REPORT of International Conference On Hybrid, Blended & e-Learning ICHBEL - 2021



Organized by



Educational Technology and Management Academy



Association of Indian Universities



Gurgaon Progressive Schools Council



International Online Conference

On

Hybrid, Blended & E-Learning

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Conference Report

Organised by



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Varied use of disruptive technologies and the present COVID-19 crises have made educators realise that many of the teaching tactics and strategies that worked before the pandemic just will not work. They will have to explore the possibilities of extending the classroom in-person teaching experience to the virtual world. The functionaries, beneficiaries and educational planners will have to deliberate on the possibilities of various designs of teaching-learning, keeping in view new learning, new job markets, different student needs, new skills and alternative recognitions of the learners' skills.

Educational Technology and Management Academy (ETMA) organized virtual international conference ICHBEL-2021 on the theme Hybrid, Blended and e-learning from 3rd to 5th December 2021, in collaboration with the Association of Indian Universities and Gurgaon Progressive School Council. The Vision Lab, Moscow and tick Links Pune supported the conference as sponsors. The aim of the conference was to consolidate the learning of technology-enabled education from the crisis of COVID-19, especially when the technology opened education in the face of the closure of the educational campuses due to the pandemic. The agenda included developing a white paper on the futures of education visualizing technology-enabled education for Quality Education for All by creating a forum for practitioners to meet the global leaders in technology-integrated education and exchange of thinking towards enrichment. The conference was unique on two counts. Firstly, in terms of participation, events or academic discourses wherein, four keynote Sessions and Two-panel discussions were held by 16 Internationally reputed Scholars, eight Workshops by 12 expert resource persons, 15 Paper presentation sessions under 15 chairpersons for 74 papers and case studies, 31 rapporteurs, 830 participants. Secondly, in terms of significance by developing an eclectic model of education incorporating the best of all the worlds, especially when the education sector is in a precarious situation: they should go to Old Normal or a New Normal.

The first part of the Conference Report is about Four Keynote addresses delivered by well-known educational thinkers providing direction for educators looking to harness new tools and approaches and providing administrators with a choice of support that educators need. The speakers exposed the participants to the world of Open and Distance learning. Educators who understand TEL (Technology Enabled Learning) and the CoI can design and deliver authentic learning for their students, regardless of the educational setting - hybrid, blended, or eLearning. While theorising on Holistic Learning Approach for Technology-enabled learning with the Community of Inquiry, the keynote speakers analysed the designs of teaching and assessment in teaching and learning. They concluded that while entering into the virtual world, every moment of interaction provides a chance to generate data of big nature. This big data, if utilized skillfully, can give a myriad of options to get into the insights to improve teaching and learning processes. Data-led insights can be transformed to customize the process of strategic teaching and personalize the learning process to the needs and preferences of learners. Modern LMS (Learning Management System) takes the help of AI to exploit all such insights to personalize and customize the courseware as per the capabilities of the learners. Similarly, the assessment process in the current era also needs to become analytics-oriented rather than stereotypic question papers. Artificial Intelligence is disrupting almost all the sectors in the learned world, and teaching-learning is not an exception.

The second part of the Report--The Penal discussion delves into the insights in the area where machine learning and data analytics can also play a big and decisive role. It has been pointed out

that even after these technological advancements, the relevance of in-person teaching cannot be demeaned. Personal interaction during the teaching and learning process has its place and may not be fully replaced by the technology-led teaching & learning process even in the near future. Technology like AI, ML, and data analytics can play an assistive role that can substantiate the human-led teaching process. It is imperative to deliberate and decides the proportion of the technology-led and human-led teaching and assessment process to optimize the learners' outcome. The panellists in various sessions concluded that local innovations, local participation, parental awareness are important from preschool to universities. The blending of various teaching tactics and using the available tools and techniques in hybrid mode will lead the students and teachers in a big way to achieve the desired goals.

The Paper Presentation (The third part of the Report) is based on 55 papers presented in 15 breakout sessions. Under the broad theme of Blended, hybrid and E-learning, the papers researched the backdrop of the ongoing pandemic. The authors explored and discussed issues and challenges faced by different stakeholders: teachers, students and heads of institutions (both in schools and higher education institutions), and parents. The analysis and psychological explanation of the anxiety and ability of stakeholders to help their wards has been one of the concerns of the paper writers. While discussing the challenges faced during online education, the authors have detailed how the students and teachers have coped with the online education programmes.

The fourth important part of the conference has been eight workshop sessions carried out for two consecutive days on the themes: Design Thinking; Learning 321; Open Education Resources for Lifelong Learning; Reusing and Repurposing OER for Blended learning; Artificial Intelligence and Machine Learning; Going Forward to Normal; Advanced Educational Research Methods and Designing Virtual Reality Experiences in Education. The message of the workshops has been that "The illiterate of the 21st Century won't be those who cannot read and write, but those who can't unlearn, learn and relearn." It is envisaged that the future functioning of the human being will be guided by Artificial intelligence (AI). AI may replace human teachers if the teaching follows the same conventional process. AI has the benefit of being personalized. Above all, it has the capability to identify the barriers to learning and help in overcoming the barriers and taking the student to the next level. AI can help overcome the forgetting curve by implementing spaced repetition. The major advantage will be improving and increasing as new AI technologies emerge day by day. So, it is incumbent upon us to explore its full potential and deeply analyse the challenges and opportunities with the help of advanced educational research methods like Desk-research, Problem-based Research and meta-analysis to find out their best use in different setups. In short, let us blend the lessons of the past with the technology of the present and future to truly transform education, giving students the ability to think, learn and evolve no matter what the challenges await them tomorrow and unleash their potential to benefit the world.

It is hoped that the conference report will be of great help to all those interested in improving the teaching-learning-assessment process in different situations. Pandemic will also be there in the future and maybe of different types and forms. It is imperative for all educationists to be future-ready for such eventualities so that our future generation converts the quality- education challenges to opportunities. Let the vision of Professor Mukhopadhyay achieve the ETMA goals for the betterment of the global Education system.

Acknowledgements

I know my limitations that I cannot extend thanks to everyone for their participation and mobility to take on the accomplishment of such a big conference work because of limited space constraint, repetitions and other such factors. I, on behalf of the ETMA fraternity, thankfully acknowledge the efforts and contributions made by the following:

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- Prof Vinayagum Chinapah
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- All the paper presenters
- All the delegates

Prof. S.P. Malhotra

Introduction

Educational Institutions had to be closed down due to the pandemic for nearly three years. Institutional leaders and teachers rose to the occasion and adopted emergency technology response (ETR), popularly called online education. Teachers did as best as they could in the given situation. Over time, teachers learnt to use online learning materials, assessment tools, online interaction, etc. There was no time to prepare for pedagogically sound technology integration in education. Learning outcomes and satisfaction would have been different if the technology integration was backed by pedagogical science. ETMA, in fulfilment of its mission, brought together the education personnel face-to-face (virtually) with globally the best minds on technology integrated education in the world.

The primary objective of the International Conference was to create a forum for teachers, educational leaders, policymakers and planners to converse with the leading scholars in the world to understand the scientific pedagogy of technology-integrated education.

The Conference comprised keynote Addresses, Panel Discussions, Research Paper and Case Study Presentations, Workshops, and Networking Sessions. The International Conference on Hybrid, Blended & e-Learning Conference was organised by the Educational Technology and Management Academy (ETMA), in collaboration with the Association of Indian Universities and Gurgaon Progressive Schools Council.

The Conference comprised

- a. Four keynote sessions and two-panel discussions involving sixteen reputed scholars from Stockholm University (Sweden), COL, British Columbia University and Athabasca University (Canada), Intel (Singapore), UNESCO (Thailand), PFHEA (Australia) and AIU, CITE, CMERI, ICFAI Univ, CEMCA and others (India).
- b. Fifty-five papers and case studies were presented in fifteen parallel sessions spread over the three-day Conference. Senior scholars chaired these sessions; sessions also involved 15 young scholars as rapporteurs.
- c. Twelve expert resource persons conducted eight workshops.
- d. A total of 830 scholars and educators from various countries participated in the Conference as invited speakers, paper presenters, hosts and anchors, rapporteurs and participants.

We present a brief report on the Keynote Sessions, Panel Discussions, Paper presentation sessions and workshops in these proceedings of the Conference document.

Report of Keynote Sessions

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Keynote Session – I

Speaker	1	Prof Asha Singh Kanwar, <i>President and CEO of the Commonwealth of Learning, Vancouver, British Columbia, Canada</i>
Chairperson	-	Prof Tony Bates, <i>President and CEO of Tony Bates Associates Ltd & Distinguished Visiting Professor, Chang School of Continuing, Education, Ryerson University</i>
Anchor & Host	_	Prof Renu Nanda, Dean, Faculty of Education, University of Jammu
Rapporteur	-	Dr. Mrinal Mukherjee & Sri Arnab Kundu



Prof Asha Kanwar talked on "Sustainable education: hybrid, blended and elearning" and put her observations on this important topic. She made her objective very clear at the beginning; to help governments and institutions across the globe to use technologies to improve and expand access to education and environmental sustainability.

She mentioned SDG-4 as one of the key issues to be globally implemented that seeks to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. But she pointed out that the current scenario of

student enrolment at Primary is 91%. At Lower Secondary, Upper Secondary, and Tertiary level, it is 84%, 64%, and 38% having a gap of 9%, 16%, 36%, 62%, respectively. That has been a concern as per her observation. She again said this concern gets more burning after the COVID-19 outbreak and prolonged closure, mentioning data that it has impacted so deeply that 11 million girls were not returning to education further. She observed lack of digital infrastructure has been evident more than ever, with teachers' preparation revealing a skeletal picture during this pandemic. She believed technology-enabled education needed to be given more focus and pointed out two major aspects of it; first, it's been environment friendly and second is, its uniqueness in accommodating the limitations of traditional face to face learning.

She said climate crisis is a major issue around the globe that has impacted small countries with more depth, and 32 small Commonwealth countries are most vulnerable to climate change. Here she said learning needs to be made supportive to sustainable development- contributing to economic growth, social inclusion, and environmental sustainability. She questioned how e-learning could hold climate sustainability? She pointed out towards education and emissions where school building and infrastructure developments like energy creation contribute to emission affecting environmental sanity. Technology-enabled learning has an important role in deliberating here, bypassing these limitations of traditional education.

She then introduced the vital technology-enabled learning modules- e-learning, blended learning, and hybrid learning. She noticed these modes are cost-effective by pointing out to a statistic that F2F mode costs 6.7\$ per unit while Online mode costs 3.7\$ per unit, nearly half of the earlier. She said online learning could give a better social return on investment. It gives a unique opportunity for lifelong learning that allows learners greater scopes for achieving employability. She mentioned several research pieces that ensure online learning brings greater engagement, motivation, and achievement; thus, it adds to the positive quality of education. Here she mentioned statistics and said that 81% of students are learning online globally. It contributes to upskilling and reskilling the

learners, driving them to better career paths. Open content in local languages, she said, brings greater social inclusion. Technology intervention in education contributes to the creation of a green campus. She puts the example of Australian National University's Environmental Management Plans-2021 in decreasing carbon emission by 30%, increasing renewable energy generation by 50%, and at the same time increasing sustainable commuting to 80%. She again brings the example of Groningen University's 2015-2020 Roadmap to become carbon neutral through energy, renewable energy, water conservation. She made another remarkable point to the green curriculum emphasising environmental literacy and awareness generation. She referred to the University of Pretoria example, which has already taken a transdisciplinary approach to the curriculum.

With this note, she concluded in an optimistic tone that we need more research and innovation in this direction of controlling emission through technology-enabled learning and ODL modes operations. Every small effort is welcome here; she observed and concluded that sustainability needs to move from margin to centre. At the same time, she notes partnership is also important- partnership for dedicated resources; partnerships among the management, students, communities; and partnership for knowledge sharing and mutual incentives towards excellence.



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Prof Tony Bates summarised the erudite lecture of Prof Asha Singh Kanwar, and he reiterated the issues of connection between blended learning and sustainable development. In response to the question about the qualitative difference of Online Learning, Hybrid, Blended & E-learning, Prof Tony Bates said all these are evolving in nature and still inconclusive. He stressed that new learning, new job markets, different student's needs, new skills and alternative recognitions of the learners' skills are the priority of education. He pointed out localisation of curated OER and offering digital textbooks can reduce environmental stress and make education more accessible. The

combination and customisation of digital and in-person learning were most favoured.

The threadbare discussion that followed the address pointed out that the COVID-19 crisis has made educators realise that many of the teaching tactics and strategies that worked prior to the pandemic just didn't work. Most of the teachers found themselves at a loss to provide a good education for their students. This led the educators to a situation where they found themselves and their students understand the two primary affordances of technology-enabled learning (TEL) - access and

flexibility - that are key for educators in making decisions about learning strategies. Furthermore, by considering holistic learning framed with а Community of Inquiry (CoI) approach, educators could support any type of student learning experience in meaningful ways. Educators who understand TEL and the CoI can design and deliver authentic learning for their students, regardless of the educational setting - hybrid, blended, or eLearning. These were the lines of advice by Prof. Vinayakam Chinnapah and Prof. Maitul Alam, who followed in the second keynote session.



Keynote Session – II



Speaker - Prof Vinayagum Chinapah, Professor Emeritus, Department of Education, Stockholm University, Stockholm; served UNESCO Headquarters in Paris-France



Chairperson - Prof. Matiul Alam, Professor of the Education, University of British Columbia, and CEO of World Education, Vancouver, Canada

Anchor & Host

- **Prof. K. Pushpanadham,** *Head Department of Educational Administration, Faculty of Education and Psychology, M S University of Baroda*

Rapporteur

- Dr. Pallavi Khedkar & Dr Ashish Mishra

The second Keynote address is entitled "COVID 19 Impacts on Education: Needs for Digital Education and Digital Solutions (evidence from Stockholm University) A Global Online Survey". The survey highlighted the global online survey divided into five parts viz.- 1) Introduction of COVID 19 Impacts on Education A Global Online survey, 2) The reaching out all ROA initiative, 3) VOICES of the education community viz., students, teachers, managers and policymakers, 4) Empirical evidence; selected findings on accessibility, affordability, readiness and effectiveness and the last but the not the least 5) The way forward towards digital education for all (DEFA).

In order to achieve quality education (which is in line with sustainable development goals 4 frameworks), there is a need to reach everyone by replacing the digital divide with digital unites having four key concepts, namely- accessibility, affordability, readiness and effectiveness of digital education. The accessibility was judged with the help of factors, namely affordability, readiness and effectiveness, with four items, three items and five items, respectively, comprising sixteen items. The conceptual research model followed with the voices of the people showing holistic participation, along with an inclusive, targeted and comprehensive approach. The main aim of conducting this study was to cater to the capacity development needs of the stakeholders.

This survey covered 12,676 participants from Africa, Asia, Europe and the rest of the world. This study also focused on the concept of "from the people, with the people, of the people and for the people", wherein voices of 6253 teachers, 4527 students, 1268 policymakers and 626 managers were heard in spite of the fact that these people have been speaking different languages.

The survey characterised the Global-National-Local approach comprising location, gender and voices of stakeholders. The survey structure speaks off research reliability and validity and the balanced and comprehensive representation of the participants' voices involved in it. The

recommendations of this study will be very useful for Targeted Informed Policy Actions by different governments around the world. The study claimed that a 'Digital Divide' is very pertinent regarding the accessibility of resources. Significant differences were found for accessibility concerning the location of the people, age group, gender, and educational subsystem (viz., school-level education and higher-level education).

The affordability aspect is also very important. With the help of this survey, more than half of the population cannot afford distance education through digital media, as a lot of investment in this field is required by governments and industrialists. Since digital education is most expensive for 54% of students worldwide where targeted informed policy action is required, especially for rural areas that are more vulnerable. Not only this, the males have been found more advantageous over their female counterparts with respect to the affordability aspect of digital education.

The next very important element of digital education is readiness, and four out of ten people said 'yes, they are ready' for blended and digital education. Designing modalities for distance or digital education is based on the readiness aspect with reference to teachers as well as students. A breakthrough for digital education is readiness for such type of education system.

The Digital Education and Digital Solutions- Need Assessments Effectiveness is also pertinent if we want to reap the benefits of Digital education because a teaching methodology must enhance students' learning with a proper teacher-student interaction. It was perceived by most of the learners that learning outcomes could not be improved by digital education (based on the responses of participants during this survey), which is a serious challenge for all of us. Because students were not in its favour as far as teacher-student interaction and learning outcome is concerned. It was also evident from the study that the educational subsystem differently perceives effectiveness, i.e., there

is a significant difference between the higher education system and the school education system regarding the effectiveness of digital education. The study also used qualitative data analysis by three open-ended questions pointing out that 'no more one size fits all' and collaboration in the field of education is very important. Another pointer in this direction is that the policymakers need to have their visions in consonance with the results of this study so



that global, national and local solutions for expansion and utilisation of digital education can be found.

Keynote Session – III



Speaker - Dr Nathaniel Ostashewski, Associate Professor, Athabasca University Distance Education Program, Alberta, Canada



Chairperson - **Dr Sanjaya Mishra**, *Education Specialist (E-Learning),* Commonwealth of Learning, Vancouver, British Columbia, Canada

Anchor & Host – Dr S Rama Devi Pani, Editor, University News and Head of the Research Division at the Association of Indian Universities, New Delhi

Rapporteur

- Dr Tausif Biswas & Ms Ambika Sharma

he third keynote session was on Technology Enabled Learning and the Community of Enquiry: A Holistic Learning Approach delivered by Dr Nathaniel Ostashewski with Dr Sanjay Mishra in the chair. As per Dr Sanjay Mishra, the holistic framework increases access and provides more flexibility to the learner with respect to the learning experience and framework of inquiry. The question about how to blend technology with learning and accept it as the new norm is the most important dimension. Blended learning, specifically in education, requires equipment, expertise and services. The term holistic is all about the components of technology-enabled learning: teachers, their teaching environments, and the learners' educational experiences. To achieve desired learning outcomes, the problem does not limit to technology alone but the teachers' as well as educators' ideas of how to make the best use of the available technologies. The overnight increase in the importance of technology in the teaching-learning process due to pandemics has been an amazing experience. Several reports of the World Bank and OECD show that at least half the people involved in the education business felt that the challenge was great and very well prepared to meet the situation. It was observed that there is a difference between the fact that educators might know how to use the technology. Still, they lack the know-how for using technology in educational activities. The issue regarding the problem of the digital divide and the large student population of (around 1-1.26 billion) facing the learning issue had been of great concern. It can be hypothesised that technology brings two key benefits to education - access and flexibility. However, technology is not simply about tools or the internet. The countries like Brazil and Australia utilised technology, i.e., TV and radio, for instructions to students, and they achieved the desired objectives in teaching-learning. In short, educators are responsible for designing educational experiences. They need to focus on designing the learning experiences for online learning while using resources to connect learners, inspire and motivate them. While designing activities for the student, their continuous engagement remains a big challenge, especially in the case of slow-paced learners and sharing the responsibility online with the parents. In such cases, mothers as an agency for involvement in education is most important. In short, for holistic learning, hybrid and blended learning will stay for generations to come.



Keynote Session – IV



Speaker - **Dr Libing Wang,** *Chief, Section for Educational Innovation and* Skills Development (EISD), UNESCO Asia-Pacific Regional Bureau for Education, Bangkok, Thailand



Chairperson - Prof Pankaj Mittal, Secretary-General, Association of Indian Universities, Former Vice-Chancellor, BPS Women University, Govt. of Haryana

Anchor & Host – Prof Syedah Fawzia Nadeem, Professor of Education, Jamia Millia Islamia, New Delhi

Rapporteur

New Delhi

ur – Ms Zahara Kazmi & Ms Richa Prasad

The fourth keynote address was entitled "Mainstreaming Online and Blended Learning in Higher Education through Supportive Ecosystems", highlighting the challenges of integrating the technology-enabled blended/online learning in higher education that are quite apparent during the time of the Covid 19 lockdown. Several restrictions and physical distancing led to the unprecedented disruption of campus and classroom-based learning. Online learning was the most sought-after solution to maintain learning continuity, which became a new normal in the covid days. It created a need for a supportive ecosystem to bridge the digital divide in society. The reason is that online learning was largely perceived as a supplement to 'real learning' in a traditional classroom setting before the Covid19 pandemic. The model of hybrid, blended, and e-learning is the future of higher education wherein the system can adapt through creating a supportive ecosystem. However, lack of confidence in the quality of online learning activities, lack of infrastructure support, poor internet speed, and less preparedness of the HEI and faculty members are some of the reasons underlying its unacceptability.

