FOREWORD

This is the third issue of the Research Journal 'BRAOU - Journal of Open Distance Learning', a peer-refereed academic Journal in the field of Open and Distance Learning being launched by Dr. Br. Ambedkar Open University. The journal provides a platform for academic and research community to publish research articles in the field of open and distance education, which has been seeing huge transformation in the recent years. The ODL systems are evolving and incorporating new changes with the changes in the National Policy on Education (2020) and internationalization of Higher Education. New Guidelines are continuously being issued with regard to the curriculum framework, skill development, research and assignment of credits and accreditation. This necessitates redesigning and restructuring the courses, which requires research on several aspects of the Open and Distance Learning paradigm.

This Journal tries to reflect upon the research of the ODL practioners on several issues that they face in the teaching - learning activities in distance learning. It is a known fact, that there is a paucity of systemic research in Open and Distance Education. It is heartening to note that the contributors could come out with illuminative and thought - provoking research articles.

It gives me immense pleasure to bring out the third issue of JODL. The Advisory board and Editorial board have come out with this issue and I thank them for their cooperation. I congratulate GRCR&D for their efforts in getting this volume published. Research should inform practice and practice should inform research. It is all these efforts that would make Dr. BRAOU stand high in its avowed objective of serving the Distance Learners truly and whole - heartedly.

Prof. K. Seetharama Rao
Vice-Chancellor,
Dr.BRAOU
Hyderabad.

FROM EDITORS

We are happy to bring out the third issue (Volume II, Number - I) of the BRAOU Journal of Open Distance Learning (BRAOU-JODL).

BRAOU-JODL which is a peer - reviewed, half - yearly journal, global in its outlook and international in scope, focuses on emerging issues and challenges faced by ODL institutions with the onset of modern technology. New initiatives, perspectives and insights are developing in ODL. New transformations, new perspectives in the field of distance education have brought about new changes in the management of ODL.

The Journal intends to promote theoretical and philosophical articles regarding ODL and is a forum for discussion on ODL policies and practices and new trends and seeks to encourage quantitative and qualitative analysis of various aspects/practices in ODL.

This journal covers 12 full length papers and one book review and the 'message' from the Vice-Chancellor of the host-University. All the paper writers are practitioners in ODL and have played a significant role in managing open university systems at different levels and thus offer insights into the workings of the ODL systems.

In the paper **'Open Universities and Education 4.0'** Prof.B.Shadrach explains the need for the Open Universities to follow Education 4.0 framework, as spelt out by World Economic forum (WEF). This helps in building abilities, skills, attitudes and values among distance learners and achieve sustainable development goals. He emphasizes that the Ahmedabad Declaration of Open Universities should be implemented in letter and spirit in order to achieve Education 4.0 goals.

Dr. Shakila Shamsu in her paper **'Catalyzing transformations in Higher Education through NEP 2020'** brings out the need for reforming higher education for better capacity - building. Quality empowerment as envisaged by the statutory bodies is possible by abiding with the UGC instrumentalities like holistic multi-disciplinary education, Academic Bank of Credits, promoting Institutional Reforms, Research, Indian knowledge system, Digital Education, she states.

In the paper on '**Teacher efficacy and Teaching satisfaction of the Teachers of Higher Education Institutions'** the authors Dr. G.Mary Sunanda, Prof. Rajasekhar Bellamkonda and Ms.Hureen Wasifa Siddiqui bring out the relationship between teacher efficacy and teaching satisfaction by a comparison of correlations between factors like teachers efficacy with parameters like teaching satisfaction, teacher's gender, age, designation, academic stream to which they belong, their qualifications and teaching experience. The findings of this study help us to understand that teacher efficacy is dependent on a host of factors that can significantly improve educational outcomes.

In her paper on **'Exploring acceptance and use of Open Educational Resources by Academics in Open Universities in India'**, Dr.G.Saroja examines the extent of use of OERs, their ease of use, the awareness and willingness of respondents to use OERs, the obstacles in the use of OERs and sustainable use of OERs in Open Universities in India. Such an in-depth study helps the ODL institutions make OERs a part of pedagogy and sustainably use OERs in Teaching-Learning processes.

Self Learning Material (SLM) is the major learning resource for distance learners and needs to be updated from time to time as per the modern day requirements, says Prof. **E.Sudha Rani** in her paper **'Designing SLM in Distance Education'**. She emphasizes the need for preparation of SLM with a fresh look in the context of UGC Regulations (2020) and recent NHEQF guidelines. Cognizance of Credit Framework and Outcome Based Education can enhance the quality of SLM, she expounds.

Dr.Kandi Kamala's article **'The world of Online Education in India during the Covid-19 Era : A methodological framework'** help us to. understand future - preparedness in ODL settings in Covid-19 like situations She recommends the use of online-platforms in education. She suggests research topics with regard to various facets of distance education and the methodological framework to build a resilient and online instructional mechanism.

Prof. Chandrakala, in her article **'Nurturing Tribal Education in Telangana : Challenges and opportunities'** describes in detail - the historical context, past initiatives and policies, the short - comings of government policies, challenges and opportunities in tribal education. She suggests that technology, cultural integration and community involvement should be fostered by the state to develop education among tribals.

In the paper **'Educational Equality : ODL's contribution to Accessible Education in India'** Dr. Gedam Kamalakar explains how ODL institutions are in the process of transformation, by becoming more accessible, flexible, affordable and technology – centric. He points out that the current landscape has some major issues like technological access and quality concerns. At the same time, prospects of partnerships and innovations can lead to inclusive and egalitarian educational systems, he says.

In the article **'Feedback survey on students' perceptions about counselling classes in Dr.BRAOU : A quick study'**, Dr.V.V. Kanaka Durga makes a quick study from the perspective of distance learners on the counselling services of Dr.B.R. Ambedkar Open University. This survey helps us to understand the lacunae in the conduct of counselling classes and the measures that the university can take for betterment of counselling classes.

Dr.P.Venu Gopal Reddy in his article **'A Study on the Impact of National Education Policy (NEP) of India, 2020 on students' future'**, details

the restructuring undergone by ODL institutions with regard to academic programmes, revitalizing faculty and rethinking on research. The implementation of the Academic Bank of credits, incorporation of vocational education in general education can augur well for the students, who can then take control of their own lives and futures, says the author.

In the paper on **'Assessment of Job satisfaction of secondary school Teachers : A field Level Study'**, Dr. Padala Laxman makes a study of job satisfaction of teachers in Karimnagar District, based on their gender, locality (urban-Local) and type of school management (Pubic-Private). The observations from this study can help the Government to make targeted interventions by understanding the existing disparities.

The 12th article **'A Study on Access to Technology and Proficiency in use of ICT by distance learners of Dr.BRAOU during Covid-19'**, by Dr.V.V.Kanaka Durga and Prof. P. Madhusudhana Reddy, brings out how ICT use in ODL is predominantly dependent on learners' access to technology and their skill in use of ICT. Students enrolled in ODL institutions may require special assistance in use of ICT, especially rural and women learners, say the authors.

The book review on **'Handbook of Open Distance and Digital Education'** by Prof. E. Sudha Rani and Dr.V.V.Kanaka Durga critically examines the contents of the Handbook. The Handbook being a mammoth book of 1500 pages, all the articles could not be reviewed, but were briefly analysed, based on outlay, contents and the focal themes on which the articles are based. The reviewers say that the Handbook is a major resource for all ODL practitioners and a must-read.

We take the opportunity to thank the Vice-Chancellor, Prof. K. Seetharama Rao, the Director, GRCR&D, Prof.E. Sudha Rani, the Registrar of the University, Prof. A.V.R.N. Reddy and other academic leaders of Dr. B.R. Ambedkar Open University for supporting the Journal. We also take this opportunity to thank all paper writers and reviewers for contributing their might to the journal.

We hope the 'BRAOU -JODL' will continue to provide a 'value addition' to the existing set of ODL journals available in the country.

It is felt that by publication of this journal, Dr. BRAOU can address to some extent 'the dearth of research publications' of journals in ODL and offer fresh perspectives on research in ODL.

We welcome comments and suggestions from the readers.

On behalf of Editorial Board
Prof. K. Murali Manohar
Editor-in-chief
and
Prof. E. Sudha Rani
Executive Editor

BRAOU - JOURNAL of Open Distance Learning

CONTENTS

Open Universities and Education 4.0

- Dr. B. Shadrach *

Abstract

Open Distance Learning (ODL) has evolved through different eras, from correspondence education to integration of technologies in education to the use of internet in ODL in the present era where there is large-scale involvement of stakeholders with on-line teaching - learning technologies. NEP 2020 has clearly defined the role of higher education institutions in India.

The Education 4.0 framework, given by the World Economic Forum (WEF) seeks to integrate learning of certain abilities and skills by the students into the educational systems. The Open Universities too can integrate these skills in their systems, in alignment with 4.0 framework regulations.

The paper details the ways in which Open Universities / ODL Institutions can integrate Education 4.0 framework in their curriculum for the benefit of the learners.

Keywords : *Open and Distance Learning, National Education Policy, World Economic Forum, Blended Learning, Teaching - Learning Process.*

The First era of Open and Distance Learning

Although Open and Distance Learning has been around for almost a century in the developed world, the idea became a reality when the Open University in the UK was created to expand public sector education. In the 1960s, the labour government held the view that people from all backgrounds should have access to higher education. Millions of students testified to its effectiveness in terms of the impact on their lives. However, in actual terms, in the UK and other geographies, such as Australia and Canada, it was a response to reaching the remote populace.

At the same time, in India, the move towards correspondence education was becoming a reality. Delhi University introduced its bachelor's degree in 1962 whose success resulted in the UGC formulating guidelines. Institutes of correspondence studies were established in the late 1960s. The 1970s witnessed postgraduate programmes being offered in distance mode. And in the 1980s, many more institutions came up with correspondence courses, thus liberalising education. The so-called first era of distance education in both developed and developing nations was

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clearly a disruptor, a transformational one. It was a response to the increased needs and demands of the education sector. More people aspired to gain tertiary education and certification; economic systems required more educated individuals and the societal necessities demanded people with knowledge and skills.

The first era also produced the Open Universities in India, starting with the Andhra Pradesh Open University (APOU), followed by IGNOU and then in the states of Bihar, Rajasthan, and Maharashtra. These catered to a diverse set of learners. Young and older learners; full-time and part-time learners; abled and disabled learners; formal and flexible learners; and those who could not otherwise access education. Secondly, the learner support systems became more reliant on learning material and tutorial support. The learning material was to be produced based on an instructional design for an invisible learner, keeping the cultural context and the content needs in mind; therefore, the format had to be appealing and engaging. Although the economy of scale model was meant to bring down the cost of producing this material, the challenge remained in producing material for personalised and specialised learning needs.

In the first era, the management of distance learning had to learn from the experience of those who led traditional institutions and the quality assurance systems also relied upon the traditional routes. There were surely initial hiccups. From the face of correspondence education of the 1960s to the Open Learning institutions of the 1980s – the likes of BRAOU and IGNOU, education has come a long way.

The second era of Open and Distance Learning

The second era marked the introduction of need-based courses and the flexibility of pace at which learners can complete the courses. This was coupled with the integration of a generation of educational technologies such as radio, television and video cassettes that provided learning material and instruction to learners. The broadcasts through All India Radio in 16 languages through 14 of their stations were joined by transmission through INSAT 1-B on the national TV network. A network of study centres extended their learner support systems.

The second era that embraced technology also opened education to the masses; thus, reducing the pressure on conventional universities. The

objective was to provide second chance education to those who discontinued formal education and democratise education for the larger sections of society. The second era was also the beginning of diversifying degree, certificate and diploma courses related to employment and for building the human resource potential of the nation. Rather, this was also the beginning of the notion of lifelong learning to enrich people's lives and livelihoods.

The second era also marked the beginning of an innovative culture in the provision of higher education. While the first era could be termed as the era of disruption, the second era could be termed as the era of innovation, it being flexible and open in terms of methods and pace of learning, eligibility criteria, conduct of examination, assessment techniques and the introduction of employment-oriented and combination of courses. As of the early 1990s, of the 4.2 million students in higher education, almost half a million were learning remotely, with IGNOU and the APOU (now BRAOU) at the leading edge.

The third era of Open and Distance Learning

The third era can be termed as one when open and distance learning attained some recognition and led to the formation of a global commonwealth institution called the Commonwealth of Learning in Vancouver where Professor Ram Reddy would go on to serve as the founding Vice President. Distance learning caught the attention of world leaders and at the Commonwealth Heads of Government Meeting (CHOGM) 1987 and they decided to establish COL. The Daniel Report chaired by Sir John Daniel developed an institutional arrangement for Commonwealth cooperation in distance learning. This effort led to formalising COL in Vancouver and initiating an information service for open and distance learning institutions from Milton Keynes in the UK.

The third era also marked the beginning of the use of the Internet for ODL, with COL launching its website and a host of services. The Educational Technology 2000 conference held in 1996 in Singapore that brought over 200 participants from 38 nations and the first Pan Commonwealth Forum in 1999, were the beginning of the much-required international collaboration in open and distance learning. Education for our Common Future: the Halifax Statement on Education in the Commonwealth in November 2000 promoted an inclusive agenda in a collaborative manner. The statement emphasized upon the cluster of countries and agencies to work collaboratively to give concrete meaning and realisation of the statement, especially in the areas of resources for learning; qualifications, standards and equivalencies, School Improvements and Programmes in the Small States; Education to combat HIV/AIDS; Education in difficult circumstances; ICTs in Education; Scholarships, Fellowships and Exchange Schemes; Teacher Training and Professional Development.

In the third era, the Halifax statement became a reality when the Virtual University for Small States of the Commonwealth (VUSSC) was launched in 2004 with 20 small states responding to the invitation. Regional and local level collaborations were initiated. Regional Training and Research Institute for Open and Distance Learning (RETRIDOL) was initiated in Nigeria and the Southern African Regional Distance Education Centre (SARDC) in Botswana and a similar initiative in the Pacific called Pacific Centre for Flexible and Open Learning for Development (PACFOLD) came into being. The Indian government and the likes of Professor Reddy and Professor Abdul Waheed Khan had the foresight to start CEMCA, COL's Asian Regional Centre in the mid-1990s. On the resources front, global institutions such as UNESCO and COL mooted the idea of Open Educational Resources (OER) and brought out the Paris Declaration in 2012. The Declaration was approved at the OER Congress in June in the same year.

Subsequent global efforts led to the recognition of the importance of Open Education Resources and the call for market-driven skill development using ODL and blended and flexible learning in collaboration with industry and other service sectors. The Kuala Lumpur Declaration of 2016 emphasised innovation in technology to promote access, equity and lifelong learning, calling the institutions to create a culture to embrace innovation and change. By then, with Sustainable Development Goals (SDGs) 4 and 5 becoming prominent, the KL declaration sought to ensure the education of women and girls through ODL. The discourse also moved to ODL not only addressing the market needs, but also global challenges spelt out in the 17 SDGs.

The Fourth Era of Open and Distance Learning

The Fourth Era that we are living through for a decade since 2015 where technology-enabled learning has become a way of life has also promoted the use of technology at policy level. Also at the institutional level, we are recognising the need for competences among the teachers as well as learners to engage in technology-enabled learning practices. I must admit that in the initial stages of the fourth era, the ODL institutions had clear advantages.

ODL and Open Learning Institutions were at the forefront of tackling the challenges of OER in achieving the SDGs and the Edinburgh Statement pronounced the need for scaling up education and the issue of access with quality. ODL institutions demonstrated that they could overcome the digital divide and showcased the digital dividends accrued to their learners.

For the first time, the technology-enabled learning ecosystem was taken very seriously in education. And, in the pre-COVID days, talks around micro-credentials, recognition of experiential and prior learning system, and data-driven and evidence-based planning of the provision of education to the masses were brought to the fore. With technology positively disrupting the delivery systems, reforms in assessments and learner engagement for achieving learning outcomes were being considered.

