the researcher. Its reliability was established as 0.73 and its validity was ensured through experts. The convenient sampling technique was used to gather the data. Both descriptive (Mean and percentage) and inferential statistics (independent sample t-test, one-way ANOVA) were employed to analyze data. The most frequently reported factors contributing to stress were exam anxiety, extensive course loads and duration of exams. It was also reported that most students had poor knowledge of examtaking and anxiety-reduction. The fear of course failure, uncertainty about future, and work overload were among the perceived sources of stress among undergraduate students during online learning. Moreover, it is recommended that the university should set up programmes that can help students to recognize and minimizing the effects of academic stress among students to enhance their academic performance during online learning.

Keywords: *Academic Stress, Academic Workload, Examinations, Online Learning*

USE OF ICT TOOLS AND TEACHER COMPETENCIES AT SECONDARY LEVEL SCHOOLS

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ABSTRACT

In the present era, ICT takes part in a crucial role in developing all fields of life. ICT has deep roots in the education field, and it is equally vital in the academic and management side (Uibu & Kikas, 2008). In this new world of technology, our children are familiar with computers, mobile, and the internet. So, there was a need to study and observe the practices and competencies in our school education. Computer teachers (IT teachers) were appointed in secondary schools to teach the subject of computer science. The provincial government of Khyber Pukhtunkhwa took the initial step to integrate ICT in public sector schools in 2016. In this regard, public secondary schools of Khyber Pukhtunkhwa were provided with 1496 Computer labs. It was a significant step in the field of Information technology at school level education. The motive of this study was to identify the usage of ICT and perception about teacher competencies in public sector schools. The study included the public sector schools of District Swabi. The population of this study was both Girls and Boys public secondary schools of district Swabi. A sample of 100 IT teachers and 100 school heads was selected randomly. This research was descriptive in nature. A questionnaire was developed for IT teachers. Data were collected through the questionnaire and was analyzed through Spss. Most teachers believed technology could greatly improve school instruction. Technology-based instruction intrigued most responders. ICT boosts KPK public school enrollment. Computers, database management, word processing software, and internet browsing are required for extended teacher education. Students and instructors need ICT infrastructure and skills. Data study suggests that ICT incompetence may hamper pupils' educational advancement. Technology could improve Pakistani education. Public schools should use technology. E-learning is safe during COVID-19 pandemics. E-learning may be the sole alternative. Student-friendly public schools boost enrollment. Schools should spend money on student ICT equipment.

Student-friendly public schools may also increase enrollment. Schools should spend money on student ICT equipment. Public schools should provide ICT for academic e-learning, pedagogy, and assessment.

Keywords: *Professional competencies, ICT, Teacher Performance, ELearning*

Theme: *Blended Learning*
Paper ID: *ICTTUOM-032*

A META-ANALYSIS OF BLENDED LEARNING AS A NEW NORMAL PEDAGOGY

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ABSTRACT

Blended Learning is defined as an emerging new trend in the field of education as new normal. The sudden technological shift in COVID-19 pandemic elevated the use of blended learning practices across the globe. The study aimed to explore different articles regarding blended learning practices as new normal at higher education level. Furthermore the study aimed to elaborate the concept of blended learning as new normal pedagogy, assess teacher's readiness for blended learning, and to analyze the need of teachers' trainings as prerequisite for blended learning implementation. Meta-analysis method was used to review articles systematically by generating the themes based on set objectives. On the basis of set objectives and themes articles were searched and revealed systematically and chronologically. The study was delimited to only higher education level studies and the study findings reported that blended learning as a new normal pedagogy emerged gradually and later due to COVID-19 pandemic the world shifted to blended learning mode. It was found that male teachers were more technological friendly as compared to female teachers and teachers used different internet sources to use blended learning mode in pandemic including Google meet, Zoom, WhatsApp, Google classroom, Mobile learning and open educational resources. There are different competencies identified in the literature for blended learning including teacher's awareness, TPACK, confidence, and technological literacy. Whereas, different teacher training programmes may incorporate and enhance blended learning skills in teachers for effective blended learning implementation. There is a need to adopt blended learning potentialities in teachers' professional development programs in order to facilitate the training procedures and making teachers professional development more creative and collaborative.

Keywords: *Blended Learning, Hybrid Learning, New Normal, COVID-19, Teacher Training*

Theme: *Future of Online Learning for Universities*
Paper ID: ICTTUOM-033

UNIVERSITY EDUCATION VIA ONLINE LEARNING

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ABSTRACT

By investigating the history of online education, the excessive use of internet, social media and mobile devices, allows for the creation of E-learning groups, communities, classes and universities that overcome the constraints of time, distance, and boundaries. Beside this the use of smart phones and ipads make it more easy and realistic for low-income and rural students, social media also helps students to find and join various E-courses. In fact Elearning is an internet-based application program that contains all the information about clear, dynamic, and up-to-date education that makes it easy for learners to do online learning. One of the major reasons of popularity of E-learning is that the students can easily study their required courses and programmes whenever, wherever and to whom they want. E-learning educates people of all different ages; there are no limits and boundaries in the learning. Therefore being physically present in a classroom isn't the only learning option anymore, after the Covid more and more universities try to shift their professional courses online due to the immense demand of international students. According to the most recent survey from Babson Survey Research Group, over 30 percent of higher education students in the United States are taking at least one distance course. Online education is a wise choice for youngster or an adult. E-learning is also a useful learning method for sharpening skills in a difficult subject, or learning a new skill from the experts. Interactive webinars, workshops, trainings and brainstorming sessions also add value to Elearning. Now the professionals, mentors and skilled workers incline towards online trainings and workshops due to the huge and diversified audience. Although online learning can never really replace an in-campus experience but due to its benefits no one denies the importance of E-learning. The article also highlights the challenges and future of E-learning in the light of advance and dynamic strategies.

Keywords: *online learning, Effective pedagogical strategies, SWOT analysis of E-learning, Strengths, Weaknesses, Opportunities and threats*

EFFECTIVENESS OF ASSIGNING HOMEWORK AT SECONDARY SCHOOL LEVEL IN DISTRICT KOTLI AZAD KASHMIR

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ABSTRACT

The basic objective of an assignment home work is to enhance the concept of learning after classroom, encouraging good study habits and make the students be able for independent research skills. This study was important to the field of education teachers must determine what is best to support students learning. Study in finding the intention of teachers towards assigning homework and let the teachers know the effectiveness of a well-planned homework. The substantive purpose of the study was to identify the effect of homework used by secondary school teachers on the performance of the teachers in district Kotli. When teachers assign homework to their students they need to be aware of the designing of meaningful homework, how to plan it and what to do with the homework when students complete it. The study was quantitative in nature and used survey method. The population of the study was the all secondary school teachers (SSTs) of district kotli of azad Kashmir. The sample of the study was 285 secondary school teachers from district kotli. A questionnaire was developed by the researcher for the data collection, which contained statements related to effectiveness of assigning homework. Instrument was validated by pilot study. The reliability index cronbach alpha was .902 Mean score and standard deviation were calculated, One-way analysis of variance (One-way ANOVA) and t-test was applied to identify mean differences due to effectiveness of homework use by their teacher on the basis of their age groups. Finding of the study revealed that there was a positive significant difference in teacher's perception regarding the effectiveness of assigning homework used by their teachers. Such as feedback recognition, performance, appraisal, working condition and delegation of power. On the basis of finding it is recommended that the government would conduct regular training for the school teachers on effectiveness of homework through the ministry of education to equip them with skills and knowledge needed in their managerial role. There need to be a forceful implement on the policy of effectiveness of homework. The teacher would be motivated to work to enhance their performance. In conclusion our study reveal that homework plays vital role in education especially at secondary school level SSTs were strongly agreed when they were asked students should be given homework on regular basis. And when they were asked is Homework burden on students' majority of SSTs were disagreed at this point. In findings and discussion, it was concluded that secondary male and female teachers had significance difference found between male and female secondary school teacher's perception about the effectiveness of homework.

Keywords: *Homework Assignments, Teachers*

Theme: 21st century teaching and learning skills
Paper ID: ICTTUOM-037

USE OF TECHNOLOGY AS 21ST CENTURY TEACHING SKILL

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ABSTRACT

This study is about the use of technology as teaching skill. This century is a century of gadgets and technological revolution. Not only learners' need a better know how and exposure of technology but teachers required more expertise related to technology to survive. A dynamic learning can only happen now if a lecture and content is delivered with novelty and this can only be possible with use of new technology. Population of this study is public sector university teachers. This study is qualitative in nature and 15 teachers were selected for semi structured interview. The questions and themes of the interview are based on the conceptual understanding of the technology in teaching as 21st century teacher, integration of technology in direct classroom teaching, different problems and challenges of technology in our educational classroom context and different suggestions from teachers to use technological aspect of teaching effectively. The data analysis is based on thematic analysis and will identify the current situation of use of technology in teaching at BS level.