Recognition of online learning at the system, institutional, programme, and course levels- is yet to be established. Inelastic demand for education during the pandemic has generated significant momentum to reimagine the role of technology in the delivery and quality of higher education programmes and demands that we keep the momentum going towards mainstreaming online/blended learning in higher education. Blended learning will inevitably become the new normal for teaching after pandemic by developing a supportive ecosystem to mainstream the new normal. Already there are lots of good policies and practices that UNESCO has collected from countries in the region that need to be scaled up to more countries as well as higher education institutions. The sustainable

International Conference Report development goal (SDG 4) can't be achieved without creating a supportive ecosystem to address the gaps in capacity building, providing equitable access and quality and excellence in delivery. The learning programmes have to be more diverse, flexible, adaptive, and relevant to the needs of communities and individuals.

Last but not least, the use of ICT can make learning systems more resilient to overcome future disruptions to learning. The four-year higher education needs to be holistic through providing supportive quality infrastructure, teaching material, and user experiences. Taking care of internet penetration rate and connecting speed as well as the content quality and supply of quality software to empower faculty members will help in institutional capacity building, strategic planning, staffing, and budgeting processes. Establishing teaching and learning support centre to facilitate innovative teaching and learning practices will provide continuous professional development (CPD) to upgrade the system capacity. In developing and maintaining the educational repositories of subject-specific e-content and providing teaching-learning support centres to facilitate innovative learning. Higher education professionals need not be reluctant to experiment with the pedagogical knowledge base. For making this possible ecosystem, mapping is essential to address the learning gaps and assist in finding the solutions to the higher education system. It is hoped that UNSECO will always stand ready to contribute in all delivery modalities, pedagogical developmental, and e-content generation, providing the capacity building and training of teachers/professionals to India and Bangladesh.

Prof. Pankaj Mittal observed that on the Indian Platter, the adoption of online platforms like SWAYAM has only been around 20%, which has grown to 40% in the post-pandemic. India has proven to be 100% in delivering online learning programs through different MOOCs and SWAYAM platforms. Partnering with a UK-based company and opening a platform QEDEX for 50-60 courses will help train teachers to effectively teach online. These are not subject or discipline-related courses but are based on online pedagogy, including how to do the instructional designing, make good effective presentations, have good student engagement, communication skills, etc. E-content needs to be taken into consideration while online teaching and learning. In India, e-pathshala (a curriculum-based e-content) in the form of Open Educational Resources are available. However, there is still a need to work on people's attitudes to consider online courses equivalent to offline courses. The National Education Policy 2020 initiative for considering the online courses in school education as well as in higher education is a movement in this direction. Introduction of Academic Bank of Credit (ABC) initiative in the liberal arts courses wherein the learner can acquire any credit courses from India and abroad in a self-pacing mode through online or offline mode of learning will help achieve the desired goals.

Dr Sanjaya Mishra and Dr Libing Wang, along with Professor Pankaj Mittal, analysed the designs of teaching and assessment in the world of teaching and learning and came to the conclusion that the pandemic era has allowed the functionaries and beneficiaries of the education system to explore the possibilities of extending the classroom in-person teaching experience to the virtual world. While entering into the virtual world, every moment of interaction provides a chance to generate data of big nature. This big data, if utilised skillfully, can give a myriad of options to get into the insights using which both teaching and learning processes can be improved. Data-led insights may be transformed to customise the process of strategic teaching and personalise the learning process to learners' needs and preferences. Modern LMS (Learning Management System) takes the help of AI to exploit all such insights to personalise and customise the courseware as per the capabilities and learning pace of the learners. Moreover, the assessment process in the current era also needs to become analytics oriented rather than stereotypic question papers.

Dr Rajesh P Barnwal pointed out while looking into Artificial Intelligence as disrupting almost all the sectors in the learned world. Teaching and learning are not an exception.

Such insights may be transformed to customise the process of strategic teaching and personalise the learning process to learners' needs and preferences. Modern LMS (Learning Management System) takes the help of AI to exploit all such insights to personalise and customise the courseware as per the capabilities and learning pace of the learners. Moreover, the assessment process in the current era also needs to become analytics oriented rather than stereotypic question papers. This is where machine learning and data analytics can also play a big and decisive role. However, even after these technological advancements, the relevance of in-person teaching cannot be demeaned. Personal interaction during the teaching and learning process has its own place. It may not be fully replaced by the technology-led teaching & learning process, even in the near future. Technology like AI, ML, and data analytics can play an assistive role that has the power to substantiate the human-led teaching process. Thus, it is imperative to deliberate and make an informed decision for the proportion of the technology-led and human-led teaching and assessment process to optimise the learners' outcome. The panellists in various sessions concluded that local innovations, local participation, parental awareness are important from preschool to universities. The blending of various teaching tactics and using the available tools and techniques in hybrid mode will lead students and teachers in a big way to achieve the desired goals.



Report of the Panel Discussion Sessions

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Panel Discussion – I

Theme: Technology-Enabled Learning Assessment & Examination Management

Chairperson	: Dr Ramesh C Sharma , School of Global Affairs, Ambedkar University, Delhi and former Associate Professor, Wawason Open University, Malaysia
Panelists	: Dr Rajesh P. Barnwal, Principal Research Scientist of CSIR-India and currently leading the AI & IoT Lab (part of the IT Group) at CSIR-Central Mechanical Engineering Research Institute, Durgapur, India
Rapporteur	: Dr Deepika Kohli & Dr Renu Vij

In this first-panel discussion session, Chairperson Dr R C Sharma shared his perceptions on technology-enabled learning. *Technology-enabled* tools can support teachers' assessment and



evaluation activities. The term "technology-based assessment" refers to the process of assessing and evaluating the development of individual students in educational settings via the use of electronic systems and software. Technology can help teachers track the record and assess their students' performance in the learning environment. Additionally, it may improve communication between students and instructors and establish digital records of students' progress and development. Instant evaluation via technology may increase engagement, identify knowledge gaps, and promote deeper learning. Computer-aided testing makes it possible to analyse test findings in great

detail with low effort. After introductory remarks, the Chairperson introduced Panelist Dr Rajesh P. Barnwal.

The theme of Dr Barnwal's presentation was "AI Intervention for Assessment and Examination-



Technologies and Opportunities". He mentioned that Exams and assessments are an integral part of any kind of online or offline course. Actual learners must give exams, and thus their identity verification is a must. There are various objectives of assessment like the test of learning, memory, preparedness, critical thinking, problem-solving skills, fair grading of learners etc. There are two main modes of examination, i.e. Offline (Traditional) and Online (Contemporary). There are three types of environment, i.e. closely monitored, non-monitored, and open book exams.

Further, assessment and examination purposes and threats were focused on. The main purposes are to assess the learning, not memorisation, assess the core concepts and knowledge, higher-order thinking skills. The threats of the current system are unable to check plagiarism, copied content, mechanical assessment process, promotes depression rather than fun, high stakes examination induces pressure. The assessment methods should be scientific, designed to improve learning, induce fun, test application of knowledge, and ensure an inducing & engaging learning experience. Further, the National Policy on Education concerning examination and assessment was elaborated. After that,

International Conference Report Exams scenario during Pre and Post pandemic period was focused on and discussed. Also, a monitoring system of examination during pre and post-pandemic was taken into consideration. The main part of the presentation was concerns and difficulties during assessments. The primary concerns are maintaining the integrity of examinations and fair grading of the talent.

The main difficulties are geographically distributed students and the unavailability of local supervisors. Then the use of unfair means during pre-pandemic and post-pandemic was elaborated like third party help, notes from material resources, help from study materials etc. Then the requirements of Proctoring were discussed. The major requirements are authentication, misuse of resources like cheating, misappropriation of test information. The various opportunities are the availability of digital technologies and ever-developing artificial intelligence methods. Proctored exams required AI technology. Artificial intelligence uses live footage from webcams and audio from the laptop or computer to understand if the students are resorting to unfair means. The AI model is trained to catch the various discrepancies. Now we have an opportunity to capture more digital data about learners. Data like surveillance data, response pattern and time spent on each question, answer preferences. The technologies are there to help, like pervasive technologies like ICT, data analytics and machine learning, computer vision algorithms, recommender systems, augmented and virtual reality etc. The assessment with big data can give insights using which both teaching and learning processes can be improved. It can help to make modern LMS more adaptive using AI. In the end, some possibilities with technologies were focused on and elaborated.



Panel Discussion – II

Theme: Innovation and Research on Technology-Integrated Education

Chairperson	: Prof Madhu Parhar, Director, Commonwealth Educational Media Centre for Asia (CEMCA)
Panelists:	
	1. Dr Som Naidu, Principal Fellow of the Higher Education Academy (PFHEA); Executive Editor of Distance Education Journal of Australia's ODLA. Former Pro-Vice-Chancellor, The University of South Pacific, Fiji
	2. Dr Indira Koneru, Associate Dean & Head, eLearning Department, ICFAI Business School, & Founding Director of Koneru Bhaskara Rao & Hemalata Human Development Foundation
	3. Prof Amarendra Behera, Joint Director, Central Institute of Educational Technology (CIET), National Council of Educational Research and Training, New Delhi
Anchor& Host	: Prof S. P. Malhotra, Hony. Director of ETMA, Former Professor and Dean Academic Affairs of Kurukshetra University and chief consultant to EdCIL
Rannorteur	: Sri Arnah Kundu & Sri Chanchal Maity



At the very beginning, Respected Chairman Prof. Madhu Prahar set the tune for the speakers and said innovation and research complement each other in Technology integration in any field.

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The 1st speaker Dr Som Naidu entitled his topic with a question, "Useful lines of inquiry—what is worth investigating and how?" He starts talking about a very grave concern of the COVID-19 pandemic and the eventual closure of educational institutions across the globe. He questioned why institutions had to shut their operations? Why couldn't we stand against this emergency? What were the loopholes that we failed? How can we develop a resilient & coherent system in future to face any such eventualities in future? These are important areas that need attention and research.

He gave a detailing of the key takeaways of the COVID-19 pandemic. Its academic impact had been domain neutral irrespective of institutional resources.

He pointed audience attention to those institutions that followed more open, flexible, and distanced learning methods like open universities, which are least affected by this pandemic outbreak. From there, he inferred that the pandemic has shown how unprepared and ill-equipped the education sector has been for disruption if its educational operations and close of business model!

Then he set forth a line of inquiry into this situation. First, make a preliminary assessment of the impacts of the pandemic on the education sector globally and mark the familiar points, ones that are universally characterised by chaos, panic, misguided assumptions, and questions, then hasty

decision-making for the short-term emergency. Second, the large scale adoption of online distance learning in the wake of the pandemic and investigate whether these had been as effective as campusbased education. Third, he noted an important line of inquiry to look for insights on particular attributes or affordances of Flexible Learning.

Finally, he proposed a framework to strengthen our education system to stand fearless amidst any such future calamities. He talked about eight dimensions in his proposal for a resilient education system. First, learning-experience design is designing and developing a productive learning experience where each learner can make most of the learning opportunities. Second, learner-content engagement is learners' engagement with the subject matter in ways that suit individuals, their styles, and approaches to studying and its time, place, and pace. Third, learner-teacher engagement is the choices learners have concerning the mode and method of their engagement. Fourth, learner-learner engagement offers learners choices to adopt several peer interaction and engagement modes. Fifth, learner-environment engagement is adaptable access, interaction, and engagement with the learning environment. Sixth, learner engagement with the assessment offers learners choices in relation to their fulfilment of assessment requirements. Seventh, learner-feedback engagement offers them choices regarding access to feedback on their learning activities. Eighth, learner-institution engagement is about choices learners have in relation to their engagement with the services of the educational institutions, especially in unbundled forms. With these words, he optimistically concludes his speech that our research and inquisitive minds will surely find way outs in the future so that our institutions do not need to stop operations facing any calamities.



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The 2nd speaker was Prof. Indira Koneru of ICFAI Business School (IBS), and she demonstrated a few innovative strategies ensuring undisrupted teaching learning assessment during COVID-19. In this beautiful case study, she demonstrated how far her institution was ready with needed infrastructure, capacity building programs of the teachers, online content development, students' preparation, and their institutional uniqueness to face a pandemic. She stated they upgraded their IBS LMS servers for improved

performance in all their seven campuses, procured Zoom-pro and Edu licences, procured Screencast-O- Matic licence, and Moodle mobile apps. They made a lot of efforts to enhance staff capacity building through rigorous training interventions in both synchronous and asynchronous modes. They created forums in MeBL 2020 & 2021 for course development, and 224 Faculty submitted collaborative course designs. She then talked about their institutional uniqueness in online course delivery. Students who couldn't manage a laptop/pc were encouraged to use the Zoom Mobile app or Moodle app. Recordings of the live sessions were also made available on LMS courses to address connectivity issues. Faculty members were in alerts regarding students' participation. Students who couldn't procure textbooks were sent live lecture notes through IBS LMS. Another important aspect she talked about was i-book or interactive books by integrating OER prepared by their trained faculties. Thus, she concluded her speech detailing their exceptional initiatives to keep running the wheels of education even though COVID-19 closures.



The 3rd and last speaker of this session were Prof. Amarendra Behera of CIET, who talked about the digital initiatives taken by the Government of India(GOI) to bring education on the digital mode on a research-oriented approach. In the beginning, he focussed on the key issues of the National Education Policy 2020 on this digital transformation like promoting research, policy design, state of the digital art infrastructure, e-content development, capacity building of teachers, and creating awareness for this shift. Then he

discussed the digital initiatives taken up by MoE and GOI like e-pathshala, NROER, DIKSHA, NISHTHA, SWAYAM, ICT Curriculum, PMeVIDYA. He gave a detailed description of the PMeVIDYA, the latest initiative of GOI, with a focus on the unification of efforts enabling multimode access to education. He also apprised the audience that CIET and NCERT have already converted all school textbooks into e-version along with 2.7 lakh e-content available for the school children. He quotes National Education Policy (NEP) 202 that "Teachers truly shape the future of our children and therefore, the future of our Nation. The motivation and empowerment of teachers are required to ensure the best possible future of our children and nation". As per the recommendation of NEP 2020, every teacher and headteacher is expected to participate in at least 50 hours of Continuous Professional Development (CPD) opportunities every year for their professional development, driven by their interests. To realise the vision of NEP-2020, recently NCERT under the aegis of Ministry of Education (MoE), Govt. of India has initiated the NISHTHA (National Initiative for School Heads' and Teachers' Holistic Advancement), an integrated training programme. NISHTHA 1.0, 2.0, and 3.0 online for different stages of school education - Teachers, Head Teachers/Principals and other stakeholders in Educational Management and Administration.

In the interaction session professor, Marmar Mukhopadhyay adds an important point that we need to include these ideas into actions so that the advantages of technology integrated education reach the last boy of the small village school. Only then we may have some portion of satisfaction.



Report of Paper Presentation Sessions

The three-day International Conference on Hybrid, Blended and E-Learning was online from 3rd to 5th Dec 2021. In all, 55 papers were presented in 15 breakout sessions. Under the broad theme of Blended, hybrid and E-learning, most papers were researched and written in the backdrop of the ongoing pandemic also. Each session had a variety of papers presented.

Papers were presented that researched teachers' experiences with online teaching-learning / technology integration during the past two years. Papers discussed issues and challenges faced by different stakeholders: teachers, students and heads of institutions (both in schools and higher education institutions). Only one paper researched parents' perspective, their preparedness for the new mode of classroom interaction and anxiety regarding their ability to help out their wards. Presenters also discussed the challenges faced during online education. They realised that it was important to document how student-teachers cope with the online conduct of pre-service teacher education programmes.

There were four research papers on school subjects- English, Urdu, Social Science, and Life Science. Each explored the available technology (or lack of it) and how students and teachers may best utilise it; also, teachers need help in learning to use the technology.

The philosophy of blended learning was also discussed. At the same time, it was posited that technology is the need of the hour and needs to be optimally utilised. Harnessing technology for mindful teaching and developing resilient course design is important because online teaching is the way forward and, in certain situations, the only way forward.

The Emergency Remote Teaching (ERT) and Extended Technology Acceptance Model (TAM3+) were also tried out in classes. In both the researches, it was concluded that the online mode of teaching-learning was more effective and, in certain situations, a better way of managing academic challenges and situations. However, the teacher's mindset was a significant predictor which influenced their ease of use and consequent success with technology. Related to the teacher characteristics were papers on self-regulated learning and motivation, which again emphasised that the teacher's growth mindset went a long way in predicting the success of a technology-integrated professional learning programme.

Most of the post-presentation question-answers and discussions were centred around access to technology and uninterrupted connectivity, on the one hand, and capacity building of teaching personnel. Participants were keen to discuss the equitable distribution of technological resources and the role of concerned governments in ensuring it. The need for regular training was also felt. Excitement and apprehensions go hand in hand when it comes to using any form of technology. Discussions in each of the 15 sessions came to the conclusion that there may be issues, concerns and challenges concerning hybrid, blended or e-learning, but they have a mighty potential.

This report does not reflect the actual report of the parallel paper presentation sessions. The parallel paper presentation sessions report contained, in a way, the annotations of the paper presented. The quality of the reports varied rather widely. In many cases, on review, the abstract of the papers presented by the authors was found much more authentic than annotations made out in the sessions. The abstracts were made available to all the participants in the form of Conference Souvenir. Those who did not participate in the Conference may find reading Appendix – I for Abstracts of the presented papers.

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Report of Workshops

 E_{TMA} has conducted an online conference on Hybrid, Blended & e-Learning on 3-5 December 2021, under which eight workshops has been conducted under the following theme:

- 1. Design Thinking
- 2. Learning 321
- 3. Open Education Resources for Lifelong Learning
- 4. Reusing and Repurposing OER for Blended learning
- 5. Artificial Intelligence and Machine Learning
- 6. Going Forward to Normal
- 7. Advanced Educational Research Methods
- 8. Designing Virtual Reality Experiences in Education

1. Design Thinking

Resource person: Mr. Kapil Singh Murdia



Kapil is an IBM certified design thinking practitioner. He has held several workshops on human-centred design, Design Thinking, Critical thinking and Go-to-market strategy. He is an enthusiastic networker in Delhi NCR Tech and Start-up circles and loves to volunteer for various activities to help build the local startup ecosystem. He has also participated in various initiatives to improve education outcomes in schools and has co-authored two books on this subject. Kapil is a first-class graduate in Engineering from Walchand Institute of Technology and a six-sigma green belt.



Moderator: Ms Rupa Chakrabarty, President, GPSC

Mr Kapil Singh conducted the workshop on Design thinking. On day first, he shared a human-centred interactive design thinking workbook with the audience. He facilitated the use of a workbook to understand the process of design thinking and how to use it for identifying a problem and reaching a possible solution.

Design thinking sprint is a method where a group of people collaborate, interact, discuss, debate and think aloud about the user's problem and

contribute various possible solutions during the ideation process. During this workshop, all attendees contributed to a discussion led by Mr Kapil Singh to solve the problem of students losing focus in the afternoon online sessions.

2. Learning 321

Resource person: Prof Madan Mohan Pant



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Prof Pant has been associated with many educational organizations as members of committees or working groups, such as the — AICTE, AIMA, CBSE, CEC, EDCIL, EISA, MEDIA LAB ASIA, NCERT, NCTE, NIOS, NUEPA, UGC and several Universities. He has been closely linked with the IIT system, acquiring his PhD from IIT Roorkee, has been a faculty member at IIT, Kanpur and a member of the Board of Governors at IIT, Delhi. Drawing varied experience over 40 years, he is now on designing and building systems that can meet the challenges of inclusive education of high quality.

The workshop on Learning 321 was conducted by **Prof M. M. Pant**. The session started with Prof Pant citing the importance of different industrial revolutions in the field of learning and how it has led to the present education version, which is Education 4.0. He stated that though we created wonders like the TajMahal, the pyramids with manual labour, productivity expanded with the advent of the industrial age. He mentioned how the oil companies made huge profits by selling kerosene/lamp oils in the pre-electricity days. He mentioned that what we see now in front of ourselves is the fourth industrial revolution which is now powered by automation based on Artificial Intelligence and Machine Learning and is often called Intelligent Automation. He also mentioned that another meaning of Education 4.0 is education for the fourth industrial age. He stated that CBSE had introduced machine learning coding into its curriculum, which will help prepare the younger generation for the fourth industrial age. He dwelled on the point as to how important it was to expose students to computers, machine learning and coding for problem-solving so that they are future-ready – a future that is changing rapidly. He stated that the old teacher training model would not help much in a scenario where everything is moving ahead rapidly. He stated that Self Learning is the best solution to this. He later built on the idea of Self Learning.

Professor Marmar was also a part of the discussions wherein he mentioned that cognitive degeneration is unnecessary. The discussion moved to how death is thought to be inevitable, but the same might not be so in future. Prof. Pant stated that how there are 5 to 7 points that confirm the fact as to why a person dies like DNA sequence changes, telomeres shorten and so on. He then later proceeded to say one should concentrate on improving the learning techniques so that more learning can be achieved. Prof. Pant mentioned that age is not important or that there is no specific time to learn. It's the motivation and the willingness to learn that takes precedence.