Two major transformations in the fourth era of ODL

The first steer to the transformation, perhaps, is the COVID-19 Pandemic in the fourth era of ODL.

The distinct advantages that the ODL systems had on the education landscape found a new dimension when the COVID-19 Pandemic forced every institution to develop strategies and on-the-move solutions in the form of emergency teaching response when all learners were grounded. The importance of open, distance, digital, online, and technology-enabled learning was felt by everyone.

As a result of our response to the COVID-19 times, not only have we gained some experience in ODL, but many questions were raised in the process. Newer challenges were identified. These included reliable access where the access gaps were more prevalent among learners from disadvantaged backgrounds. The shortest bridges between the haves and the have-nots of education were being addressed through the education system, but now, with the technology arose access-related challenges.

For those who had access to technology and resources, the question raised was – is learning effective enough? A few relevant points for the ODL community, well-articulated in the famous twin reports of the World Bank: a) availability of technology is a necessary but not a sufficient condition for effective remote learning; b) teachers are more critical than ever; c) education is an intense human interaction endeavor; d) parents are key partners of teachers at the early stages of education; e) there is an need for dynamic ecosystem of collaboration between multi-lateral, public, private and academic institutions.

As a way forward, again, as highlighted in the twin reports of the World Bank, we need to ensure that remote learning is fit for purpose. The technology that enables learning should itself be used effectively to enhance the capacity of teachers. We need to find meaningful ways to interact with learners in a two-way fashion. To do this effectively, support systems in teaching and learning process should be established. And all actors should be roped in for enhancing learning outcomes.

The second steer for a major transformation in the fourth era is the National Education Policy 2020 (NEP 2020).

No doubt, the NEP 2020 is a transformational policy document that has the potential to change the landscape of education in India and put India on the education map of the world. The Ahmedabad Declaration of ODL institutes is of considerable importance in this regard.

ODL institutions, especially the Open Universities that operate at the tertiary level commit to the SDGs, especially, the fourth goal that promises inclusive and equitable quality education and the promotion of lifelong learning opportunities for all. The Declaration recognises the transformative nature of NEP 2020 for its commitment to all-round development of learners in alignment with the 21st Century Skills, capable of rational thought and action, possessing compassion and empathy, courage and resilience, scientific temper, and creative imagination with

sound ethical moorings and values. The Declaration also recommitted to the national target of achieving 50 percent of Gross Enrollment Ratio (GER) by 2035. In doing so, the OUs were made aware of their role in reaching the unreached and catering to the marginalised.

The Ahmedabad Declaration emphasises upon OUs' response to continuous skilling, upskilling and reskilling of individuals to meet the demands of the future of work by creating courses in partnership with workplaces and the industry, thus, shaping the OUs into becoming not only multi-disciplinary institutions but also trans-disciplinary. In this attempt, the OUs also recognised the importance of OER, and the opportunity presented in sharing resources. OUs would, obviously, have now a leadership role in the OER movement. Also, the Declaration calls for collaboration amongst all OUs to consider joint programmes, credit transfers and becoming champions in blended learning.

The OUs are committed to tackling problems associated with the digital divide by using appropriate technologies, ranging from Community Radios to the latest generative AI tools for giving students the real learning experience in their situations and contexts. The creativity of NEP 2020 in its exit and entry policy is something that the ODL institutions can easily implement while also focusing on just-in-time skilling through micro credentials and by meeting the demands of the industry and the marketplace. Thus, the Ahmedabad Declaration can be seen as a very modern looking statement of the OUs, led by Professor K Seetharama Rao and his colleagues in 17 other OUs.

How do these transformations lead the Open Universities into the next phase?

The implementation of Open Universities. Ahmedabad Declaration can lead to addressing various problems in higher education, including that of defining a role for higher education institutions.

The NEP 2020 recognises higher education playing an important role in the promotion of human as well as societal well-being and in developing India as a democratic, just, socially conscious, cultured, and humane nation, upholding liberty, equality, fraternity, and justice for all. Higher education, as per the NEP 2020, significantly contributes towards sustainable livelihoods and economic development of the nation. Given the 21st century requirements, the policy highlights that quality higher education must aim to develop good, thoughtful, well-rounded, and creative individuals, who study one of more specialised areas of interest at a deep level, should also be able to develop character, ethical and constitutional values, intellectual curiosity, scientific temper, creativity, spirit of service, and 21st century capabilities across a range of disciplines. A quality higher education must enable personal accomplishment and enlightenment, constructive public engagement, and productive contribution to society. It must prepare students for more meaningful and satisfying lives and work roles and enable economic independence.

While stating the purpose of higher education, the NEP 2020 also recognises the major problems faced by the higher education system in India. Apart from being a severely fragmented higher education ecosystem, there is less emphasis on the development of cognitive skills and learning outcomes and a rigid separation of disciplines, with early specialisation and streaming of students into narrow areas of study.

Transformative NEP 2020 and the Education 4.0 Framework

At the backdrop of the purpose of higher education as defined in NEP 2020, it is appropriate to touch upon the Education 4.0 Framework, spelt out by the World Economic Forum (WEF). Involving experts in the education ecosystem, the framework pronounced by the WEF recognises the importance of skill development from a very young age. According to research, early childhood schooling and primary education have positive effects on critical cognitive development among children, building skills which are multiplied through learning later in life. Investing in just one skill – collaborative problem-solving skill – alone can add as much as USD 2.54 trillion dollars to the global GDP.

The Education 4.0 framework recognises the following: Global Citizenship Skills, Innovation and Creativity Skills, Technology Skills, Interpersonal Skills. To help develop these skills, the education system is required to develop mechanisms to embed skill development in their educational content. And, while embedding activities that would hone the above skills in educational content and curriculum, the education

system will also need to modify and utilise its pedagogies for building certain competencies, skills, and abilities among our learners. These would include personalised and self-paced learning, accessible and inclusive learning, problem solving-based and collaborative learning, lifelong and student driven learning.

To promote the above, the WEF encourages early education systems to consider what they call the Education 4.0 taxonomy that can help to pave the foundation for cultivating the aptitudes necessary for becoming well-aligned to the global workforce. In other words, the Education 4.0 taxonomy is fully integrated with the Global Skills Taxonomy that is applicable in adult workplace. The Education 4.0 Taxonomy is an attempt to address the gap seen among the entrants to the workforce. The approach is aimed at facilitating skills acquisition in early childhood, especially during primary and secondary education, to meet the expectations at the workplace when the child becomes an adult.

Until recently, the emphasis has largely been on knowledge and information transfer, especially discipline-specific knowledge so that our learners excel in those disciplines. The Education 4.0 framework calls for attention towards building certain abilities and skills as well as attitudes and values among our learners apart from the aspect of discipline in specific knowledge build-up.

The World Economic Forum recognised some of these as essential 21st-century skills.

The abilities and skills are largely defined as cognitive, social, and physical skills leading to acquiring of the skills in the long run. The cognitive skills imparted through education can lead to the aspects of creativity, critical thinking, digital skills programming, problem solving and systems analysis. Social skills imparted through education can lead to the aspects of collaboration, communication, negotiation, socio-emotional awareness, and the physical skills can lead to balance, coordination, positional awareness, and strength.

Attitudes and values are largely defined as self-regulatory and societal skills. In other words, these are referred to as intra-personal and extra-personal skills. While the intra-personal self-regulatory skills lead to

adaptability, consciousness, curiosity, grit, growth mindset and take initiatives, the extra-personal societal skills lead to civic responsibility, environmental stewardship, empathy, kindness, and global citizenship.

Open Universities and Education 4.0

The main thrust of NEP 2020 regarding higher education is to end the fragmentation of higher education by transforming higher education institutions into large multidisciplinary universities, colleges, and HEI clusters/Knowledge Hubs, each of which will aim to have 3,000 or more students. This would help build vibrant communities of scholars and peers, break down harmful silos, enable students to become well-rounded across disciplines including artistic, creative, and analytic subjects as well as sports, develop active research communities across disciplines including cross-disciplinary research, and increase resource efficiency, both material and human, across higher education.

The ODL institutions should need to reimagine their institutions to respond to the call by NEP 2020 and to enhance their capacity to focus on learners, who are expected to leave the ODL systems with the skills outlined. While the early child education under the 4.0 framework would produce learners for tomorrow, the Open Universities are faced with the challenge of preparing the current learners to have the skills and competencies outlined in Education 4.0.

The Ahmedabad Declaration of Open Universities can indeed contribute to Education 4.0 if each of the points is implemented in its letter and spirit. The Declaration points are discussed here for making OUs become allies in Education 4.0 and for fulfilling the purpose of higher education as defined in NEP 2020.

1. Open Universities' commitment to achieving the Sustainable Development Goals

The Open Universities continue to commit to the United Nations 2030 Agenda for Sustainable Development Goals, in particular, SDGs 4, 5 and 8 for inclusive and equitable quality education and the promotion of lifelong learning opportunities for all. The Declaration suggests advocating for SDG 4 as a vantage point to achieve the remainder of

SDGs, including gender equality, women empowerment, inclusive and sustainable economic growth and decent work conditions, environmental protection, responsible consumption and production, climate action, peace, and justice.

2. Open Universities' commitment to developing learners with 21st Century Skills Recognising the transformative nature of the NEP 2020, the OUs commit to the all-round development of learners in alignment with the 21st Century skills, capable of rational thought and action, possessing compassion and empathy, courage and resilience, scientific temper, and creative imagination, with sound ethical moorings and values. Open Universities shall aim to produce critical, creative, engaged, productive, contributing, and ethical citizens for building an equitable, inclusive, and plural society as envisaged by our Constitution.

3. Open Universities' commitment to scaling up of education and to include the excluded.

Recognising the aspirations of the nation in enhancing the GER to 50 per cent by 2035, the Open Universities commit all their resources and efforts towards expanding their reach and sustaining their contribution to the GER growth in the nation, while disregarding any compromise in the quality of education. The Open Universities commit to lifelong learning opportunities for every individual through the ODL systems, especially by reaching the last learner, such as, the migrant workers, indigenous people, rural populations, persons with disabilities, learners in conflict zones, and other vulnerable groups as the 'first choice of education.'

4. Open Universities' commitment to skilling, upskilling and reskilling

Responding to the continuous skilling, upskilling, and reskilling of individuals to meet the demands of the future of work by creating courses with involvement from industry and the marketplace, especially for the marginalised groups through flexible pathways, internships, workplace learning and other apprenticeship opportunities to enhance skills and employability.

5. Open Universities' commitment to quality education through ODL

Responding to the need for Higher Education Institutions to become multidisciplinary, large, and resilient systems that are agile to changing needs, the Open Universities commit to the demands of the learner-centred curriculum, pedagogy, assessment, and student support systems with an overall vision of delivering quality education through ODL, while enhancing and extending outreach to a diverse set of learners.

6. Open Universities' commitment to sharing resources

Open Universities recommit to share resources as Open Educational Resources (OER) on a mutual basis to facilitate the right of universities who enter into such agreements to retain, reuse, revise, remix and redistribute for educational purposes, and to also use up to 40 percent of OER content in their course development.

7. Open Universities' Credit Transfer Framework

Recognising the opportunity for education to be choice-based and learner-centred, the Open Universities commit to developing a credit transfer framework to provide flexibility to learners in India by recognising credits earned in Open educational systems and by enabling learners from Open Universities to obtain credits from each other.

8. Open Universities to be at the forefront of Blended Learning

Recognising the need for investing in digital technologies and to become one of the prime users of assistive, adaptive, and user-centred technologies to promote blended learning, the Open Universities commit to transforming institutions from massification of education to universalisation, but rapidly moving on to facilitating personalised learning among the millions of learners with diverse interests, potentials and aspirations. Open Universities extend commitments to promoting ODL and Online programmes, adhering to the standards and quality equivalent to the highest quality programmes run by campus institutions and commit to developing institutional-level blended learning policies towards imparting high quality courses in a blended mode.

9. Overcoming digital divide by using appropriate technologies

Open Universities commit to tackling the problems associated with the digital divide by identifying and using appropriate technologies, ranging from community radio to extended realities and artificial intelligence-enabled virtual tutoring possibilities, to ensure that equity, inclusion,

and diversity principles are adhered to, and use traditional tools and technologies for learners who do not have adequate access and connectivity to the Internet.

10. Commitment to innovation and creativity

Recognising the pioneering role that the ODL system has played over the last many decades, the Open Universities commit to innovation and creativity, in the way and beyond, towards enhancing access to high quality, employment-oriented, short and long-term courses with flexible exit and entry points as a response to market requirements as well as by way of realising NEP 2020's vision of creating lifelong learners, who have a global outlook and are exemplars of global citizenship, while retaining their pride in being Indians first.

Conclusion

While the above commitments of OUs make it compelling for us to believe that they are aligned to the implementation of NEP 2020 in letter and spirit, what begs attention is, the competences of the faculty members of the Open Universities to transform their institutions to be a part of Education 4.0.

To repeat the NEP 2020, "effective learning requires a comprehensive approach that involves appropriate curriculum, engaging pedagogy, continuous formative assessment, and adequate student support. The curriculum must be interesting and relevant, and updated regularly to align with the latest knowledge requirements and to meet specified learning outcomes. High-quality pedagogy is then necessary to successfully impart the curricular material to students; pedagogical practices determine the learning experiences that are provided to students, thus directly influencing learning outcomes. The assessment methods must be scientific, designed to continuously improve learning and test the application of knowledge. Finally, the development of capacities that promote student wellness such as fitness, good health, psycho-social well-being, and sound ethical grounding are also critical for high-quality learning.

The skills possessed by the staff of OUs shall help in the promotion of Global Citizenship Skills, Innovation and Creativity Skills, Technology Skills, and Interpersonal Skills. To help develop these skills, they need to develop mechanisms to embed skill development in their educational content. And, while embedding activities that would hone the above skills in educational content and curriculum, the education system will also need to modify and utilise its pedagogies for building certain competencies, skills, and abilities among our learners. These would include personalised and self-paced learning, accessible and inclusive learning, problem solving-based and collaborative learning, lifelong and student driven learning.

OU faculty members should know to embed the Education 4.0 recognised abilities and skills in their teaching and learning processes, in their delivery methods, in their content and curriculum and in their practical orientation while imparting education to their learners. To repeat, these abilities and skills are largely defined as cognitive, social, and physical skills leading to acquiring the following skills in the long run. The cognitive skills imparted through education can lead to the aspects of creativity, critical thinking, digital skills programming, problem solving and systems analysis. Social skills imparted through education can lead to the aspects of collaboration, communication, negotiation, socio-emotional awareness, and the physical skills can lead to balance, coordination, positional awareness, and strength.

Attitudes and values are largely defined as self-regulatory and societal skills. In other words, these are referred to as intra-personal and extra-personal skills. While the intra-personal self-regulatory skills lead to adaptability, consciousness, curiosity, grit, growth mindset and take initiatives, the extra-personal societal skills lead to civic responsibility, environmental stewardship, empathy, kindness, and global citizenship.*

Catalysing transformations in Higher Education and ODL through NEP 2020

Dr. (Mrs.) Shakila Shamsu *

Prologue

Independent India has seen three Education Policies- National Education Policies- NPE 1968, NPE 1986 modified in 1992, and the latest National Education Policy (NEP) in 2020. NEP 2020 comes after a gap of more than three decades and is the first education policy of the 21st century; expected to set in motion a wide range of transformative reforms by 2040. While the policy comprehensively covers the entire education sector, several committees and commissions have examined various aspects or sub-sectors, and their recommendations also form a robust base for the sector.

One must appreciate that every policy, in any sector, is relevant to the extant scenarios of the times it was enacted. Every new policy, in any sector, is a response to changing socio-economic changes that occur within the society and ensued at the global level. Hence, policies must not be viewed, either as gap-filling of the previous policy or due to its inadequacies; but evolves from the experience of the previous policy. Policies are, intrinsically, vision documents that would be aspirational and forward looking. The National Education Policy 2020 aims to transform India into a knowledge society, with educated skilled manpower of high standards, equipped to meet the 21st century challenges.