Key words: Technology, 21st Century Teaching Skills

NEEDS AND CHALLENGES OF ONLINE LEARNING

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ABSTRACT

After the deadly attack of the recent pandemic Covid-19, the world has witnessed an abrupt shift to alternative modes of learning, which mainly depended upon web-based learning. The safety precautions as a result of the precarious coronavirus have made it inevitable for teachers and learners to shift to the online mode. All types of schools, colleges, and universities shifted their classes to online modes of learning. Even corporate and government sector offices started using online modes to engage with their workforce. Also, the rapidly changing climate indicates the world to expand its online curriculum as a more sustainable reduced carbon footprint model. Moreover, in recent years a noticeable increase in nontraditional students is also paving the way for an enhanced online mode of learning. Currently, three types of online learning modes exist, namely, remote, hybrid, and hyflex. The current study aimed to know what challenges in online learning have mostly been faced during the recent pandemic. A sample of faculty members teaching STEM subjects at the four renowned universities of Lahore was randomly chosen. An exploratory study has been conducted using a qualitative approach. As this study has been conducted during the strict lockdown period of the recent pandemic, the scope of the study might not give the larger picture of the topic in question, but still, it fulfills the need of the inquiry. Because the faculty members have first-hand experience with the online mode of teaching and learning with their students. The findings suggest that despite the opportunity to discover and learn new technologies, the challenges teachers encountered during online classes outweighed the benefits as a whole, as the arrangements and availability of required resources were not up to the mark. Whereas this pandemic happened all of a sudden, it put the entire educational, corporate and institutionalized interactive set-up into a challenging situation.

Keywords: Online Teaching, Online Learning, Online Learning Challenges, Online Teaching, Challenges, Online Modes of Learning.

COMPETENCIES OF TEACHERS FOR THE USAGE OF ICTs IN CLASSROOM AT UNIVERSITY LEVEL

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ABSTRACT

During the last three decades, the rapid growth of Information and Communication Technology (ICT) has become one of the most emerging areas discussed by the researchers and the scholars, especially its integration with classroom teaching. The main purpose of this study was to examine the competencies of teacher for the usage of ICTs in the classroom. Population of the study consisted of all teachers (75) from the Faculty of Social Sciences, International Islamic University Islamabad. Universal sampling technique was used in the selection of sample. Self structured Questionnaire was used as a research tool with five-point Likert Scale. The major findings of the study were; all teachers have their own laptops and they frequently used the technology. University teachers have positive attitude towards the usage of ICTs. Teachers were very expert in the use of multimedia. In the use of MS Office software, teachers are frequent user of this technology. They prepared lesson plans; presentations and other educational content with the help of MS Office. University teachers have good practice of presentation software. University teachers are frequent users of Internet technology for academic related studies. With the help of technologies, university teachers prepared and delivered their lectures and assignments and handouts. ICT is the path between teachers and students, with the help of technologies teachers are able to give a timely educational guidance to students. University teachers are frequent users of these technologies for searching National and International conferences as well as organizing the National and International conferences. Teachers were able to conduct the online classes in a pandemic situation through these technologies. Teachers were skilled to use e-mail for the feedback of students' quires. On the basis of findings it was concluded that Teachers have positive attitude towards ICTs. Teachers are frequent users of e-mailing and multimedia and internet browsing. Teachers have sufficient skills to usage the ICTs into classroom. Therefore, on the basis of these conclusions the following recommendations were made. Assessment of students' assignment may be done through these technologies e.g. using website and e-mail etc. Continuous seminars and workshops for the training of teachers may be developed and launched so that teachers may update them according to the current advances in the field of ICTs.

Keywords: *Information and Communication Technologies, Teachers Competency, Integration, Utilization of ICT*

Theme: *Evaluation in Online Learning*
Paper ID: ICTTUOM-041

ASSESSMENT OF PROFESSIONAL DIGITAL COMPETENCES OF UNIVERSITY TEACHERS

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ABSTRACT

The entire world encountered an outbreak of COVID-19 in the beginning of 2020. Pakistan has also been affected not equally but to a greater extent, and thus emerged as a horrific challenge for the whole nation. Therefore, Assessment of the Professional Digital Competence (PDC) of the university teachers has gained importance in the teaching context. The significance of the digital resources especially in teaching is essentially increasing day by day. The assessment of Professional Digital Competence has matured as an integral component of every academic institution. As a result, this study was focused to assess the Professional Digital Competence (PDC) of university teachers of different faculties of International Islamic University, Islamabad utilizing a quantitative paradigm. The population of the study included 635 teachers (both male and female) of all faculties of International Islamic University Islamabad. A sample of 242 teachers was selected according to Morgan's table using a stratified random sampling technique to select the sample. The data was collected online from all Departments of the International Islamic University Islamabad (IIUI) and the responses were recorded through Google form. A questionnaire was used to collect data and consisted of 5-point Likert scale which were analysed using mean scores and ANOVA. The reliability of the scale was calculated through SPSS by applying Cronbach's alpha. Content validity was used to the degree to which the items or questions are representation of the defined area of content as per objectives of the study. It is therefore concluded that most teachers were not skilful to apply advanced or custom search options to go for the data on internet. It is determined that teachers were not well equipped with all the necessary skills to explore the virtual learning environment effectively.

Keywords: *Assessment, Professional Digital Competence, Digital Resources, Information Commission Technology*

RELATIONSHIP OF PEDAGOGICAL CONTENT KNOWLEDGE AND PROFESSIONAL SKILL IMPROVING IN SCIENCE TEACHING

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ABSTRACT

The proliferation of recent technology in the 21st century in teaching and learning requires that teachers and students constantly interact with instructional technologies for effective educational outcomes. Pedagogical Content Knowledge (PCK) is a unique type of instructional mean that comprising blending of content and pedagogy to unravel the teachers' understanding of the content to improve the teaching practices and to foster learning outcomes of the students. Insufficiencies persist in teachers' ability to grasp deep understanding the relation between pedagogy and content knowledge in applied sense in our indigenous education system. The purpose of the present study was to check the significance of relationship of pedagogical content knowledge and the magnitude of pedagogical skills of school science teachers. A total of 400 science teachers of four well renowned districts of Punjab were enrolled in the study through purposive sampling technique. Mixed method quantitative and qualitative data of research was used to evaluate the various parameters for assessment of teacher's PCK. Through online self-developed opinionaire their responses were recorded. Both descriptive and inferential data analysis was done through SPSS. The findings of the study showed that science teachers must have exposure of PCK as instructional strategy to incorporate PCK interventions in their teaching practices. Existing research findings also emphasized that PCK has reciprocal positive effect on improvement of teaching skills for ultimate effective teaching. So it is an urgent educational need that science teachers should receive adequate educational and professional training to build their PCK. Similarly, possessing adequate knowledge and teaching skills may enable themselves towards the teaching profession. These findings also provide empirical evidence that the teachers must have PCK based skills with adequate integration of Technological Pedagogical Content Knowledge for effective teaching, particularly at secondary school level.

Keywords: *Pedagogical skills, Content knowledge, learning outcomes, secondary school*

Theme: Adaptation to New Technologies
Paper ID: ICTTUOM-046

PERCEPTIONS OF PRIMARY SCHOOL TEACHERS ABOUT USING ENGLISH AS A MEDIUM OF INSTRUCTION

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ABSTRACT

The current study aimed to find out the perceptions of Primary school Teachers (PSTs) about using English as a Medium of Instruction (EMI) and difference among the perceptions of different strata of PSTs related to the implementation of EMI. The quantitative research approach was used by following the descriptive statistics survey. The population of the study was 1926 male and 1826 female primary school teachers of district Haripur. Only 320 male and 320 female PSTs were selected as a sample of the study using stratified random sampling technique. While each strata had 160 male, female PSTs from rural and urban area (female rural (FR) =160, female urban (FU) =160, male rural (MR) = 160 and male urban (MU) = 160). Questionnaire was used for data collection. The findings of the study showed that PSTs have positive attitude towards using EMI and there is no difference among the perceptions of PSTs' about using EMI. Recommendations were also given on the basis of findings that not only teachers but students, educators, curriculum designers, policy makers and government should take positive measures in implementing EMI.

***Keywords:** English as medium of instruction, Perception, Implementation.*

USING BLENDED LEARNING FOR TERTIARY LEVEL STUDENTS AT ISLAMIC INTERNATIONAL UNIVERSITY

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ABSTRACT

This world is ever changing. In the past decades, use of Information and communication Technology ICT has influenced education sector like all other walk of lives, consequently concept of “e-learning” emerged. The integration of ICT in education and teaching brought revolution. E learning was used in imparting higher education and professional degrees. E learning has positive aspects however, it carry demerits such as inhibiting socialization due to lack of face to face communications/interactions. Moreover, the aforesaid mode of education is prone to technological and internet issues, therefore, it led to “Blended Learning” concept. Blended Learning combines both online (e learning) and face to face communications (Reay, 2001; Rooney, 2003; Sands, 2002; Ward & LaBranche, 2003; Young, 2002). This mode of education provides most convenient approach to e learning, as well as it provides face to face interactions, therefore, it has the potential to alter students learning experiences and outcomes. If technology is used in classroom, it will provide additional resources thus enhancing confidence and competence of the student (learner). This combination of online and traditional learning will create a “hybrid classroom” and it has potential to provoke critical thinking and fulfill learner’s needs. Blended learning can provide better learning opportunities then fully online and traditional physical classes. As blended learning has some aspects of online as well as physical, so offers successful learning experiences. Blended learning can be initially used to impart higher education and professional degrees because higher education uses andragogy teaching methodologies. International Islamic University Islamabad (IIUI) is among the most reputed Universities of Pakistan, imparting international bench mark education since its inception. As blended learning education gained popularity, and globally accepted concept, so has to be initiated at IIUI. For piloting, post graduate students (MPhil and PhD) should be prone to blended learning program. The theory of the course work shall be taught online and skills, techniques can be enhanced via physical (traditional) classes. This will defiantly, provides an opportunity to all those scholars who are looking to pursue post graduate studies but couldn’t make time for it, due to job engagements. Later on, the concept can be diluted to undergraduate students of IIUI.