3. Open Education Resources For Lifelong Learning

Resource Persons: Prof K Pushpanadham



Prof. K. Pushpanadham is currently the Head of the Department of Educational Administration, The M.S. University of Baroda, India. He worked as a Dean at the Faculty of Education and Psychology, the M. S. University of Baroda. He was visiting Professor at the Institute of International Education, Stockholm University, Sweden. He was worked as a Director, Education E-Learning Programmes and Assistant Dean for International Affairs at the Assumption International University of Thailand

and acted as a resource person for the Commonwealth Secretariat's Headteachers Training and Resource Material Development project for Asia-Pacific Regions.

Dr Muhammad Helmi Norman



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Dr Helmi is an Associate professor at the Faculty of Education and the Deputy Director (Instructional Technologies) of the Center for Teaching and Curriculum Development, Universiti Kebangsaan Malaysia. He is a Certified Professional Technologist (Malaysia Board of Technologists), a Distinguished Educator and a Professional Learning Specialist.

The workshop on Open Education Resources for Lifelong Learning was conducted by **Prof K Pushpanadham** and **Prof Muhammad Helmi**

Norman. The Day 1 workshop was attended by around 50 participants. Prof K Pushpandandham started by welcoming all the delegates and began with a question about what changed in learning in the last 30 years. He mentioned four windows and invited the participants to share their ideas. Prof K Pushpanadham elaborated 5Rs: Retain- make own copies, Reuse-Use in a wide range of ways, Revise- Adapt, modify and improve, Remix- combine two or more, Redistribute- share with others.

Later Prof K Pushpanadham invited Prof Muhammad Helmi Norman to continue the discussion on OER. He presented a video on how non-contextual topics and teaching methods create a disconnect among the learners. In the following video, the teacher asks questions about topics students could not connect to. Prof K Pushpanadham continued discussion on the 21st century's learning dynamics where the classroom goes beyond the physical, digital and geographical boundaries. The participants were intrigued to watch a video on an Autobot helping a family with household chores. The participants felt that Autobots make people lazy and overly dependent on machines/software. There was an intriguing question: How much is too much? How much to blend? He further presented a platform eNEA-SEA, for collaborative education on OER.

On day 2nd Prof. K Pushpanadhamstarted the discussion recapitulating Day-1 proceedings. Reach the unreachable through OER is the new watchword. QR coded textbooks, available on various OER platforms, are very handy. Participants shared that it is challenging to customise courses or create learning materials by curating text and videos. Also, making it available to students with learning disabilities is not easy. Prof. K Pushpanadham suggested creating a group of teachers to create curated resources using OERs, and year on year, it will grow.

4. Reusing And Repurposing Oer For Blended Learning

Resource Person: Dr Indira Koneru



Dr Koneru is an Associate Dean and Head, eLearning at Icfai Business School (IBS) and the Founding Director of KBR & HL Human Development Foundation. She manages the eLearning Department for seven IBS Campuses and plays a pivotal role in planning, designing, developing and implementing Moodle-enabled blended online learning.

Dr Indira is an eLearning consultant of Commonwealth of Learning (COL)&Commonwealth Educational Media Centre for Asia (CEMCA) and

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the domain expert for IIT Bombay Spoken Tutorials on Moodle. She is a volunteer Mentor of UNESCO's Open Education for Better World (OE4BW) Projects.



Moderator: Ms Charu Maini, Principal, DAV School, Gurugram

Dr Indira Koneru Yalavarthi conducted the Reusing and Repurposing OER for Blended Learning workshop. This session augmented the knowledge about creative commons and Hands-on activity to create OER using module course helped attendees be acquainted with the use and choices of available resources. Dr Indira also explained 4 Basic CC licenses and How to attribute a CC Licensed Work while reusing and repurposing an OER? Later she also explained OER-based virtual learning. The session has paved the path for the appropriate use, reuse and repurposing of OERs.

On day 2nd Dr Indira Koneru took the participants along with her on the journey to create an Interactive video using Lumi app from available OER. The delegates were asked to be enrolled on the eLearning platform to upload the created interactive video. The workshop allowed all involved to learn, do and act. In practice, repurposing OER will save time and energy to create new resources and prove fruitful in a blended learning scenario. The Lumi app allows offline interaction and may accommodate low bandwidth or no internet scenarios. In the words of the Chairperson, this tool can be used for assessment as learning and assessment for learning.

5. Artificial Intelligence and Machine Learning



Resource Person: Mr Sachin Sharma

Data Scientist and Co-Founder of Funoppia, Specialist in Artificial Intelligence & Machine Learning



Moderator: Brig (Retd) Prof Ashok Pathak, Former Dean, Faculty of Management Studies, Sharda University, NOIDA

Mr Sachin Sharma conducted the workshop on Artificial Intelligence and Machine Learning. The

participants were given a hands-on overview of AI and its applications. The workshop continued for two days. On the first day, the discussions and activities centred on the various applications of AI.

He set the stage for the participants to dabble with a few examples of CVs that were scheduled on the second day. The participants were shown how to use Python software to process digital images. He concluded the first day of the workshop by providing the participants with a glimpse of what they could expect to learn on the second day.

The second day commenced with a brief recap of what was done on the first day. After that, the facilitator described how AI works. Essentially AI mimics how humans start to learn through visuals. He further briefed about the Neural Network, a family of models that intended to mimic the neural cells in the brain. It is also part of biologically inspired computing. The concluding part of the workshop included creating a CNN model to detect a mask in an image. The facilitator used the Keras platform to show the coding. Overall the workshop was interesting.

6. Going Forward To Normal

Resource Person: Prof Sugata Mitra



Prof Mitra retired in 2019 as Professor of Educational Technology at Newcastle University in England, after 13 years there, including a year in 2012 as Visiting Professor at MIT MediaLab in Cambridge, Massachusetts, USA. Currently, he is Professor Emeritus at NIIT University, Rajasthan, India, and a Montessori Group, UK trustee.

He is well known for his 'Hole in the Wall (HIW)' experiment. He is the recipient of many awards and honorary doctorates from India, the UK, the USA and many other countries in the world – among them the Dewang

Mehta award for innovations in IT from the Government of India (2003) and the million-dollar TED award (2013) from the USA.

Prof Sugata Mitra conducted the Going Forward to Normal workshop. The speech brings out innovative ideas on how to define 'normal' for the future education system after the experience of elearning during the lockdown of the pandemic, Covid-19. According to him, a normal is only defined by the majority. The majority here has been involved in going through the experience of using technology thoroughly through devices, internet browsing, information gathering and processing while taking regular classes on the screen. Prof Sugata shares an interesting comparison between the schools in the '90s when computers were used for the first time and the modern schools now. Back in the '90s, the computers were kept in the holes of the walls with minimum access to this machine, considering the physical presence of teachers the main resource. Now, the classrooms are being designed in a way where these technological devices are able to bring teachers from around the world into their virtual classes. He calls them 'Schools in the cloud'. In these schools, students are to learn on their own being self-organised.

Prof Sugata metaphorically stated that the gardens now need to grow with freedom, not in scaffoldings anymore. This freedom is offered to each individual in the classroom, not only a few individuals in mind. This can be done by spontaneous order focusing on all altogether. He further strongly emphasises Computing, Comprehension and Communication make this self-organised learning happen. Combining these three modern children can develop the skills to explore an unknown world of knowledge. Every institution should work on providing the learners with internet facilities not only during classes but also during exams. To make this happen, the present typical

pattern of questioning should also change to dynamic and creative ones. During the discussion with the audience, he highlighted the same points of the exam system and question patterns. All participants agreed upon the matters through their voices and messages in the chat. Using the internet during exams may also change the teachers' perspectives.

7. Advanced Educational Research Methods

Resource Persons: Prof S P Malhotra



Prof. S.P. Malhotra (Director ETMA) was a Professor of Education at Kurukshetra University. He had been National Fellow at NIEPA and chief consultant EdCIL for Research and Evaluation. For his contribution in the field of teacher education, he has been awarded the 'Best Teacher Educator' award for the year 2005-06.

Prof Syed Fawzia Nadeem



Professor of Education in Jamia Millia Islamia. She has been a part of CPD programmes of teachers and teacher educators of her university as well as outside Jamia. She did a research project on the community radio of Jamia. She has been involved in writing modules for the Open Learning System. She has also delivered video lectures for students of the OLS.

Prof Renu Nanda

Dean Faculty of Education, University of Jammu. Completed and submitted ten research projects funded by NIEPA, SRC Kashmir University, UGC, ICSSR, NCERT & IUCTE MHRD M S Baroda. She is Life Member AIAER, IIPA, CESI, Indo-Association for Canadian Studies, AIATE, Indian Red Cross Society, Civil Defence, NSS & Bharat Scouts & Guides.

The workshop on Advanced Educational Research Methods was conducted by **Prof S P Malhotra**, **Prof Renu Nanda** and **Prof Fawzia Nadeem**. The first day started with setting the tone of the workshop by Prof Malhotra, in which he stated the objectives of the workshop and the aspects to be taken up by the resource persons. Prof Malhotra clarified the concept of Desk Research by citing examples. After that, Prof Renu Nanda shared her understanding of Problem Solving Research and its initiation from the systems people work in and with. She invited the participants to share their problems in the teaching-learning processes, to which the participants did come forward with some hesitation and started listing their problems. This was followed by Prof. FawziaNadeem's thoughts on Meta Research and its genesis. She engaged the participants in a very interesting dialogue followed by Prof Malhotra's inputs. The first day of the workshop ended with a task assigned to the participants by Prof. Malhotra to identify a problem and priorities if there was more than one problem.

The second day of the workshop started with the recapitulation of the work done the previous day by Prof. Malhotra. After that, he asked the participants to share the task given to them concerning the identification of problem/s faced by them in their respective educational institutions. Prof Malhotra elaborated desk research by giving examples from the problems identified by the participants. Prof. Nanda related the identified and listed problems of the participants to problem-solving research by referring to the characteristics and steps of the same. Eventually summed by stating that simple steps like finding the problem, finding the solution and testing the solutions can help anyone practice problem-solving research. This was followed by Prof. Fawzia's explanation of meta-analysis, in which she referred to the most interesting part of the same that it is the research of research and helps one to be wiser with more practice. Finally, Prof Malhotra concluded the workshop by taking feedback from the participants highlighting the solution of their problems by their own effort motivated by the three navigators of the workshop on advanced educational research methods.

8. Designing Virtual Reality Experiences in Education

Resource Persons: Dr Ramesh C Sharma



Associate Professor Ambedkar University, Delhi. Previously he worked with Wawasan Open University, Malaysia, Universidade do Estado da Bahia, UNEB, Brazil, University of Fiji, Fiji, Commonwealth Educational Media Centre for Asia (CEMCA) Indira Gandhi National Open University (IGNOU), India.

& Dr Dursan Akaslan



A full-time faculty member in the Department of Computer Engineering at Harran University, Turkey. Completed MA in ICT and Education from University of Leeds, 2009, England and a PhD in Computer Science from University of Leicester, 2015, England. His primary focus and inspiration are Computer Graphics and Game Development.

The workshop on Designing virtual reality experiences in education was

conducted by **Dr Ramesh Sharma** and **Dr Dursan Akaslan**. The session started with an introduction to Augmented Reality /Virtual Reality /Mixed reality. He talked about the three worlds we live in, i.e. the real world, the digital world and the virtual world. He further discussed a massively multiplayer online role-playing game (MMORPG), a video game that combines aspects of a role-playing video game and a massively multiplayer online game. Moonbase Alpha is a video game that provides a realistic simulation of life on a natural satellite based on potential Moonbase programs. The ultimate classroom adventure provides a platform for teachers to introduce gamification into their classrooms encourage better behaviour. He also discussed the Metaverse, Intraverse and Paraverses. This was followed by a detailed discussion on Augmented Reality vs Virtual Reality vs Mixed Reality.

On Day 2 of the workshop, Dr Dursun started the program by creating an amination with character and showing the participant how. He went on to show the participants how to work with the three js library. Dr Yash Paul continues with AR VR applications with Giro sensor devices. He later talked about more expensive devices and how to create a 3600 Pano view, save, etc. He also showed how to share the VR photo through Email or someone who has a Giro phone, Facebook, or WhatsApp.

APPENDICES

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Appendix – I

Abstracts of Presented Papers

Session 1 Chair: Prof Syedah Fawzia Nadeem Blended Learning During Pandemic in India: Parents' Perspective

Dr Mouna Gupta, PhD (Education), Jamia Millia Islamia &

Dr. Mohd. Mamur Ali, Assistant Professor, Department of Teacher Training and Non-formal Education (IASE), Jamia Millia Islamia, New Delhi

COVID-19 has impacted several economies globally, with most countries closing their academia, resulting in the transition of face to face classes to the blended mode of education. This has affected over 320 million students in India. With self-initiative and parents' involvement along with internet availability, online education has become a household function.

"Learning Enhancement Guidelines", issued by MHRD, focus on parents' role in online learning. This paper is an attempt to understand the perceived role and contributions of the parents in the learning of their wards under Blended Learning.

Blended Learning- A Combination of Theoretical & Practical Aspect

Neha Sharma, PhD Scholar(Fine Arts), Govt .College of Architecture and Sculpture, Mahabal ,T.N.and Assistant Professor SCERT, Delhi

We all seek positivity around us. We love to listen to positive thoughts. This thought of writing on "BLENDED LEARNING" puts a question on the present scenario. If education also needs positivity, what we had been delivering until now? Education itself means something positive. It can never be something else than that. But positivity and practicality are two different realities, and we have seen Practicality being taught differently than positivity and reality. What if schools deal with practicality and not with positivity. While writing this, I searched many articles and theories which talks about the lack of positivity in the education system in schools. Whereas practical and theoretical knowledge in the context of positivity is completely different thoughts while perceiving and pertaining knowledge. This is a very common approach towards the life of almost every individual. It has been viewed largely that theoretical knowledge is to understand the concepts and theories, whereas practical knowledge is directly related to the things to do. Practical knowledge guarantees that you can do something instead of simply knowing how to do it. A positive environment in the school system leads to many tangents which can develop the child's overall growth with 360.

Seeing the picture from a larger view or on a bigger canvas, the positivity, if transferred right from the building years, may completely change the vision of society. When positivity is seen in school's theoretical and practical aspects, one can easily relate what is said and what is being done. One

dimension is incomplete without the other one. Instead, what is needed is theory and practice happening simultaneously in the classroom and day to day life. Teachers and students are directly related to each other. If the theoretical part doesn't stand on the ground level, then it is difficult to rely on the fact that it will cater to the need of day-to-day life. We all focus on learning by doing method. But to see things holistically, we forget that a child or an adult requires a complete reference through behavioural conduct. The other person carries over the way we present ourselves. Unless a universal reference can be multiplied, doable, practicable and verifiable, gaps between theoretical and practical aspects will be seen, and a big gap in a positive environment would also develop.

Session 2: Chair Prof Renu Nanda

Supportive Role of Educational Technology to develop Creative Learning during COVID Era 2020

Subhashree Bera, Student, Diamond Harbour Women's University, Kolkata

Dr Debashis Mridha, Assistant Professor, Department of Education, Jadavpur University, W.B.

The present study focuses to discuss- 1) How technology helps to increase creativity in the online classroom, 2) The usefulness of different online teaching applications, 3) Technology and Remote learning, 4) the Use of Blended online teaching-learning through technology in the context of COVID in Higher Education. A detailed study on newspapers, articles, internet sources is used to collect data. Secondary data are statistically justified where needed. The study shows that students and teachers both are benefited from online creative teaching-learning by the proper use of technology at the time of the Pandemic.

Mindful Teaching and adopting Resilient Course Design

Poonam Vohra, Former Teacher, Ramjas School, New Delhi

Due to COVID-19, educational institutions are shut across the country. As a result, education has changed dramatically by a sudden shift from traditional to online teaching. Teachers have been facing challenges due to lack of resources, lack of technical know-how and uncertainties resulting in loss of classes. There have been financial, technical, and pedagogical issues as major problems. A stressful work environment has led to moral and emotional distress. This will have a significant impact on the future of teaching and learning. So, one must take control of situations and have a proactive attitude. Distress needs to be transformed into resilience as it gives emotional strength. This presentation aims to emphasise mindful teaching by building resilience in course design through hybrid learning models.

Online Learning in the Urdu Language: Prospects and Challenges

Dr Mohd. Mamur Ali,

Assistant Professor, Department of Teacher Training and Non-formal Education (IASE), Jamia Millia Islamia, New Delhi

It is generally observed that Information and Communication Technology (ICT) plays an important role in the professional development of teachers. There are thousands of online courses on various portals and plenty of online learning opportunities for the pupil-teachers. Still, there are very few online courses and such opportunities in other Indian languages like Urdu. This paper attempts to understand the prospects and challenges in online learning for Urdu medium pupil-teachers.

Session 3: Chair Prof SP Malhotra Blended Learning-Setting the Background

Pratyusha Sarkar,

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Dr Indrani Nath,

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&

Prof Md. Kutubuddin Halder,

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Blended learning is one of the outcomes of the technological revolution in the field of education. This paper is review-based; here, researchers reviewed papers critically to understand the concept, historical background, models, and the effectiveness of blended learning in the teaching-learning process. The findings reveal that the effectiveness of blended learning is differential in nature, depending on the grade and socio-economic condition of students, infrastructural facilities of institutions, attitude and technical knowledge of students and teachers. In addition, this paper discussed the present scenario and role of teachers at the undergraduate level regarding implementing blended learning.

'E-Learning: A New Normal' in Higher Education: Challenges and Suggestions

Divya Sharma, Research Scholar, Department of Education, University of Jammu

"People expect to be bored by eLearning; let's show them it doesn't have to be like that." -Cammy Bean

During the COVID-19 crisis, e-learning has gained popularity by becoming the safest yet most convenient mode for educating and connecting the 37.4 million higher education students with their institutions. This paper will highlight the aspects of e-learning, covering its definitions, factors,

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importance, and challenges the students and teachers face in implementing e-learning and suggest a few measures to go ahead with e-learning in Higher Education.

Teacher Education and the Integration of Technology: Social Science Perspective

Neetu Rana, Assistant Professor, Delhi University

As education is the basis of social development, education aims to help the students learn more and more. Similarly, teachers imparting education are also expected to use integrated technological practices during teaching. So that students can be helped in rapid and significant learning. But looking at today's environment, it can be said that the reality is quite the opposite, and teachers are mostly not fully trained on - How to use integrated technology in the classroom effectively. This article has incorporated integrated technology methods in pre-service and in-service teacher education, especially in social sciences.

Along with this, it will also be discussed what can be the purpose and material for teacher education courses or training. It will also remain at the core of how integration can be done without education and training. What are the issues affecting integration? All these topics will be discussed in this article.

Session 4: Chair Dr RC Sharma

Influence of Teachers' perception about teaching-learning process using Emergency Remote Teaching (ERT)

Santanu Patra

Research Scholar, School of Education, Netaji Subhas Open University &

Dr. Papiya Upadhyay

Assistant Professor of Education, School of Education, Netaji Subhas Open University

Teachers have shifted their teaching mode temporarily during the Pandemic. The present study aimed to explore the influence of teachers' perception about acceptance and use of emergency remote teaching (ERT) technologies on teachers' satisfaction with the present teaching-learning process. The study was conducted among the teachers of different schools of West Bengal by using a self-administered questionnaire (7 points Likert Scale) through Google form. The collected data were analysed using descriptive, inferential statistics and qualitative analysis. The study identified that teachers' perceptions influenced teaching satisfaction using ERT strategies. Blended solutions with multiple contextual modes are required for future preparation to cope with any alternative by opting feasible one.
Integrating Technology in English Language Teaching

Dr. Naziya Hasan, Assistant Professor, Department of Teacher Education, Manipur University

Teaching requires planning for content selection, preparation, and delivery effectively and efficiently, considering the needs of today's classrooms and their students. Students' learning highly depends upon the ways of teaching. Present-day classrooms are occupied by "Digital Natives" (Prensky, 2001). To make them learn English, teachers need to understand their specific needs and learning styles for adopting and implementing suitable tools and strategies. Technological advancement has made a vital place in our classrooms and education system to make it more innovative and meaningful. Technology provides invaluable resources that can be utilised for English language teaching, no matter where the classes are. This review article highlights the connection between technology and English teaching, fostering a creative and constructive learning environment. It also provides the details of technological resources available for teaching various language skills in an innovative way and its integration in and outside the classroom.

Impact of Using Blended Learning in the Early Years Foundation Stage

Dushani Rajaratnam, Head of Pre – Primary, DPS STS School, Dhaka

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Dr. Shivananda CS, Principal, DPS STS School, Dhaka

The aim of this study is to explore the impact of blended learning in the Early Years Foundation Stage. The study was designed and developed to investigate the effectiveness of blended learning in the holistic development of EYFS students and to discover the level of competence of the Early Years students in adapting and coping with the online platform in the Early Years Foundation Stage after the Covid -19 lockdown. The participants were EYFS parents and teachers from grades Nursery, Foundations Stage 1 and Foundation Stage 2. Qualitative data was obtained through survey questionnaires by recording parents' and teachers' perceptions of the blended learning approach for young learners.