The NEP 2020 draws its philosophical moorings from the *Report to UNESCO of the International Commission on Education for The Twenty-First Century* - Jacques Delors (1996) *Learning: The Treasure Within* which highlights four cardinal principles: ***Learning to Know; Learning to Do; Learning to Live Together and With Others; andLearning to Be***. Further, in keeping with the global commitment as a signatory to the UN Development Goals, the NEP is aligned with the SDGs, particularly SDG-4 which seeks to "*ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*" by 2030.

NEP 2020 – an overview

The Policy views school and higher education as a single organic continuum, recognising their inter-connectedness and concomitant synergies. It highlights that the teaching -learning processes must evolve in an age-appropriate stage -wise manner from the tender growing years to the advanced ages. The sequential educational development must be recognised, so that the benefits of strong foundational early learning would result in improved learning outcomes in subsequent stages. The Policy's underpinnings are based on a set of 22 principles which guide the recommendations, which *inter alia* include identifying and nurturing the unique potential of every student; encouraging flexibility across curricular choices, removing silo-based disciplinary boundaries to promote holistic multidisciplinary education, exposure to 21st century skills and life skills at all levels; leveraging the power of language for cognitive and critical thinking; pedagogical and assessment reforms; instilling values through respect for diversity and pluralism; emphasis on the criticality of teachers and faculty in ensuring enriched learning and improved student performance; experiential learning for enhanced quality of teaching-learning; extensive use of technology and online models for enriched learning and bridging learning and language gaps; ensuring equity and access to create sustainable societies; focus on research and innovation; governance and regulatory reforms for efficiency; rooted in the Indian ethos and constitutional values; reaffirming education as a public service and calling for substantial investment for a strong public education system.

Reforming Higher Education

Higher education is a critical contributor to sustainable livelihoods, economic development and plays an important role in improving human well-being, and developing the nation as a democratic, just, socially

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conscious, cultured, and humane society. As India moves towards becoming a true knowledge society, more and more young Indians are aspiring for higher education. The aim of a quality university or college education must be to develop good, well rounded, and creative individuals. It must enable an individual to study one or more specialised area(s) of interest at a deeper level, while at the same time building character, ethical and Constitutional values, intellectual curiosity, spirit of service, and 21ˢᵗ century capabilities across a range of disciplines including the sciences, social sciences, arts, humanities, as well as professional, technical, and vocational crafts.

NEP and Open and Distance Education – the complementarities

It is significant to note that many recommendations and enablers in NEP foster and promote open and distance learning. These include:

1. A quantitative target for Gross Enrolment Ratio in higher education, including vocational education and enrolment in Open and Distance Learning, is set to increase from the current 27.1% (2020) to 50% by 2035.

2. NEP calls for individualisation and customisation of learning experiences, and hence underscores the need for flexibility in curricular choices, medium of instruction, teaching -learning methods and pedagogies, assessment tools and evaluation methods. This provides for a host of options to the learners in terms of the duration of academic programmes, completion time and staggered phasing with multiple exit and entry options, modularity, blended models of curriculum transaction, and learner centricity in various aspects. The credit mobility across academic programmes and institutions that NEP recommends can easily be implemented in Open Universities with some tweaking. These, as we all know, is inherently what ODL/ODE systems encourage in their academic ecosystem.

3. NEP reflects the goals outlined in SDG4 which seeks to ensure inclusive and equitable quality education with lifelong learning opportunities for all. This is inherently what ODE seeks to achieve.

4. NEP seeks to expand and invigorate ODL through online courses and digital repositories developed, credit-based recognition of MOOCs, Open Educational Resources (OERs), etc.,

5. NEP recognises Open and Basic Education in school education, life enrichment and vocational skills, education of CWSN and the strong role of Open schooling for multiple learning needs.

6. Integration of technology and innovative pedagogies for stimulating learning and providing enriched learning is inherent in NEP and resonates with ODL.

7. Teacher education and vocational courses through online mode will be made available.

8. Capacity building of faculty, leadership development and continuous professional development of teaching, technical and administrative personnel are highlights of NEP, which Open & Distance learning systems advocate and undertake on a regular basis.

9. NEP envisages the ICT driven models of dual mode education system, hybrid & blended learning, digital & virtual universities.

10. NEP gives a boost to ODL in its role for enhancing access, providing inclusive education for the marginalised and the SEDGs, ensuring affordability of education without diluting quality.

11. The need for robust student support services for holistic development and addressing student needs are the mainstay of NEP and ODL.

Quality Assurance in ODL

A major concern is that while promoting ODL, the generally perceived notion that ODL is secondary to F2F education needs to be addressed. This calls on the academic side for total quality transformation, in terms, of best learning resources, programme delivery, student support, outcome-based education, technology integration and offering of MOOCs. New and emerging areas of study must come within the ambit of ODL education, including research on ODL pedagogy with scope to explore innovative ways of teaching and assessment. On governance side, transparency and accountability becomes critical to the effectiveness of ODL systems. ODL institutions must prepare Institutional Development

Plans (IDPs) with clear strategic goals and actions. Ensuring quality parameters and benchmarks leading to accreditation and ranking which is another significant reform. Given that the National Credit Framework (NCrF) and the NHEQF are in place, Open and Distance education must be aligned appropriately to permit student mobility and credit accumulation.

Holistic, integrated multidisciplinary education

The policy envisages a broad-based multi-disciplinary, holistic education at the undergraduate level. The existing discipline-specific and silo-based programmes will give way to diverse set of course offerings, which will be inter-disciplinary, transdisciplinary and allow students to choose with varied and disparate options as per his/her own dispositions, likings and interests. The education system must help to develop well-rounded individuals possessing critical 21st century capacities in fields across the arts, humanities, languages, sciences, social sciences, and professional, technical, and vocational fields; social engagement; soft skills; and rigorous specialization in a chosen field or fields. Such a holistic education is the expected approach for all undergraduate programmes, including professional, technical, and vocational disciplines.The undergraduate degree will be of either 3 or 4-year duration, with multiple exit options, with appropriate certifications- a certificate after completing 1 year in a discipline or field including vocational and professional areas, or a diploma after 2 years of study, or a Bachelor's degree with a specialisation after a 3- year programme or a Bachelor's with Honours or Research. The flexibility is not limited to curricular choices, institutional choices and duration, but also the freedom to do the courses from multiple modes of face to face, online, ODL and even MOOCs.In view of the change of structure at UG levels, the PG level has three options for pursuing Master's programme-two years Masters for those completing three years degree; one-year Masters for those completing 4 years degree; and five years integrated Master's Program. The eligibility for PhD shall be either a Master's degree or a 4-year UG degree with Research.

The transformation to multidisciplinary HE would require existing institutions to enter into academic arrangements through memoranda, cluster arrangements, opening new departments etc.

The instrumentalities

To facilitate this flexible university education at UG, PG and doctoral levels; three enabling instrumentalities have been created or formulated: *Academic Bank of Credit (ABC); National Higher Education Qualifications Framework (NHEQF), and National Credit Framework (NCrF).*

An **Academic Bank of Credits (ABC)** has already been established to digitally store the academic credits earned by the students from various recognized HEIs, so that the degrees can be awarded based on the total credits earned. Both the students and academic institutions must onboard this site to derive the benefits of credit mobility.

The **National Higher Education Qualifications Framework (NHEQF)** has been formulated which will guide the exercise of credit transfers and equivalence.It is an instrument for the development, classification, and recognition of qualifications along a continuum of levels from 4.5 to 8, with levels 1 to 4 in school education. It is an instrument for the classification of qualifications according to a set of criteria for specified levels of learning achieved along a continuum of agreed levels. NHEQF is based on the fundamental premise that higher education qualifications, such as, a certificate, diploma, and degree are awarded based on the demonstrated achievement of learning outcomes and academic standards expected of graduates of a programme of study. It will assist in the identification of potential progression pathways from one level of education to the higher level of education, equivalence of courses across institutions, including through multiple entry, exit, and re-entry points/ options.

The **National Credit Framework (NCrF)** jointly developed by UGC, AICTE, NCVET, NIOS, CBSE, NCERT, Ministry of Education, DGET, and Ministry of Skill Development is a comprehensive framework encompassing elementary, school, higher, and vocational education & training, integrating learning on all dimensions- academics, vocational skills and experiential learning, including relevant experience and professional levels acquired. The NCrF is an inclusive umbrella Framework to seamlessly integrate the credits earned through school education, higher education, and vocational & skill education. The NCrF

encompasses the qualification frameworks for higher education, vocational & skill education, and school education, namely National Higher Education Qualification Framework (NHEQF), National Skills Qualification Framework (NSQF) and National Curricular Framework for School Education (NCFSE) respectively. The implementation of NCrF would be a game changer by removing distinction, ensuring flexibility & mobility, and establishing academic equivalence between general and vocational education. The NCrF provides for Assignment, Accumulation, Storage, Transfer & Redemption of Credits. Thus, NCrF paves the way for multidisciplinary education and empowers students through flexibility in choice of courses for choosing their own learning trajectories and programmes. The Framework fully enables the students - to catch up and re-enter education if they have fallen behind or dropped out at any stage; supports educational acceleration for students with gifted learning abilities; does Recognition of Prior Learning for acquired knowledge and skills informally through the family traditions, work experience, thereby allowing them progression and mobility into formal education.

Empowering and Supporting Students

In keeping with the learner-centric approach and holistic development, several initiatives are being taken to create optimal learning environments that are engaging and supportive, and enable all students to succeed. High-quality support centres are being set up in universities and colleges with adequate funding and academic resources to encourage and support students from socio-economically disadvantaged backgrounds. Academic, career counselling, including psychological counselling to address socio-emotional issues, as well as counsellors to ensure physical, psychological and emotional well-being will be available to all students. Students in HEIs will have plenty of opportunities for participation in sports, culture/arts clubs, eco-clubs, activity clubs, community service projects, etc.

Institutional restructuring and changes in the affiliation system

India is home to one of the largest higher education systems in the world, with nearly over 1000 universities, around 40000 colleges and about 15000 standalone educational institutions. They are of varied types ranging from Central universities, State universities, Deemed-to-be-universities (public and private), State Private Universities, National and State Open Universities and aided and non-aided affiliated and autonomous colleges. Each of these types is characterized by its ownership/source of funding and/or geographical location/jurisdiction. The Policy recommends mapping of HEIs into a rationalised institutional architecture, largely by the functions of teaching and research -Research-intensive Universities, Teaching-intensive Universities and Autonomous degree-granting Colleges (ACs). Model public universities for holistic and multidisciplinary education, named MERUs (Multidisciplinary Education and Research Universities) aimed to attain the highest global standards in quality education are also to be set up. This does not necessarily mean new greenfield institutions but converting existing ones.

Affiliation system in higher education has immensely contributed in early stages for ensuring access and equity. Nevertheless, over the years, affiliating universities do not have any proactive role in ensuring academic standards and providing quality inputs; and the host university is mainly involved in conducting examinations, which has disastrously affected the quality. Thus, a long-standing need to reform the affiliating system is being addressed through a major shift from affiliation to autonomy. The affiliated colleges will, in a phased manner, over a period of 15 years, through a suitable system of graded accreditation and graded autonomy, strive to become independent colleges. Each existing affiliating university will mentor its affiliated colleges so that they can develop their capabilities and achieve benchmarks in academic and curricular matters; teaching and assessment; governance reforms; financial robustness; and administrative efficiency. A concerted effort by the governments and suitable institutional mentoring will help colleges currently affiliated to a university to attain the required benchmarks and the prescribed accreditation to eventually become autonomous degree-granting colleges. Over a period, it is envisaged that every college would develop into either an autonomous degree-granting college, or a constituent college of a university. While such a rationalisation is recommended, care to ensure access and ensure equity in higher education by catering to the rural, unserved, and underserved areas and aspirational districts will be ensured.

Internationalisation of higher education

The Policy is contextualized in a globalized era and every country is seeking to get a competitive edge in world rankings and make itself an education destination and hence logically, the policy promotes the internationalization of higher education. It stipulates various measures, which *inter alia* includes facilitating research / teaching collaborations and faculty /student exchange with high-quality foreign HEI and signing of mutually beneficial MOUs with foreign countries; encouraging high performing Indian universities to set up campuses abroad; selected universities from among the top 100 universities in the world will be facilitated to operate in India; setting up of International Student Office at each HEI for welcoming and supporting students arriving from abroad; counting credits acquired in foreign universities etc. UGC guidelines for internationalisation of HE encourages setting up of an Office of International Affairs and an Alumni Connect Cell in universities Internationalization will be facilitated through institutional collaborations and enabling mechanisms for student, faculty and institutional mobility. The University Grants Commission (UGC) has released the draft Regulations (Setting up and Operation of Campuses of Foreign Higher Educational Institutions in India) Regulations, 2023, which would allow foreign universities to establish campuses in India.

Equity and inclusion in education

 NEP 2020 aims to ensure that no child loses any opportunity to learn and excel because of the circumstances of birth or background. It identifies the Socially and Economically Disadvantaged Groups(SEDGs) which include: gender (female and transgenders), socio-cultural (such as Scheduled Castes, Scheduled Tribes, OBCs, and minorities), geographical (such as students from villages, small towns, and aspirational districts), disabilities (including learning disabilities), and socio-economic conditions (such as migrant communities, low income households, children in vulnerable situations, victims of or children of victims of trafficking, orphans including child beggars in urban areas, and the urban poor). Special emphasis is given to increase and enhance the educational participation of the SEDGs through specific interventions. Creation of Gender Inclusion fund and Social Inclusion fund for earmarked funding is recommended. Special Education Zones in areas with concentration of SEDGs and for disadvantaged regions are to be identified for a targeted approach. More HEIs to be established and developed in underserved regions to ensure full access, equity, and inclusion. A game changer to broadbase access and equity is the recommendation to offer academic programmes in regional languages. More scholarships for SEDGs are envisaged. Private HEIs also to offer larger numbers of freeships and scholarships to their students.

Teachers and Faculty at the heart of education

The NEP 2020 places the teacher as the pivot of the education system to catalyse the proposed academic reforms. The 4-year integrated Bachelor of Education offered at multidisciplinary institutions would be eligible qualification for all stages of school education. In higher education too**,** NEP 2020 recognizes that its success is significantly determined by the quality of its faculty and seeks to have motivated, energized, and capable faculty. HEIs will have clearly defined, independent, and transparent processes and criteria for faculty recruitment and recommends tenure-track engagements. Faculty will be given the freedom to design their own curricular and pedagogical approaches within the approved framework. Career growth and progression avenues with provision for continuous professional development through capacity building programmes are explicitly articulated. Excellence will be further incentivized through appropriate rewards, promotions, recognitions, and movement into institutional leadership. Accountability of faculty is also sought to be ensured with a system of fair and transparent review. A National Mission for Mentoring for engaging a large pool of outstanding senior/retired faculty – including those with the ability to teach in Indian languages – who would be willing to provide short and long-term mentoring/professional support to school/university/college teachers is in place.

Global Citizenship Education and Indian Knowledge Systems

NEP 2020 promotes a balancing of global with local. It makes a strong case for promoting Global Citizenship Education (GCED) and aligned with the SDG -4 goal to make learners aware of global issues of sustainable development and become active promoters of peaceful, tolerant, and sustainable societies. Alongside, the curricula includes

Indian Knowledge Systems (IKS) to cover-Indian Knowledge, Indian Linguistics, Indian metallurgy, Indian Architecture etc.

IIDPs will assess and make future projections for:

* human resources requirements, - faculty, administrative and ancillary staff;

* physical & infrastructural facilities;

* ICT related facilities;

* Teaching-Learning infrastructure, -labs, libraries, etc.;

* Continuous Professional Development (CPD) requirements;

* Student Support.

* specific plans for increasing participation from SEDGs.