Keywords: *Blended Learning, Traditional Classes, E learning, Andragogy and Learning Opportunities.*

Theme: *Communication Challenges in E- Learning during COVID-19*
Paper ID: ICTTUOM-048

THE PSYCHOLOGICAL IMPACTS OF COVID-19 PANDEMIC ON HEALTH CARE PROFESSIONALS IN PESHAWAR KHYBER PAKHTUNKHWA, PAKISTAN

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ABSTRACT

This study investigated the psychological impacts of covid-19 in health care professionals at Peshawar, Khyber Pakhtunkhwa, Pakistan. The data was collected from health care professionals (N = 300), 50 professionals from each hospital by using purposive sampling technique. This study was conducted in the top six rated hospitals of Peshawar and the data was collected from health care professionals including, doctors, nurses, paramedical staff with help of standardized scales. This study focused psychological impacts of COVID 19 in health care professionals i.e., depression, anxiety, stress, and OCD, therefore, fear COVID-19 Scale, DASS-21, and Yale-Brown Scale (YBOCS) were used. For this, the researcher used a cross-sectional research design because data was collected from different sections i.e., doctors, nurses, and paramedical staff including both male and female. These three sections doctors, nurses, and paramedical staff are taken into considerations because they are more exposed to corona virus patients. Assumptions: Female health care professionals will score high on Depression Anxiety Stress obsession compulsion and fear of COVID-19 as compared to male health care professionals. Fear of COVID-19 positively predict Depression, Stress and Anxiety among health care Professionals Fear of COVID-19 positively predict Obsession and Compulsion among health care professionals. Salient findings: The results showed that fear of covid-19 had significant impact on depression, anxiety, stress, and OCD in health care professionals.

Keywords: *COVID-19, Psychological Impacts, Depression, Anxiety, Stress, Obsession and Compulsion*

THE EFFECT OF GARDNER'S MULTIPLE INTELLIGENCE THEORY ON THE ACADEMIC ACHIEVEMENT DURING ONLINE TEACHING TO SECONDARY SCHOOL STUDENTS

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ABSTRACT

One of the main aspects influencing mental development is intelligence. In an individual's life, intelligence occupies the highest position. The role which intelligence plays in students' academic attainment is also observable. According to various scientists and psychologists, there are a variety of different intelligences. These types of intelligence significantly impact the academic performance or achievement of the students. Academic achievement can be defined as the overall performance of a student on different standardized tests in any educational institution including school, college or university. According to some researchers, intelligence and gender act as significant predictors of academic attainment in undergraduate students. The objectives of this study were (1) to investigate levels of multiple intelligences during online teaching to secondary school students, (2) to identify the most and least type of practiced intelligence of secondary school students (3) to find out the relationship between students' most practiced intelligence and academic achievement during online teaching. The study was guided by the following research questions: (1) What are the levels of different Multiple Intelligences of secondary school students during online teaching and (2) What effect do the most practiced intelligences have on the academic achievement of students? The population of the study included two private colleges of Wah Cantt. One hundred and twenty-three students constituted the sample of the study. A simple random sampling technique was used to select sample. Research was descriptive in nature and quantitative data was analyzed using Pearson's correlation coefficient to find out the relation between academic achievement and multiple intelligences. The findings of the study indicated that most practiced intelligence during online teaching was existential intelligence while the least practiced was musical intelligence. Moreover, visual intelligence and bodily/ kinesthetic intelligence possessed a significant positive correlation with the academic achievement of secondary school students during online teaching mode. It was concluded that visual intelligence along with bodily/kinesthetic intelligence possess positive impacts on students' academic achievement. Therefore, teachers and stakeholders should pay attention on promoting these types of intelligences in students.

Keywords: *multiple intelligences, academic achievement, secondary school students, Wah Cantt*

Theme: *E Learning Strategies*
Paper ID: *ICTTUOM-051*

ENHANCING ENGLISH WRITING PERFORMANCE THROUGH BLOGGING

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ABSTRACT

In today's world, there are lots of methods in language teaching in general and teaching of writing in particular. The purpose of this study was to determine the effect of blogging on English writing performance of Higher Secondary School Students. The writing performance was measured in terms of content, organization, vocabulary, language use, mechanics and overall. A quantitative true experimental design was used to measure the effect of blogging and pen-and-paper tools on writing skills of secondary school students. After pretest sixty-eight students of 2nd year were randomly assigned into two mixed-ability groups i.e., blogging (n=34) and pen-and-paper (n=34). The students of both groups wrote on 24 topics from their course according to the schedule of the experiment during eight weeks treatment. Writing topics included essays, summaries, and character-sketches. The pre and post tests were validated by a committee which constituted six experienced English language experts. Pretest carried 30 marks and 60 minutes time duration. Participants attempted three compulsory questions, essay writing, summary writing, and character-sketch writing. After eight weeks treatment a similar-structured posttest was conducted to find out the difference between the English writing performance of blogging and pen-and-paper groups. A panel of three evaluators evaluated the students in both the tests according to the developed rubric with combative weightage to each aspect. The median score given by the panel of three examiners was assigned to each participant. The salient difference of the blogging group was peer review and peer feedback. The results of this study indicated that the effect of blogging was significant as compared to the effect of pen and paper method. Technology, internet, peer review, and peer feedback motivated the students to write more eagerly since they liked innovation in learning as compared to traditional pen and paper method of learning, writing and practicing. They found blogging an interesting and motivating platform which enhanced their English writing performance more in comparison to pen-and-paper medium.

Keywords: *Pen & paper, Blogging, English writing performance, Higher Secondary School Students*

Theme: Best practices in Online Learning
Paper ID: ICTTUOM-053

USING CODESWITCHING FOR EFFECTIVE INTERPERSONAL RELATIONS IN ONLINE UNDERGRADUATE CLASSES

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ABSTRACT

Pandemic situation created by COVID 19 forced higher education institutions to go online leaving their traditional on campus mode of teaching. This change in mode of content transmission was familiar for both teachers and students. So it caused certain barrier in teaching learning process. Both teachers and students shared their experiences and opinions about online teaching learning after shifting again to on campus classes. The researchers took this opportunity to study the phenomenon as a research problem. This research was conducted to find out teachers and students opinions about macro and micro functions of Code Switching at undergraduate level. It investigated the functions of code-switching for interpersonal relationships as perceived by the undergraduate students and teachers. Further the opinions of the students and teachers were compared to find out any differences. The research used survey approach. The population of the study included all undergraduate students from both public and private universities in Lahore. The cluster sampling approach was employed to collect data from both public and private universities. To collect data from 68 teachers and 435 students, five point Likert type scale questionnaires were developed. Both the questionnaires for students and teachers have similar items. Each questionnaire had 8 items based on the micro functions of the underlying theoretical framework. Data were collected online and in person. SPSS 21 was used for the data analysis. Both descriptive and inferential statistics were used for data analysis. The research findings showed that teachers had a more positive opinion regarding the role of code-switching in facilitating interpersonal relations as compared to the students; and teachers considered it to be more effective for interpersonal relations. Overall, both students and teachers felt that code-switching is beneficial for a positive classroom atmosphere. The study recommended judicious use of code switching for interpersonal relationships during online classes.

Key Words: *Code Switching, Medium of Instruction, Interpersonal Relations, online, undergraduate*

COMMUNICATION CHALLENGES IN ONLINE CLASSES: TEACHERS' PERSPECTIVE

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ABSTRACT

2019 was one of the landmark years in human history as the global pandemic brought the whole world to a standstill. In order to continue with routine activities the world shifted on online mode. Like other sectors the education sector also had to switch to online classes. While this transition was relatively smooth in the developed world, the developing world wasn't ready for this paradigm shift. There were numerous challenges and one of them was effective communication in online classes. This cross-sectional survey study aimed at identifying communication challenges as perceived by teachers during online classes. In order to assess communication challenges, the researcher developed own scale following the guidelines given in literature. The scale had five domains, i.e. connectivity, skills, students comprehension, class management and student engagement. It was validated by pilot study and the results were analysed using SMART-PLS. The Composite Reliability values for the five domains of the scale ranged from 0.60 to 0.89. Discriminant validity was also established and the results of PLS-SEM analysis showed good model fit. Using purposive sampling technique, data was collected from 90 teachers of two private schools that have conducted on-line classes. The findings showed that 40% of the participants found network as well as electricity disruption, a major challenge during online classes. 28% reported that it was difficult to connect emotionally with the students, on-on-one discussions weren't possible and the students were unable to fully understand the topic. For 26% participants, student engagement was a major challenge and 29% reported that class management was a challenge due to communication issues. While gender and education level didn't affect perception of communication challenges, the study found a significant difference in the perception of the communication challenges between the teachers who had a prior experience of taking online classes as compared to the ones who had no prior experience. It is recommended that for effective online classes stable network facilities should be provided by the institution so that the teachers can take classes without interruptions/delays caused by network issues. Teacher training programs should include content related to the use of technology for online classes, students' engagement as well as class management in a virtual environment.

Keywords: Communication challenges, online classes, teachers' perspective

Theme: Blended Learning
Paper ID: ICTTUOM-055

TEACHER'S PERCEPTION OF IMPLEMENTING BLENDED LEARNING AT THE UNIVERSITY LEVEL

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ABSTRACT

In higher education institutions, internet accessibility, availability, and connectivity are helping teachers to adopt the latest pedagogical content and technological knowledge. Blended learning is one of the latest methods in the teaching-learning process. This article aims to assess the university teacher's perception of implementing a blended learning approach in Higher Education Institutions. This study's objectives were to Examine the awareness of current facilities available for a blended learning approach among university teachers regarding three areas: Resources, Education, and the Environment. For the assessment of the perception of teachers about blended learning, we have used stratified random sampling to select participants. Data were collected from fifty-one teachers working in a blended learning environment. Findings of the study A finding of teachers' perception benefit most teachers talked about the benefits of blended learning as they say that it has the advantage of greater flexibility over traditional classrooms. It is very good, and they think it is very beneficial in this modern era of technology—easy access to a wide range of learning materials. We concluded that the faculty is ready to implement a blended learning approach at their institutions. However, several issues need to be resolved before implementing blended learning.