Session 5: Chair Prof K. Pushpnadham

TAM3+, a new approach to attract teachers towards technology adoption

Arnab Kundu, PhD. Student, Bankura University, West Bengal, India

Carol S. Dweck, in her book Mindset: The New Psychology of Success, whispered becoming is better than being, and the fixed mindset does not allow people the luxury of becoming. The implication is that a change in mindset is a prerequisite for growth. Highlighting this notion, an Extended Technology Acceptance Model-3 (TAM3+) has been proposed by Kundu, Bej, & Dey (in press). The authors have found teachers' mindsets comprising of self-efficacy and self-concept were significant predictors influencing their perceived ease of Information and Communication Technology (ICT) use and proposed a counselling framework to attract them towards better technology adoption.

Exploring the Techno pedagogical situation during Pandemic: A Descriptive Survey

Shinjini Nag, Assistant Professor, School of Education, Adamas University, Barasat, Kolkata

Presently the academic sector is facing new challenges due to the hit of COVID19 Worldwide. During this global crisis period, the role of teachers is rapidly changing; rather, it is evolving. Schools, colleges and universities are shut down to control the spread of the deadly virus. The whole education sector is shifted to online mode from offline mode to cope with the current Pandemic. The researcher conducted a descriptive survey method and collected data from 251 secondary school teachers, students and parents from different locales, gender and school boards. The study was designed in a mode of quantitative research, and a self-made, standardised google form was used as a tool for the study. The present study was undertaken to explore the real-life situation of techno pedagogical paradigm shift in virtual learning from face to face mode. The final data were analysed quantitatively using various statistical methods, and it was interpreted as urban cross-sections benefit more than their rural counterpart. Male students have received better opportunities than their female counterparts as almost all-girl students remain busy doing their household activities. Central board, i.e. CBSE, ICSC students are better supported by the online mode of learning because of their socio-economic status than state board vernacular medium of students.

Impact of Hybrid Learning on School Education

Isha Kumari, PhD Research Scholar, Department of Education, University of Jammu

With the covid-19 Pandemic, established education, health, and manufacturing systems were affected severely. According to the World Economic Forum, more than 1.2 billion children in 186 countries got affected by school closures due to the Pandemic. This forced educational institutions to adopt online technologies at break-neck speed. Whether it is language apps, virtual tutoring, video conferencing tools or online learning software, blended learning or hybrid models, there has been a significant surge in their usage over the past decade. Learning has gained exponential momentum among this entire Hybrid and favours the trainers and the trainees. It is believed that the unplanned and rapid push for online learning - with no training for teachers, insufficient bandwidth and connectivity issues — will result in a poor user experience that is unconducive to sustained learning. But many educators believe that a new hybrid model of education will emerge, with significant benefits. As the integration of information technology with education accelerates, online education will eventually become an integral component of school education. It will be a tapestry meshing work from home and co-working space benefits. Under the Hybrid Model of education, a student will be able to operate from home, finish assignments and post it, carry out learning in a self-paced manner, and take the initiative for working on projects. They will become attuned to creating original work.

Online Higher Education in the context of Covid 19 Pandemic

Dr. Rama Gupta

Assistant Professor, Department of Education, Jagat Taran Girls' Degree College, Prayagraj

During the pandemic 'Covid 19', the educational scenario changed drastically as normal offline teaching switched over to online mode. These changes affected all the stakeholders, especially students and teachers. Now when the 'new normal' age has begun after the Pandemic, it is essential to look at its benefits, drawbacks, future and implications based on our experiences during Covid 19.

Toyama, Murphy and Baki (2013) defined online learning as 'learning that occurs entirely (purely online learning) or partially (blended learning) through the internet'. It is an interactive experience where learners are free from predetermined time schedules and travel to the campus of educational institutions. The research studies conducted on the efficacy of online and offline education before and during pandemics show both of these modes are effective.

Electronic gadgets (smartphones, computers, laptops or tablets) and good network facilities are essential for teachers and students to smoothly conduct online teaching-learning at the higher education stage. The use of ICT in the education sector faces many hurdles like unavailability of ICT tools and infrastructure in institutes and lack of its use in teaching and learning, which has been responsible for a low rate of technology usage in the education system.

Some advantages of online learning are enriched lectures, including PowerPoint presentations and videos, sharing best practices and ideas through webinars worldwide, recording lectures, accessibility, affordability, convenience, exposure to innovations, and reduced financial costs. The drawbacks read as: all types of teaching-learning are not possible through online mode, poor network facilities, digital divide, unavailability of computers and smartphones, the authenticity of learning material on internet and health hazards due to increased screen time.

UGC has allowed Higher Education Institutes to adopt the blended mode of teaching and learning in which 40% of the syllabus of each course will be covered through online mode. To apply teachers' knowledge with technology, three interdependent components viz., content knowledge, pedagogical knowledge and technological knowledge are required. Teachers are responsible for using ICT in teaching and learning as they implement the curriculum; hence they must be trained in these areas.

ICT usage requires access to ICT tools, skills, and confidence for using it. Teachers must undergo orientation and training to better use technology for effective online teaching-learning outputs. They need to sharpen their teaching competencies and gain mastery over technology for creating a better learning environment. Teachers have to develop an 'e-learning resource support system' for students making ample use of relevant ICT tools for autonomous learning.

Adopting to Online teaching during COVID-19: Opportunities and Challenges in Teacher Education.

Dr Sneh Bansal, Principal, Chandigarh College of Education, Mohali, Punjab

India is home to one of the largest higher education systems globally, with over 1,000 universities and 50,000 colleges and institutions. These, together, cater to nearly 39 million students. The COVID-19 Pandemic has significantly affected the higher education system, including the teacher education institutions. Like many other countries, India had to shut down their campuses and move abruptly to online teaching and learning. What makes the Pandemic more challenging is that traditional approaches to teaching and learning dominate the teacher education programmes in India, and the emphasis on the effective integration of technology in teaching is unsatisfactory. The switch to the online course was instant. With no time to adjust and without adequate facilities and planning, the teacher educators and student teachers had to adapt to virtual teaching and learning. Literature reviews indicated that researchers have not examined how well the student teachers can learn the course content and obtain practical knowledge about the profession in teacher education. Therefore, it is important to explore how the student teachers cope with the learning situation during online instructions in teacher education courses, particularly in the pandemic situation when New Education Policy (2020) has been released. The study aims to explore the effect of Covid-19 on teacher education programmes' teachings and how the teacher educators cope with the teachings of their course. In addition, the study also examined the opportunities they have exposed for developing digital competence (ICT skills) during the Pandemic along with the major obstacles/problems faced with delivering the components of teacher education programmes (e.g. teaching-learning, assessment, practical). The implications of this study for the new normal in the teacher education programmes in the post-pandemic world focusing on implementation of NEP 2020 in the light of the teaching, learning and assessment practices will be discussed. Suggestions in the new directions of change in the light of past developments will also be addressed.

Session 6: Chair Prof D. Harichandan

Motivation and Self-Regulated Learning

Shreya De & Rachna Gole,

Coordinator, HDFC School, Pune

Self-regulation is a process wherein we as individuals take hold of and evaluate our learning. It refers to how we become masters of our learning processes. As per Dr Zimmerman, it is not a mental ability or a performance skill; rather is the self-directed process through which abilities are transformed into task-related adeptness in diverse fields. Self-regulation consists of planning, problem-solving and self-evaluation.

On the job training and staff development is one of the cardinal principles of total quality management. One-shot training by external experts is the most commonly practised staff training and development method. Convincing research evidence of the effectiveness of this conventional approach is either missing or weak. Professional learning is emerging as a more cost-effective

alternative for developing schools as a learning organisation. We decided to experimentally learn ourselves Self-Regulated Learning (Zimmerman's theory) through technology's professional learning approach.

We formed a team of four teachers. As the first step, we acquired relevant information through an Internet search. We individually made our notes based on the desktop research. We resorted to technology-enabled collaborative learning. We used email exchanging notes, comments and feedback. Subsequently, we discussed in pairs on the phone, sometimes only voice, sometimes with video. We had several online interactive video conversations involving the principal and a few other staff members. We modified and redrafted the document using word processing; illustrated using PowerPoint slides. We exchanged the semi-final version amongst us; commented, modified and finalised. Thus we used technology-enabled both synchronous and asynchronous interactive techniques for collaborative learning.

Blended Learning in the Era of Digital Education: A Need of the Hour

Dr Renu Nanda

Professor & Dean Faculty of P.G. Department of Education, University of Jammu

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Education is the core of humanity and the foundation of a flourishing society. It is justified to deduce that COVID-19 has accelerated the integration of information technology in education. This crisis opened gates for opportunities in the education sector to incorporate digital methods. Students and educational institutes were forced to adopt online learning methods. The development in digital methods for education was imminent even before the onset of COVID-19. However, this Pandemic consequently redesigned the education scenario and made us realise the importance of technology in education. Blended learning combines offline and online education that enables students to interact with the instructor, study material, and other students through physical classroom and online platforms. It is also a combination of digital learning, which can be accessed anywhere the student has internet access, 24 hours a day, seven days a week. Blended education makes learning easy and more productive, so it is promising in the long run and will become the new normal. It has become important to give technology the importance it deserves and include measures like blended learning as a definitive part of teaching and learning in the current education system. This paper aims to discuss the importance of Blended learning in the Pandemic and various issues related to Blended learning. It will further discuss the importance of Blended learning in the future of the education system.

Blended Learning-Future Reality

Dr Jayatri Chakraborty

Assistant Professor in Education, Serampore College, West Bengal

Contemplating change and adopting has been the crux of human development for ages. The dreaded Pandemic has proved this again, despite changing our lives forever in more than one way. This unprecedented epidemic has ushered many new events to be engrained in our minds and practice. Blended learning is one such technique that has been in practice for quite some time. The usability will only be felt when educational institutions use this technique for fruitful interpretation. There is no denying that the combination of in-person and online/remote learning will be the norm in the new normal. The scurrying for physical amenities amidst following social hygiene rules in the present scenario can be meted out through this form of learning. The digital divide is a roadblock in a country like ours. "Phygital" is a word more in common parlance nowadays. Online learning is contingent on internet connectivity. Perhaps clusters of students would emerge, and peer tutoring would become more prominent. The benefits of time, space and interaction are undoubtedly supreme in blended learning. Content can be provided in real-time as well as one can access the information later on. It is indeed tricky to use a combination that suits all and works out fine for all. Teaching through digital resources requires proper digital access and application of assessment-related designs objective scoring methods. Challenges are galore both for students and teachers. While no method can replace the liveliness and comfort of a physical classroom, unfortunately, the new world needs a new order of sorts in the form of blended learning till the world is fully healed.

Embedding Skill Development Components in ODL Curriculum using Technological Interventions

Ashish Kumar Awadhiya

Assistant Director, Centre for Online Education, Indira Gandhi National Open University (IGNOU)

Developing employability skills among its graduates is one of the major concerns of all the higher education institutes, including Open and Distance Learning Institutes. However, HEIs are unable to meet this demanding expectation of employers. Learners from HEIs, including ODL institutions, are not fully employable. Infrequent interaction between tutor and learner in the ODL system makes the concern more challenging for the ODL Institutes.

This study explores how various delivery components of the ODL curriculum can be used to impart different employability skills among the learners using technology integrated education

This study will be helpful for the ODL practitioners in embedding employability skill components in the program delivery mechanism, thereby inculcating employability skills among their graduates.

Session 7 Chair Prof Madhu Parhar

Education for Value Inculcation: An Experiment in the Pedagogy and Assessment During the Pandemic

Dr. Chandra Prabha Pandey, Assistant Professor, Central University of South Bihar

The paper documents is an experiment in pedagogy and assessment done in online classes during the Pandemic to teach a subject, 'Education for Value Inculcation' in teacher education programme, which needs application-based teaching-learning strategies and a whole school-teaching approach. The experiment was done with teaching–learning and assessment blended with a demagogical principle and constructivist theory of learning in online classes. After a rigorous exercise done during the experiment and the completion of the semester, students' portfolio records prepared for their assessment and self-report presentation manifested that the purpose of the course was achieved.

A Study on ICT Integration in Teaching by the Teachers in Higher Education and their Attitudes towards ICT

Susmita Mondal & Jugantar Mishra

Assistant Professor, Raiganj B.Ed. College, West Bengal

This study researched the teachers' attitude towards ICT and integrating technology in the teachinglearning process. During the Covid-19 Pandemic, online classes sessions were established. Teachers had to take online classes according to the guideline of the HRD Ministry of India and the Government of W.B. The study's main objective is to understand teachers' ICT Attitudes and use technology in the teaching-learning process. This study is qualitative, and an interview schedule was used to collect the data from fifty teachers teaching in higher education institutions in West Bengal. This study revealed that the teachers' positive attitudes towards the ICT are related to ICT use in teaching.

Study of Experiences of Teacher Educators and Students About Online Teacher Education

Dr Namita Sahoo, Associate Professor, K. P. Training College, University of Allahabad, Prayagraj &

Prof P.K.Sahoo, Former Head, Dean & Vice-Chancellor University of Allahabad, Prayagraj

The online mode of teacher education was adopted as a compulsion during Covid 19. The teacher education institutions have adopted such a strategy for the last two years irrespective of constraints related to their preparedness, willingness, conviction, infrastructure, competencies of teachers and students and scientific evidence about the effectiveness of online mode preparatory teacher education. Such practices were executed with full spirit, countering the recommendation of Justice M Verma Commission Report(2014) and its discouraging remarks about the open-distance learning mode of the teacher preparation programme. The recommendations were based on perceptual reality exaggerated by conservative teacher educators without considering research evidence. Research on online, open distance learning mode of teacher education is comparable to traditional mode with certain limitations in skill development inputs. Studies conducted by Sahoo &Kumar (2015), Sahoo et al. (2018) and Sharma(2019)have justified the relevance of open distance learning programmes and their effectiveness in preparatory as well as continuous professional development practices.

Unlike Open Universities, the traditional mode of teacher education institutions was forced to accommodate online distance education as the only alternative. Their experiences of integrating online education in dealing with theoretical and practical inputs of curriculum and evaluation reveal unique experiences of teacher education in India.

The present study was conducted to explore the feasibility level of the online curriculum transaction of B. Ed. Programme of formal education institutions and perception of teacher educators and students about the effectiveness of online mode in development of competencies of would-be teachers. The sample respondents consisted of 50 teacher educators and 50 B. Ed students of five

teacher education institutions of Prayagraj, UP. Data were gathered through closed and open-ended questionnaires. The evidence revealed the utility of different online learning components, online discussion, online presentation by students, online demonstration of teaching skills and their practice in simulated situations, online tests and assignments, online assessment and feedback. There was a moderate response about coverage of course contents and practicals through online mode. The logistics of operation and integration of various learning experiences through online mode were evolved through trial and error experiences at the institutional level. The teacher, educators, and students expressed moderate responses about the utility and effectiveness of the online system, which requires systematic planning and management at the institutional level. There is a lot of scope for evolving strategies for Blended Learning based preparatory teacher education programmes during the post covid era.

Hybrid Learning: A New Way of School Education in COVID 19 Pandemic

Anjali Sharma, Research Scholar, Department of Education, University of Jammu.

COVID 19 pandemic is, first and foremost, a health crisis. Many countries have closed down schools and universities regarding the education sector. It is the creativeness and mastermind of policymakers to go for hybrid learning. Hybrid teaching and learning provide opportunities to the learners to learn online as well as offline. Indian education institution has used various teaching pedagogy for innovation, development, and engagement of students. There has been greater participation of teachers and students in online learning; technology has created a revolution in the education system. This paper focuses on the benefits, ways of hybrid teaching and challenges.

Session 8: Chair Prof Sudesh Mukhopadhyay

Technology-Integrated Professional Learning of Teachers: Case of Self-Regulated Learning

Tannu Sharma & Dr Jagriti Gautam

Educator, The HDFC School, Gurgaon

Digital technologies represent an open gateway to new learning alternatives and options that favour the acquisition of self-regulation skills. Professional learning is an integral part of educators and is an unending process. Educators need to keep themselves abreast with the changing time and professional demands. Attending to Mentor-led Capacity building program may not be feasible at all times. Technology-enabled professional learning is cost-effective and constructive in carving professionals' niches.

An article like this caters to the needs of professionals to become self-sufficient and empowered for self-learning. In writing the paper, we, as a team, used technology from the beginning to the culmination of the project. First was the virtual meeting on Teams (Video conferencing) to decide

the course of the project and responsibilities. Our team had many informal phone conferences asynchronous communication using mails. The Internet utilisation was at every step from desktop research to meeting online for discussions and finally making the presentation on Prezi again an online tool. The inter-school video conferencing was done using zoom to present our research to a larger audience.

In the continuum with the whole process, we learnt on our own, which in conventional staff development. An "expert" teaches with much less residual learning. Technology can make educators self–sufficient and empower themselves without any external handholding.

Hybrid Learning: A way of ensuring access to education during covid-19 at the Elementary Level of Schooling

Sheetu Meenia

Research Scholar, Department of Education, University of Jammu

The Covid-19 Pandemic has caused the largest disturbance of the educational system in human history. Schools were closed in every part of the world as a precautionary measure which forced teachers to shift towards hybrid learning, as it is the best way out for resuming studies. Hybrid learning is the blending of classroom and online learning. The present study highlights the importance of hybrid learning in ensuring access to education during covid-19 at the elementary level of schooling; major challenges the teacher faces in ensuring access to education during covid-19 at an elementary level of schooling are the measures adopted to resolve these problems.

COVID-19 and Teacher Education – An analysis on virtual learning and teaching from educators' perspective.

Dr Amruta Prabhu, Principal, The HDFC School, Pune &

Ms Parul Banga, Counsellor and Special Educator, The HDFC School, Pune

The COVID-19 Pandemic tremendously affected teaching and learning. It has drastically changed the model of education worldwide. There has been a paradigm shift in the approach & adaptability to the evolving online educational pedagogies for all stakeholders, most importantly for educators.

The educational fraternity, which was used to its time, is tested, content-driven and didactic teaching-learning techniques in India. They had to shake themselves up and adapt to the new Edtech modes of online methodologies within a short period.

This paper aims to address the impact of virtual education on teachers across various grades and boards. It will reflect upon the challenges and struggles faced by the teachers for adapting to the remodelled mode of blended, synchronous & asynchronous learning. It will reflect various tools & techniques used to teach and assess students. It will also highlight the digital gap faced by the teachers based on their social, economic & regional situations.

The implications of this study show the efforts made by the educators to acquire new learning, enhance their professional growth and reach out to learners virtually. The modernisation and technology up-gradation has escalated the level of education worldwide.

Hybrid Teaching for Senior School Students in Biology- A Case Study

Sushma Sardana, Senior school teacher, Delhi Public School, R K Puram

In most countries before the Pandemic, lessons were delivered face-to-face to school- students and technology were used only to enhance the efficacy [blended learning model but offline teaching]. During the Pandemic, a larger proportion of class time depended upon digital technology for remote teaching, also referred to as online teaching. Recently, offline classes have begun for senior students, but all of them cannot attend the school simultaneously due to limitations of space and resources. Therefore, schools are following the next option- combined use of offline and online teaching, that is, hybrid teaching: comparative -efficacy of these three teaching practices is yet to be reviewed. Through this case study, the researcher would be exemplifying a lesson plan for one of the topics designed by her to optimise the use of hybrid teaching in high school biology. The resources documented in this lesson involving hybrid-teaching have been sourced from fellow school teachers who have tried and tested them on their students. Further on, standardised assessments are being developed to test student learning by measuring their grades. This pilot study would be part of a project culminating in a bank of resources to be shared with biology teachers, some suggestions for heads of schools and experts involved in designing Continuous Professional Development [CPD] content for in-service teachers and Training Modules for pre-service teachers.

Session 9: Chair Prof Saumen Chattopadhyay Student's Perception on Educational Apps: A Micro Study

Subrata Naskar

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&

Dr Papiya Upadhyay

Assistant Professor, School of Education, Netaji Subhas Open University, Kolkata, W.B.

The Covid-19 Pandemic has shifted education from offline learning to online learning, with many studies being conducted to focus on issues and concerns. The main objective of this study was to identify the student's perception of educational apps. A micro-study was conducted among 200 secondary students of W.B. The study used a self-administered online-based questionnaire (5- point Likert scale) in Google forms. E-mail and social media platforms such as WhatsApp Facebook were used to disseminate the questionnaire. The collected data were investigated and analysed statistically through descriptive statistics. The study interpreted that most students think that educational apps support their learning process but should be produced in vernacular. Govt. should provide educational apps based on their board syllabus and take initiatives to increase awareness among students about different educational apps provided by MHRD, Govt. of India.