Institutional Reforms for effective governance, regulation and enhanced standards- All HEIs will aim to become independent self-governing institutions pursuing innovation and excellence. Institutions and faculty must enjoy greater autonomy to innovate in the areas of curriculum, pedagogy, and assessment. Equally important is the need to ensure leadership of the highest quality and promote an institutional culture of excellence. Institutional governance based on autonomy -academic, administrative and financial -is envisioned with each HEI having a Board of Governors.All leadership positions will be offered to people with high academic qualifications and demonstrated administrative and leadership capabilities.

The regulatory system is set be overhauled, based on the principle of separation of powers and to prevent concentration of powers in a single body,- for funding, regulation, accreditation and academic standard setting. There will be a single overarching umbrella body for promotion of higher education, the Higher Education Commission of India (HECI); with independent bodies for standard setting- the General Education Council; funding-Higher Education Grants Council (HEGC); accreditation- National Accreditation Council (NAC); and regulation-National Higher Education Regulatory Council (NHERC). Legislation in this regard is expected to be brought out. Regulation will be 'light but tight' to ensure financial probity and public-spiritedness to eliminate conflicts of interest with transparent self-disclosure as the norm not an inspectorial regime. The regulatory body will have powers to penalize HEIs not conforming to norms and standards. Public and private higher education institutions will be governed by the same set of norms for regulation, accreditation, and academic standards.

Promoting research

In keeping with the recommendations of NEP 2020, the Government of India has enacted an Act to establish the National Research Foundation (NRF) in India and has allocated Rs 50,000 crore for research until 2027-28. NRF will help reduce the gap in R&D spending between India and other countries. The NRF will promote research and development (R&D) and foster innovation in Indian universities, colleges, institutions, and R&D laboratories. The overarching goal of the NRF is to enable a culture of research to permeate through our universities, helping to develop a culture of research in the country. The NRF aims to promote, fund, and mentor scientific research in higher education institutions.By bridging the gap between research and higher education, the NRF will combine teaching and research. The Foundation will address important issues in India, including natural sciences, engineering, social sciences, arts, and humanities. Suitable incentives for and recognition of outstanding research and undertaking major initiatives to seed and grow research at State Universities and other public institutions where research capability is currently limited is expected. It would help in developing linkages between universities/colleges, research laboratories and industry that will give an impetus to research and undergraduate levels.

Technology in education, digital and online education

An autonomous body, the National Educational Technology Forum (NETF), has been created to provide a platform for the free exchange of ideas on the use of technology to enhance learning, assessment, planning, administration etc. for School Education, Higher Education and Skilling Initiatives. This ecosystem will be implemented in accordance with the National Digital Education Architecture (NDEAR), a unified digital education architecture for School Education **(NDEAR-S)** and Higher Education (NDEAR-H); wherein **NETF** as its custodian, shall play the

role of the central advisory and regulatory agency for facilitating educational institutions, central and state governments to effectively deploy technology interventions by providing a single source of proven best practices, emerging research in digital education and recommendations on interoperable, open solutions for the betterment of education delivery in the country.

Appropriate integration of technology into all levels of education to improve classroom processes, support teacher professional development, enhance educational access for disadvantaged groups and streamline educational planning, administration and management is being implemented.Technology-based education platforms, such as SWAYAM, will be better integrated across school and higher education.HEIs will play an active role in conducting research on disruptive technologies and in creating instructional materials and courses including online courses in cutting-edge domains.

Promotion of Indian Languages

The policy underscores the importance of multilingualism and the strength of our nation's linguistic pluralism. Accordingly, several initiatives to protect, preserve and develop all Indian languages are outlined.HEIs, are encouraged to teach in regional languages, and/or offer programmes bilingually, in order to increase access and GER and also to promote the strength, usage, and vibrancy of all Indian languages. An Indian Institute of Translation and Interpretation (IITI) would be established. Universities are encouraged to set up new language departments. Sanskrit and all Indian language institutes and departments across the country will be significantly strengthened.National Institute (or Institutes) for Pali, Persian and Prakrit would be set up. Efforts to preserve and promote all Indian languages including classical, tribal and endangered languages is recommended.

Conclusion

Education is the most powerful tool for the advancement of the nation and the most potent weapon to fight poverty. It will prepare our youth to meet the diverse national and global challenges of the present and the future. The National Education Policy 2020 will pave the way for revitalising and reorganising our education to ensure 'equality of opportunity in access and success' to all learners; provide opportunities for lifelong learning; creating a harmonious, and cohesive egalitarian society. The ODL system must leverage the enablers of NEP to carry forward its envisioned goals of providing inclusive and equitable quality education for all. NEP will succeed to the extent it reflects the unfragmented and total commitment of the entire nation to accord priority to the development of our human resources and leverage the demographic dividend that our nation is blessed with in the coming years.

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Teacher Efficacy and Teaching Satisfaction of the Teachers of Higher Education Institutions

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Abstract

This study examines the relationship between teacher efficacy and teaching satisfaction among teachers employed in higher education institutions. Further, it explores potential differences based on criteria such as teacher experience, qualifications, academic teaching stream, designation, age, and gender. The study comprised a total of 155 university teachers who are employed at different state-funded universities located in Telangana, India. The data reveals that the association between teacher efficacy and teaching satisfaction does not alter regarding years of teaching experience, age, gender, academic stream, and educational credentials. Further investigation could uncover the latent factors contributing to teacher efficacy and teaching satisfaction relationship variability.

Keywords: *Academic stream, academic qualifications, teacher efficacy, teaching satisfaction, teaching experience*

Introduction

Teaching is a respectable profession that significantly contributes to a nation's social, economic, technological, environmental, and cultural growth. Various factors affect the quality of teaching and learning processes in an educational institution, for instance, teaching-learning methods, student satisfaction, student self-efficacy, student engagement, teacher satisfaction, teacher efficacy, teacher engagement, etc. Numerous researchers have studied the variables in different contexts (Kleinsasser, 2014; Hongying, 2007), but meager research is available on teacher efficacy and teaching satisfaction from the viewpoint of educators. Therefore, this research attempts to study teacher efficacy and teaching satisfaction from the teachers' perspectives.

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In addition, the present work also seeks to establish the interdependence of teacher efficacy and teaching satisfaction because the students' future primarily depends upon the teachers' satisfaction. In this way, the present work is critical as it employs key evidence to address the dependent variable of teacher satisfaction and achieve the research objectives about teacher efficacy and about teacher satisfaction, considering the demographic aspects of the teachers of higher education as well. This research also presents certain ideas and practical implications for the administrators of Higher Education Institutions (HEI) in improving job satisfaction among higher education teachers while enhancing their efficacy. This study uses evidence from survey research and the literature.

Teacher efficacy

Self-efficacy, built on social cognitive theory (Bandura, 1997), displays the competencies of individuals who recognize the need to perform and manage the required number of actions to execute a specific task. Similarly, teachers' self-efficacy refers to their belief in their ability to effectively plan, organize, and execute classroom teaching to enhance their students' academic performance (Tschannen-Moran, Hoy, and Hoy, 1998). It is a future-oriented belief of teachers about their ability to complete a task in a given time (Tschannen-Moran, Hoy, and Hoy, 1998). The efficiency beliefs stem from mastery experiences, vicarious experiences, verbal persuasion, and physiological persuasion, also realized as sources of efficacy. It is expected that when these four resources are used in classrooms, they can develop the efficacy of teachers (Bandura, 1997; Schunk et al., 2002). The Social Cognitive Theory, by its analysis of self-efficacy, has significantly contributed to understanding human behavior and motivation. The concept of teacher self-efficacy has interested several researchers since its inception; for example, Pajares (1995) has notably conducted a comprehensive research analysis on self-efficacy within the academic domain. Likewise, various studies conducted on teacher self-efficacy found it to be significantly correlated with students' motivation, achievement, learning, and self-efficacy, in addition to teachers' persistence, enthusiasm, commitment, instructional behavior, etc. (Schunk, 1991; Hackett, 1995; Pajares, 1996; Zimmerman, 1995; and Tschannen-Moran & Hoy, 2001). Earlier research in teaching and learning also confirmed that teachers' self-efficacy influences their

academic performance and job satisfaction. It has also been observed that university teachers often face contending demands about the time required for research, teaching, and administration, which influences their efficacy (Vardi, 2009). Overall, teacher efficacy is vital to job satisfaction, teacher engagement, and burnout (Skaalvik&Skaalvik, 2007, 2014a). Studies have revealed that teaching is one of the noblest professions, and the notion of self-efficacy can facilitate teachers in delivering their duties with ease (MacBeath, 2012). Nonetheless, consistently reviewing and improving the working conditions can help meet the educational community's required needs and develop teachers' self-efficacy (Kowalski, 2003; Noorossana et al., 2021).

Teaching satisfaction

Teaching satisfaction reflects the contentment of a teacher towards their role as a teacher and their academic endeavors (Ozkan &Akgenc, 2022; Hongying, 2007). It is synonymous with teacher job satisfaction, a concept bracketed under administrative psychology (Hongying, 2007). Although teachers are predominantly regarded as an essential ingredient of the teaching-learning process, their job satisfaction is seldom studied (Hongying, 2007). Research on job satisfaction reveals that organizational performance is one of the determinants of employee job satisfaction. Numerous studies on work satisfaction analyzing job perceptions have demonstrated that the working conditions, teacher's perceptions, enthusiasm, psychological well-being, and peer support widely contribute to teacher satisfaction (Ilyas & Afzal, 2021; Toropova et al., 2021; Ozkan &Akgenc, 2022). Research has also observed that competitive rewards provide teaching professionals a sense of satisfaction, making them remain with the organization longer. Conklin and Cano (1999) conducted a study examining work satisfaction and discontent among agricultural teachers in Ohio by undertaking multiple facets like achievement, progression, acknowledgment, and the professional responsibilities of teachers. The findings revealed that irrespective of the maximum participation of the male teachers, both male and female instructors expressed satisfaction with their present roles equally. The literature review also suggests that internal factors, such as classroom environment, student personality, etc., and external factors, for instance, salary, safety, administrative support, etc., also impact teacher motivation, satisfaction,

and performance (Ouyang &Paprock, 2006). Surprisingly, teachers with increased workloads experience a more satisfied professional life than those with fewer workloads (Ouyang &Paprock, 2006). Previous findings also imply that teachers' job satisfaction affects their motivation and improves students' learning and growth (Ouyang&Paprock, 2006).

However, some factors observed to decrease teaching satisfaction were reduced salaries, increased responsibilities, limited training opportunities, strenuous upward mobility, etc. (Ouyang &Paprock, 2006). Research on job satisfaction has been primarily studied in organizational administration and industrial and commercial enterprises (Hongying, 2007). An ample amount of scope is yet available to explore job satisfaction in the education field, especially focusing on the academics of higher education institutions. This research can further aid us in comprehending the display of teaching satisfaction in higher education.

Teacher Efficacy and Teaching Satisfaction

Previous literature has yet to match various teacher efficacy and teaching satisfaction findings. Han et al. (2021) investigated how teachers' efficacy influences teacher satisfaction. Teachers possessing greater efficacy were found to be satisfied with their teaching, indicating a solid academic background and personal and psychological characteristics. Teachers with low efficacy were less interested in student and educational outcomes, and it reflects that the teacher's efficacy is key to attaining higher teaching satisfaction. In compliance with this, the Žuniæ-Pavloviæ and Pavloviæ (2020) study concluded that teachers with high efficacy experience positive satisfaction with their teaching. They not only put in effort and create conditions that are responsible for similar levels of satisfaction but also help in the mode of instruction, the work environment, and the success of the overall institution. Besides this, teachers' efficacy and satisfaction also contribute to creating an adequate learning environment for students and planning multiple teaching methods applicable to all learners. These variables also assist in maintaining good academic relations with the teachers of other institutions (Caprara et al., 2006), which will enhance the future possibilities of placements for students while directly contributing to the institution's success. Huang et al. (2022) found that the teacher's ability to be up-to-date and cope with the advances happening around the world positively influences their self-efficacy and

teaching satisfaction. Bandura (1997) established that the student's previous academic achievement also moderately affects teachers' self-efficacy beliefs. The current study affirms that social-cognitive theory, previous experiences, and accomplishments are vital to teachers' self-efficacy beliefs.

Research Questions

Considering the above review, subsequent research questions are framed for the present study.

1. What is the relationship between teacher efficacy and teaching satisfaction?
2. How do the participants' gender, age, designation, academic stream, educational qualifications, and teaching experience influence teacher efficacy and teaching satisfaction?

Methodology

Sample and procedure

This research is descriptive as it intends to study the present status of teacher efficacy and teaching satisfaction among the teachers of Higher Educational Institutes. This study used a cross-sectional research design and adopted a purposive sampling technique to draw the respondents. The survey sample comprises 155 teachers from six state-funded universities in Telangana, India. The demographics of the participants are gender (male = 110 (71%), female = 45 (29%)); age groups (less than 40 years = 68 (43.90%), 40-50 = 65 (41.90%), 50 and above 22 (14.20%); designation (Assistant Professor = 140 (90.30%), Associate Professor and Professor = 15 (9.70%)); academic stream (Arts = 84 (54.19%); science = 71 (45.81%); educational qualifications (PG = 24 (15.48%); PhD = 131 (85.52%); and teaching experience (less than ten years = 50 (32.30%), 10-20 years = 78 (50.30%), 20 years and above = 27 (17.40%). The survey provided participants with printed questionnaires regarding their perceptions of their teaching efficacy and satisfaction. The participants' responses about teacher efficacy and satisfaction, along with their demographic data, including their gender, age, designation, academic stream, academic qualifications, and years of teaching experience, were collected during the 2022–2023 academic year. Table 1 contains the frequency values of the sample.

Table 1 : *Demographics of the sample*

Demographics	Number of Respondents (%)
Gender	
Male	110 (71)
Female	45 (29)
Age Groups	
Less than 40 years	68 (43.90)
40-50	65 (41.90)
50 and above	22 (14.20)
Designation	
Assistant Professor	140 (90.30)
Associate Professor & Professor	15 (9.70)
Academic Stream	
Arts	84 (54.19)
Science	71(45.81)
Academic Qualification	
PG	24 (15.48)
Ph.D.	131(84.52)
Teaching experience	
Less than ten years	50 (32.30)
10 – 20 years	78 (50.30)
20 years and above	27 (17.40)

Note. Table 1 presents the sample demographics, including the gender, age, experience, designation, qualification, and academic stream of the university teachers.

Measures

This research utilized items from the Teacher Efficacy Scale (Tschannen-Moran et al., 2001) and the Teaching Satisfaction Scale (Ho & Au, 2006). The Teacher Efficacy Scale was developed to determine how teachers rate their perceived efficacy through Student Engagement, Instructional Strategies, and Classroom Management.The Teaching Satisfaction Scale was developed based on the Life Satisfaction Scale (LSS). The researcher took the necessary care in handling missing data in the survey. The data were analyzed using IBM SPSS 29.0.

Results

Table 2 presents the sample details of the scales used in the study, including the number of items, minimum, maximum, mean, standard deviation, and Cronbach's alpha, a measure of scale reliability.

Table 2 : *Data Statistics and Cronbach Alpha*

Scale	Number of items	Min	Max	M	SD	Cronbach's Alpha
Teacher Efficacy	24	1	5	3.930	0.593	0.935
Teaching Satisfaction	5	1	5	3.932	0.707	0.769

Note. Min = Minimum, Max = Maximum

H_1: A significant relationship exists between teacher efficacy and teaching satisfaction.

The researcher computed a correlation coefficient to study the relationship between the variables being studied. The calculation of effect size was also performed whenever it was possible. Based on the findings of the correlation study, it can be concluded that a significant positive relation (r =.793) exists between teacher efficacy and teaching satisfaction. The observed correlation between the variables was found to be significant (p<.001, df = 154), providing support for Hypothesis 1 (H_1). The teaching

efficacy explained 62.9% (R^2 =.629) of the variance in teaching satisfaction, indicating a significant impact.