Keywords: *Teachers, Perception, Blended Learning, Higher Education, Qualitative study*

Theme: *Adaptation to New Technologies*
Paper ID: *ICTTUOM-057*

A STUDY OF IMPACT OF TECHNOLOGY INTERACTIVE GAMES ON URDU LEARNING AT PRIMARY LEVEL IN PAKISTAN

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ABSTRACT

This research study is survey on the opinion of Primary School Urdu teachers related to Impact of ICT interactive games on student's learning in private sector of Pakistan. The aim of this research to examine the impact of interactive activity game of Urdu subject prepared in MS PowerPoint on student's learning at primary level in Pakistan. 04 theories (John dewy, Thorndike, Technology acceptance model 1 and Blooms taxonomy) were used as a theoretical framework. In this descriptive study, Primary data of 700 Urdu teachers (2 from each campus, 20 % of staff) from 350 Smart Schools of Pakistan have been used by using cluster sampling method. 5 Likert scale based questionnaire having 60 items have been designed to collect the data by survey. The study examined that how much technology game promotes learning of visual, auditory and kinesthetic learners. Technology Game content, game view and self-assessment of game are the independent variables. For analysis regression and correlation have been used as analytical tools for the empirical estimation to know which independent variable is most effective to enhance learning. Descriptive analysis showed cross tabulation between genders, qualification, teaching experience, ICT skills of teachers, grad of Urdu teachers in Urdu subject in last degree, mother tongue of teachers. Inferential statistics findings showed positive correlation between independent and dependent variable. Pearson test showed more than 95 percent reliability of items. Normality test showed normal distribution of data. Regression analysis showed that all three hypothesis are accepted with .000 significance level. This study showed significant relationship between game view, game self-assessment and game student centered content with students' learning. This study helped only those Urdu teachers can use these games who are ICT literate and only those schools use these games which have ICT infrastructure. To promote Urdu learning of students all public and private sectors should have ICT infrastructure and ICT teacher's trainings of MS Office should be conducted across Pakistan.

Keywords: *Interactive activities, Urdu Teaching, Integration of technology, MS Power Point, interactive games.*

Theme: Research Models & Paradigms in online learning
Paper ID: ICTTUOM-058

**DEVELOPMENT OF UBIQUITOUS LEARNING MODEL WITH THE ENHANCEMENT OF
21ST CENTURY LEARNING SKILLS (4Cs) FOR THE EDUCATIONAL CHANGE IN
PAKISTAN**

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ABSTRACT

In the higher education sector, a new era has begun with the advent of ubiquitous learning environments. The ecological situation of “ubiquitous learning” refers to the personalized learning situation with the ecological characteristics, which is formed by the characteristics of “web 2.0” learning resources and the concept of ubiquitous learning. The personalized ecological learning context in today’s ubiquitous computing era is a ubiquitous network where two or more participants are in the “web 2.0” and “ubiquitous network” and collaborative learning scenarios with the help of intelligent learning resources. It makes learning returns from a fixed, unified curriculum and mandatory classroom teaching to differentiated and individualized learning, where students with different abilities, acquisition levels, and different development positions can learn anytime, anywhere according to their expected knowledge structure needs, to achieve personalized goals of learning and life. At present, computing technology has entered the “ubiquitous computing era” after the personal computer, forming “ubiquitous network.” These technical concepts have penetrated into the teaching field, and academia has put forward the concept of ubiquitous learning on this basis. In this connection, 21st Century Skills that can insure the learner's preparedness to such complicated working life include Creativity, Innovation, Critical Thinking, Problem Solving, Communication and Collaboration. So, Ubiquitous Learning Model has been developed for the enhancement of 21st century learning skills in the university’s students. The purposes of research study were: 1) to develop of 21st century 4Cs learning skills through Ubiquitous Learning environment. 2) to evaluate the 21st CLSKI–U Model. The research procedures were divided into two phases. The first phase was to develop 21st CLSKI–U Model, and the second phase was to evaluate 21st CLSKI–U Model. The sample group in study consisted of 15 experts using purposive sampling. Data were analyzed by arithmetic mean and standard deviation. The research findings consisted of five components were as follows: The 21st CLSKI–U Model: 1) U-Learning Environment, 2) U-Learning tools, 3) U-learning task, 4) 21st century learning skills and 5) Feedback. The results of assessment on the application of 21st CLSKI–U model by the experts show that 21st CLSKI–U model is highest suitable. This is because the instructional model as well as its steps and activities of 21st CLSKI–U Model were all suitable to the enhancement of 21st century learning skills (4Cs) in the students for the Educational change in Pakistan.

Keywords: *Ubiquitous learning, 4Cs, 21st century learning skills, 21st CLSKI–U model, Educational change*

IMPACT OF STUDENTS' UBIQUITOUS LEARNING THROUGH WEB 2.0 TOOL ON STUDENTS' CREATIVITY

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ABSTRACT

In the higher education sector, a new era has begun with the advent of ubiquitous learning environments. The ecological situation of “ubiquitous learning” refers to the personalized learning situation with the ecological characteristics, which is formed by the characteristics of “web 2.0” learning resources and the concept of ubiquitous learning. The personalized ecological learning context in today’s ubiquitous computing era is a ubiquitous network where two or more participants are in the “web 2.0” and “ubiquitous network” and collaborative learning scenarios with the help of intelligent learning resources. Ubiquitous learning tools allow improving context-aware as well as learning experiences by offering seamless availability regardless of location all the time. They also help in establishing effortless interaction between authentic and digital learning resources and at the same time offering personalized learning opportunities as well. There are numerous available ubiquitous learning tools that can be employed in higher education. Ubiquitous learning tools also offer training and higher education to many students that have different higher educational levels and come from diverse cultural backgrounds. However, if the capabilities of ubiquitous learning are underestimated, these may not be successful in higher education. Human knowledge learning is a natural acquisition process of contextualization and dynamic adaptation, and classroom teaching is neither the only nor the best way to learn. The current rapid development of “Web 2.0” resource technology and the concept of ubiquitous learning, which is characterized by personalization anytime and anywhere, has challenged the absolute teaching function of teachers and the neat and uniform teaching methods of textbooks and classrooms. Ubiquitous learning is a historical return to human learning, and teachers need to transform their roles in this change, to improve their adaptability and to become the organic driving force to realize the contemporary information aggregation structure. The aim of this study is to know the impact of students’ Ubiquitous learning through Web 2.0 tool on M.Phil students’ creativity. All the public & private sector Universities of Pakistan are the population of this research. M.Phil teachers & students have been chosen as a target sample through random and purposive sampling. This research study is based on quasi-experiment and survey method at higher education level. This study will help higher institution professors to develop ubiquitous learning environment through web 2.0 technology tool, and students will learn through u-learning environment and Public sector universities should enhance IT infra-structure and teachers training regarding ubiquitous learning.

Keywords: *Ubiquitous learning, web 2.0, students’ creativity, teaching strategy, personalized learning.*

Theme: Adaptation to New Technologies
Paper ID: ICTTUOM-060

THE BEGUM NUSRAT BHUTTO WOMEN UNIVERSITY A SYSTEMIC REVIEW ON EDUCATIONAL ROBOTICS

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ABSTRACT

Robotics in Education studies are being done in increasing number to find out its importance and its influence on social and academic skills of young learners. Educational robotics are practicing twain inside and outside of school environment in connection with increasing the engagement, academic achievement and interest of the K-12 students in several areas of STEM education. The objective of the study is to understand the implementation of educational robotics in school and analyze the significance of educational robotics for K-12 students. Furthermore various studies show the confirmation about the benefits of an educational robotics on the point of its influential and efficient experience in learning. Moreover, there is a need to identify the benefits of robotics implementation in K-12 formal and informal settings of learning. So, a systematic review was carried out on educational robotics in this study. Based on review process it was found from 20 studies published starting with the years 2000 to 2022 is that though in few decades robots are used for different purposes such as Programming, Mathematics, Physics, For soft skills development yet its implementation in schools is also important to ensure the engagement of students for any proposed topic in a productive way. For example : use of social robots for breaking the monotony of classroom, the best practices include changes and sustaining attitudes to stem, critical thinking, collaboration etc. Furthermore, the gap which is detected from these studies is despite of the utility of robotics in connection with topics, a thing which is lacking the understanding of educational robotics to draw its objectives, guidelines and scope for its useful implementation. Without this comprehension of robots in education will not be completely delivered in some situations. Teachers need strong STEM skills and robotics knowledge to indulge the students with robotics in a classroom with different approaches. Other gaps are extracted that robots are very costly in terms of their maintenance, charging with high consumption of electricity and its components for doing the task. However, as now in this era robotics literacy is more important because the new job reserved for applicants with robotics knowledge and strong STEM skills as we likely agree that we will need more roboticist in the future. So, the management have to look on how they can increase the engagement of robotics in education starting with in the general student population.