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Technology Enabled Professional Learning Case of Differentiated Instruction

Chitrali Samaddar & Arti Jha, Educator, The HDFC School, Pune

Professional learning embodies many goals of professional development. However, this terminology emphasises a modernised version that encourages interactive learning strategies rather than rote development techniques. This idea makes perfect sense for educators who already use the Internet daily. The use of technology in the field of education is perhaps the biggest shift in professional learning. While professional development highlights the need for educators to grow individually, professional learning retools this idea so that teachers can better serve their organisation and reach out to the students.

A major principle of professional learning communities within the same school is grouping educators with the same vision and overlapping responsibilities. Our school classrooms are full of diverse learners. There is a lot of research already done in the field of differentiated instruction. But we had to experiment with the teaching strategies that could be successfully implemented in our school setup. Each student is different in terms of readiness, interest, and learning style; differentiated instructions can effectively meet the requirements of this diversity. [Carol Ann Tomlinson, 2017].

This case study aims to identify students' different academic needs and interests and modify the instructional strategies, incorporating technology to meet their specific needs to achieve the desired learning outcome. Our professional learning community decided to experiment with the use of technology to differentiate in an academically diverse classroom ("Differentiated Learning in Diverse Classroom "-Carol Tomlinson's Theory)

We researched with the help of YouTube, Google, Blogs and research papers published on Academia.com etc. and made notes. We used technology (Emails, WhatsApp Calls, MS Teams, ZOOM calls etc.) for communication, collaboration, discussions and feedback. The web researched document was drafted. We learned about technology and apps through self-learning modules on Microsoft education centre and tutorials on youtube.

A digital survey was conducted with middle school teachers; the result of the survey clearly showed that teachers' gain from a collaborative professional learning community is much more than a traditional professional development training session. This survey also indicated that the students of our school did not very well receive traditional pen-paper assignments. A digital survey was conducted on the students of Grade VIII using MS Forms, asking for choices, stating their interest area for a particular assignment was shared with students. Survey results indicated that students are highly inclined towards technology-based assignments and projects. Students were given options to present their work differently using PowerPoint Presentations, Flipgrid videos, Padlet/Wakelet, Canva Presentation, Digital posters/ movie clips etc. Minecraft for education was used for the interdisciplinary projects, and the representation of the student's research work in the form of a game world made our case study successful. The learning objectives were achieved for all students, but the paths were different, and technology helped us diversify the learning path in the same classroom.

Hybrid Learning: A Tool For Knowledge Building Societies

Manju Bala, Student, Department of Education, University of Jammu

The education system in India is changed during the last two years. Learning strategies, methods of teaching, and traditional system of education continuously replaced with the use of technology in education and make the learning process more interesting, motivating and interactive. This learning can be done through both medium face-to-face and distance learning and involves more people than traditional classroom learning and gives better results. It is a single process that integrates different resources, strategies, platforms and various activities to enhance learning abilities among each student. Nowadays, Teacher training is the need of the hour so that they can combine different learning strategies according to the needs of society. Society and schools demand a better hybrid learning environment to make learning more interesting and demanding at present and in future also.

Session 10: Chair Prof Amit Kauts

Hybrid Learning: Paradigms, Possibilities & Prospectiveness and School Education

Umesh Kumar, Principal, Kendriya Vidyalaya Barkakana, Ranchi Region

Education, besides being a dynamic process in itself and kudos to Covid-19, several Socioeducational changes were incorporated in our classrooms worldwide, the typical orthodox Indian teachers and classrooms armoured themselves, though falteringly, with everything available online. The paper will deliberate upon the scientific analysis and litmus paper tests of hybrid learning, whether it is a tailor-made approach to learning for all students. Can it be termed as an all-weather method? Barriers, physical, technical, socio-economic, administrative and others and factors impacting our resolves to resort to the hybrid method of learning will be dwelt upon.

Online Teaching-Learning Higher Education Amidst Frequent Internet Shutdowns: Teachers' dilemma in Kashmir over UGCs mandate on Blended Learning

Dr Sayantan Mandal,

Assistant Professor, Department of Humanities and Social Sciences (HSS), IIT Jammu

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Sheriya Sareen, Doctoral Fellow, IIT Jammu

The implementation ability of the recent University Grants Commission's (UGC, 2021) recommendation to teach 40% of the syllabus through online mode seems contested in the Kashmir region due to the prolonged blanket and sub-regional internet blackout as a part of administrative decisions related to national security. The paper, based on a large-scale empirical study*, questions the feasibility of 'blended learning' in the higher educational institutes of Kashmir. The paper critically discusses the UGC's public notice and its Concept note on Blended Learning (May 2021) and analyses the actual issues and challenges faced by the teachers of colleges and universities

located in the Kashmir region. It highlights the salient points crucial to developing a contextualised blended model of higher education teaching-learning for Kashmir, recognising its constraints in going fully digital amidst reliable and uninterrupted internet connectivity throughout the valley.

Part of a multi-region study conducted by IIT Jammu and coordinated by the paper's authors-Integrating Teaching Learning and Digital Education (ITLDE) in the Higher Education Institutions of Jammu, Kashmir and Ladakh regions (ITLDE).

Major Problems and Solutions to Improve the Effectiveness of Online Learning

Md EsahaqueSk

Research Scholar, Dept. of Education, University of Gour Banga, Malda, West Bengal

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Prof DebabrataDebnath

Head, Dept. of Education, University of Gour Banga, Malda, West Bengal

COVID-19 has been declared a pandemic by the World Health Organization as a present threat to humanity. It has created the most significant disruption to education systems in human history, affecting nearly billions of pupils from over 200 countries. More than 80 to 90 per cent of the world's student population has been affected by the school, institution, and other learning facility closures. This has resulted in changes for every part of our life. Social alienation and limited movement policies have considerably affected traditional educational procedures. This circumstance has presented a problem for the world education system and has compelled educators to switch to an online form of teaching and learning. Online learning was the best choice for continuing education during the Pandemic, especially tertiary education. Students, instructors, administrators, and education leaders have faced several issues due to the abrupt shift from face-to-face to online learning. This paper continues by defining the many terms used to describe online learning based on earlier published sources. It then discusses the major problems presented by the widespread adoption of online learning. In the post-COVID-19 environment, the paper concludes with an overview of important problems, solutions, and brief recommendations for increased adoption of online learning.

Promoting Technology Integrated Education: Challenges of E-Learning Technology in the 21st Century Education Systems

Fr. Baiju Thomas

Research Scholar, Ramakrishna Mission Vivekananda Educational and Research Institute, Faculty of Disability Management and Special Education, Vidyalaya Campus, SRKV Post, Coimbatore – 20.

The present study explores and promotes technology integrated education: challenges of e-learning technology in the 21st-century education systems. E-learning is perhaps the most important tool for learning today and has become a standard part of today's education systems, opening new paths to higher learning. This paper's author discussed several e-learning techniques utilised in the 21st-

century education system teaching-learning. We are currently living in the digital era. Every aspect of life is now surrounded by technology in the same way in today's modern educational system. Nowadays days, the teaching environment of a classroom is changing. Earlier, knowledge was presented through a teaching technique that lacked interest in students and resulted in monotony. E-Learning is an online class that uses cutting-edge technology like the Internet and the World Wide Web to make teaching-learning easier. Numerous schools and academic institutions worldwide have begun offering internet platforms such as admission and virtual (online) instructional practices to promote ongoing education consistent with other successful active learning. The current e-learning study includes academic, technological, and organisational issues and a broader range of sociocultural aspects. Technological breakthroughs and e-learning are approaches that need the conventional way of teaching-learning to be redefined and restructured. It will demand significant investment from a range of stakeholders, including educational establishments, instructors, and learners. Equip teachers with resources and opportunities to cater to new and creative teachinglearning practices.

Consequently, it is vital to employ creative pedagogical methods to meet the academic challenges of the twenty-first century. It necessitates a well-thought-out strategy that involves all members of the education system, from the beginning to the end. Administrators should enhance financial assistance to academic institutes to equip them to accept e-learning to progress in education worldwide, as e-learning provides solutions to the current challenges in our education systems.

Session 11: Chair Prof PK Sahoo

Flipped Learning: An Innovative Approach in Teaching-Learning Process

Dr M. Ponnambaleswari

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Raghu. K.S

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There is an increasing demand for the education system to transform, with education being a need to adapt in ways that meet the conceptual needs of society. New approaches, strategies and methodologies are being developed by collaborating technology with teaching. Flipped learning has become more mainstream nowadays. Students study instructional material before class and apply it during class in a flipped room. One should have a clear vision and a detailed plan of action to flip their class. Like other approaches in teaching, even flipped learning also has its advantages and challenges. It is seen that the flipped learning approach has become the need of the hour to fulfil the expectations of society.

Optimisation of Hybrid Model of Learning for School Education Based on Opinion Mining

Dr Mrinal Mukherjee, Assistant Professor, Department of Teacher Education. WBUTTEPA, Kolkata,

Dr Chitram Banerjee, Post-Doctoral fellow, Wiseman Institute, Rehovot, Israel, Mr. Avishek Nandy, Post Graduate Scholar IIT, Dhanbad

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Mr. Chanchal Maity, Research Scholar, Department of Education, Bankura University

Research Background:

The COVID-19 Pandemic acts as a promoter of innovations compelling to think and act beyond the existing boundary to solve today's problem. In India, the implementation of remote learning in school education is extremely challenging, and it was impossible to keep children from falling behind academically by adopting only remote learning. Thus hybridisation of in-person and remote learning could be a viable solution while reopening the school.

Research Objective:

Optimisation of various quantifiable parameters to achieve the desired efficacy of the Hybrid Learning Model

Method:

By analysing the policy advocacies of different international organisations and exploring published research evidence, here alternative proposition of hybridisation of in-person and remote learning has been provided to explore the pattern of the response of relevant stakeholders. We have applied AI-Based Opinion Mining to analyse the feedback from teachers & parents. To analyse the respondent's sentiment, we have computationally identified and categorised opinions from pieces of texts and determine whether the respondent's attitude to the particular propositions is positive, negative, or neutral. We have applied AI-based supervised learning algorithms to train the computational model, classifying the received texts to determine the opinion towards the hybrid model. The process starts with computational mining, cleaning the data into data tokens, then classifying the data to feed into a machine learning model that provides predictions by maintaining a standard accuracy.

Implications:

We collected data on a prospective possibility. The findings may be crucial in determining the viable form of the Hybridisation Model in the Indian context while preparing to reopen the schools. Moreover, repetition of similar research exercises after trial of such hybrid model for a certain period may provide more insight in steady policy adaptation in mitigating the learning loss of school-going children in the future social disaster.

Session 12: Chair Prof Debabrata Debnath Technology-integrated Learning for Professional Empowerment of Teachers

Purnima Baruah & Dr Jagriti Gautam

Teacher, HDFC School, Gurgaon

Different instructions will influence future generation learning in an altered learning environment with new roles for educators. It requires a new mindset and different skills for educators. However, the formal groundwork for next-generation teaching and learning is embryonic. Educators are entering next-generation schools with erstwhile experiences in restructured learning environments. Moreover, traditional professional development is undersized in catering to the challenges of Professional Learning. The technology works best when it supports the true essence of education and aids educators in helping learners to assimilate skills.

As educators, when the responsibility of a project was shouldered on us, we used technology extensively and empowered our asynchronous learning. As a part of the project, from attending a webinar for briefing (on Zoom) to the initial discussion (on Microsoft Teams) to the formation of groups (on WhatsApp) and Wakelet to accumulate different research papers for desktop research till the final presentation (on Zoom). We all the group teachers used and learned many new applications/software. We prepared a survey using search engines(google forms) for our primary research to collect data, reached out to respondents through emails/messengers, analysed their responses, and finally presented the project using technology (Microsoft). Technology can enable professional learning and surely lead to better outcomes in learner empowerment.

Effects of Technology-Driven Teaching-Learning Tools on Learning Domains

Dr Shailesh D. Panchal, Gujarat Technological University, Ahmedabad, Gujarat, India, Prof Nikunj C. Gamit, Prof Jashvantkumar R. Dave

Vishwakarma Government Engineering College, Ahmedabad, Gujarat, India

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Dr Ajay N. Upadhyaya, Sal Engineering and Technical Institute, Ahmedabad, Gujarat, India

Pandemic forced the education fraternity to migrate to online mode from traditional teaching and learning. Migrating to the online mode required tools and other supporting resources, learning new tools, adjusting to a new environment. This sudden transition had a huge impact on overall teaching-learning. All the three learning domains, namely cognitive, psychomotor and affective, were affected equally. As the tools were available with enhanced features, stakeholders gradually became familiar with their effective usage. New Education Policy (NEP 2020) also emphasises adapting the latest technology for improving outreach, availability and efficiency. It resulted in stakeholders adapting the new teaching-learning environment to a large extent. This had a direct but varying impact on the learning domains. While cognitive learning was largely addressed, psychomotor and affective domain learning needed specific improvements. Improved version of simulators, platforms like Virtual Lab (Vlab), and demonstration videos helped educators address the learning in the psychomotor domain. Features like breakout room polling helped to improve learning in

the affective domain. Our paper explores this transition journey of technological adaptation by the education fraternity. Primarily, the results are inferred by cluster analysis of the survey data of 30 teachers and 150 students from different professional courses. While new technology adaption cannot serve as an alternative to the traditional approach, it surely is a value-add to multiple areas and improves efficiency up to an extent.

An Analysis of Impact of Blended Learning Programme in Primary Students of DPS STS School, Dhaka

Juliet Gloria Gomes, Head of Primary, DPS STS School, Dhaka & Dr Shivananda CS, Principal, DPS STS School, Dhaka

Research Focus: Improvement in students' learning outcomes and students' engagement levels when teachers followed blended learning programme

DPS STS School, Dhaka, was established in 2008 to provide education from nursery till Grade-12 following the standards established by Cambridge International Examinations, UK. Since its establishment, the school has followed multiple teaching and learning strategies and continuously strives to improve them. Since the onset of the COVID Pandemic in March-2020, the government stopped the physical classes as instructed. The school swiftly moved to learn mode utilising the google classroom platform. The teachers researched and explored various virtual learning tools and platforms and blended them into their virtual classrooms. With the evidence-based lesson observation system in place, the teachers and the teacher leaders studied the impact of the blended learning programme. This research paper analyses the impact of a blended learning programme followed by DPS STS School, Dhaka. This study critically evaluates the utility of various learning strategies and the tools implemented by the teachers during their online classes.

The students' engagement which was very low at the beginning of the blended learning programme, drastically increased month after month. Some of the formative assessment tools used by the teachers proved to be effective to understand the learning patterns and progress quickly. It is found that actively students respond when they are challenged appropriately, and the tests are gamified. Improvement in students' performance, both formative and summative assessments, is evident. However, as per the current research findings, the teachers discontinued a few learning strategies, which were not yielding desired results. This paper presents a comprehensive analysis of the impact of the blended learning programme at DPS STS School, Dhaka.

Learning Growth Mindset through Technology-Integrated Learning

Anupriya Chellani, Arti Bhujbal, Coordinator, The HDFC School, Pune

Nikita Vinayaka & Surabhi Agarwal, Educator, The HDFC School, Pune

In the 21st century, teachers and students are influenced by cognitive factors and external factors like beliefs and values. These factors decide our mindset and impact our work and life accordingly. Every individual has their filters, which create our world map, which is unique. To understand different mindsets, we use technology-integrated learning.

Technology integration uses technology tools in general content areas in education to allow teachers and students to apply computer and technology skills to learning and problem-solving. Technology integration is defined as the use of technology to enhance and support the educational environment.

In a larger sense, technology integration can also refer to an integration platform to integrate disparate SaaS (Software As A Service) applications, databases, and programs used by an educational institution to share their data in real-time across all systems on campus. Thus students' education can be supported by improving data quality and access for faculty and staff.

Technology Integrated Learning

Sumitha Nair, Hannah Awayz, Vincy Devaiah & Rohini Nair

Academic Coordinator, The HDFC School, Bengaluru

While the technology at many schools is plentiful, few teachers can effectively integrate technology in their daily lessons in a meaningful way.

A research-based approach was used in integrating technology within the classrooms. This study focused on exploring different methods of integrating technology and addressing 21st-century skills in classrooms. It also encouraged collaborative, reciprocal, and cooperative learning among students designed learning activities with technology for high engagement and active learning. We divided technology-supported pedagogy into three categories: replacement, which involves technology replacing traditional instruction; amplification, which involves technology being used to efficiently complete tasks; and transformation, which involves technology used to transform students' learning routines to contribute to their cognitive development. The descriptive case study design was employed using Project-based Activities, Blended learning, Flipped learning, and Collaborative Learning.

Qualitative data was gathered from teachers, followed by interviews on their use of technology in education. How technology was used in the classroom was examined, and the challenges and benefits were identified.

The benefits include better knowledge retention in students, students enjoying learning, encouraging individual learning in students, encouraging collaboration, students can learn useful life skills through technology, teaching gets easier, and teachers can track each student's progress. Challenges were similar to those found in mainstream schools with concerns of technical problems and others like students misusing technology, keeping the students safe online, keeping up with the dynamic changes in technology, teacher expertise, professional development, and cost of new technology.

The teachers were then trained on the best methods to integrate technology and implement the same in the classrooms to overcome the challenges. The training session was conducted using peer learning.

Session 13: Chair Prof Debasri Banerjee

Teaching practical geography through online classes: A case study of an affiliated college under Burdwan University, West Bengal

Banashree Mondal

PhD. Research Scholar, National Institute of Educational Planning & Administration (NIEPA)

The COVID-19 Pandemic has completely shifted the traditional face-to-face teaching-learning process to online classes. Teaching practical subjects like geography in higher education has become a major challenge. This case study aims to highlight the efforts made by an affiliated college of Burdwan University in the Birbhum district of West Bengal to teach geography through online mode since the closure of institutions. The case study was carried out using the survey method. This survey included all students pursuing bachelor's degrees in geography and teachers who taught geography in that affiliated college. Generally, it is impossible to imagine engaging and interactive teaching practical geography to students mostly from rural areas via an online platform. In this context, the case study also highlighted how online resources make the teaching-learning process more engaging.

Study the Effectiveness of Blended Learning on Student's Characteristics and their Learning Outcomes in Higher Education

Dr Sanjna Vij, Assistant Professor (IT Dept.), Amity University, Haryana

This paper aims to examine the effectiveness of blended learning on the characteristics and outcomes of students enrolled in higher education. Teaching, guidance, instruction, knowledge, study, and learning skills are the most critical components of an education system. Traditional education is insufficient for teaching and learning; modern learning technologies must meet the new educational environment's requirements. Education contributes to improving student's behaviour and characteristics (Dr S. Meena, 2018). A vibrant learning environment is necessary to adopt and implement new and innovative technologies for teaching and learning (Mugenyi Justice Kintu, 2017). Students' background, characteristics, and attitude are critical considerations when developing blended learning strategies. These factors affect students' learning outcomes in blended learning, including satisfaction, intrinsic motivation, learning performance, and knowledge construction (Kintu MJ and Zhu C, 2016). The primary objective of this research is to determine the efficacy of blended learning in terms of student learning and future outcomes in higher education. This study used a descriptive research methodology and an online survey to collect primary data from students. The researcher created a Google form and distributed it to students and teachers via e-mail and WhatsApp. Students' characteristics (attitudes, behaviour, and self-regulation) and blended learning tools and techniques were considered independent variables, while students' performance (outcome) was considered a dependent variable. The findings of this study indicate that positive student characteristics and effective blended learning strategies have a positive correlation with student learning outcomes. Additionally, this study demonstrates that blended learning has a beneficial effect on improving students' learning outcomes.

Hybrid Learning: A Policy Framework for Transforming Education

Prof Neelima Gupta

Vice-Chancellor, Dr HarisinghGour Vishwavidyalaya, Sagar, Madhya Pradesh, India

&

Dr Sanjay Sharma

Faculty, School of Educational Studies, Dr HarisinghGour Vishwavidyalaya, Sagar, Madhya Pradesh, India

The emerging discourse of teaching-learning has re-constructed nova-epistemic archaeology for a peaceful, harmonious and non-violent learning landscape for the 21st-century learner, where the learner enables to deal with big data, machine learning and artificial intelligence in constructive ways.

The accelerated pace of change in the 21st century compels India to embrace a new educational framework that ensures quality education and emancipatory life for all. Re-imagining, Re-inventing and Re-designing a forward-looking, flexible education system is necessary for transforming learners to face the unprecedented challenges of human civilisation.

For this to happen, NEP-2020 envisages teaching-learning to focus on learning independently, reinvent oneself, re-examine and re-articulate the real problems of the individual, society and the environment and develop expertise to solve those problems. For this reason alone, hybrid learning (HL) is fast emerging as a crucial and alternative pedagogical pathway.

HL is not merely a blending of offline and online mode, media and medium but a mixing of structural, disciplinary and pedagogical experiences in appropriate proportions.

Thus it helps students in becoming responsible and life-long learners.

Session 14: Chair Dr Indu Khetrapal Role of Hybrid Learning in School Education: Benefits and Challenges

Raspreet Kour

PhD Research Scholar, P.G Department of Education, University of Jammu.