H_2: The relationship between teacher efficacy and teaching satisfaction is influenced by teacher gender.

Table 3 : *Comparison of Correlations between teacher efficacy and teaching satisfactionbased on Teacher Gender*

Gender						Fisher's Z and p values	
	Female			Male		z	p
r	p	n	r	p	n		
.758	<.001	45	.797	<.001	110	-0.54	.294

Formerly testing the hypothesis, the data was segregated into two groups based on the teachers' gender. A correlation coefficient was calculated to observe the relationship between teacher efficacy and teaching satisfaction among female and male teachers. The study hypothesis was examined through Fisher's z-test. The correlations for female and male teachers revealed a statistically significant positive correlation indicative of a relationship between teacher efficacy and teaching satisfaction. However, the values of Fisher's z-test specified that the observed correlations between the two groups were not significantly different (p < 0.05), even though the two correlations were distinct. The statistical computations are presented in Table 3.

H_3: Teacher age influences the relationship between teacher efficacy and teaching satisfaction.

Table 4 : Comparison of Correlations between teacher efficacy and teaching satisfaction based on Teachers' Age

Age Groups							Fisher's Z and p values	
Less than 40 years			40-50 years			50+ years	z	p
r	p	n	r	p	n	r	p	n
.708	<.001	68	.854	<.001	65	-2.18		.015*
.708	<.001	68		.705	<.001	22	0.02	.509
			.854	<.001	65	.705 <.001 22 1.50		.067

Before hypothesis testing, the data was categorized into groups based on the teachers' ages. A correlation coefficient was calculated to examine the relationship between teacher efficacy and teaching satisfaction among three age groups: instructors under 40, teachers between 40 and 50, and teachers beyond 50. Three Fisher's Z tests were run to examine the research hypothesis. The study examined the relationships among instructors under 40, teachers between the ages of 40 and 50, and teachers above 50. A significant positive correlation was observed between the two variables among teachers under 40, those aged between 40 and 50, and those beyond 50. However, the results of Fisher's z-test specified statistically significant differences between less than 40 years and 40-50 years age groups (p<0.05) and no statistically significant differences between less than 40 years and 50+ years age groups as well as 40-50 years & 50+ years age groups (p < 0.05), although the two correlations were dissimilar. Table 4 contains all the computed values.

H_4: The relationship between teacher efficacy and teaching satisfaction is influenced by the designation of the teacher.

Table 5 : Comparison of Sample Correlations between teacher efficacy and teaching satisfaction based on the designation of the teacher

Designation						Fisher's Z and p values	
Assistant Professors			Associate Professor & Professors			z	p
r	p	n	r	p	n		
.802	<.001	140	.593	<.020	15	1.40	.081

Before hypothesis testing, the data was segregated into two groups based on the teachers' designations. A correlation coefficient was computed to assess the relationship between teacher efficacy and instructional satisfaction among assistant professors, associate professors, and professors. Fisher's z-test was run to investigate the study hypothesis. The analysis of correlations between assistant professors and associate professors and professors revealed a strong, statistically significant positive association, indicating a connection between teacher efficacy and teaching satisfaction. The findings of Fisher's z-test specified that the correlations being compared did not exhibit significant differences between the two groups (p < 0.05), even though the two correlations

were dissimilar. The computed statistical values are reported in Table 5.

H_5: The relationship between teacher efficacy and teaching satisfaction is influenced by the academic stream of teachers.

Table 6 : Comparison of Sample Correlations between teacher efficacy and teaching satisfaction based on the academic streams of teachers.

Academic Stream						Fisher's Z and p values	
Arts			Sciences			z	p
r	p	n	r	p	n		
.784	<.001	84	.801	<.001	71	-0.28	.391

Before doing the hypothesis testing, the data was segregated into two distinct groups based on the academic streams of the teachers. A correlation coefficient was computed to gauge the relationship between teacher efficacy and teaching satisfaction among teachers in the arts and sciences streams. Fisher's z-test was done to examine the study hypothesis. The obtained correlations for arts and science teachers revealed a strong positive relation between teacher efficacy and teaching satisfaction. Fisher's z-test results show that the observed correlations between the two groups were not significantly different (p < 0.05), even though the two correlations were distinct. Table 6 contains the statistical computational values.

H_6: The relationship between teacher efficacy and teaching satisfaction is influenced by the teacher's academic qualifications.

Table 7 : *Comparison of Sample Correlations between* teacher efficacy and teaching satisfaction *based on the teacher's academic qualifications.*

Academic Qualifications						Fisher's Z and p values	
PG			Ph.D.			z	p
r	p	n	r	p	n		
.761	<.001	24	.803	<.001	131	-0.46	.323

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Before conducting the hypothesis testing, the data was divided into two groups based on the academic qualifications of the teachers. The correlation coefficient was calculated to examine the relationship between teacher efficacy and teaching satisfaction among individuals with Post Graduation (PG) and Ph.D. qualifications. A Fisher's z-test was run to test the research hypothesis. The correlation coefficient between PG and Ph.D. qualifications demonstrated a strong positive and significant relation between teacher efficacy and teaching satisfaction. The results of Fisher's z-test specified no significant difference in the correlations observed between the two groups (p < 0.05), even though the two correlations were distinct. Table 7 presents the computed statistical values.

H_7: The relationship between teacher efficacy and teaching satisfaction is influenced by teacher experience.

Table 8 : *Comparisons of Sample Correlations between* teacher efficacy and teaching satisfaction *based on teaching experience*

Less than ten years			10-20 year			20+ years			z	p
r	p	n	r	p	n	r	p	n		
.865	<.001	50	.690	<.001	78				2.50	.006**
.865	<.001	50				.707	<.001	27	1.72	.043*
			690	<.001	78	.707	<.001	27	-0.14	.444

The data were classified into three groups according to the teachers' previous experiences before testing the hypothesis. A correlation coefficient was calculated to examine the relationship between teacher efficacy and teaching satisfaction among teachers categorized by their years of experience: less than ten years, ten to twenty years, and above twenty years. Three Fisher's Z tests were run to examine the research hypothesis. A notable positive association was found between the two variables when analyzing the teaching experience of individuals across three categories. However, the findings from Fisher's z-tests revealed statistically significant differences between less than ten years and 10-20 years (P<0.01) and less than ten years and 20+ years (p<0.05). However, no statistically significant differences were found between 10-20 years and 20+ years of teaching experience groups (p < 0.05), even though the two were distinct. Table 8 displays the computed statistical values.

Discussion

Numerous scholars have surveyed teacher efficacy and identified various characteristics contributing to its enhancement. While a significant amount of research has been conducted on teacher efficacy within the school environment, a limited number of studies have specifically examined this phenomenon within the context of university education. The findings from the analysis of data collected from a sample of 155 teachers provided empirical evidence supporting the existence of significant associations between teacher efficacy and teaching satisfaction. This finding is in line with earlier studies by Adebomi et al. (2012), Caprara et al. (2006), Edinger and Edinger (2018), Elrayah (2022), and Klassen and Chiu (2010). Therefore, it is strongly advised that the leaders of higher education institutions (HEIs) assist teaching professionals in enhancing their self-efficacy, leading to higher teaching satisfaction. Professional training programs can foster strong beliefs, increased awareness, and positive attitudes among teaching professionals regarding their duties and obligations. Enhancing teacher efficacy can be achieved by engaging educators in various institutional activities and acknowledging their dedication and loyalty. According to research by Tschannen-Moran et al. (1998), instructors with high levels of self-efficacy exhibit effective instructional practices, strongly prefer participating in professional development activities, and consistently look for novel teaching strategies to meet the academic demands of their students.

Higher Education Institutions face significant pressure to attract and retain highly skilled faculty members in accreditation and rankings. Improving teachers' effectiveness can positively impact the overall work environment and lead to heightened productivity levels. Furthermore, it is imperative for the administration to actively pursue the development of purposeful employment roles for instructors to enhance their levels of

engagement and dedication. This discovery further supports the assertions made in previous scholarly works (Borg & Falzon, 1989; Chaplain, 1995; Klassen et al., 2010; Collie et al., 2012; Nathaniel et al., 2016).

The current study's findings align with prior research by Epps and Foor (2015) regarding the influence of teaching experience on the relationship between teacher efficacy and teaching satisfaction. Similar levels of self-efficacy were observed among both novice and seasoned educators. The current study's findings do not agree with earlier research by Conklin and Cano (1999) regarding the influence of teacher gender on the relationship between teacher efficacy and teaching satisfaction. They investigated the elements influencing job satisfaction among male and female agricultural teachers and determined that they exhibited varying evaluations of critical facets of job satisfaction. The present study demonstrates a significant correlation between female and male teachers' efficacy and teaching satisfaction. Apart from this, the findings of the present study also displayed significant differences concerning teacher's age (less than 40 years and 40-50 years), teacher efficacy and teaching satisfaction, as well as teaching experience, less than ten years and 10-20 years; and less than ten years & 20+ years. However, the study needed to be more significant regarding teachers' ages, less than 40 years and 50+ years and 40-50 years and 50+ years; also, compared to teaching experience, 10-20 years and 20+ years. Besides this, the research findings regarding the impact of academic streams, qualifications, and designation on the association between teacher efficacy and teaching satisfaction are also insignificant. The research about these factors is relatively recent and requires further comparative analysis. Future investigations on these constructs are necessary to comprehend the correlation between the effectiveness and contentment of educators in higher education institutions.

Conclusion

The present study found a significant relationship between teacher efficacy and teacher satisfaction among the teachers of Higher Educational Institutions.The findings of this study also offer useful insights into the relationship between teacher efficacy and job satisfaction, as well as the influence of factors such as experience, academic stream, designation, academic qualifications, age, and gender. The findings of this research make a valuable contribution to the existing body of knowledge about teacher efficacy and teaching satisfaction. Understanding the teacher efficacy and satisfaction relationship allows academic administrators to support teachers in their professional development and ultimately improve educational outcomes.

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Exploring Acceptance & Use of Open Educational Resources by Academics in Open Universities in India

Prof. G. SAROJA *

Abstract

Open Educational Resources (OERs) are increasingly being used by Open and Distance Educational (ODE) institutions. They offer the advantage of access and expansion of knowledge and have the potential to reach large number of students. The perceptions of distance educators and the contributions of the educators in preparation of OERs can help in effective teaching-learning process, as the contributors themselves are well acquainted with the ethos of distance education. However, literature survey shows the acceptance and contribution of distance-educators to OERs is limited in India. An attempt is made in this paper to explore the acceptance and use of OERs by academics in open universities in India.

Keywords : *Open Educational Resources, Open and Distance Learning, awareness, sustainable use, acceptance.*

Introduction

The establishment of the first Open University in UK in 1969 gave a new dimension to Teaching-Learning and paved the way for 'Openness' in the Education system. The term 'Open University' was used basically to open up education to large segments of the population and take education beyond the four walls of traditional campus-based education. Subsequent to the UKOU, several countries adapted the model and established Open Universities in their respective countries. Owing to the multiple advantages offered by Open Universities, such as increasing access and equity by providing flexibility to the learners in the choice of

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courses, relaxing the entry requirements, learning at the pace and place of the learners etc., Open Distance Learning has received wider acceptance as an alternate system of education. Thus, the Open Universities marked the beginning of 'Openness' into education system. India followed the model and established its first Open University in 1982 in the State of Andhra Pradesh at Hyderabad. At present, there are 16 State Open Universities in India and one Open University functioning at the National level, i.e., Indira Gandhi National Open University. The report of All India Survey of Higher Education (India, MHRD, 2014) revealed that Distance enrolment constitutes 17% of the total enrolment in Higher Education indicating the significant contribution of Open Distance Education.

The emergence of Open Educational Resources added a new dimension to the concept of 'Openness' in education. According to Sir John Daniel (Daniel, 2011 p.1), "Nevertheless, the Open University curriculum is closed in the sense that the programs and courses were defined and developed by the University – students can take them or leave them although they have great flexibility to mix and match". Traditionally, in the Open University system, the courses are specified, developed by the universities and the learner has limited freedom to choose from the available courses. Moreover, Open Universities impart education through Self Instructional Course Material supplemented with the audio and video lessons broadcast/ telecast through radio and television channels. However, each medium or channel attracts different set of audience and hence the entire student population seldom gets the benefit out of these supporting media. The advent of Internet has made it possible to introduce more openness in open universities by opening up the content and offering open courses to the students.

The first Open Course Ware (OCW) initiative of MIT in 2002 brought revolutionary changes in the traditional higher education system. Since then, OERs have gained increased attention among the academic community in view of their potential in making affordable education accessible to larger sections. The basic idea behind the development of Open Educational Resources is that knowledge exists for the public good and therefore knowledge should be shared for the benefit of the society.

Advances in communication technology, particularly the World Wide Web have increased the opportunities to share, use and re-use the knowledge and information. This paper intends to explore the acceptance and use of OERs by academics of Open Universities in India.

The specific objectives of this study are to examine –

- Extent of use and contribution to Open Educational Resources by the respondents

- Extent to which academics perceive the usefulness, Ease of Use of OERs

- Factors influencing the willingness of the respondents to use OERs

- Respondent's Awareness of different OER initiatives and resources

- The obstacles in the use of OERs ; and

- To discuss the measures for sustainable use of OERs in Open Universities in India.

Context

Several research studies were conducted and published on different aspects of Open Educational Resources across the globe. A report prepared by faculty at British Columbia post secondary institutions explored the use of OERs (Jhangian, R.S and others, 2016). The study explored the enabling factors for OER use; perceptions on the impact of OERs on learning outcomes and awareness of OERs among the faculty. The study finds that it is important to raise the awareness of the existence of OERs. Knowledge of locating, reviewing the quality and adapting them are important to reap the benefits of OER to the full extent.

Kelly (Kelly, 2014) studied the perceptions of educators about OERs using the Technology Acceptance Model. The study finds that usefulness of OERs is perceived to be high and. 'Ease of use' is an important factor that affects the use of OERs.

Awareness is another important factor that determines the use of a resource. Rolfe (Rolfe, 2012) studied the Staff attitudes and awareness

by interviewing staff of the De Montfort University, Leicester, UK. This Study finds that the staff is familiar with the open content repositories within the university but not about the externally available OERs. While the staff used outside resources, they never contributed to the OERs. The study finds that lack of awareness and confusion over copyright issues were the barriers to the use of OERs.

A study by Das (Das, 2014) reviewed the OER initiatives under National Mission through ICT support during the 11th& 12th Five Year Plan Period.

Harishankar, Balaji and Ganapuram (2013) studied the individual and institutional preparedness to embrace OERs in India. Using the KAP – Knowledge, Attitude and Practice Model, widely used by social scientists to study the beliefs and misconceptions of a new phenomenon, the authors attempted to study OER acceptance among the different stakeholders. The study observes that there is lack of awareness about OERs and related copyright regulations and individual production of OER is related to the lack of career incentives. Further this study finds that most of the OER efforts are individual and institutional support mechanism is lacking.

Das (Das, 2011) discusses the impact of Open Educational Resources on Life Long Learning and the role of various Audio-Visual materials prepared by NPTEL(National Programme on Technology Enhanced Learning).

Vijay Kumar (2009) in his article on "Open Educational Resources in India's National Development" discussed the organizational considerations and infrastructure readiness as part of a systemic and sustainable strategy to make effective use of Open Educational Resources for scaling educational opportunity and excellence in the Indian context.

Venkaiah (2007) studied attitudes and perceptions of Distance Teachers on the use of Open Educational Resources in India, based on the survey of 105 faculty working in distance teaching institutions including IGNOU, BRAOU, CAP Foundation, Maulana Azad National Urdu University and Madurai Kamraj University. Criteria such as access, cost, localization, quality and impact of OERs were studied. The study finds that the use of OERs by distance teachers is remarkably high.