Keywords: *Educational robotics, Robotic literacy, K-12 students, STEM skills*

Theme: *Adaptation to New Technologies*
Paper ID: *ICTTUOM-061*

INSTANCES OF ARTIFICIAL INTELLIGENCE APPLICATION IN TEACHER EDUCATION: A SYSTEMATIC REVIEW

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ABSTRACT

The growing interest in Artificial Intelligence (AI) in other fields gave an impetus to conduct this systematic literature review to analyze whether and how AI is used in teacher education. This main objective of the study was to reform teacher education programs with reference to AI, incorporate AI in teacher education and to inculcate higher order thinking and innovative pedagogical skills. The methodology of the study was a systematic review. An electronic search using ("Artificial Intelligence") AND ("Teacher Education") was performed in three databases namely: ERIC (N=33), EBSCO (N= 128) and Science Direct (N= 112). The inclusion criteria were: journal articles published between 2012-2022, English language, and empirical studies. In total, 155 studies were included to conduct the systematic review based on predefined criteria. The findings revealed that very few empirical-based AI studies had been done in teacher education. Besides, the AI techniques used in teacher education included virtual role plays, MOOCs, automated correctors, a web-based environment, STEAM approaches, digital tools, robotics e-services, and the TPACK framework. These findings suggest that AI can be a useful approach to be utilized in teacher education because it reduces their workload, help them develop professionally, and remain up to date about current developments in their field.. At last, the suggestions were include incorporating AI in teacher Education programs, training of teachers and include AI in teacher preparation programs

Keywords: *Artificial intelligence, AI in teacher education, and systematic review*

Theme: *Adaptation to New Technologies*
Paper ID: *ICTTUOM-063*

ROLE OF INFORMATION AND COMMUNICATION TECHNOLOGY IN E-LEARNING IN PAKISTAN

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ABSTRACT

Information and communication technology (ICT) is playing vital role in promoting and enhancing E-learning system in Pakistan. It is ICT which helps and facilitates E learning process in Pakistan by providing all basic resources to accomplish this task. This era is digital era, usage of ICT in any form is basically e-learning process. This study was conducted to explore the role of information and communication technology in E-learning Process and its latest impacts on E-learning in Pakistan. Methodology of this study is to identify usage of common ICT tool/instruments in E-learning process by Universities.i.e.COMSAT University, AIOU Islamabad and Virtual university of Pakistan and School education Department of Provinces (specifically Punjab). Study portrays how ICT is beneficial for teachers, educators, professors, facilitators, instructors, trainers, learners, students and all stake holders of educational system in Pakistan. How it provides information and knowledge through online classes, online lecturers, online trainings, digital books and notes at offices, institutions and homes every time

Keywords: *Information and communication Technology, E-learning, Digital Era*

Theme: Needs and Challenges of Online Learning
Paper ID: ICTTUOM-065

ONLINE LEARNING DURING COVID-19 PANDEMIC: A STUDY OF CHALLENGES, ATTITUDE AND CONTINUOUS INTENTIONS TO TAKE ONLINE CLASSES

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ABSTRACT

In COVID-19 Pandemic, along with all other issues, education was a big concern in all over the world due to lock down situation. In this regard, online learning was a big relief. But there were many concerns and perspectives associated with online learning which need to be find out, especially in country like Pakistan where we have lack of resources. Objectives of the study were to assess the university students' attitude towards online learning, challenges during the online learning, continuous intentions to take online classes, and to evaluate the effect of attitude and challenges on students' continuous intentions. The sample comprised of 308 students, selected conveniently from public sector universities in district Faisalabad. The instruments used for data collection were (1) SATOL to assess students' attitude towards online learning, (2) CDOL to assess challenges during online learning, (3) CIOC to find out students' continuous intentions to take online classes. The results show that many students have positive attitude towards online learning. Students also faced many challenges during online learning. Moreover, students' continuous intentions to take online classes are unclear. There is a weak positive correlation between SATOL and CIOC, and comparatively moderate negative between CDOL and CIOC. Findings may provide a deep insight of online learning system in Pakistan at university level.

Keywords: *Online Learning, Pandemic, Challenges, Attitude, Intentions*

Theme: Adaptation to New Technologies
Paper ID: ICTTUOM-067

LEARNING ELEMENTARY SCIENCE THROUGH TECHNOLOGY: CONCEPTUALIZATION OF USAGE OF VIDEOS BY STUDENTS

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ABSTRACT

Video based learning is considered as an important strategy for teaching science as this subject is being taught through lecture method. It is discipline which has to be taught in an effective way. The number of studies has been done to investigate the use of videos in science teaching and learning show the positive effect of videos of teaching and learning process especially in science discipline at elementary level. The objectives of the study were to identify the practice of Video based learning in the elementary science classrooms and to recognize the impact and usefulness of videos based learning in science classroom. This study has been done at one of the Public Schools of Sukkur Sindh. Qualitative Research design has been used using Un-structured interviews from the 10 students of Elementary level. The findings of the study suggests that Video based learning in science make learning efficient and effective and create the active classroom environment which is needed in this modern era. It has been identified that teachers do not use videos in their classroom practices resulting students and teachers take this subject as difficult. It was recommended that such type of effective strategies may improve the quality of education and teacher may use vides to clarify science concepts as the lack of practice of Videos not only hinders students learning but also create difficulty in teaching.

Keywords: *Science Teaching, Science Learning, Technology, Video-based learning.*

Theme: *Evaluation in Online Learning*
Paper ID: *ICTTUOM-068*

LESSONS LEARNED BY TEACHER EDUCATORS IN COVID-19: A SWOT ANALYSIS OF ACADEMIC SHIFT DURING COVID-19

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ABSTRACT

The COVID-19 pandemic gave birth to several problems; however, this issue has many positive facets. The study conducted a SWOT analysis of COVID-19. The objectives of the study were to explore strengths, weaknesses, opportunities and threats brought by online learning? The study used a survey as a design of the study. A questionnaire and an in depth interview were used as a data collection tool. The population of a study was comprised of all the students and faculty members of education department from selected universities. Universal sampling was used for the questionnaire, and theoretical sampling was used for the interview. Data was collected electronically by Google form and through face-to-face interviews. The findings of this study revealed that DoEs adopt different strategies in response to COVID 19, including totally online teaching, hybrid teaching and the use of social media in teaching. Regarding SWOT analysis, it was found that the strengths of the response is that many teachers were trained in the use of digital technology, teachers used technology more than before, students were facilitated more, And there was a big paradigm shift in the educational scenario of Pakistan. The major weakness was related to infrastructure and teachers' training. It was found that the opportunities were include effective use of available resources and readiness of stakeholders for shifting from offline to online and hybrid mode. It was found that the biggest threat was improper use of online teaching, which resulted in the wastage of resources. It was concluded that the faculty and students remarkably responded to COVID-19; the strength was the acceptability of change in teaching methods, the weakness was the unavailability of proper training, opportunities were an effective use of resources and the threat was improper use of online teaching. Therefore, it is recommended that there is need of providing good, fast and low cast internet facilities and proper training of teachers.

Keywords: *COVID-19, Teacher Education, Academic Shift and SWOT Analysis*

Theme: *Communication Challenges in E- Learning during Covid-19*
Paper ID: ICTTUOM-069

**TEACHERS' PERSPECTIVES ON STEM EDUCATION DURING THE COVID-19:
TECHNIQUES, CHALLENGES, AND IMPACTS ON STUDENTS' LEARNING**

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ABSTRACT

This study focuses on assessing (a) how teachers took part in a STEM project adopted and used a STEM activity during a pandemic; (b) from the perspective of teachers, what effects a STEM activity used during a pandemic had on students' learning; and (c) what difficulties teachers encountered when using the STEM activity during the pandemic. The methodology was quantitative. The population of the study was all prospective teachers of the BNBWU which were 103. Universal sampling was used as a sampling technique. For data collection ten focused interviews were conducted with prospective teachers who were involved in making STEM projects. The findings showed how teachers were able to manage a crisis situation like COVID-19, which had an impact on schools all around the world, and continued to construct a STEM activity while highlighting the key difficulties and impacts on student learning from the teachers' perspectives. It was also found that STEM activities play a very important and dynamic role in developing student's learning by Prospective teachers. It also implies major changes to learning environments. In fact, the difficulties brought on by the pandemic must utilise as teaching opportunities for students and teachers. Teachers obtained knowledge about using distance learning platforms, making the most of other methods of communication for online education, adapting and implementing STEM activities virtually, and the benefits that come from online teaching for their students. They claimed that students gained the ability to function independently and combine their knowledge of science and technology. Furthermore, it was evident that successfully completing a STEM project in such a challenging environment depended heavily on teachers coming up with innovative ways to encourage students and guide them in a way that combines scientific and technological knowledge. It demonstrates that new ideas for STEM learning can be developed, implemented, and maintained by teachers in the current environment and in a desirable manner in the post-COVID era.

Keywords: *COVID-19, pandemic context, Science teachers, online teaching, STEM activity*

Theme: Needs and Challenges of Online learning
Paper ID: ICTTUOM-070

CHALLENGES FACED BY UNDERGRADUATE STUDENTS IN E-LEARNING DURING COVID-19 PANDEMIC

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ABSTRACT

During Covid-19 most of the countries around the globe were affected not only just economically and socially but had a serious impact on educational sector. So that, most of the educational institutes were transformed from face- to -face to online. Online learning played a significant role in providing education, along with that educational sector faced challenges to complete their needs. The objectives of this current study were 1) to find the challenges faced by undergraduate students during E-learning 2) to find effective ways to improve E-learning for undergraduate students. Data were collected through structured interviews from 10 students and survey was taken from Public sector university of Sukkur division. The population was comprised of all undergraduate female students studying in universities of Sukkur division. 10% students (200) were selected and a total of 113 response were received. Survey results were analyzed by descriptive statistics and simple frequency and percentage was calculated of collected data. The findings revealed that paradigm shift from face to face to online teaching, teachers own expertise and knowledge about technological tools and electricity were the biggest issues. Challenges faced by undergraduate students were hurdle in performing teamwork, lack of accessibility of technological tools, internet related problems, lack of interest and motivation of the students, Mental health issues like depression and anxiety, distraction, they were unable to concentrate on target because of infrastructure, slow services and E-Learning platforms, usage of costly technological gadgets poor students were unable to buy and unclear communications. And the effective ways to improve these challenges is to give proper training to the teachers, provide ICT tool to students for class. Along with that, they can improve the communication barriers through checking out the progress of assessment process. It was concluded that paradigm shift is the biggest issue and improper and infra structure is the biggest challenge faced by the students. It was suggests that besides E-learning is effective method of learning it is not a perfect method and still need a lot of improvement like share creative ideas ,updated content, brainstorming, discussion and provide training for using ICT key tools.