Hybrid learning is an educational approach that combines traditional face-to-face education with online learning. Hybrid courses have gained popularity among faculty, students, and institutions, so it is important to understand why faculty members convert their traditional face-to-face courses to a hybrid format. But nowadays, hybrid learning has been a hot topic since the Pandemic forced schools to reformat and restructure instruction. It provides access to a new form of learning, various resources and a better way for students to be more flexible with their time. This comfort level can translate to more cohesive and successful groups and individual projects. The multiple modalities

associated with hybrid learning can also appeal to a wider variety of learning styles allowing more students to be engaged in a way that best suits their strengths. Students who may be disinterested or distracted in one modality can sense the connection between the two modalities. But despite many benefits, hybrid learning in school education, especially in government schools of Jammu, faces many challenges and hindrances in providing education and connecting students with this type of learning. This paper will indicate the role of hybrid learning, especially in school education and the challenges faced by using hybrid learning.

Implementation of UGC Credit Framework Regulation through MOOCs (SWAYAM) in Indian Educational Institution

Dr Usha Devi & Prof Dhananjay Yadav

Department of Education, University of Allahabad

The University Grants Commission allows the learners to transfer courses from the SWAYAM platform to their parent institution's academic record. UGC announced this in 2016 "An institution can only allow up to 20% of total courses being offered in a particular program in a semester through the online learning courses provided through SWAYAM platform. Again in 2021, March UGC announced revised criteria for credit transfer "An institution to allow up to 40% of the total course being offered in a particular program in a semester through the online learning course offered transfer "An institution to allow up to 40% of the total course being offered in a particular program in a semester through the online learning course offered through SWAYAM platform. This provision shall apply to all universities established or incorporated under a central Act, a provincial Act, or a state/Union Territory Act and all institutions organised by or affiliated to such Universities and all institutions deemed to be universities under section 3 of the UGC Act,1956. Also, these shall further apply to credits of such students who are enrolled as regular/part-time students in any educational institution in India. This study aims to find how many universities and educational institutions implement these provisions in India. The nature of this study is descriptive survey method and based on the data available on the official website of UGC, SWAYAM, Ministry of Education India.

Blended Learning – an Ideal Pedagogy of Teaching

Dr Saramma Chandy

Professor, The Lords Universal College of Education/ University of Mumbai

COVID-19 has brought a pandemic shift in the education system across the globe. A situation to adapt and evolve. Hence a turn to Blended Learning(BL). The paper focuses on the application of Blended Learning in the teacher training program. It is the "New Normal" for the teacher education ecosystem. The paper explains various steps of blended learning and its incorporation into teacher education programs. The paper highlights various blended learning models, principles, evaluation steps etc. Various arts of teaching blended learning such as–Synchronous and Asynchronous learning, Flipped learning, Machine learning, Deep learning and Emersion learning. The paper illustrates incorporating them with teacher training programs and an internship and Practicum New Lesson Plan, namely- '- Blended Learning Lesson Plan', is drafted for prospective teachers. The paper, Blended Teacher as 'bricoleur ', is explained and projected teacher as a 'mentor. 'and not as

a knowledge provider. The paper helps the policymakers, as well as in curriculum revamping with a focus on SDG4. In Conclusion - Catastrophe come, yet we succeed.

Teacher Education: A Reflection on Significance of Hybrid Learning in Post-COVID Era

Dr Shambhavi Kumari

Principal, MilliaKaniz Fatma Women's Teachers Training College, Rambagh, Purnea

Although technology has occupied an integral space in all spheres of human life, its integration in the formal education system in India has been very limited, particularly to the scholastic areas of learning. During nationwide lockdown in India, from school education to higher and professional education started exploring the scope of virtual modes of learning for compensating the absence of face-to-face mode of learning. New policies and plans have also emerged to integrate technology at different levels, promoting a hybrid learning mode. This paper reflects upon the present status and potential scope of integrating a hybrid learning model, particularly in teacher education.

Role of Gurbiz Platform in Blended Learning

Dr Dinesh Kumar, Professor, Guru Kashi University & Dr Vijay Bhardwaj, Associate Professor, Guru Kashi University

Blended learning is the merging of online as well as in-person learning activities. It is a teaching method that involves technology and digital media with traditional instructor-led classroom activities, giving students the elasticity to customize their learning experiences. A blended learning program encourages the personalization of the e-learning experience by combining the best aspects of in-person teaching with technology-based e-learning methods. This paper summarizes the Role of the Gurbiz platform used in Guru Kashi University for blended learning. Gurbiz platform comparison has been made with other online learning platforms and how this platform can be beneficial for students.

Session 15: Chair Prof. Madhu Parhar

Implementation of ICT in my primary school

Salil Adak, Teacher In-charge, Panitras Free Primary School, Howrah, W.B.

At the beginning of my profession, I was not very much interested in technologies (electronic) in the teaching-learning process in my classes. Maybe this was because I was not very much at home with technology. In 2005 I participated in a workshop where two experts on technology from IIT,

Kharagpur. They showed some audio-visual samples for primary classrooms, but they were not according to our syllabus. I thought to make those types of audio-visual samples according to our syllabus. I bought a desktop computer at home and started preparing study materials to be used in my classrooms. This was the beginning of my journey.

I first introduced computer technology in my school with a little laptop. I downloaded educational videos from home as I had a broadband internet connection in my home and prepared PPTs. For this, I had to work till midnight. I then used these in my classes. I taught them science, humanities, languages, singing, drawing from downloaded videos. I made the lessons easy by using PPTs. The children were very much interested in being taught this new process. The attendance of the student increased. Always they loved to be taught with that little laptop.

But the sound of my laptop was not up to the necessity. So I requested the HM to arrange a soundbox for better effect. He arranged a set of little sound boxes. Now the classes have become very much interesting. Even parents started peeping from the windows. They were also very happy with the new process. But only a little laptop couldn't meet the necessity of the whole school. Initially, we needed at least four laptops and four sound systems.

We approached the local M.L.A. He wanted to know how we could use laptops in the teachinglearning process in the classrooms. We took our little laptop with all the videos and PPTs. We convinced him. He gave us funds for two laptops and a desktop computer. The teachers arranged four sound systems, a black & white and a colour printer, broadband internet connection, eight CCTV cameras from our pockets. Seeing these parents arranged a smart TV for their children. The school became ICT enabled school now. The attendance was noticeably increased. Parents were very satisfied with the application of all the gadgets. The number of students gradually increased from 82 to 287. The students from the private schools also were admitted to my school. Private schools in the area are also trying to implement computer technology to hold their students.

We don't try to teach them the computer. The students are learning computers by themselves. We provide worksheets in every class. We download study materials. Students are learning singing-dancing also. They are very happy in their school.

Blended Learning: A Magical e- Platform Learning gifted by Covid- 19 Pandemic

Dr Ajay Singh, Principal, Kendriya Vidyalaya No. 2 Rewa

For more than 25 years, I have been working in the field of education and different designation in Kendriya Vidyalasangathan. In this entire period, the Covid - 19 Pandemic has provided a golden opportunity for social experimentation, especially in the field of Education.

Covid- 19 pandemic has provided the Laboratory Conditions by restricting all the other variables in the global level that was never possible before, and Blended Learning is the best outcome of all this research work.

This approach is the trend of education that combines online educational materials and opportunities for interaction online with traditional place-based classroom methods. It requires the physical presence of both teacher and student, with some elements of student control over time, place, path,

or pace. In this approach, face-to-face classroom practices combine with computer-mediated content and delivery activities.

I believe that despite certain limitations, there is no substitute for face-to-face teaching in the means of the effectiveness of teaching-learning. Still, the challenge was to find alternative means at that time. All experimentation and innovations being done to date with changing conditions, I find the blended approach the most effective means of teaching in all means of web-enhanced instructions.

In the beginning, the classes were pure online classes or e-learning. Through WhatsApp, e-content in the form of videos, e-books, pdf, and worksheets was provided to the students, and students were also submitting just pdf or jpg of their notebooks or answer sheets.

But soon, with the experiments in youtube, google meet, google forms, olabs etc., the concept of Blended learning came into really effective existence. As its name is, it blends all online teaching tools that a teacher can find by research and experimentation with the face to face interaction opportunity.

It was not the end of this research, with the time conditions improved. Schools get open with 50% strength, and at that time, the challenge was to accommodate both groups, os students who are coming to school and others studying home; in this, the approach experimented in the school is Hybrid learning. Still, it has its own limitations, and BLENDED LEARNING was certified as the best Web mediated learning.

In my research paper, I reported the entire methodology – experimentation, case study, and data interpretation- to this conclusion. This approach has illuminated the lamp of light in this period of darkness and continued the chain of education in this period of adversities. This approach is useful for this time and should be conserved for the future and may be used to serve humanity not only for education but for other purposes in any situation.

ICT Support in Co-Curricular Activities

Dr Prabhakaran PM, School Leader, Kendriya Vidyalaya Port Trust, Kochi-03

This paper reflects how integrating ICT in co-curricular and curricular activities in KV Ashok Nagar can set a benchmark in the new age backed by technology. There is an urgent need for revamping the CCA activities in KVS. There has to be a paradigm shift in co-curricular activities with digital India rampant everywhere. A set of innovative co-curricular activities were designed, which, apart from regular skill, uses a number of digital skills to compete. This was implemented in the school for the past two years with the help of computer instructors and other teachers as a part of collaborative learning. For this purpose, the experimental group and the control group were created. As a result, students enjoyed the new approach to CCA activities which sharpened their computer skills, laying a foundation for 21st-century skills.

Integrating Technology into Education: A New Paradigm and a Panacea in COVID-19 Pandemic

Aamir Majeed, Research Scholar, Faculty of education, Jamia Millia Islamia, New Delhi

In times of uncertainty, survival requires an immediate response. This paper studies how technology has been a panacea to deal with the uncertainty of schooling during the Pandemic. The outbreak of COVID-19 forced educators to switch to an online mode of education to provide a possible solution to students to continue their education. The paper emphasises the significance of incorporating technology into education at the mass level; it also examines a paradigm shift to the online mode of education. The paper will be a helpful document for policymakers to frame the futuristic policies based on integrating technology into education to deal with different and uncertain situations.

Appendix II

Keynote Speakers, Chairpersons and Panelists

Keynote Speakers

Prof Asha Singh Kanwar is the President and CEO of the Commonwealth of Learning. Before joining COL, Professor Kanwar was a senior consultant in open and distance learning at UNESCO's Regional Office for Education in Africa (BREDA). She has also served as Director, School of Humanities and as Pro-Vice-Chancellor at the Indira Gandhi National Open University (IGNOU) in New Delhi, India. She was a Fulbright Fellow for post-doctoral research at Iowa State University in the US, where she was later invited to teach. Currently, she serves on the boards of several organisations, including the Governing Board of the UNESCO Institute for Information Technologies and Education (IITE).

She has been conferred eight honorary doctorates from universities in Asia, Africa, Europe and North America.

Prof Vinayagum Chinapah has been Professor, Chair Holder and Head of the Institute of International Education (IIE), Department of Education, Stockholm University, Sweden. He served UNESCO Headquarters in Paris as Director of the Joint UNESCO-UNICEF International Program on Monitoring the Quality of Education and Learning Achievement, which covered some 80 countries worldwide (1992-2006). He served for one year as UNESCO Regional Educational Adviser for the Arab States, UNESCO Regional Office, Beirut, Lebanon (2007-2008). He has done research, training, and consultancies for several UN agencies (UNESCO, UNICEF. UNDP, FAO); International agencies (The World Bank, OECD); bilateral agencies (SIDA, Finnish CIMO, CIDA, Commonwealth Secretariat) and several national governments and institutions in some 145 countries worldwide over the past 45 years.

Dr Nathaniel M. Ostashewski is an Associate Professor with the Athabasca University Open, Digital, and Distance Education Programs. Working at universities in Australia and Canada, he has researched and developed MOOC designs since 2009 and continues today with the TELMOOC (www.telmooc.ca) delivery and research. His current research is focused on the educator and how they can make decisions about using and implementing technology-enabled learning, digital pedagogies, online & blended learning design, and OERs.

In the past, Dr Ostashewski has worked as a K12 teacher, a chief financial officer, an instructional designer, a choreographer, and a professional development lecturer.

Dr Libing Wang is currently Chief of Section for Educational Innovations and Skills Development (EISD) and Senior Programme Specialist in Higher Education, based at UNESCO Asia and Pacific Regional Bureau for Education, Bangkok, Thailand. His areas of responsibility with UNESCO cover higher education, teacher education, ICT in education, TVET, ESD, and research and foresight in

Asia and the Pacific region. Before joining UNESCO, he was a Professor of Comparative Education at Zhejiang University, People's Republic of China. He was secretary of the Global University Network for Innovation: Asia and the Pacific (GUNI-AP). He was a visiting fellow at the University of Sussex and University of Warwick in the United Kingdom. He published widely in the areas of comparative education, higher education policies, and teacher education.

Chairpersons

Prof Tony Bates is the author of eleven books in the field of online learning and distance education. He has provided consulting services specializing in training in online learning and distance education planning and managing, working with over 40 organizations in 25 countries.

Tony Bates is President and CEO of Tony Bates Associates Ltd, a private company specializing in consultancy and training in e-learning and distance education planning and management. He is also a Distinguished Visiting Professor in the G. Raymond Chang School of Continuing Education, Ryerson University, Toronto and a Research Associate at Contact North, Ontario.

Prof Matiul Alam is currently serving as a member of the selection committee for the "One Thousand Scholarships Program" initiated by Digital Media Academy, California. He is also serving as the CEO of World Education, Vancouver, Canada, and the Chairman of Governing Body of "Serve Human Foundation". Currently, he is serving on several international journals' review/ editorial committees. He also serves on the scholarly paper award committees on Adult Literacy for various agencies, including AERA (American Educational Research Association).

He taught at various universities, including the University of Northern British Columbia, Simon Fraser University, Western Washington University, and the University of British Columbia. Dr Alam was nominated to represent US academia around the globe under the prestigious People to People International Program (Ambassador Program).

Dr Sanjaya Mishra Education Specialist: eLearning, Commonwealth of Learning, Vancouver, Canada. Previously, he served COL as Director of the Commonwealth Educational Media Centre for Asia (CEMCA). Before joining COL, he was Programme Specialist (ICT in Education, Science and Culture) at UNESCO, Paris. During his service in different capacities at the Indira Gandhi National Open University (IGNOU), amongst many innovative activities and programmes, he developed the OER-based one-year Post-Graduate Diploma in eLearning. As a staff developer and trainer, Dr Mishra has received the ISTD- Vivekananda National Award for Excellence in Human Resource Development and Training in 2007 and has facilitated over 1000 hours of training in distance education, information and communication technologies, educational multimedia, eLearning and Open Educational Resources in over 30 countries.

Prof Pankaj Mittal, Secretary-General of the Association of Indian Universities (AIU), is the second women Secretary-General of the Association in its 96 years. She is also National Commissioner for Rangers of Bharat Scouts and Guides. Before joining AIU, she served the higher education sector for more than 03 decades at the apex regulator of higher education, the University

Grants Commission of India. Prof Mittal earlier served as the first regular Vice-Chancellor of Bhagat Phool Singh Mahila Vishwavidyalaya, Khanpur, India.

Dr Mittal served as a member of various High Powered Committees and Professional Bodies including "Future of Education" of NITI Aayog, General Assembly of the Indian Council for Cultural Relations (ICCR), Finance Committee, Indian Council for Cultural Relations, New Delhi, Committee for Development of National Credit Framework – Ministry of Education Etc.

Panelists

Dr Rajesh P. Barnwal is serving as Principal Research Scientist of CSIR-India and currently leading the AI & IoT Lab (as a part of the IT Group) at CSIR-Central Mechanical Engineering Research Institute Durgapur, India. He was awarded the Senior Member award by the Association of Computing Machinery (ACM), USA.

Dr Barnwal has led several R&D and industrial consultancy projects funded by the Govt. of India in the field of Artificial Intelligence, the Internet of Things, Data Informatics, and Cyber-physical Systems. He has several copyrights and design registrations to his credit for his authored software and technological products. During the COVID19 era, he developed and filed a patent on IoT-based IntelliMAST (Solar-powered Intelligent Mask ATM cum Thermal Scanner) technology for the workplace, which attracted the attention of national/ international media.

Mr Anshul Sonak is currently the global Director- Digital Readiness Programs and Senior Director for Global AI Readiness at Intel Corporation, Singapore. He is a global business strategy and program designer focusing on digital readiness, the future of work-learning -skills, and social impact. He is the first Principal Engineer for Digital Readiness Programs & Future of Work in Intel.

Mr Sonak gives keynotes to multiple governments and multi-lateral forums (UNDP, UNESCO, UN ESCAP, ADB, USAID, etc.). He is the United Nations Development Program (UNDP) Asia's first Youth CoLab Champion. He is a global judge in MIT SOLVE and a board advisor to select social impact organizations across the world in the education, skills tech, and social impact sector.

Dr Som Naidu is former Pro Vice-Chancellor (Flexible Learning), Director of the Centre for Flexible Learning at the University of the South Pacific, Principal Associate (Technology, Education and Design Associates), and Executive Editor of the journal Distance Education (https://www.tandfonline.com/toc/cdie20/current). Dr Naidu has spent most of his professional life in the higher education sector in various roles.

The Open University of Sri Lanka awarded Dr Naidu a *D.Litt. (Honoris Causa)*, in recognition of his extensive contribution to the field of *open, flexible, distance and e-learning* both regionally and internationally. In additionAdvance Higher Education, the UK admitted Dr Naidu as *Principal Fellow of the Higher Education Academy* for his commitment, contribution and strategic leadership in the scholarship of learning and teaching globally.

Dr Indira KoneruYalavarthi is an Associate Dean and Head, eLearning at Icfai Business School (IBS) and the Founding Director of KBR & HL Human Development Foundation. She manages the

eLearning Department for seven IBS Campuses and plays a pivotal role in planning, designing, developing and implementing Moodle-enabled blended online learning.

Dr Indira is an eLearning consultant of Commonwealth of Learning (COL)&Commonwealth Educational Media Centre for Asia (CEMCA) and the domain expert for IIT Bombay Spoken Tutorials on Moodle. She is a volunteer Mentor of UNESCO's Open Education for Better World (OE4BW) Projects.

As a Resource Person, she trains Professors at various academic and research institutions across India and abroad on designing, developing and delivering Moodle-enabled and OER-enabled Blended Learning, MOOCs, eAssessment, EdTech tools etc.

Prof Amarendra Prasad Behera is currently working as joint Director at Central Institute of Educational Technology (CIET), a constituent of the National Council of Educational Research and Training (NCERT). He has associated faculty in the Development of National Repository of Open Educational Resources (NROER), development and launching of Online Courses MOOCs on SWAYAM and telecast of Educational TV/ Radio programmes on Gyan Darshan, Gyan Vani, 24x7 DTH-TV Channel SWAYAM PRABHA, PMeVIDYA, Community Radio broadcast etc.

Dr Behera provided resource support to national and international organisations, i.e. NIOS, KVS, JNV, CTSA, SCERTs/SIEs, IGNOU, Academic Staff Colleges/HRDCs of Indian Universities, CEMCA-COL, UNESCO, USEFI, UNICEF, USAID, NIE-Srilanka, Mauritius on educational technology, ICTs in education media and curriculum development related issues.