International Organizations like – Commonwealth of Learning, UNESCO& Hewlett Foundation are working in the direction of promoting OERs. In spite of these efforts, published research on OERs is not considerable in India. Very few studies have focused on acceptance, awareness and use of Open Educational Resources in Open Universities. It is in this context, the present study intends to study the perceptions of faculty working in Open Universities in India.

Method

The present study is primarily based on the dimensions of 'OER Acceptance' that include Perceived Usefulness; Ease of Use; Awareness about different OER initiatives and resources. Other factors that influence the willingness or hinder OER Use; and suggestions for sustainable use of OERs were also studied with the help of a structured questionnaire. To study each dimension, certain statements relevant to each dimension were posed and the respondents were asked to rate their preference on a five point Lickert scale. In all, there are a total of 122 statements in the questionnaire.

The questionnaire was then hosted on "Survey Monkey" platform to obtain responses online. Email ids of nearly 200 faculty members working in 13 open universities were obtained by visiting the websites of these universities. However, two open Universities – Tamil Nadu Open University (TNOU) and Pt.Sunderlal Sharma Open University, Chattisgarh (PSSOU) have not listed the email ids of their faculties in their websites.

Email Invitations were sent to the faculty members to participate in the survey. None of the faculty from Madhya Pradesh Bhoj Open University,Bhopal;Nalanda Open University, Patna and Uttarakhand Open University, Nainital have responded and 72 responses were obtained. However, three responses were incomplete and cannot be considered for analysis. Hence, analysis is based on 69 complete responses.

The institution-wise distribution of the responses is presented in Table No.1.

Table No.1: Institution-wise distribution of responses

S.No.	Name of the Institution	Responses No	%
1.	Baba saheb Ambedkar Open University, Gujarat	2	2.90
2.	Dr.B.R.Ambedkar Open University, Hyderabad	21	30.43
3.	Indira Gandhi National Open University, Delhi	16	23.19
4.	Karnataka State Open University, Mysore	5	7.25
5.	Krishna Kant Handiqui State Open University, Assam	10	14.49
6.	Netaji Subhas Open University, Kolkata	5	7.25
7.	Odisha State Open University,	5	7.25
8.	UP Rajarshi Tandon Open University, Allahabad	2	2.90
9.	Vardhaman Mahaveer Open University, Kota	4	5.80
10.	Yashwantrao Chavan Maharashtra Open University, Nashik	2	2.90

The responses were analysed according to the study objectives. Using SPSS trial version, data was analysed applying simple statistical measures like percentages, parametric tests such as Mean, Standard Deviation, ANOVA,and F-test. MS-Excel was used to calculate Normal Distribution of Variables in different dimensions.

The convenience sampling adopted for this study delimits the generalizations drawn to this particular group of respondents. The study was limited in its scope since the sample drawn for the study was limited to approximately 15% of total faculty members working in the Open Universities in India.

Results

Respondents' profile

Analysis of the profile of the respondents with regard to Age, Gender, Designation, Subject Discipline and teaching experience are presented in Table no.2

Table No.2- Background Information about the Respondents

Particulars - Age Group (Years)	Number	Percentage
26-30	9	13
36-40	10	15
41-45	18	26
46-50	12	17
51-55	5	7
56-60	10	15
61-65	5	7
Gender		
Male	**38**	**55**
Female	31	45
Designation		
Professor	14	20
Associate Professor	5	7
Assistant Professor	50	73
Discipline		
Science	7	10
Social Science	23	33
Arts & Humanities	10	15
Commerce & Management	8	12
Engineering & Technology	6	9
Education	10	15

Others	5	7
Teaching Experience (Years)		
0-5	16	23
6-15	36	52
16-25	6	9
26-35	11	16

Use & Contribution to OER

The use and contribution of the academics of Open Universities are depicted in Table No.3. While the use of the OERs is high (81.2%) the contribution of the respondents to OERs is Low (30.4%).

Table No.3: Use & Contribution of OERs by the Respondents		
Response	**Use No. (percentage)**	**Contribution No.(percentage)**
Yes	56(81.2)	21(30.4)
No	13(18.8)	48(69.6)

Analysis by designation reveals that although 92% of Professors used the open educational resources, only 28% of them have contributed to OERs. Majority of the Assistant Professors (76%) have used the OERs, however, only 32% of them have shared their contributions as OERs (Table no.4).

Analysis by discipline reveals that all the respondents (100%) belonging to Sciences, Engineering & Technology and Arts & Humanities said they were using OERs. Nearly 30% respondents in Social Sciences, 20% in Education and 12.5% in Commerce & Management were not using OERs (Table no.4).

In all the study reveals that although use of OERs by the respondents was high, contribution to OERs by academics of 'Open Universities' was not significant.

Table No.4: Analysis of Use and Contribution by the respondents by Gender, Designation & Discipline

Table No.4: Analysis of Use and Contribution by the respondents by Gender, Designation & Discipline

Independent Variable	Use				Contribution			
	Yes	**No**	**F-value**	**Significance**	**Yes**	**No**	**F-Value**	**Significance**
I. Gender								
Male	35 (92.1)	3 (7.89)	7.119	0.01	10 (26.32)	28 (73.68)	0.665	0.418
Female	21 (67.74)	10 (32.26)			11 (35.48)	20 (64.52)		
II. Designation								
Professor	13 (92.86)	1 (7.14)	1.649	0.200	4 (28.57)	10 (71.43)	0.162	0.850
Associate Prof	5 (100)	0 (0.00)			1 (20)	4 (80)		
Assistant Prof	38 (76)	12 (24)			16 (32)	34 (68)		
III. Discipline								
Sciences	7 (100)	0 (0.00)	2.426	0.036	1 (14.29)	6 (85.71)	1.396	0.231
Social Sciences	16 (69.57)	7 (30.43)			5 (21.74)	18 (78.26)		
Arts & Humanities	10 (100)	0 (0.00)			5 (50)	5 (50)		
Commerce & management	7 (87.5)	1 (12.55)			4 (50)	4 (50)		
Engineering & Technology	6 (100)	0 (0.00)			3 (50)	3 (50)		
Education	8 (80)	2 (20)			3 (30)	7 (70)		
Others	2 (40)	3 (60)			0 (0)	5 (100)		

One way ANOVA was used to observe whether the use and contribution to OERs differs with independent variables like- gender, designation and discipline. The F-values for almost all the variables was less than 0.5, except for contribution to OER based on Designation (0.85). Hence it can be inferred that the variance has not significant. The relation between contribution and designation has observed to be significant.

Enabling Factors, Ease of Use, Willingness & Awareness

Normal Distribution of Variables in the four dimensions

As the number of variables used in each dimension is large, normal distribution is used as a measure to calculate the level of acceptance. The number of statements in each dimension is multiplied with the neutral score which is again divided by the Standard deviation calculated for each dimension. This value is subtracted from the value of dimension obtained by no. of statements multiplied by the neutral score to get the range values for three levels viz., low, moderate and Significant. The values thus defined for each variable are presented in Table No.5.

Table No.5: Calculation of different levels of Acceptance

Dimension	No. of statements	Scale	Neutral Score/ (S.D.)	Range for different levels of Acceptance		
				Low	Moderate	Significant
I Enabling Factors	18	5 pt.	4.78	<49.72	49.72-58.28	58.28
II Ease of Technology	7	5 Pt.	2.11	<18.89	18.89-23.211	23.21
III Factors influencing Willingness	7	5 Pt.	1.86	<19.14	19.14-22.86	22.86
IV Awareness	16	3pt	6.42	<25.58	25.58-38.42	38.42

Table No.6 – Level of Acceptance of the Respondents based on Dimension

Dimension	Responses based on Level of Acceptance					
	Low		Moderate		Significant	
	No.	%	No.	%	No.	%
I Enabling Factors	0	0.00	2	2.89	67	97.10
II Ease of Use	8	11.58	27	39.13	34	87.17
III Factors influencing Willingness	0	0.00	9	13.04	60	86.95
IV Awareness	30	43.48	29	42.03	10	14.49

From the table no.6, it is clear that the significance level of acceptance is high for all the four dimensions. However, as indicated in the table-6, in the second dimension, nearly 40% of respondents felt that the technology associated with OER is only moderately easy. A larger percentage of respondents (43.48) have low awareness of the different initiatives, resources and searching for OERs as revealed in Dimension IV.

Respondents agreed that the factors listed under dimension-3highly influenced their willingness to use and contribute to OERs.

The first three highly ranked statements in each dimension, by the respondents are presented in Table No.7. The total scores are obtained for each dimension by adding up individual sores (ordinal values) of 69 respondents for each statement. The total score is divided by total respondents to get the average scores.

Table No.7 – Highly Ranked Statements by the respondents in Each Dimension

Dimension	High Ranked Statements	Score		Rank
		Total	Average	
I: Enabling Factors	Knowledge is for the common good and hence it should be shared	325	4.71	1
	Use of OER gives recognition	312	4.52	2
	OER Saves money	310	4.49	3
	Use increases when there are no restrictions	306	4.43	4
	OER Saves time	306	4.43	4
II. Ease of Use	Do not require specialized skills to create OER	255	3.70	1
	Easy to search & locate OER	253	3.67	2
	Applying for CC license is easy	251	3.64	3
III. Factors Influencing Willingness	Willing to use & contribute if incentives are provided	295	4.28	1
	Willing to use if awareness is provided	294	4.26	2
	Willing to Use & contribute in case of recognition by National & International bodies	292	4.23	3
IV. Awareness	Wikipedia	135	1.96	1
	Google advanced search for OER	130	1.88	2
	OER Directory developed by COL	123	1.78	3

Obstacles to OER Use

Obstacles to OER Use

The respondents are asked to rate the 16 statements describing the factors that hinder the creation and use of Open Educational Resources. The six important factors ranked in order by the respondents are listed below.

1. Lack of Internet access to students of ODL
2. Lack of awareness among students
3. Lack of separate funding for OER Creation
4. Fear of low recognition for OERs
5. Lack of Institutional Policy for OER
6. Sharing materials incurs loss to the institution

A study by Jhagiani and others (2016) on OER use by faculty at British Columbia, has listed difficulty in locating relevant OERs, quality of OER and time as the three important barriers. However, in India, where penetration of Internet is low especially for the distance students from rural areas, using OERs is not a very convincing option. Hence lack of Internet Access and awareness of OERs among students are ranked as the major barriers. The faculty awareness of OERs is also not very significant and therefore creation of awareness at various levels of the Open University system becomes important. A significant proportion of the respondents still feel that a lot of money is invested in developing the material and sharing them incurs loss to the institution. Hence, separate funding for creation of OERs is required.

Sustainable Use of OER

Respondents identified the below-mentioned statements as relevant for sustainable use of Open Educational Resources.

1. Creation of OER Repositories
2. Undertaking activities for creating awareness among students, faculty and institutions about OERs
3. Promoting efforts to create Open Educational Resources in vernacular languages

Creation of OER Repositories is an important task. Building Common Intellectual Capital that can be accessed without any restrictions by all is not an easy task.

Discussion

Creation and use of OERs requires a culture of sharing. Research and experiences show that the acceptance of OER demands a culture of sharing, valuing innovative and social-network-based forms of learning, and encouraging novel pedagogical models (OPAL, 2011). The Open Access initiatives of NMEICT project of IITs of India and the e-patashala initiative of NCERT are some important contributions from India to OERs. The content in these repositories is created by experts in different disciplines and hence can be relied upon for their quality. Open universities can encourage their faculty to re-mix and re-use the content and offer them to the students. The Open Universities over the years have developed rich and valuable Self Instructional Material and audio and video lessons for the benefit of students. However, the fear of loss of money, monopoly over copyrights hinders them from sharing these resources for public good. Creation of a common OER Repository by collaboration of all the Open Universities not only encourage teachers to contribute to OER but also will help to save money and avoid duplication of effort by individual institutions.

For Sustainable use of OERs, the first requirement is that academics and learners become familiar with OERs. OERs also will gain acceptance once people become aware of the benefits. Integrating OERs into the curriculum will help to improve awareness about OERs among the students. Use of OERs for developing lessons and delivering lectures; introducing more openness in pedagogy and encouraging open educational practices are important for sustainable use of OERs. Government should encourage participation and research in OERs by recognizing and rewarding the OER efforts.

Conclusion

Several factors interplay in the acceptance of Open Educational Resources. The Technology Acceptance Model developed by Fred Davis has been a widely used model to explore the acceptance of technology. According to this model, a new technology or concept will be accepted

by the users if they are convinced about the usefulness and if they can use the technology with ease. This in turn determines the actual use. However, in the case of OERs, associated technologies like – availability of Internet access; skills of locating, searching and evaluation of OERs are very much required. Awareness about OERs should percolate through different levels of the education system, from academics to the learners. OERs should become part of the pedagogy and teaching-learning process for the sustainable use of OERs.

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Designing SLM in Distance Education

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Abstract

Self Learning Material has been the major scaffold on which ODL systems function. The onslaught of online education has not taken away the importance of the 'written word'. Many distance learners who are spatially and temporally placed could engage with learning and gain the benefit of knowledge, because of good learning material. The contemporary online provision still requires updation and consolidation of subject matter as per the present day requirements. This article explains the need for redesigning SLM in distance education in alignment with NEP-2020, and current UGC regulations (2020) and National Higher Education Qualification Frame Work (NHEQF) guidelines.

Keywords : *Self learning material, Distance education, instructional design, NHEQF, credits, assessment.*

Introduction

Malcolm Knowles defines self – learning as "a process by which individuals take initiative with or without assistance of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning and evaluating learning outcomes'. Self – Learning Material (SLM) should by implication incorporate all these features and help the distance learners in the process of learning. SLM is the first step that a distance learner embarks upon, before reaching out for other resources like OERs or Online resources. So SLM needs to be highly motivating and invigorating.

Redefining quality in distance education means ensuring good quality Self Learning Material. Although it is true that economy in management of distance education makes it necessary for online provision, the quality and efficiency of distance education will lag behind if there is no recourse

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to the written material. The digital way of learning is not a substitute to SLM. Technology's reach notwithstanding SLM still has many takers. Access to technology and band-width in developing countries is still an issue to be resolved. Quality SLM ensures the University's stand on knowledge and is the basis on which blended learning and online learning can be built. Blended learning takes its cue from the SLM. SLM addresses differences in time, space, location and infrastructure efficiently. This article looks at ways of redesigning SLM, so as to effectively address the concerns of its stake holders as well as the regulating authorities like UGC.

The Need for Designing SLM in Distance Education

UGC regulations 2020, have clearly spelled out the quality assurance guidelines on learning material. An important addition here is the emphasis on Outcome Based Learning. Accordingly, Learning Outomes Curriculum Framework (LOCF) had to be incorporated in the curriculum of Higher Education Institutions (HEIs). The curriculum itself is redesigned in terms of identifiable and achievable learning outcomes.

The SLM is an evidentiary output of the curriculum, as envisaged by the intellectuals in the field located in the University. As per UGC regulations, SLM needs to be developed in a learner- friendly format with a personalised system of writing and developed with an approach of being self-explanatory, self-contained, self-directed, self-motivating and self-evaluating. If we consider the fact that there is much emphasis on multiple-entry, multiple-exit of learners at any stage of learning, the content needs to be made modular, with plenty of examples drawn from national and international case studies and explanation of new technological and difficult terms in a glossary. Suggested readings must include both print and online media. This means that the authors should have sufficient subject knowledge and knowledge of current events. The links to relevant Open Education Resources (OERs) should be given at the end of the unit. The related audio and video material should available and accessible to learners by web delivery. The SLM should allow the learner to explore different resources on a topic and the learning experiences should allow for diversity of methods to learners like concentrated or focused learning, learning with a Counsellor, learning

in society and learning during practical sessions. Learning at a distance demands certain skills.