Keywords: *Challenges, Undergraduate students,, E-learning, COVID-19 pandemic*

Theme: Future of Online Learning for Universities
Paper ID: ICTTUOM-071

**A STUDY OF ONLINE LEARNING ACHIEVEMENT AND CONTINUOUS INTENTIONS TO
TAKE ONLINE CLASSES: EVIDENCE FROM HIGHER EDUCATION IN COVID-19
PANDEMIC**

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COVID-19 Pandemic is not only a world public health exigency but also an economic, political, cultural, religious, and educational one. We can see problems everywhere on the external and internal. Along with all other problems, education was a big concern in all over the world due to lock down situation. In that situation, the only solution was online learning. But with online system a lot of concerns are also related, especially in country like Pakistan where most of students are not used to it. So, it becomes very important to understand the online system. Objectives of current study were to assess the university students' online learning achievement, continuous intentions to take online classes, and to evaluate the effect of online learning achievement on students' continuous intentions. The sample of study comprised of 308 students, selected conveniently from public sector universities in Faisalabad district . The instruments used for data collection were (1) SOLA to measure the level of students' online learning achievement, (2) CIOC to find out students' continuous intentions to take online classes. The results show that the level of students' online learning achievement is high, but their continuous intentions are unclear. There is a moderate positive correlation between SOLA and CIOC. Findings may provide a deep insight of online education system in Pakistan at university level.

Keywords: *Pandemic, Online Learning, Achievement, Intentions*

Theme: *E-Learning Strategies*
Paper ID: ICTTUOM-072

E-LEARNING STRATEGIES FOR THE 21ST CENTURY SKILLS

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ABSTRACT

E-Learning is the learning through digital resources. It is also called online learning or electronic learning. It is an online learning by using any digital device like a computer, tablet, smartphone, laptop, smart watch, or any other such device. In the 21st century, there is an increased use of digital technology in teaching and learning process. Specific skills are required to meet the challenges and needs of the 21st century. These skills include critical thinking, problem-solving, collaboration, communication, creativity, and so on. The present research is aimed at tracing E-Learning strategies for learning the 21st century skills. This qualitative study is literature review based using the interpretivist paradigm. The study reveals these effective E-Learning strategies for learning the 21st century skills: Fluid Learning, Micro-learning, Active Participation, Personalised Lessons, Content Curation, Online Support, Spaced Learning, Informal Assessment, Collaborative Learning, Interactive Learning, Generating Curiosity, Providing a Meaningful Experience, Let the Learners Explore, Adding Fun Gaming Elements, and so on. Fluid learning encourages critical thinking skills while collaborative learning helps in developing collaboration skills. Interactive learning promotes communication skills. Let the learners explore strategy is useful for problem-solving skills. Similarly the strategies of generating curiosity and content curation promote creativity. This study is significant from the perspectives of educational technology, educational psychology, higher education, curriculum development, teaching strategies, distance education, E-Learning, and policy making.

Keywords: *E-Learning, Strategies, 21st Century, Skills, Digital Technology*

**COVID 19 AS BLESSINGS AND OPPORTUNITIES FOR THE TEACHERS OF DIGITAL ERA:
THE BRIGHTER SIDE OF THE PICTURE**

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ABSTRACT

In the history of education in Pakistan, 2020 was consider as a breakthrough in the digitalization of education. Several efforts have been made to equip teachers with modern technology but they were unable to bear the desire fruits. But Covid was in a way considered as blessings that Pakistan travel the journey of many year in just few months or less. The objectives of the study were 1) to find out the benefits of Covid 19 in terms of digitalization of education in Pakistan, 2) to find out the benefits of covid 19 for teachers 3) and to find out the opportunities developed due to covid 19 for teachers and students of Pakistan. The study was descriptive in nature using cross-sectional survey as research design. The population of the study was comprised of all teachers and students of a public sector university in Sukkur. Using universal sampling, 42 teachers were selected for interview and using proportionate random sampling 180 students were selected from 6 different programs of the university. Interview was analyzed by thematic analysis and survey was analyzed by using simple percentage.

From the analysis of interview, it was found that familiarization with digital teaching, exploring different features and ways of online line teaching, enhanced technological knowledge were the benefits of Covid 19 for teaching community. It was also found that Covid 19 produce greater opportunities for teachers to learn more from the teachers of advanced countries. From students point of view, 86.6% (N=156) agreed that online teaching decrease the cost of learning, 92% (N= 165) agreed that this is eas to understand, 79 % (N=143) were of the view that it is flexible, 81 % (N=146) were agreed that recording of lecture is easy, 93% (N= 167) agreed that online learning opens a new doors of knowledge and oppertunities, and 94% (N=170) of the view that online learning makes learning interesting for all stake holders. It was concluded that Covid changed the panorama of online teaching in Pakistan and teachers are used to in using online teaching due to this pandemic. It was also concluded that covid 19 is also beneficial of students in terms of lowering the cost, interest and flexibility. It was recommended that it is necessary to keep online teaching ongoing and make it a essential part of curriculum of prospective teachers

Keywords: *Covid 19, Blessings, Teachers*

Theme: Needs and Challenges of Online Learning
Paper ID: ICTTUOM-075

SITUATIONAL ANALYSIS OF PROBLEMS IN THE WAY OF STUDENTS FOR SCHEDULING STUDY THROUGH ONLINE LEARNING

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ABSTRACT

Generally, while defining online learning is meant to study while using technologies while staying at home. It is also said that though online learning, a student can learn at any time round the clock. These are truths for the universities that are designed for online learning only. But, around the world, traditional universities are also transforming to dual mode to facilitate the students for scheduling their busy life. Online learning give more options to students for maintaining learning process according to their pace and availability of time. In Pakistan, Higher Education Institutions also felt the need of the time and shifted some of the programs through online. For these programs, it is seen that university management provide the line of actions for teachers and students. In a sense, it is online learning as assignments and quizzes are given on the portal with the directions to the students. In this of kind of learning, the role of students is only to open the Learning Management System (LMS) and do as instructed. The objective of the study is to know the perception of the students about online learning. The sample for the study will be the students of MS Management for the semester Spring 2021 of Allama Iqbal Open University, Islamabad. A questionnaire will be developed on five point Likert scale for collecting their opinion about role of the students for scheduling different activities of learning process. Regression will be used to calculate the effects of different activities where students' role is considered important for learning through online.

Keywords: Online Learning, Technology,

Theme: Blended Learning
Paper ID: ICTTUOM-078

PERCEPTION AND CHALLENGES IN IMPLEMENTING BLENDED LEARNING IN CONTEXT OF PAKISTAN' HIGHER EDUCATION INSTITUTIONS (HEI)

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ABSTRACT

Learning process and environment of educational institutions have a crucial role in professional and moral development of students. It has an immense effect on their learning experiences and outcomes, and overall academic performances. The present study aims to know the perception of students in implementing the mode of blended learning and examines the possible challenges in applying the blended learning methods in Higher Education Institutions. Furthermore, this study also looks at ways to address challenges that needs to be resolved. We collect responses from students and teachers to get maximum variations in responses, and to develop better understanding about phenomenon. The study was conducted in both public and private universities of District Faisalabad, Punjab, Pakistan. Qualitative based approach of focus group discussion was used to collect the responses. The content analysis technique was used to analyze the responses and results were presented in the forms of description. The study found that most of the students had not shown their preferences in applying blended learning system. They were not satisfied for the commencement of online classes because of its negative effect on quality of education and research activities. They (students & teachers) were on the view that application of blended learning is not possible in context of Pakistan' HEI. Where, they are facing extensive challenges of lack of technology, poor network, link down while attending/teaching classes, and inadequate access to required devices and software. Furthermore, most of them analyzed that blended learning in teaching will be successful in case of clear objectives and provision of supportive development environment, and additional technical and pedagogical support. As a conclusion, the research has developed strategies for effectiveness of blended learning because of it's need in the present era to upgrade academic performances and achievements. In can help teachers and students to gain assistance in implementing blended learning method, where required.

Keywords: *HEI, learning methods, blended learning, perception, problems, strategies.*

Theme: *Adaptation to New Technologies*
Paper ID: *ICTTUOM-080*

ADAPTATION TO TECHNOLOGY AT HIGHER EDUCATION LEVEL

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ABSTRACT

Technology use in education is a requisite of present day world of fast means of communication and technological advancement. Digital technology is helpful in connecting the teachers and the learners across the globe. At higher education level; conferences, seminars, workshops, trainings, and research are now taking place through digital technology. Online participation of the researchers in any conference is possible now though Zoom links. Recorded video and audio are available by means of various technological gadgets. The purpose of this paper is to find out ways for technology adaptation at higher education level. This qualitative study is based on interpretivist paradigm and it used literature review as a research method. Teachers can adapt to technology at higher education level in many ways such as: Putting Together Needs-Based Collaborative Groups, prerecorded lessons, Creating a Positive Culture around Integrated Technology, Using Multi-Sensory Education Tools with Multiple Applications, Augmented Reality or Virtual Reality, Beyond the Technical, Tech-enhanced, video tutorials, Games and Gamification, and the like. Adaptation to technology at higher education level increases research opportunities for the teachers, students, researchers, educationists, theorists, academicians, and policy makers. It provides new learning and research opportunities through collaboration with others in the field across the world. This study is noteworthy from the viewpoints of teacher education, teaching strategies, education technology, E-Learning, higher education, and distance education.