Appendix III

List of Delegates

Abedin, Md.Tanvir Educator DPS STS School, Dhaka

Acharjee, Monisha Educator DPS STS School, Dhaka

Acharya, Arpita Officiating Principal Blue Bells Model School, Gurugram

Adak, Salil Teacher in Charge Panitras Free Primary School, West Bengal

Afrin, Alia Educator DPS STS School, Dhaka

Afroz, Tanaffus Educator DPS STS School, Dhaka

Agarwal, Kabita Educator The HDFC School, Pune

Agarwal, Surabhi Educator The HDFC School, Pune

Agarwal, Vidhu Educator The HDFC School, Gurugram

Agarwalla, Shalini Educator DPS STS School, Dhaka

Aggarwal, Shefali Educator St Xaviers High School, Gurugram

Aggarwal, Shipra Educator The HDFC School, Gurugram Agrawal, Prakriti Educator CCA School, Gurugram

Agrawal, Shweta Educator BVB's R. K. Sarda Vidya Mandir, Raipur

Ahluwalia, Prerna Educator The HDFC School, Gurugram

Ahmed, Ishtiyaq Educator DPS STS School, Dhaka

Ahmed, Jamil Principal Aravali Public School, Nuh Haryana

Ahmed, Tabassum Educator DPS STS School, Dhaka

Ahmed, Tarana Majid Educator DPS STS School, Dhaka

Ahmed, Taskeya Educator DPS STS School, Dhaka

Ahuja, Manpreet Kaur Educator Mira Model School, New Delhi

Akhtari, Ahmad Maya Educator DPS STS School, Dhaka

Akil, Sarwat Educator DPS STS School, Dhaka

Akther, Dilara Educator DPS STS School, Dhaka Akther, Sharmin Educator DPS STS School, Dhaka

Alam, Ilham Adnan Educator DPS STS School, Dhaka

Alam, Rahima Rainer Educator DPS STS School, Dhaka

Alam, Rania Educator DPS STS School, Dhaka

Alexander, Janifer Educator BVB's R. K. Sarda Vidya Mandir, Raipur

Al-Maruf,Muhammad Hasanul Banna Educator DPS STS School, Dhaka

Amy, M.Ahatashamul Haq Educator DPS STS School, Dhaka

Anand, Kanika Abrol Educator BVB's R. K. Sarda Vidya Mandir, Raipur

Anand, Manorama Educator The HDFC School, Pune

Anand, Pallavi Librarian Salwan Public School, New Delhi

Anedin, S.M. Moinul Educator DPS STS School, Dhaka

Aneja, Kumud Headmistress Salwan Public School, Gurugram International Conference Report

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Archana Educator The HDFC School, Bengaluru

Arefin, Adeyat Lutful Educator DPS STS School, Dhaka

Arora, Shally Educator The HDFC School, Gurugram

Arora, Surabhi Educator Salwan Public School, Gurugram

Arvind Educator BVB's R. K. Sarda Vidya Mandir, Raipur

Ashaduzzaman, Md. Educator DPS STS School, Dhaka

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Ausaf, Sana Educator The HDFC School, Pune

Awadhiya, Ashish Assistant Director Centre for Online Education, IGNOU, New Delhi

Awal, Rachna Educator BVB's R. K. Sarda Vidya Mandir, Raipur

Awayz, Hannah Educator The HDFC School, Bengaluru

Azad, AneekaBinte Educator DPS STS School, Dhaka

Aziz, Tahmina Binte Educator DPS STS School, Dhaka

B.G, Bhuvanesware Educator The HDFC School, Gurugram

Bagawade, Sayali Educator The HDFC School, Pune Bahl, Geetanka Educator Mira Model School, New Delhi

Baidya, Dipak Kumar Faculty DPS STS School, Dhaka

Bajaj, Shalini Principal The Maurya School, Gurugram

Bajaj, Srishti Educator G D Goenka Public School, Gurugram

Bala, Manju Ph D Student University of Jammu, Jammu

Bala, Manju Educator Gyan Devi Public School, Gurugram

Baldota, Gazal Educator The HDFC School, Pune

Banerjee, Dr Chitram Doctoral fellow Wiseman Institute Science, Israel

Banerjee, Munmun Director Academics Rabindranath World School, Gurugram

Banga, Parul Educator The HDFC School, Pune

Bangerwal, Upasana Educator The HDFC School, Gurugram

Bansal, Suman Educator The HDFC School, Pune

Barangale, Harshala Educator The HDFC School, Pune

Barhia, Ruchika Educator Sharda International School, Gurugram

Bari, Kashfia Educator DPS STS School, Dhaka Barua, Sujoy Educator DPS STS School, Dhaka

Basher, Naureen Educator DPS STS School, Dhaka

Basu, Shimantika Educator The HDFC School, Gurugram

Batra, Monika Vice Principal Kendriya Vidyalaya Sangathan, New Delhi

Bedamatta, Mrunmayee Educator BVB's R. K. Sarda Vidya Mandir, Raipur

Bedamatta, Pradipta Educator BVB's R. K. Sarda Vidya Mandir, Raipur

Bedi, Ritu Principal Red Roses Public School, Gurugram

Begum, Khadiza Educator DPS STS School, Dhaka

Begum, Mahfuza Educator DPS STS School, Dhaka

Bendbar, Minal M Educator The HDFC School, Pune

Bera, Subhashree Ex-Student Jadavpur University, West Bengal

Bhagyashree Educator The HDFC School, Bengaluru

Bhalla, Sadhana Principal Mira Model School, New Delhi

Bhandari, Apurvi Educator The HDFC School, Pune

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Bhanot, Vandana Research Scholar Guru Nanak Dev University, Amritsar, Punjab

Bhatia, Timsy Supervisory Head D A V Public School, Gurugram

Bhatt, Poonam Educator The HDFC School, Pune

Bhattacharya, Bishwanath Educator DPS STS School, Dhaka

Bhattacharya, Mahuya Educator DPS STS School, Dhaka

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Bhujbal, Aarti Educator The HDFC School, Pune

Bhupinder PrimaryEducator Blue Bells Model School, Gurugram

Binte, Naza Asif Educator DPS STS School, Dhaka

Bisht, Jyoti Jain Educator Kendriya Vidyalaya School, New Delhi

Biswal, Anu Educator BVB's R. K. Sarda Vidya Mandir, Raipur

Biswal, Suprava Educator BVB's R. K. Sarda Vidya Mandir, Raipur

Biswas, Shaili Educator BVB's R. K. Sarda Vidya Mandir, Raipur

Biswas, Tapan Research Scholar University of Calcutta, West Bengal Budakoti, Rekha Principal Bal Bharati Public School, Manesar, Gurugram

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Chakma, Champa Educator DPS STS School, Dhaka

Chakravarty, Rupa Director Suncity World School, Gurugram

Chanda, Arnob Kumar Educator DPS STS School, Dhaka

Chandel, Pallavi Educator The HDFC School, Gurugram

Chandla, Shaivali Educator Mira Model School, New Delhi

Chandna, Chanchal Educator Delhi Public School, Gurugram

Chandra, Shalini Professor Banasthali Vidyapith, Rajasthan

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Chaturvedi, Akhilesh Principal Delhi Public School, Maruti Kunj

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Choudhary, Reena Kumar Educator The HDFC School, Gurugram

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Das, Partha Protim Educator DPS STS School, Dhaka

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Das, Shilpa Rao Educator The HDFC School, Bengaluru

Das, Shilpi Ghosh Educator The HDFC School, Pune

Das, Surama Educator The HDFC School, Bengaluru

Dasgupta, Anita Faculty Manav Rachna International School, Gurugram

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Garg, Shallu Educator The HDFC School, Gurugram

Garg, Shruti Educator The HDFC School, Pune

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Gupta, Anita Principal Raman Munjal Vidya Mandir, Gurugram

Gupta, Neha Educator The HDFC School, Pune

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Gupta, Shivani Educator Salwan Public School, Uttar Pradesh

Gurung, Gyanu Educator BVB's R. K. Sarda Vidya Mandir, Raipur

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Haque, K.M. Ziaul Educator DPS STS School, Dhaka Haque, Sonia Educator DPS STS School, Dhaka

Haria, Poonam Educator The HDFC School, Pune

Hasan, Nazia Educator DPS STS School, Dhaka

Hasan, Dr Naziya Assistant Professor Manipur University, Imphal

Hashi, Fatema Akter Educator DPS STS School, Dhaka

Hassan, Md. Kamrul Educator DPS STS School, Dhaka

Hora, Shruti Educator The HDFC School, Pune

Hosen, Mohammad Shamim Educator DPS STS School, Dhaka

Hossain, Monami Educator DPS STS School, Dhaka

Hossain, Syeda Rumana Educator DPS STS School, Dhaka

Hp, Shilpa Educator The HDFC School, Bengaluru

Hussain, Sajad Student University of Jammu, Jammu

Indu Educator The HDFC School, Pune

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Islam, Aminul Educator DPS STS School, Dhaka International Conference Report Islam, Faria Educator DPS STS School, Dhaka

Islam, Md.Wahidul Educator DPS STS School, Dhaka

Islam, Shahedul Educator DPS STS School, Dhaka

Islam, Shegufta Educator DPS STS School, Dhaka

Islam, Thouhidul Educator DPS STS School, Dhaka

Jadhav, Tejasvini Educator The HDFC School, Pune

Jadhav, Trupti Educator The HDFC School, Pune

Jahan, Farhat Educator DPS STS School, Dhaka

Jahan, Kumkum Habiba Educator DPS STS School, Dhaka

Jahan, Nusrat Educator DPS STS School, Dhaka

Jahan, Rafat Head Mistress Kendriya Vidyalaya, Pushp Vihar

Jahan, Rokiaya Educator DPS STS School, Dhaka

Jahangir, Shaila Sharmin Educator DPS STS School, Dhaka

Jain, Sharvi Educator The HDFC School, Gurugram

Jain, Smita Educator D A V Public School, Gurugram

Jakhar, Sunita Vice Principal Salwan Public School, New Delhi Jamal, Farha Educator BVB's R. K. Sarda Vidya Mandir, Raipur

Jha, Anju Educator The HDFC School, Gurugram

Jha, Arti Educator The HDFC School, Pune

Jha, Arti Educator The HDFC School, Pune

Jha, Manoj Kumar Educator BVB's R. K. Sarda Vidya Mandir, Raipur

Jose, Piyano Educator The HDFC School, Pune

K.S, Raghu Research Scholar R.V.Educators College, Bangalore

Kalia, Navita Educator The HDFC School, Gurugram

Kalra, Sumedha Educator The HDFC School, Gurugram

Kamal, Dilruba Educator DPS STS School, Dhaka

Kamruzzaman, Muhammed Educator DPS STS School, Dhaka

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Kapoor, Annu Educator The HDFC School, Gurugram

Kapoor, Tina Educator The HDFC School, Gurugram

Karim, Kanta Educator DPS STS School, Dhaka Karmaker, Santa Educator DPS STS School, Dhaka

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Kaur, Dipinder Principal Delhi Public School, Pataudi

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Khadiza, Bibi Educator DPS STS School, Dhaka

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Khairunnesa, Umme Syeda Educator DPS STS School, Dhaka

Khan, A.F.M.Munif Mushfiq Educator DPS STS School, Dhaka

Khan, Abdullah Mahbub Educator DPS STS School, Dhaka

Khan, Afrin Educator DPS STS School, Dhaka

Khan, Afroza Educator DPS STS School, Dhaka

Khan, Akhter Nasrin Educator DPS STS School, Dhaka

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Khan, Ayesha Educator DPS STS School, Dhaka

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Khan, Palash Educator DPS STS School, Dhaka

Khan, Shegufta Hasan Educator DPS STS School, Dhaka

Khan, Touhidul Alam Educator DPS STS School, Dhaka

Khanam, Jahan Akhter Saima

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Khanam, Rafia Educator DPS STS School, Dhaka

Khanna, Mamta Educator Sunbeam School, Varanasi Kharyal, Shallu Educator The HDFC School, Gurugram

Kini, Jyoti Educator The HDFC School, Pune

Kolhar, Rasika I Educator The HDFC School, Bengaluru

Konduru, Sindhu Educator The HDFC School, Bengaluru

Kour, Raspreet Research Scholar University of Jammu, Jammu

Kukreja, Angad Educator The HDFC School, Gurugram

Kulkarni, Manasavi Educator The HDFC School, Pune

Kulshrestha, Alok Educator The HDFC School, Gurugram

Kumar, Anshu Malika Incharge Blue Bells Model School, Gurugram

Kumar, Harsh Principal Bal Bharati Public School, Manesar, Gurugram

Kumar, Parveen Principal Kendriya Vidyalaya, New Delhi

Kumar, Romy Research Scholar University of Jammu, Jammu

Kumar, Umesh School Leader Kendriya Vidyalaya Sangathan, Ranchi

Kumar, Yogesh Educator St PBN Public School, Gurugram

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Appendix IV

Academic Advisory & Organising Committee

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Chairman, ETMA Council and Member ETMA Trust



Former Professor and Director (i/c) of NIEPA and Chairman of National Open School (now NIOS). Chairman of CABE Subcommittee on Universalization of Secondary

Education; consulted by UNICEF, UNESCO, USAID, British Council, Commonwealth of Learning, ISRO, NIIT, IBM, INTEL, Microsoft, etc.

Marmar is a reputed trainer of educational personnel — trained senior educational administrators and teachers from India and abroad. A reputed author, his books on Leadership, Total Quality Management in Education, Quality Management in Higher Education enjoy global readership.

Prof S.P. Malhotra *Hony. Director, ETMA*



Prof. S.P. Malhotra is Hony. Director of ETMA. He served Kurukshetra University in different capacitates as Professor, Dean Academic

Affairs, Registrar of the University, Director Distance Education & Principal College of Education. He had been National Fellow at NIEPA and chief consultant EdCIL for Research and Evaluation. He has been awarded the 'Best Teacher Educator' award for 2005-06.

Dr Sistla Rama Devi Pani

Head of the Research Division, Association of Indian Universities



Dr Sistla Rama Devi Pani is the Editor, University News and Head of the Research Division at the Association of Indian Universities, New Delhi. She has served in various apex Institutions in India like NCERT, IGNOU, NIOS. A Trained Career Counselor, Dr Pani is in the panel of experts at the Rehabilitation Council of India and is an honorary consultant at some educational institutions in India and Australia. She serves on the Academic Council of Mewar University, Chittorgarh and has to her credit several publications.

Dr Indu Khetarpal *Member, ETMA Trust*



Dr Indu is appointed as a Consultant at National Testing Agency (NTA). Former Principal of Salwan Public School, Rajinder Nagar and Secretary, Salwan

Education Trust. She has been conferred the National Award for Teacher 2005 by HRD Ministry, State Level Computer Literacy Excellence Award – 2005 from the Ministry of CIT, Government of India and Endeavour Executive Award by The Government of Australia in 2009.

Sri Amitava Ghosh

Member, ETMA Council



Amitava is a Practising management and leadership specialist. He is the Founder Principal of Bharatiya Vidya Bhavan's R.K.Sarda Vidya Mandir, Raipur,

Chhattisgarh. He has rich experience of teaching and management in Chinmaya Vidyalaya, Lawrence School, Sanawar, Vidya Devi Jindal Schools. He is the former Chairperson of Confederation of Indian Industry – Young Indians, Raipur Chapter.

Prof Renu Nanda

Dean Faculty of Education, University of Jammu



Dr Nanda was completed and submitted ten research projects funded by NIEPA, SRC Kashmir University, UGC, ICSSR, NCERT & IUCTE MHRD M S Baroda

and has to her credit several publications. She is the Life Member of AIAER, IIPA, CESI, Indo-Association for Canadian Studies, AIATE, Indian Red Cross Society, Civil Defence, NSS & Bharat Scouts & Guides.

Prof Syedah Fawzia Nadeem *Professor, Jamia Millia Islamia*



As Professor in Education in Jamia Millia Islamia, she teaches pre-service teacher education students. She has also been a part of CPD programmes of teachers and

teacher educators of her university and outside Jamia. She did a research project on the community radio of Jamia. She has been involved in writing modules for the Open Learning System.

Prof K Pushpanadham

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Prof. Pushpanadham is the Head of the Department of Educational Administration and the Offg. Head of the Department of Educational Management at the Maharaja

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Prof Debarata Debnath

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Prof. (Dr.) Debabrata Debnath is the Dean, Faculty of Law, Education, Journalism Library science, and Physical Education. University of Gour Banga, Malda, West Bengal,

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Prof Amruth G Kumar

Professor, Central University of Kerala, Kasaragod.



Dr Amruth G Kumar is a research awardee of the University Grants Commission, New Delhi. He was awarded a certificate of merit for teaching based on the

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Dr Ramesh C Sharma

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Previously Dr Sharma was served as an Associate Professor, Wawasan Open University, Malaysia, Visiting Professor -Universidade do Estado da Bahia, UNEB, Brazil and the University of Fiji, Fiji.

He was the Director of Commonwealth Educational Media Centre for Asia (CEMCA), Director of the Institute of Distance and Continuing Education (IDCE), University of Guyana, Guyana, South America and Regional Director of IGNOU.

Dr Mrityunjoy Kaibarta *Education Specialist with ETMA*



He is currently working as an Education Specialist with ETMA. Dr Kaibarta completed his Ph. D. From Visva-Bharati.

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Appendix V

Chairpersons of Parallel Sessions and Rappotiours

Chairpersons of Parallel sessions (Excluding Academic Advisory Committee)

Prof Sudesh Mukhopadhyay was former Chairperson of the Rehabilitation Council of



India, Head of the Dept. of Inclusive Education in NIEPA and Director of the SCERT Delhi. She served NCERT and R G University, Arunachal Pradesh, for several years.

An internationally reputed specialist in Inclusive Education, she has been consulted by several Indian and International agencies, including BRAC, Reach India and Others. Dr Sudesh Mukhopadhyay is also involved in many policy-making committees for inclusive education.

Prof P. K. Sahoo was the Former Vice-Chancellor University of Allahabad, Prayagraj. He was HOD in the Department of Pharmacy, University of Delhi. He served as a regional office in AICTE Bangalore, Bhopal, Mumbai, Kanpur, and Kolkata. He was honoured by the president of Delhi State Branch of APTI and also awarded for Best Research Paper of APTI, 2007

Prof Saumen Chattopadhyay is the Professor at Zakir Husain Centre for Educational Studies, Jawaharlal Nehru University (JNU). He was Senior Economist, National Institute of Public Finance and Policy. His area of interest is Economics of Education, focusing on education policy, governance, and financing of education; Public finance focuses on tax evasion and the black economy. He was awarded and honoured by the President for Comparative Education Society of India (CESI) 2017-18. **Prof D Harichandan** was a former Professor cum Director (2007-2015) at the Institute of Distance and Open Learning, University of Mumbai. Earlier, he was professor cum Director in UGC NET / SET from 2003 to 2014. He was awarded for Govt. of India Fellow at International Inst. For Population Sciences, ICSSR Doctoral Fellow at Indian Institute of Education Pune, Smt. Raiji Prize for standing First Class First at P.M. Dip. in Adult & Continuing Education exam. Of SNDTW University.

Prof Amit Kauts is the Professor, Head & Dean Faculty of Education Guru Nanak Dev University (GNDU). He is a specialist in Educational Technology, Education Research, Leadership and teacher education. He was completed and submitted his research projects funded by UGC and ICSSR. He was awarded for EMINENT EDUCATIONIST.

Prof Debasri Banerjee has seven years of teaching experience at the undergraduate college level and 20 yrs of experience at the post-graduate level at the Department of Education, University of Calcutta. She has a Post Graduate Diploma in Teaching Children with multiple handicaps. She had been the HOD, a member of the Senate and Syndicate. Research interest is in educational psychology, inclusive education and teacher education.

Rapporteurs

Dr Mrinal Mukherjee Assistant Professor WBUTTEPA, West Bengal

Sri Arnab Kundu Research Scholar Bankura University, West Bengal

Dr Pallavi Khedkar Director (Academic) Parul University, Baroda

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Ms Zahra Kazmi Research Scholar Jamia Millia Islamia, Delhi

Ms Richa Prasad Research Scholar, Jamia Millia Islamia, Delhi

Dr Ana Bali Lecturer Department of Education University of Jammu, Jammu

Dr Sheetal Sharma Lecturer Department of Education University of Jammu, Jammu

Shri Chanchal Maity Research Scholar, Bankura University, West Bengal

Ms Shazia Nausheen PhD Research Scholar, University of Calcutta, West Bengal

Dr Deepika Kohli Assistant Professor Khalsa College of Education, Amritsar, Punjab

Dr Renu Vij Associate Professor College of Business Studies, Vidya Jyoti Institute of higher education, Derabassi

Ms Waeza Tazien Assistant Professor Acharya Prafulla Chandra College, New Barrackpore

Dr Tausif Biswas Assistant Professor Jadavpur University, West Bengal

Dr Rama Gupta Assistant Professor Jagat Taran Girls' Degree College, Prayagraj

Mr Dinesh G Research Scholar School of Education, Central University of Kerala, Kasaragod

Ms Nirmala A Research Scholar Central University of Kerala, Kasaragod

Ms Banashree Mondal Research Scholar NIEPA, New Delhi Dr Ashish Mishra Assistant Professor of Education, Jagat Taran Girls' P. G. College, Prayagraj

Dr MnakshiVij Principal SMDRSD College of Education, Pathankot, Punjab

Mr Maninder Singh Teacher of Social Science Govt. school Massanian, Batala, Punjab.