Development of SLM

The four quadrant approach which is meant for quality standards of online material can also be appropriately followed in development of SLM especially with regard to Quadrant II (which deals with self learning material) and Quadrant IV (Assessment). The short answer questions which may be posed in between the sub-sections, will keep the learner focused and motivated. The learning activeness in SLM can keep the distance learner engaged in purposive learning. An important aspect seen in the recent guidelines of UGC on Self Learning Material is the importance given to learning outcomes instead of learning objectives. While 'learning objectives' are expressions of what a teacher intends to achieve through his/ her learning activities, Learning outcomes are the behaviors that are displayed by a learner of a programme/ class after reading the unit/doing activities. Thus the learning outcomes of writing any unit in SLM should be designed according to Blooms' Taxonomy, but in terms of what a learner will achieve or perform after completing a particular unit. The writer should be well-versed in Bloom's Taxonomy especially in Cognitive domain which deals with the aspects of Knowledge, Comprehension, Application, Analysis and Synthesis, for structuring the content matter in tandem with expected learning outcomes.

Instructional Design and SLM

To enhance learning in individual learners, planning of instruction in proper sequence should be deliberated upon in detail by the writers, prior to writing SLM. This is known as instructional design. Instructional design involves systematic development of instructional specifixations using learning and instructional theory so as to ensure quality learning. Such a design is rooted in theories of Psychology, Sociology, Philosophy and Education. Different strategies or approaches define the general tenor of the SLM. Behavioral approach is useful in environmental science teaching. Cognitive strategies are helpful in problem - solving and constructivist strategies help in solving ill-defined problems.

The prototype developed by the writers must be corrected by the subject experts before it is ready for presentation to distance learners. The quality of instructional design has direct bearing on the learning of distance learners. The SLM, unlike textbooks, are thus written primarily for learners-use. Emphasis is given to Self-Assessment Questions (SAQs) which are integrated in the material, so as to boost the morale of students and keep them motivated throughout. The credits assigned to a course give an estimate of study-time allotted for a particular course, which can help the students plan for effective learning and self-pacing. The quality of SLM is dependent on effective design which should take the needs and characteristics of distance learners into consideration.

NHEQF and SLM

The new trends in designing SLM also need to take into cognizance the National Higher Education Qualifications Framework (NHEQF), which has laid specific descriptors of learning outcomes for all levels of learning (5-10) that are specific to disciplinary as well as inter- disciplinary areas of learning. The descriptors for UG (level 7) and PG (level 9) and Research (level 10) will be of immediate concern to subject experts at university level. Besides taking cognizance of these descriptors at different levels, the writers of SLM have to have a clear view on how to plan the learning material taking the credit framework assigned by UGC into consideration.

Assigning Credits to SLM

The credit framework assigned by UGC for regular institutions needs to be interpreted for ODL institutions, taking into consideration two things.

(1) The study hours that a distance learner can put in for a course/ programme.

(2) The equivalence of the SLM quality to the quality of reading material allotted to students in regular higher education institutions.

These considerations make it necessary that the quality of SLM in Distance Education institution has to be high, in order that the learning outcomes of a distance learner are comparable to those of a regular student

in a HEI. Thus the comprehensibleness, length and design of course material, assignments, Audio-Video programs and OERs that are suggested must complement the subject matter, keeping in mind the time invested by the distance learners in learning. This involves an understanding of the characteristics of the distance learners.

SLM and Assessment

The assessment mechanism for the learners should be structured within the SLM by delineating the ways and methods of assessing students' knowledge. This helps the learners understand the importance of the contents of SLM without giving importance to rote-learning. The students become acquainted with conceptual learning and are able to grapple with brain-storming questions which help them to think 'out of box' and look at innovative way of solving problems. This approach can be imbibed in the learners by posing different questions in different formats and allowing them to search for answers. The term-end examination can be modelled on such practice questions that are given in SLM

Factors influencing designing of SLM

The various factors influencing the designing of SLM in Distance Education are shown in Fig.-1.
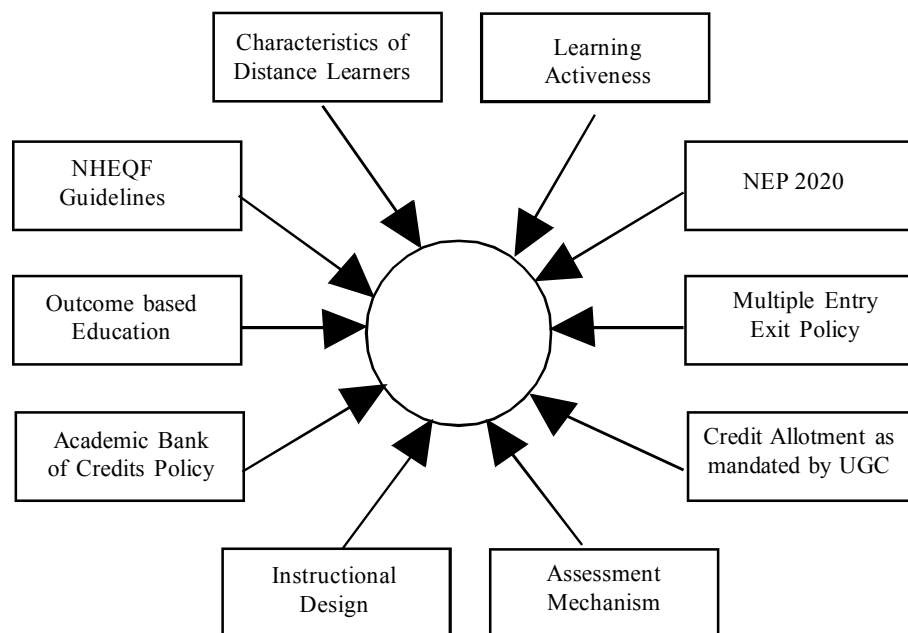
Conclusion

Redesigning SLM in the context of restructuring curriculum at Under-graduate and Post-graduate level is vital for distance learning programme. The recent guidelines that have emanated by UGC have shown the pathway, but these concerns can be addressed by proper planning.

The distance education institutions have to understand the profile of the learners that are approaching them for their programe and suitably redesign the existing SLM by including modern-day developments in SLM and taking into consideration the stipulations of regulatory authorities. This is an exercise by itself but can lead to huge benefits to distance learners for whose sake the ODL universities exist.

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The World of Online Education in India during the Covid-19 Era : A Methodological Framework

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Abstract

The Covid-19 pandemic has significantly impacted the education landscape worldwide, catalysing an unprecedented shift towards online learning. This study delves into the specific challenges and opportunities that have emerged in the realm of online education in India during the Covid-19 era. By employing a deep dive approach, the research explores the multifaceted dimensions of this transition, considering aspects such as technological infrastructure, pedagogical methodologies, student engagement, and the socio-economic landscape. The challenges are multifaceted, ranging from the digital divide and unequal access to technology to the adaptation of traditional teaching methods to virtual platforms. The study also scrutinizes the impact of the pandemic on educators, students, and educational institutions, shedding light on the various hurdles faced by each stakeholder.

Keywords: *Online Education, E-learning, Covid-19 pandemic, lockdown, socio-economic landscape.*

Introduction

According to UNESCO monitoring, 193 countries in the world announced nationwide lockdown and this impacted 99.9 % of world's student population. At the same time in India, a nationwide lockdown was announced by Prime Minister Narendra Modi in the month of March and it suddenly stuck India's school & college education system. The stuck up educational systems not only impacted teachers, students, and their families, but had far-reaching economic and social consequences. The existences of Internet and communication technologies have set the stage for online education system and this appears as a new source of education to meet global challenges. In the time of pandemic, classes were conducted online and on air. Millions of students in cities and towns were glued to computer and smart phone screens which acted as education providers and Internet & communication technologies formed Education Hub. As everyone became busy in this new age of education and enjoying the advantages of the electronics education system which had emerged as a new model of home-based education system. This research paper will help to enlighten various modes of online education and its advantages to society. It also will suggest the measures to uplift the standards of higher education and enhance the employability skills of youth to meet global challenges. We can say that, online education helps us all to stay home, stay safe and stay educated.

The long lockdown period of Covid-19 pandemic had closed schools, colleges and other educational systems and education during this phase was a big question mark to all stakeholders. This pandemic phase however opened all the doors of online education system. The existence of Internet and communication technologies opened the doors of electronic education System and increased the demand for e-learning in the formal as well as informal sectors of education. E-learning is system-based and helps in anywhere and anytime learning access educational curriculum outside a traditional classroom, in which one can join with good internet and a computer/mobile system. Internet and communication technology touches every aspect of human life. Technology has taken over almost every field of our lives; likewise, it has a major impact on the education system also. Education has changed drastically and a new epoch of education has emerged due to advances in Technology.

During this period some institutions were busy with uploading video lectures on YouTube. While KendriyaVidyalay Sangthan arranged its own Swayam Prabha Portal, which had its lectures on DTH and online, various state Governments launched different academic series on Doordarshan channels which were helpful for Indian schooling and college education. At the same time various education institutions adopted Zoom App, Byju's App, Google Classroom, TCS iON class-rooms and other media to complete their curriculum and even initiated new programs like personality development, communication skills and many more with the help of National-International level Corporate Trainers, Motivational Speakers. Some institutions started Webinar series and much more. In this manner, online education bridged the gap between the conventional

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education system and the new age education system. This also definitely helped to adopt online education in full phase, in the later stages.

The challenges and opportunities in the world of online education in India that appeared during the Covid-19 era and later were multifaceted. Below are potential objectives that one might consider for such a study:

1. Understand the Impact of Covid-19 on Education:

   Explore how the Covid-19 pandemic has affected the traditional education system in India.

2. Identify Challenges Faced by Stakeholders:

   Investigate the challenges faced by students in adapting to online learning, considering aspects such as access to technology, internet connectivity, and a conducive learning environment.

3. Assess Technological Infrastructure:

   Examine the availability and accessibility of devices, internet connectivity, and other technological resources required for effective online learning.

4. Examine Student Engagement and Learning Outcomes:

   Evaluate the effectiveness of assessment methods in an online learning environment.

5. Study the Social and Economic Impacts:

   Examine the social and economic implications of the digital divide in online education, particularly in rural areas.

6. Assess Future Preparedness:

· Provide insights into how the education system in India can be better prepared for potential future disruptions, whether due to pandemics or other unforeseen circumstances.

Research Design:

* Quantitative and Qualitative Mixed-Methods Design:
* Quantitative Phase:
* Survey: Develop a structured survey questionnaire to collect quantitative data from a large sample of students, teachers, and

administrators.

* Variables: Measure factors such as internet connectivity, device availability, satisfaction with online learning, and perceived challenges and opportunities.

* Sampling: Use stratified random sampling to ensure representation across different regions, educational levels, and socio-economic backgrounds.

* Qualitative Phase:

· In-depth Interviews: Conduct qualitative interviews with a subset of survey participants to delve deeper into their experiences, challenges, and perspectives.

* Focus Groups: Organize focus group discussions with educators, students, and parents to gather collective insights.

* Content Analysis: Analyze open-ended survey responses, interviews, and focus group transcripts to identify recurring themes and patterns.

2. Participant Selection:

* Students: Include participants from diverse educational levels (school, college, vocational training).

* Teachers: Engage educators from different disciplines and levels of experience.

* Administrators: Interview school and college administrators, policymakers, and representatives from educational boards.

3. Data Collection:

* Surveys: Distribute online surveys using platforms like Google Forms or specialized survey tools.

* Interviews: Conduct virtual or in-person interviews, ensuring flexibility and comfort for participants.

* Focus Groups: Organize virtual focus group discussions to encourage open dialogue and collaboration.

4. Data Analysis:

* Quantitative Analysis: Use statistical tools (e.g., SPSS) to analyze survey data, identify correlations, and derive quantitative insights.

* Qualitative Analysis: Employ thematic analysis to categorize and interpret qualitative data. Use qualitative data analysis software for efficiency.

5. Ethical Considerations:

* Informed Consent: Obtain informed consent from all participants, clearly explaining the purpose, procedures, and voluntary nature of participation.

* Anonymity and Confidentiality: Ensure the privacy and confidentiality of participants by anonymizing data and storing it securely.

* Debriefing: Provide participants with a debriefing at the end of their involvement, offering resources or support if necessary.

6. Triangulation:

* Combine multiple data sources: Triangulate findings from surveys, interviews, and focus groups to enhance the validity and reliability of the study.

* Cross-Validation: Compare quantitative and qualitative results to identify convergence or divergence of themes.

7. Iterative Process:

* Feedback Loop: Incorporate feedback from pilot testing, peer review, and continuous reflection to refine research instruments and improve the research process.

* Flexibility: Be adaptable to unexpected findings and emerging trends during the study.

8. Rigor and Validity:

* Member Checking: Validate findings by sharing results with participants for their input and feedback.

* Peer Review: Submit the research design and methodology to peers or experts in the field for critical evaluation.

9. Dissemination:

* Publication: Share research findings through academic publications, conferences, and relevant forums.

* Policy Recommendations: Translate research insights into actionable policy recommendations for stakeholders.

This research approach is designed to provide a comprehensive understanding of the challenges and opportunities in online education in India during the Covid-19 era, combining the strengths of both quantitative and qualitative research methods.

SCOPE

It cracks the problems in the conventional education system and sorts out the challenges after Corona virus lockdown period. The study will help to overcome uncertainties and new challenges that may arise in days to come. It attempts to narrate and conquer the drawbacks in the existing structure of education. The study is concluded with recommendations for effective implementation of online education after the phase of Covid-19.

Developing a conceptual framework is essential for understanding the key components and relationships in the world of online education in India during the Covid-19 era. The framework helps organize thoughts, guide research questions, and structure the analysis. Here's a proposed conceptual framework:

1. Foundational Elements:

* Technological Infrastructure:

* Availability and accessibility of devices (smart phones, laptops, tablets).

* Internet connectivity and bandwidth across different regions.

* Digital Literacy:

* Students' and teachers' proficiency in using online tools and

platforms.

* Training and support mechanisms for enhancing digital literacy.

2. Educational Ecosystem:

* Educational Institutions:

* Preparedness of schools, colleges, and universities for the shift to online education.

* Institutional policies and strategies for online learning.

* Curriculum Design:

* Integration of technology into the curriculum.

* Adaptation of teaching materials for online delivery.

* Teacher Preparedness:

* Teacher training programs for online instruction.

* Pedagogical approaches and strategies for effective online teaching.

3. Stakeholder Engagement:

* Student Engagement:

* Factors influencing student participation and motivation in online classes.

* Interaction and collaboration opportunities among students.

* Parental Involvement:

* Support systems for parents to facilitate online learning.

* Communication channels between schools and parents.

* Government and Policy Support:

* Policies promoting online education.

* Government initiatives for bridging the digital divide.

4. Challenges and Opportunities:

* Challenges:

* Digital Divide: Disparities in access to technology and the Internet.

* Assessment Methods: Issues related to fair and effective online assessments.

* Psychological Impact: Mental health and well-being of students and educators.

* Opportunities:

* Inclusive Education: Extending education to remote and underserved areas.

* Innovative Technologies: Integration of AI, VR, and other technologies for enhanced learning experiences.

* Lifelong Learning: Opportunities for continuous skill development.

5. Assessment and Evaluation:

· Evaluation Metrics:

· Methods for assessing the effectiveness of online education.

· Student performance indicators and benchmarks.

· Feedback Mechanisms:

· Feedback loops for continuous improvement.

· Utilization of assessment data to enhance teaching strategies.

6. Future Trends and Adaptability:

* Emerging Trends:

* Identification of trends shaping the future of online education.

* Anticipation of technological advancements and pedagogical shifts.

* Adaptability:

* Flexibility of the educational system to adapt to changing circumstances.

* Capacity for innovation and responsiveness to future challenges.

7. Global Collaboration:

* International Partnerships:

* Collaborations with global educational institutions and organizations.

* Shared resources and best practices on a global scale.

8. Outcome and Impact:

* Student Learning Outcomes:

* Measurement of knowledge retention and application.

* Long-term impact on students' academic and professional trajectories.

* Societal Impact:

* Contribution of online education to societal development.

* Addressing socio-economic disparities through education.