Keywords: *Technology, Adaptation, Ways, Teaching, Higher Education*

**MATHEMATICS LEARNING THROUGH FUN BY CAHOOT APPLICATION FOR THE
DEVELOPMENT OF POLYA'S PROBLEM SOLVING SKILLS THROUGH STUDENTS'
DESIGNED MATHEMATICS ONLINE GAMES**

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ABSTRACT

Mathematics is considered a challenging subject; however, if mathematics problem-solving are presented as online game, then students learn it with fun. Furthermore, contemporary research suggests that online games help in fostering Polya's problem-solving skills (see, plan, do and verify). Therefore, in one of mathematics semester, students were encouraged to design mathematics online games based on Polya's problem-solving skills. The primary purpose of this qualitative study was to determine how mathematics online games developed students' Polya's problem-solving skills. To collect data, purposive sampling technique was used and interviews and observations were conducted from eight students (four high performing and four low-performing students). The findings of the study showed that mathematics online games helped in developing problem understanding by increasing students' motivation because of innovative pedagogical method. Concerning planning skill, students utilized diverse sources to plan the solution. Likewise, they reported that they applied trial and error method to make the plan work. Finally, due to purposefully and actively involving in their own learning they developed an ability to verify the solution. These findings indicate that mathematics online games contribute positively in developing Polya's problem solving skills. Based on these findings, it is recommended to mathematics teachers and educators to introduce online game-based learning in mathematics discipline.

Keywords: *Online Game-based Learning, Mathematics, Polya's Problem-Solving Skill.*

A SYSTEMATIC REVIEW OF COGNITIVE SKILLS DEVELOPED BY VIRTUAL ACTIVE LEARNING APPROACHES

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ABSTRACT

The purpose of this study was to systematically review the virtual active learning approaches which foster cognitive skills among students. In this regard, an electronic search was conducted in two databases: ERIC (N=41) and EBSCO (N=157). Keywords used for search were: (Online Education),(Active Learning) AND (Cognitive Skills). The journal articles published in English from 2011-2020 focusing on virtual active learning approaches and cognitive skills were included for systematic review. Out of 198, 136 studies that met the criteria were included in the current study. The following data were extracted from studies: APA citation, discipline/area, purpose, methodology, results, active learning approach, and cognitive skills. The majority of the reviewed studies (38%) revealed that technology-supported (e-portfolio, 2D, 3D animations, robots, AI, simulation, and DGBL) virtual learning approaches foster cognitive skills. Followed by this, 24% of studies reported real-life experiences (laboratory, case-study, project, problem, and experiential-based learning), and 14% included cognitive or constructive theories-based approaches (concept mapping, reflection, scaffolding, brainstorming) to develop cognitive skills. The remaining 13%, 8%, and 4% of studies reported that active learning (student-centered and activity-based), collaborative (peer and teamwork, and discussion), and assessment (formative, authentic, and alternative) practices foster cognitive skills, respectively. Based on these findings, it is suggested to conduct systematic and experimental studies which demonstrate how cognitive skills are developed by teaching through virtual active learning methods.

Keywords: *Online Education Active Learning, Cognitive Skills, and Systematic Review.*

IMPACT OF ONLINE CLASSES ON THE PERFORMANCE OF STUDENTS DURING THE PANDEMIC PERIOD OF COVID -19

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ABSTRACT

COVID-19 causes a slew of difficulties for both teachers and students. The aim of the study is to identify the problems faced by students during COVID -19. The objectives of the study were to 1) to find out how Covid 19 affected the education of students at university level and 2) to find out the effectiveness of the online education in the initial period of Covid 19. The population of the study was comprised of all female students studying at graduate level in Sukkur city. By using convenient sampling technique 50 students were selected. Interview was used as data collection tool. The interview was analyzed by thematic analysis. Once pre-COVID-19 academic performance had been taken into account, structural equation modelling was used to investigate the relationships between online learning preparedness, emotional competence, and online academic success during COVID-19. The findings of the study revealed that initially covid 19 affected the education of the students badly, as there is no concept of online education before this in Sukkur. It was also found that high rates of internet connection, load shading, untrained teachers regarding use of technology were the main hurdles that decrease the effectiveness of online system. Not all online education was created equal. During the COVID-19 academic year, students who received recorded online lessons from external, higher-quality teachers performed better on exams than those whose lessons were recorded by teachers from their own school. However, for college students, only online learning preparation shown a significant positive link with online academic achievement during COVID-19. The results illuminate the fundamental processes that account for students' happiness with online learning during the COVID-19 pandemic. These findings suggested that students who are emotionally competent and are prepared to learn online may be more robust to COVID-19-related problems and learn more efficiently online. It was concluded that initially Covid 19 affected the education of students very badly, but after some time, the things were much better. It was recommended that proper infrastructure, low rate of internet connection and proper training of teachers may be increase the effectiveness of online education system . Universities and policymakers need to make better decisions that ultimately could lead to students' academic outcomes and achievement.

***Keyword:** COVID -19, students' performance, quality of teacher and students, online learning*

Theme: *Communication Challenges in E- Learning during COVID-19*
Paper ID: ICTTUOM-090

**THE CHALLENGES OF ONLINE TEACHING DURING COVID-19 PANDEMIC: A CASE
STUDY OF SHAH ABDUL LATIF UNIVERSITY OF KHAIRPUR MIR'S SINDH**

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ABSTRACT

In the year 2020, the Covid-19 pandemic turned both private and public life upside down. Teaching and learning in higher education institutions around the world have had to move online within a very short period of time. This special issue focuses on the academic practice of online teaching in higher education during the current crisis. This research paper tends to analyze the challenges of online teaching in covid-19 pandemic: A case study of Shah Abdul Latif University of Khairpur Sindh. Keep in mind the situation of Covid-19 pandemic the teaching framework is presently seeing a worldview move from chalk talk (traditional) method to ICT incorporation technique in education. Therefore, the technologies are being promoted to tackle the challenges of the modern classroom as well as to deal with the visible generation of students. This research paper tends to use exploratory case study as a research design to find the views of students in this field, under the umbrella of qualitative research. Therefore, in-depth semi-structured interview was used as it was used to collect data from potential research participants. Participants were 6 students from education department of Shah Abdul Latif University. The data were analyzed by coding and then transformed into themes. The findings tells that online teaching has negative impact on students learning's. Students as well as teachers are facing so many challenges like as damage of community contact, unfortunate internet association, and sound, shortage of self-governing education assistances among children and young children, and administration has not been prepared in advance. Serious funds, such as teachers' preparedness and absence, as well as the lack of necessary funds and resources, were a significant barrier.

Keywords: *ICT Integration, Online Teaching and Learning practices, Flipped classroom, Blended Learning, Digital learning, Distance learning/remote learning. Theme Communication Challenges In E- Learning During Covid-19*

Theme: Future of Online learning for Universities
Paper ID: ICTTUOM-093

THE ANTECEDENTS OF THE INTENTION OF USING E-LEARNING: A CASE OF PAKISTANI UNIVERSITIES

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ABSTRACT

The purpose of the study was to examine the antecedents to the intention of using e-learning. The study examined the continual model examining the impact of service quality, information quality, and system quality on the perceived value of e-learning. Meanwhile, the study determined the effect of the perceived value of e-learning on the satisfaction of the students. Finally, the study examined the impact of satisfaction of the students on the intention of using e-learning. The study was correctional in nature, following cross-sectional survey method. The study employed structural equation modeling and the data is analyzed using SEM-PLS. The suggested e-learning systems continued with the adoption model which was explored empirically using total 302 graduates and undergraduates' students of Allama Iqbal Open University Islamabad and virtual university of Pakistan selected through random sampling technique. The findings of this study explored significant effect on system quality, information quality and service quality of perceived value. Moreover, it recognized other variables that impact the continuance intention of the digital learners while practicing the e-learning mechanism in universities. Finally, this study focused to synchronize the two factors such as satisfaction and perceived value, and by the perception of continuance intention in line with a broad context exploration of variables that effect the continuance intentions of digital-learning programs in universities. The study examined the significant associations between observed learning satisfaction and perceived value. The basic purpose is neither to examine the particular courses, nor the commonly followed procedure rather study a specific sample of digital users relating to attaining a general perspective regarding e-learning mechanism which is provided in Pakistani universities. The results were significant for university students, academicians and policymakers as they seek to link practices and learning outcomes. On the basis of findings of this study, it was recommended that the universities prepared technical e-learning modules for students and more funds provided for the enhancement of e-learning process.