Dr Shweta Tripathi Guest Faculty, University of Allahabad, Uttar Pradesh

Mr Jugantar Mishra Assistant Professor B.Ed. College Raiganj, West Bengal

Dr Pankit Surve Asst. Prof Dept. of Sociology IDOL, University of Mumbai, Mumbai

Ms Debani Deb Research Scholar Central University of Kerala, Kasaragod

Ms Ambika Sharma School facilitator American India Foundation, Gurugram

Ms Rohini Mohandas Nair Academic Coordinator The HDFC School, Bengaluru

Mohammad Shamim Hoesn HOD-English The DPS STS School, Dhaka

Pooja Rai Coordinator The HDFC School, Pune

Dr Jagriti Gautam Coordinator The HDFC School, Gurgaon

Shamim Siddiqui HOD- Science The DPS STS School, Dhaka

Dr Shivananda CS Principal The DPS STS School, Dhaka

Dr Suhas Saha HOD- Physics The DPS STS School, Dhaka

Appendix V

Conference Schedule

DAY 1: 3rd December 2021

Time	Themes and Activities				
0930-1100	Keynote Addresses I: Technology-Enabled Education: Hybrid, Blended and e-				
	Learning				
	 Keynote Speaker: Prof Asha Kanwar, President & CEO Commonwealth of Learning, Vancouver, British Columbia, Canada Chairperson: Prof Tony Bates, Distinguished Visiting Professor, Chang School of Continuing Education Rverson University 				
					unshed visiting Professor, chang benoor of
	Anchor& Host: Prof Renu Nanda, Rapporteur : Dr Mrinal Mukherjee & Sri Arnab Kundu				
					-
1100-1145	Networking and Presentation by Educational Technology and Management Academy,				
	Assoc	ciation I	ndian Universit	ies & Gurga	on Public Schools Council
1145-1315	Keyn	ote Add	lress II: COVI	D-19 Impac	ts on Education: Evidence from a Global
	Onlin		TES of the Educe	tion Commu	nity on Digital Education and Digital Solutions
	Surve	ey: voic	LES OF the Educa	uton Commu	inty on Digital Education and Digital Solutions
1145-1315	Kevn	ote Spe	aker: Prof Vi	navagumCh	inapah. Professor Emeritus. Department of
	Educa	ation, Sto	ockholm Univer	sity, Stockho	olm; served UNESCO Headquarters in Paris-
	Franc	e		-	-
	Chair	person:	Prof MatiulA	lam, Profes	sor of the Education, University of British
	Columbia, and CEO of World Education, Vancouver, Canada. Anchor& Host: Prof K. Pushpanadham, Rapporteur: Dr Pallavi Khedkar & Dr Ashish Mishra				
1215 1400	IVIIDIII	u		LUNCI	
1315-1400	LUNCH BKEAK Breakout sessions for paper presentation				
1400-1330	-Chairnerson Rapporteu			Rapporteurs	
	Sessio	on 1	Prof Fawzia N	adeem	Ms Zahira Kazmi & Ms Richa Prasad
	Sessio	$\frac{1}{2}$ on 2	Prof Renu Nar	Ida	Dr Ana Bali & Dr Sheetal Sharma
	Sessio	on 3	Prof S.P. Malhotra		Shri Chanchal Maity& Ms ShaziaNausheen
	Session 4		Dr Ramesh Sharma		Dr Deepika Kohli & Dr RenuVij
	Sessio	on 5	Prof K Pushpa	nadham	Dr Pallavi Khedkar& Ms WaezaTazien
1530-1600	Break	s for Net	tworking		
1600-1800				Parallel	Workshops
			Theme		Resource Persons
	1	Learn	ing 321	Prof M M	Pant, Former Pro-Vice-Chancellor at IGNOU
				& Former Visiting Professor at University of Western	
	2	Design	Thinking	Unitario Mr Kapil Singh Murdia Creative Lead Prodeco Design	
	2	2 Design Thinking		Studio. Specialist in Design Thinking	
				Moderator: Ms Rupa Chakrabarty, President, GPSC	
	3 Reusing and		ng and	Dr Indira KoneruYalavarthi, Associate Dean & Head,	
	Repurposing OER for Blended LearningeLearning Department, ICFAI Business School Founding Director of KBR & HL Human Dev Foundation Moderator: Ms Charu Maini, Principal, DAV Gurugram		eLearning Department, ICFAI Business School and the		
			ended	Founding Director of KBR & HL Human Development	
			. Me Cham Maini Principal DAV School		
			• 1915 Charu Iviann, Efficipal, DAV School,		
	1	1		Surugraill	

4	Designing Virtual Reality Experiences in Education	Dr Ramesh Sharma, School of Global Affairs, Ambedkar University of Delhi & former Associate Professor, WawasonOpen University Dr Yashpaul Sharma, EdCil Consultant to CIET (NCERT), New Delhi	
5	Open Education Resources for Lifelong Learning	 Prof K Pushpanadham, Head, Department of Educational Administration, FEP, M. S. University of Baroda & Prof NorazahNordin, Deputy Vice-Chancellor, University Kebangsaan, Malaysia 	
6	Advanced Educational Research Methods	 Prof S P Malhotra, Hony. Director(ETMA), Former Dean (Academics), Kurukshetra University, Prof Renu Nanda, Dean Faculty of Education, University of Jammu, India Prof Syed Fawzia Nadeem, Professor of Education, Jamia Millia Islamia, New Delhi 	
7	Artificial Intelligence & Machine Learning	Mr Sachin Sharma, Co-founder of Funoppia, a specialist in Artificial Intelligence and Machine Learning Moderator: Brig (Retd) Prof. Ashok Pathak, Former Dean, Faculty of Management Studies, Sharda University, NOIDA	

DAY 2: 4th December 2021

Time	Themes and Activities			
0930-1100	Keynote Addresses III: Technology-enabled learning and the Community of Inquiry: A holistic learning approach			
	 Keynote Speaker: Dr Nathaniel Ostashewski, Associate Professor, Athabasca University Distance Education Program, Alberta, Canada Chairperson: Dr Sanjaya Mishra, Education Specialist (E-Learning), Commonwealth of Learning, Vancouver, British Columbia, Canada Anchor& Host: Dr S Rama Devi Pani, Rapporteur: Dr Tausif Biswas & Ms Ambika Sharma 			
1100-1145	Networking and Presentation by tickLinks			
1145-1515	Keynote Address IV: ICT in Delivery of Higher Education Keynote Speaker: Dr Libing Wang, Chief, Section for Educational Innovation and Skills Development (EISD), UNESCO Asia-Pacific Regional Bureau for Education, Bangkok, Thailand Chairperson: Prof Pankaj Mittal, Secretary-General, Association of Indian Universities, Former Vice-Chancellor, BPS Women University, Govt. of Haryana) Anchor&Host: Prof Syedah Fawzia Nadeem, Rapporteur: Zahira Kazmi & Richa Prasad			
1315-1400	LUNCH BREAK			
1400-1530	Breakout sessions for paper presentation			
		Chairperson	Rapporteurs	
	Session 6	Prof Dhaneswer Harichandan	Dr Ana Bali & Ms PanktiSurve	
	Session 7	Prof Madhu Parhar	Mr Dinesh G & Ms Nirmala A	
	Session 8	Prof Sudesh Mukhopadhyay	Ms Banashree Mondal & Dr Sheetal Sharma	
	Session 9	Prof Saumen Chattopadhyay	Dr Ashish Mishra & Dr Rama Gupta	
	Session 10	Prof Amit Kauts	Dr MinakshiVij & Mr Maninder Singh	

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1530-1600	Break for Networking			
	Parallel Workshops			
		Theme	Resource Persons	
	1	Going forward to normal	Prof Sugata Mitra, Former Professor of Educational Technology, Newcastle University, UK; Visiting Professor at MIT Lab	
	2	Design Thinking	Mr Kapil Singh Murdia, Creative Lead - Prodeeo Design Studio. Specialist in Design Thinking Moderator: Ms Rupa Chakrabarty, President, GPSC	
3Reusing and Repurposing OER for Blended LearningDr Indira Koneru Yala eLearning Department, I Founding Director of KI Foundation Moderator: Ms Charu 		Reusing and Repurposing OER for Blended Learning	Dr Indira Koneru Yalavarthi, Associate Dean & Head, eLearning Department, ICFAI Business School and the Founding Director of KBR & HL Human Development Foundation Moderator: Ms Charu Maini, Principal, DAV School, Gurugram	
	4	Designing Virtual Reality Experiences in Education	Dr Ramesh Sharma, School of Global Affairs, Ambedkar University of Delhi & former Associate Professor, Wawason Open University & Dr Yashpaul Sharma, EdCil Consultant to CIET (NCERT), New Delhi	
	5	Open Education Resources for Lifelong Learning	Prof K Pushpanadham, Head, Department of Educational Administration, FEP, M. S. University of Baroda & Prof Norazah Nordin, Deputy Vice-Chancellor, University Kebangsaan, Malaysia	
	6	Advanced Educational Research Methods	 Prof S P Malhotra, Hony. Director (ETMA), Former Dean (Academics), Kurukshetra University. Prof Renu Nanda, Dean Faculty of Education, University of Jammu, India & Prof Syedah Fawzia Nadeem, Professor of Education, Jamia Millia Islamia, New Delhi 	
	7	Artificial Intelligence & Machine Learning	Mr Sachin Sharma, Co-founder of Funoppia, a specialist in Artificial Intelligence and Machine Learning Moderator: Brig (Retd) Prof. Ashok Pathak, Former Dean, Faculty of Management Studies, Sharda University, NOIDA	

DAY 3: 5th December 2021

Time	Themes and Activities					
0930-1100	Panel Discussion I: Technology-Enabled Learning Assessment & Examination					
	Management					
	Chairperson: Dr Ramesh Sharma, School of Global Affairs, Ambedkar University of					
	Delhi & former Associate Professor, Wawason Open University, Malaysia.					
	Panellists					
	 Mr Anshul Sonak, Global Director- Digital Readiness Programs and Senior Director for Global AI Readiness at Intel Corporation, Singapore Dr Rajesh P. Barnwal, Principal Research Scientist of CSIR-India and currently leading 					
	the AI & IoT Lab (as a part of the IT Group) at CSIR-Central Mechanical Engineering					
	Research Institute, Durgapur, India					
	Anchor& Host: Dr Ramesh Sharma, Rapporteur: Dr Deepika Kohli, & Dr Renu Vij					
1100-1145	AI Proctored Examination Management: Demonstration					
	Ms Anastasia Berseneva Vision Lab, Moscow					

-2021	1145-1315	Par Cha for Par Dr Edi The Dr Sch Fou
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	1400-1530	Bre
EPO	1530-1545	Ses Ses Ses Ses
	1545-1630	
CONFERENCE		

145-1315	Panel Discussion II: Innovation and Research on Technology-Integrated Education				
	Chairperson: Prof Madhu Parhar , Director, Commonwealth Educational Media Centre for Asia (CEMCA)				
	Panellists				
	Dr Som Naidu, Principal Fellow of the Higher Education Academy (PFHEA); Executive Editor of Distance Education Journal of Australia's ODLA.Former Pro-Vice-Chancellor, The University of South Pacific, Fiji				
	Dr Indira Koneru, Associate Dean & Head, eLearning Department, ICFAI Business School, & Founding Director of <i>Koneru</i> Bhaskara Rao & Hemalata Human Development Foundation				
	Prof Amarendra Behera, Joint Director, Central Institute of Educational Technology (CIET), National Council of Educational Research and Training, New Delhi				
	Anchor& Host: Prof S. P. Malhotra, Rapporteur: Sri Arnab Kundu & Shri Chanchal Maity				
315-1400	LUNCH BREAK				
400-1530	Breakout sessions for paper presentation				
			Rapporteurs		
	Session 11	Prof P. K. Sahoo	Dr Rama Gupta & Dr Shweta Tripathi		
	Session 12	Prof Debabrata Debnath	Dr Tausif Biswas & Mr Jugantar Mishra		
	Session 13	Prof Debasri Banerjee	Ms Waeza Tazien & Ms Shazia Nausheen		
	Session 14	Dr Indu Khetarpal	Dinesh G & Nirmala A		
	Session 15	Prof Madhu Parhar	Dr Minakshi Vij & Ms Ambika Sharma		
530-1545	Break				
545-1630	Conference	Reporting Conference Resolu	ition and Valediction		

International Conference Report

Appendix VII

About ETMA & ETMA Council

Educational Technology & Management Academy Brief Introduction

Educational Technology and Management Academy (ETMA) is a leading Indian research and development institution in education. A group of educators established ETMA in 1993 as a non-profit, non-governmental, and non-political trust Institution.

ETMA believes in the research evidence that technology-integrated education improves students' engagement and quality of learning; ETMA also believes that technology integration in education can be effective only when backed by scientific management.

Hence, ETMA works to create a synergy between the sciences of technology-integrated human learning and educational management to improve the quality of education at all levels.

ETMA researches, innovate, designs solutions, field trials, evaluates, documents, and disseminates to stakeholders for quality improvement in education. ETMA is Quality Focused, Research-Based, and a Creative Spirited Institution.

ETMA is guided and run by an interdisciplinary group of specialists from science and technology, management, psychology, medicine, information science, and education. Those who have long and rich experience in prestigious institutions like IITs, IIMs. National Institutions. Universities. reputed schools, international research and development organizations, and independent consultants (please see ETMA Council and ETMA Academic Committee).

Vision

To evolve as a pacesetting quality institution in educational technology and management.

Mission

To provide leadership in educational technology management and and contemporary developments in education through research, consulting, publication and dissemination, facilitating professional learning of education personnel in Indian and global contexts, and engaging in discourses through seminars and conferences.

ETMA tries to achieve its vision and mission through five activity verticals.

- **Personal Social Responsibility (PSR):** Under the PSR programme, ETMA supports the education of brilliant students from high-risk families with monthly scholarships; and enhances the school effectiveness of rural government primary schools through *School Improvement Programme* -SIP.
- Research and Consultancy: ETMA conducted several research and consultancy projects for UNICEF, USAID, COL, ICSSR (sponsored study), CEMCA, Intel, BEL, GSF, and others
- **Publications**: Publishes online e-magazine with a sizeable free circulation. ETMA also publishes monographs, conference proceedings, books, digital content, and training materials.
- Capacity Building and Professional Learning: ETMA conducts professional learning programmes for the members of the Leadership team and teachers of schools, colleges and engineering institutions.
- Seminars and Conferences: ETMA organizes Academic Conclaves, seminars, focus group discussions, and national and international conferences from time to time.

ETMA Council

Prof Marmar Mukhopadhyay

He was a former Professor and Director (i/c), NIEPA and Chairman of NOS: Chairman of CABE Subcommittee on Universalization of Secondary Education and consulted by UNICEF, UNESCO, USAID, British Council, Commonwealth of Learning, ISRO, NIIT, IBM, INTEL, Microsoft, etc. Marmar trained senior educational administrators and teachers from India and abroad. His books on Educational Technology for Teachers, Total Quality Management in Education, Quality Management in Higher Education enjoy global readership.

Dr Mrs Kailash Khanna

She was the former Associate Professor and Head of the Department of Education, Lady Irwin College (Delhi University). She worked for more than 35 years in pre-service and inservice teacher education capacity building. She is regularly consulted by CBSE, NIOS, IGNOU and other major national educational institutions. With several publications to her credit, she is a distinguished teacher educator and mentor of the budding university teachers.

Prof Madhu Parhar

She is a Director of the Commonwealth Educational Media Centre for Asia (CEMCA). Previously she was Professor of Distance Education in Staff Training and Research Institute of Distance Education (STRIDE) at IGNOU and was appointed as Director of STRIDE. She has held several roles in IGNOU and other institutions, including Wawasan Open University, Penang, Malaysia. With several publications to her credit, UNESCO consulted her on various distance education projects.

Dr InduKhetarpal

She is appointed as a Consultant at National Testing Agency (NTA). Former Principal of Salwan Public School, Rajinder Nagar and Secretary, Salwan Education Trust. She has been conferred the National Award for Teacher 2005 by HRD Ministry, State Level Computer Literacy Excellence Award – 2005 from the Ministry of CIT, Government of India and Endeavour Executive Award by The Government of Australia in 2009. Indu has addressed many learned gatherings in various countries in the world

Prof. V S Raju

He was the former Director of IIT Delhi and Professor and Dean at the IIT Madras. He specializes in Civil Engineering and is consulting a Geo-technical engineer. He coordinated major R&D projects on Ocean Energy. He was a Lead Partner in the Byrraju Foundation, which adopted 155 villages in 5 districts of Andhra Pradesh. The Federal Republic of Germany honoured him with the Commander's Cross, the highest award given to a foreigner.

Prof. Jaya Indiresan

She was the former Professor and Head (Higher Education) in NIEPA. Formerly, she was at JNU, New Delhi. She has been a visiting professor at the University of Manitoba, Canada and a Visiting Scholar at the University of Michigan, USA. She is an author and a leading exponent of women empowerment, with several significant research and development projects her credit. to Currently, Prof. Indiresan is a free-lance consultant to several national and international organizations.

Prof Satish Kalra

He was the former Professor IIM Lucknow, Visiting Professor/Guest Faculty at different management schools like GLIM Gurgaon, NITIE Mumbai, IMI New Delhi, MDI Gurgaon, TISS Mumbai and visiting scholar at FDU, New Jersey, USA. He is a thought leader in management has been a consultant to many corporate and business organizations. He is the most liked professor among students. Presently he engaged in self-oriented HRD interventions, HPM and cross-cultural dimensions of leadership.

Prof Madan Mohan Pant

He was the former Pro-Vice-Chancellor of IGNOU and an information scientist of distinction. He has been associated with many educational organizations, such as the — AICTE, AIMA, CBSE, CEC, EDCIL, EISA, MEDIA LAB ASIA, NCERT, NCTE, NIOS, NUEPA, UGC and several Universities. He has been closely linked with the IIT system, acquiring his PhD from IIT Roorkee, has been a faculty member at IIT, Kanpur and a member of the Board of Governors at IIT, Delhi. 79

Sri Amit Kaushik

He is CEO of the Australian Council of Educational Research, a former civil servant and development professional with experience at policy and implementation levels. He played multiple roles over the last 30 years, including business, NGOs, and international agencies like UNESCO and UNICEF. Specialities: Consulting, policy planning, programme design, implementation, project management, monitoring and evaluation. Areas of interest include school management, quality improvement in education, and skill development.

Dr Manish Gupta

He is the Director of Google Research, India. He holds an additional appointment as an Infosys Foundation Chair Professor at IIIT Bangalore. Previously, Manish has led VideoKen, a video technology startup, and the research centres for Xerox and IBM in India. As a Senior Manager at the IBM T.J. Watson Research Center in Yorktown Heights, New York, he led the team developing system software for the Blue Gene/L supercomputer.

Dr Rajesh Acharya

He is a distinguished Neurosurgeon with experience of 34 years in this field and a Professor and Senior Consultant at Sir Ganga Ram Institute of Post-graduate Medical Education and Research, New Delhi. He completed MBBS & MS – General Surgery from the University of Rajasthan, Jaipur and MCh – Neuro Surgery from Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow. He has published several research papers in various international journals.

Dr Subhash Chander

He is Assistant Professor, Central Institute of Education, Delhi University, Delhi. Prior to joining Delhi University, he served Lady Irwin College as an Assistant Professor and Head, Department of Education. He has done his PhD in inclusive education, emphasising science education and visual impairment. He is actively involved and associated with various projects funded by UNESCO, MHRD and ETMA. Publication of several Books and Research Papers in national and international journals to his credit.

Sri Amitava Ghosh

He is a Practising management and leadership specialist. He is the Founder Principal of Bharatiya Vidya Bhavan's R. K. Sarda Vidya Mandir, Raipur, Chhattisgarh.He has rich experience of teaching and management in Chinmaya Vidyalaya, Lawrence School, Sanawar, Vidya Devi Jindal Schools. He is the former Chairperson of Confederation of Indian Industry – Young Indians, Raipur Chapter.

Special Invitee to the ETMA

Prof. S.P. Malhotra

He is Hony. Director of ETMA. Former chief consultant, EdCiL, Government of India, was a National Fellow at NIEPA. He served Kurukshetra University in different capacitates as Professor, Dean Academic Affairs, Registrar of the University, Director Distance Education & Principal College of Education. He has been awarded the 'Best Teacher Educator' award for 2005-06. He has been on various executive bodies of NCTE, NAAC and UGC. He has more than 150 research papers to his credit.

Prof Sudesh Mukhopadhyay

She was former Chairperson of the Rehabilitation Council of India, Head of the Dept. of Inclusive Education in NIEPA and Director of the SCERT Delhi. She served NCERT and R G University, Arunachal Pradesh, for several years. An internationally reputed specialist in Inclusive Education, she has been consulted by several Indian and International agencies, including BRAC. Reach India and Others. Dr Sudesh Mukhopadhyay is also involved in many policy-making committees inclusive for education.

Sri Y N Kausal

Director of Enablers' India. He has an MBA (Post Graduate Diploma in Management) from the IIM, Ahmedabad. Kaushal has been an independent Management Consultant and Management Trainer for more than ten years. His work has been across different industry sectors – Power, Manufacturing, Petroleum, Banking, Trading, FMCG, IT, Service and NGOs. He was on the Faculty of Power Management Institute of National Thermal Power Corporation for 16 years, headed the Management Faculty, and led a competent team of Faculty Members

Staff

Dr Mrityunjoy Kaibarta

He is currently working as an Education Specialist with ETMA. Dr Kaibarta completed his Ph. D. From Visva-Bharati University, Santiniketan.

Mr Chandan Sarkhel

He is Currently Working as Deputy Manager in ETMA. He completed a Master in Computer Application (MCA) from Punjab Technical University and BA from Ram Lal Anand College, New Delhi.

Mr Vivek Pal

Is working as a caretaker in ETMA