Keywords: *intention of using e-learning, Pakistan, perceived value, student satisfaction*

Theme: Future of Online learning for Universities

Paper ID: ICTTUOM-094

FUTURE HAZARDS AND SUGGESTIONS OF ONLINE TEACHING: PERCEPTION OF PUBLIC AND PRIVATE SECTOR UNIVERSITIES IN PAKISTAN

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ABSTRACT

Virtual educational programs and e-learning commonly perceived less quality as compared to face to face class room teaching. However, with the new trends that have been developed after pandemic both public and private sector universities transformed their educational courses towards online system. There have been a number of discussions made by both sides from public and private sectors universities upon e-learning. There is need to find the related hazards and easiness of online teaching at universities. Some universities have resistance and other have positive concern to shift online teaching. The present study consist to analysis the current perceptions of university teachers about the future hazards and suggestions of online teaching at universities in Pakistan. For this purpose a mix method research (qualitative and quantitative) with the help of a survey questionnaire was conducted, from the target population sample of sixty (60) teachers of two (02) public and sixty (60) teachers from two (02) private universities have been selected with random sampling techniques. The overall results of the present research indicated that online teaching required well trained staff and well aware students for taking the online instructions and a valid framework needed, furthermore, strong conceptual understanding required to access the connectivity with technology, institutions have to develop a strong infrastructure to meet good standards of online teaching in Pakistan. However, there has been some discussion related with pedagogical skills as they claim that e-learning takes time to train and plan for implementation the quality education.

Key Words: *online, teaching, challenges, public, private, universities*

LEARNING MANAGEMENT SYSTEM (LMS) IN DISTANCE EDUCATION: AN EXPLORATORY CASE STUDY

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ABSTRACT

Distance education is getting widespread popularity owing to its flexibility and accessibility. Present digital era has replaced tools of distance learning and now modern tools are being used in online distance learning. Moreover, due to covid-19, there is sudden change in the way of distance and non-formal education. Distance learners and tutors are facing emergent problems and challenges in using online technologies. By the use of learning management systems, AIOU has been providing distance education to its learners since 2005. It is a pioneer university promoting distance education having more than 1.4 million student per annum. This number is very encouraging but at the same time it is important to identify problems faced by distance learners and tutors during use of LMS. This study was designed to explore the opinion of distance learners, problems faced by them and their tutors in using LMS. An explanatory sequential design of mix method approach was used. Distance learners from all the departments of AIOU using LMS in their learning were the population of the study. This study was delimited and quantitative data was collected using convenience sampling through semi-structured questionnaire from 114 distance learners of semester spring-2016 and 2017 of PGD(C-S), Spring-22016 of MPA(COL), Spring-2017 of M.Phil(ETE) and Spring-2017 of M.Phil(DNFE) of AIOU. Qualitative data was collected conveniently from 30 tutors and 03 programmers/ developers of LMS through open ended interviews. Quantitative data was analyzed by using descriptive statistics while qualitative data was analyzed by using NVivo software. The analysis of both types of data highlighted various factors affecting the use of LMS. The problems faced by distance learners were background knowledge and skills of using LMS, online accessibility of study material, least participation in discussion forum and chat session, feedback on assignments, lack of academic and technical support, lack of interaction between learners and tutors, uploading of solved assignments and lack of training provided to use of LMS. The problems faced by tutors were technical issues (like frequent dysconnectivity during online classes and online workshops, voice distortion, login issues, server and website error), least involvement of learners in discussion forum, least learners' attention to feedback, late and hired/ purchase assignments submission and non-provision of plagiarism checking software for learners. There was a need to bring necessary reforms in administrative and instructional framework of LMS to meet the growing needs of the distance learners.

Keywords: *Learning management system, distance education, distance learners, flexibility, feedback, interaction.*

Theme: Learning Management System
Paper ID: ICTTUOM-106

**ROLE OF LEARNING MANAGEMENT SYSTEM USE WITH ONLINE INSTRUCTION: A
CASE STUDY OF MIRPUR UNIVERSITY OF SCIENCE AND TECHNOLOGY (MUST) AJ&K**

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ABSTRACT

The purpose of this study was assessing the role of learning management system use with online instruction. A case study of Mirpur University of Science and Technology (MUST) Mirpur AJ&K. A sample 120 teachers and 150 students were selected from Mirpur University of science and Technology. Systematic random sampling was used to take sample. Quantitative research approach was used to gather information from respondents. To collect data interview schedules were designed, trained faculty members and students. Study findings clearly demonstrated that the use of learning management systems Learning management system use with online instruction. Learning Management Systems (LMS) reinforce the learning process through online classroom environments. A standard learning management system (LMS) supports an inclusive learning environment for academic progress with interceding structures that promote online collaborative-groupings, professional training, discussions, and communication among other LMS users. Instructors should balance active learning with the use of LMS technological resources and the use of guidelines from the qualified curriculum. An LMS allows instructors to facilitate and model discussions, plan online activities, set learning expectations, provide learners with options, and assist in problem-solving with processes for decision making. An Instructor's presence within an LMS creates an engaging learning environment. Students can retain their autonomy, enthusiasm, and motivation with LMS use.

Keywords: Learning Management system, Learner autonomy, Online instruction, Self-efficacy, Student motivation.

Theme: *Evaluation in Online Learning*
Paper ID: ICTTUOM-108

ONLINE ASSESSMENT: A PRE-LAUNCHING SURVEY ABOUT ON SCREEN MARKING BY NATIONAL EXAMINING BODY AT SECONDARY LEVEL IN PAKISTAN

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ABSTRACT

The reliability of marking is directly linked with a degree of consistency of the examiner to carry out a fair, accurate and logical assessment. The number of candidates appear in examinations is increasing due to the increase in population, while the number of examiners are limited for the assessment purpose, which tends to lead examiners being under pressure to evaluate answer scripts in a fixed interval of time leads to sub-standard assessment. Discrepancies towards answer scripts, tempering in scores, the process of re-evaluation of answer scripts, long time and lack of security are the main issues in traditional marking through which students feel the anxiety, while by using on-screen marking answer scripts are scanned and evaluated through rubrics. The marked scripts are shared with a grading system module to create a fair and reliable assessment. The examining bodies like boards and universities of Pakistan are trying to revamp reliable assessment process. In the digital era, on- screen marking facilitates many advantages as compared to traditional marking method, but there is need to learn the effect of assessment in the domain of new medium and marker attitude on screen and on paper marking. In this paper a Pre-Launching Survey about On Screen Marking by National Examining Body at Secondary Level in Pakistan was conducted. The objective of this study was to find the perception of examiners about on-screen marking. It also sought out the computer proficiency and expectations for on-screen marking. An online survey was conducted in which 176 science teachers provided their opinion. The findings revealed that a great difference appeared for computer proficiency w.r.t province, profession, teaching level, subject and locality. Participants were of the opinion that on screen marking caused fatigue for eyes. Participants were also did not prefer on-screen marking as they thought that a lot of training is required. Most of the participants had not experience of on-screen marking. Participants were of the opinion that on screen marking caused fatigue for eyes. Participants were also did not prefer onscreen marking as they thought that a lot of training is required. Majority of participants said that they can mark approximately 10 papers in an hour. It is concluded that participants feel hard to make the transition from paper-based marking to online marking with exam timelines to contend with. In absence of proper training sessions, examiners would not be able to understand the rubrics and application of on-screen assessment.

Keywords: *On-screen marking, computer proficiency, training*

**A REVIEW OF STRATEGIES TO ENHANCE SELF-REGULATION IN E-LEARNING
BETWEEN 2010-2020**

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ABSTRACT

Experts say that it is very important for students to be able to control themselves in the classroom. Self-regulated learning (SRL) has three stages: thinking about it, doing it, and thinking about it. Each stage may need a different set of strategies to be successful. The goal of this study was to show academics and teachers how each method could be used in the classroom by looking at seven SSCI e-learning publications from 2010 to 2020. It was also looked into how each SRL technique affected how the students learned. In 58% of the studies, SRL phase prospective methods were not taken into account. Forty percent of the studies didn't explain how SRL could be used in the real world. SRL studies talked a lot about how students set goals and make plans, which has a direct effect on how much they can learn. These studies also talked about how approaches at each stage can be used in a variety of different situations. This was found out by SRL research into how strategies are used. Students' cognitive performance and perspectives are affected by things like the structure of their environment, how much they learn, practise, and remember, but these things are often overlooked. The following research rules should be followed based on what was found. The results of this research help make plans for other research and develop systems. Using the latest version of SRL can help you avoid learning useless or unimportant things. Find out how SRL affects learning performance in ways that aren't usually measured. With the help of e-learning technologies, students can learn how to use strategies that aren't often used in SRL, like collecting data and taking care of the environment (e.g. teamwork performance and skill performance). With the help of this investigation, the educational institutes can easily build their e-learning platforms and increase their online learning methods. They would be able to understand the importance of adopting technologies in the classroom and the methods which should be deployed. Furthermore, they can increase interest of students by bringing in technologies and focusing on building new engaging platforms for learning.

Keywords: *Self-Regulated learning, e-learning strategies, higher educational institutes, research trends*

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ONLINE LEARNING EVALUATION IN HIGHER EDUCATION: STUDY SURVEY METHOD

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ABSTRACT

Students have a more difficult time learning through online education since there is no interaction between the teacher and the pupils. The unreliability of internet connections is yet another obstacle to the advancement of education. The purpose of this study is to investigate the function that online education plays in higher education. Data collection in this investigation was done using survey and literature review. A descriptive method has been taken for this investigation. 96 different students participated in the study and provided responses. Within the scope of this study is an examination of how successful education obtained online can be. A comparison was made between the statistics and the study that was published in journals. Data analysis was done in both statistical manner and through qualitative approach. When compared to traditional classroom education, the online learning experience was found to be less interesting by the first student who experienced it. Second, the majority of students focus their education on developing skills that will help them in the future. Third, the most significant obstacles that students face are those that pertain to limits and limited internet access. The contributions that teachers make to their pupils when they are teaching them online are vitally necessary. Third, in order to achieve their goals, children need to collaborate with one another. As a consequence of this, the utilization of various forms of educational technology should be promoted in order to get both students and teachers ready for online education.

Keywords: *Distance Learning, Evaluation, Online learning*