This conceptual framework provides a structured overview of the key elements influencing online education in India during the Covid-19 era. It serves as a guide for organizing research questions, data collection, and analysis to gain a comprehensive understanding of the challenges and opportunities in this dynamic educational landscape.

Online Education:

At present information and knowledge is available all around us and it has been made possible through the techniques of online learning. Both new and old generation learners are inclined towards online education due to convenience, affordable cost and quality of education. Some of the available platforms include :

a) SWAYAM Online Courses: SWAYAM (Study Webs of Active Learning for

Young Aspiring Minds) is an online portal which provides a most excellent teaching-learning experience. Anyone can apply for SWAYAM here. Candidates can register to this portal for online courses.

b) UG/PG MOOCs: UG/PG MOOCs (Massive Open Online Courses) hosts learning material of the SWAYAM UG and PG archived courses.

c) E-PG Pathshala: This portal provides high quality, curriculum-based,

interactive content containing 23,000 modules in the form of e-text and videos in 70 different Post Graduate disciplines of science, social sciences, arts& humanities, natural & mathematical sciences.

d) E-Content courseware in UG subjects: e-Content courseware in 87 Undergraduate courses with about 24,110 e-content modules is available on the CEC website at http://cec.nic.in/.

e) SWAYAMPRABHA: These channels are absolutely free to air and can also be accessed through the cable operator. It includes a group of 32 DTH channels. All these channels deliver high-quality educational curriculum-based course contents, covering multiple disciplines such as arts, science, social sciences, commerce, arts & humanities, engineering & technology, law, medicine, agriculture, etc. to all teachers, students and general public across the country interested in lifelong learning.

f) CEC-UGC YouTube channel: CECUGC YouTube channel provides access to unlimited educational curriculum based lectures absolutely free.

g) National Digital Library: National Digital Library is a digital repository of a vast amount of academic content in different formats and provides interface support for leading Indian languages for all academic levels including research. It also provides wide variety of content to lifelong learners of all disciplines and offers all popular forms of access devices to differently-abled learners.

h) Shodhganga: Shodhganga is a digital repository platform of 2, 60,000 Indian Electronic Theses and Dissertations for researchers to deposit their Ph.D. theses and make it accessible to the whole scholarly community.

i) E-Shodh Sindhu: E-Shodh Sindhu provides the most up-to-date as well as archival access to more than fifteen thousand core and peer-reviewed journals a number of bibliographic, citation and factual databases in different area of disciplines. This source of e-learning provides a versatile database by a large number of publishers to its registered member institutions as well as centrally-funded technical institutions, associated universities and colleges etc. that are covered under 12(B) and 2(f) Sections of the UGC Act.

j) Vidwan: It is a premier database of scientists and research scholars, which provides information about experts to peers, prospective

collaborators, funding agencies, policymakers and research scholars in the country. Faculty can get registered to this portal to expand the database of experts. Apart from the above, other online learning aids i.e. websites; Mobile Apps etc. are also available which are as follows,

k) YouTube: This is a free to use service for all i.e. from Children to old persons. It contains all types of material like music videos, comedy shows, guides, study material in the form videos, recipes, hacks and more. This is the most popular accepted media where anyone can access required information and anyone can have uploaded videos for public use/ knowledge.

l) Zoom App: It was a very much popular media of online education during the Covind-19 lockdown phase. In recent times, Zoom is the leader through which the host can arrange his online lecture by sharing one meeting id with all attendees. Anyone can join this video communication, with an easy, reliable cloud platform for video and audio conferencing, chat, and webinars.

m) Byju's App: This is a mobile App through which one can register himself/herself for online education. BYJU provides learning programmes for students in classes 4–12 and also helps to prepare for competitive exams such like, NEET, CAT, IAS etc. It is not a free app.

n) Google Classroom: This is one of the best online education aids developed by Google. This product facilitates the electronics communication system between teachers & students and streamlines educational workflow. Google Classroom is a free web-based service which intends to simplify constructing, distributing, and grading assignments in paperless way. The basic purpose of Google Classroom is to streamline the mechanism of sharing files between teachers and students.

o) TCS iON Digital Learning: Very recently TCS launched their portal for online education system. Different educational institutions have registered in this, with faculty and students details. With the help of this, the Institutions can create different learning communities, learners can access study materials provided by instructors and Instructors can give tests, and assignments. There is also scope for Student-faculty industrial exposure and much more.

p) Websites: There are a number of websites to provide online education, which covers a wide variety of syllabus from Std. 1 to UG/PG and above. One can search with proper keyword by means of the Google search engine.

Conclusion

The landscape of online education in India has undergone a profound transformation during the Covid-19 era, presenting a spectrum of challenges and opportunities. As the pandemic forced a shift from traditional classrooms to virtual learning environments, it unveiled both the strengths and weaknesses of the online education ecosystem. Challenges have been evident, ranging from the digital divide that hinders access to many students, especially in remote areas, to the struggle of maintaining student engagement in the virtual space. The lack of infrastructure, including reliable internet connectivity and access to devices, has underscored the urgent need for comprehensive policies and investments in digital education.

However, within these challenges lie opportunities for innovation and inclusivity. The pandemic has accelerated the adoption of digital tools and platforms, fostering creativity in instructional methods and content delivery. The flexibility of online education has empowered learners to tailor their schedules, providing a personalized learning experience. The potential for reaching a broader audience, transcending geographical barriers, has opened new horizons for educators and institutions. In navigating the future of online education in India, it is crucial to address the challenges head-on, while leveraging the opportunities that have emerged. Policymakers, educators, and industry stakeholders must collaborate to bridge the digital divide, ensuring that every student has equal access to quality education. Investments in technology infrastructure, teacher training, and content development will be pivotal in enhancing the overall online learning experience.

As we move forward, it is essential to strike a balance between the advantages of online education and the importance of traditional pedagogical methods. Hybrid models that integrate both online and offline elements could offer a holistic approach, combining the benefits of technology with the interpersonal dynamics of face-to-face learning. The

Covid-19 era has been a catalyst for change in the realm of education, pushing us to rethink and reshape the future of learning. Through a concerted effort to address challenges and seize opportunities, India can build a resilient and inclusive online education ecosystem that prepares students for the challenges of tomorrow.

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Nurturing Tribal Education in Telangana: Challenges and Opportunities

- Prof.Chandrakala *

Abstract

This paper discusses the challenges and opportunities in nurturing tribal education in Telangana. The issues of geographic isolation, economic disparities, and a cultural divide in mainstream education have effected the education of Tribals and sustained efforts are crucial to overcome these short comings. Leveraging technology, culturally relevant curriculum, and community engagement present opportunities for transformative change. The commitment to long-term initiatives is essential for overcoming these challenges, ensuring equitable access, and fostering comprehensive development. Through strategic investments and community collaboration, Telangana can empower its tribal communities, break the cycle of educational disparities and contribute to the preservation of indigenous heritage while creating a more inclusive and progressive society.

Keywords : *Tribal education, Telangana, challenges, opportunities, sustained efforts,*

Introduction

Tribal education in Telangana focuses on empowering indigenous communities through targeted educational initiatives. The government has implemented various programs to enhance access to quality education, addressing socio-economic disparities. Specialized schools and hostels cater to tribal students, providing a conducive learning environment. Efforts include skill development, promoting cultural awareness, and ensuring inclusive curriculum representation. Scholarships and financial

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aid aim to reduce dropout rates and encourage higher education. Collaboration with tribal communities, NGOs, and stakeholders fosters holistic development. Through these measures, Telangana is striving to bridge educational gaps, fostering the growth and well-being of its tribal population.

Importance of addressing challenges in tribal education

Addressing challenges in tribal education is crucial for several reasons. Firstly, it promotes social justice by ensuring equal educational opportunities for all, irrespective of cultural background. By tackling educational disparities, it contributes to the overall development of tribal communities, empowering them to break the cycle of poverty.

Addressing challenges in tribal education preserves cultural diversity. It helps maintain and transmit indigenous knowledge, languages, and traditions, preventing their erosion over time. This cultural preservation fosters a sense of identity and pride among tribal communities.

Improved tribal education enhances economic prospects. By providing relevant skills and knowledge, it equips tribal individuals to participate more effectively in the workforce, leading to economic upliftment and reducing socio-economic disparities.

Historical Context of Tribal Education in Telangana

Tribal education in Telangana has evolved within a historical context shaped by the region's diverse indigenous communities. Historically, tribal populations faced marginalization and had limited access to formal education. Post-independence, efforts were initiated to address these disparities leading to the establishment of special schools and hostels for tribal students. The formation of Telangana as a separate state in 2014 provided an impetus to focus on the unique educational needs of its tribal communities. Government policies aimed at inclusivity, cultural preservation, and socio-economic upliftment which have since played a pivotal role in their development. This historical trajectory underscores the ongoing commitment of the Government in undertaking measures that help in advancing tribal education in Telangana.

Past initiatives and policies

Several past initiatives and policies have been implemented to address tribal education in Telangana, reflecting the commitment in bridging the educational gaps and promoting holistic development of tribal communities. Some notable efforts include:

Ashram Schools and Hostels: The establishment of ashram schools and residential hostels specifically for tribal students aimed at providing a conducive learning environment, addressing issues related to accessibility, and reducing dropout rates.

Scholarship Programs: Implementation of scholarship programs and financial aid to support tribal students, encouraging them to pursue higher education and alleviating economic barriers to schooling.

Cultural Integration: Inclusion of tribal culture and history in the curriculum to promote cultural awareness and preserve indigenous knowledge, languages, and traditions.

Skill Development Initiatives: Introduction of skill development programs to equip tribal students with practical skills, enhancing their employability and socio-economic prospects.

Community Collaboration: Collaborative efforts with tribal communities, NGOs, and local stakeholders to ensure that educational initiatives are tailored to the specific needs and aspirations of the tribal population.

Inclusive Curriculum: Incorporation of inclusive educational policies to address the unique challenges faced by tribal students, acknowledging their cultural diversity and adapting teaching methods accordingly.

Teacher Training: Specialized training for teachers to sensitively address the cultural nuances and educational needs of tribal students, fostering a more supportive learning environment.

Progress and shortcomings

Progress in tribal education in Telangana has been marked by positive initiatives, but certain shortcomings persist, highlighting the need for continued attention and improvement.

Increased Access: Initiatives like ashram schools and hostels have contributed to increased access to education for tribal students, addressing geographical and logistical barriers.

Cultural Integration: Efforts to integrate tribal culture into the curriculum have helped preserve indigenous knowledge, fostering a sense of identity and pride among tribal students.

Skill Development: Skill development programs have equipped tribal students with practical skills, enhancing their employability and potential for socio-economic upliftment.

Financial Support: Scholarship programs have played a crucial role in reducing economic barriers, encouraging tribal students to pursue higher education.

Community Collaboration: Collaborative efforts with tribal communities have led to more inclusive and community-specific educational interventions, acknowledging diverse needs.

Shortcomings:

Quality of Education: Despite increased access, concerns about the quality of education persist, with some tribal schools facing resource shortages, insufficient infrastructure, and a shortage of qualified teachers.

Dropout Rates: Challenges such as poverty, lack of transportation, and socio-economic factors continue to contribute to high dropout rates among tribal students.

Skill Mismatch: While skill development programs exist, there may be a gap between the skills taught and the actual demands of the job market, leading to underemployment.

Infrastructure Challenges: Some tribal areas may still lack adequate infrastructure, hindering the delivery of quality education.

Cultural Sensitivity: Ensuring that educational policies and practices are culturally sensitive and relevant to the diverse tribal communities remains an ongoing challenge.

Addressing these shortcomings requires a sustained commitment to improving infrastructure, teacher training, and the overall quality of education. Ongoing collaboration with tribal communities and a focus

on community-specific needs are crucial for the continued progress of tribal education in Telangana.

Challenges in Tribal Education

Tribal education in Telangana faces multifaceted challenges that impede the holistic development of indigenous communities. Geographic isolation and inadequate infrastructure pose significant obstacles, making it difficult to establish and maintain schools in remote tribal areas. High dropout rates persist due to economic factors, as poverty often forces tribal children to prioritize immediate livelihood needs over education. Cultural disparities further contribute to a lack of interest in mainstream education, as curricula may not adequately reflect or resonate with tribal traditions and values.

Limited access to quality teachers and insufficient training programs hinder the effectiveness of education delivery in tribal schools. Language barriers and a dearth of educational materials in indigenous languages also impede learning outcomes. Additionally, historical marginalization and discrimination can lead to a sense of alienation among tribal students, affecting their overall educational experience.

Addressing these challenges requires a comprehensive approach, including improved infrastructure, targeted teacher training, culturally relevant curriculum development, and community engagement. Initiatives should prioritize socio-economic upliftment, recognizing that overcoming these challenges is essential not only for educational progress but also for the broader empowerment and inclusivity of tribal communities in Telangana.

Opportunities

Nurturing tribal education in Telangana presents significant opportunities for positive change and holistic development. First and foremost, advancements in technology offer a transformative avenue. Digital education platforms can bridge geographical gaps and provide remote tribal communities with access to quality educational resources and opportunities for skill development.

Tailoring the curriculum to include and celebrate tribal culture presents another key opportunity. By incorporating indigenous knowledge, languages, and traditions into the educational framework, the curriculum becomes more culturally relevant, fostering a sense of pride and identity among tribal students. This approach not only preserves the rich heritage of tribal communities but also enhances the overall engagement and effectiveness of education.

Community involvement and collaboration can be leveraged as a powerful tool. Engaging tribal leaders, local NGOs, and community members in the design and implementation of educational initiatives ensures that programs are culturally sensitive and responsive to the specific needs of each tribal group. This participatory approach not only empowers the communities but also strengthens the sustainability of educational interventions.

Targeted investments in infrastructure, teacher training, and scholarship programs present opportunities to address systemic challenges and create an enabling environment for quality education. By seizing these opportunities, Telangana can foster a more inclusive, culturally sensitive, and empowering educational system for its tribal communities. collaborative efforts with NGOs and communities

Government initiatives and policies

The government of Telangana has implemented various initiatives and policies to address the challenges in tribal education and promote the overall development of indigenous communities. Some notable government interventions include:

Ashram Schools and Hostels: Establishment and maintenance of residential schools and hostels specifically for tribal students, providing them with a conducive learning environment and addressing issues related to accessibility.

Scholarship Programs: Implementation of scholarship schemes to provide financial support to tribal students, encouraging them to pursue education beyond primary levels and reducing economic barriers.

Skill Development Initiatives: Introduction of skill development programs aimed at equipping tribal students with practical skills, enhancing their employability and socio-economic prospects.

Cultural Integration in Curriculum: Inclusion of tribal culture, history, and traditions in the school curriculum to foster cultural awareness, preserve indigenous knowledge, and create a more inclusive educational experience.

Special Teacher Training: Specialized training programs for teachers to sensitize them to the cultural nuances and unique educational needs of tribal students for improving the quality of education delivery.

Community Engagement: Collaborative efforts with tribal communities, local NGOs, and stakeholders to ensure that educational policies are community-specific, addressing the diverse needs and aspirations of tribal populations.

Infrastructure Development: Investments in improving infrastructure in tribal areas, including schools and transportation facilities, to enhance the accessibility and quality of education.

Monitoring and Evaluation: Implementation of monitoring and evaluation mechanisms to assess the effectiveness of educational programs and policies, which provide scope for continuous improvement and adaptation.

Key challenges and opportunities

In nurturing tribal education in Telangana, key challenges include geographic isolation, inadequate infrastructure, economic disparities leading to high dropout rates, and a cultural disconnect in mainstream curricula. These challenges risk hindering the overall development of indigenous communities.

However, several opportunities exist for positive transformation. Technological advancements can overcome geographic barriers through digital education platforms. Tailoring the curriculum to incorporate tribal culture preserves indigenous knowledge and enhances educational relevance. Community involvement and collaboration empower local communities, ensuring cultural sensitivity and responsiveness to specific tribal needs. Strategic investments in infrastructure, teacher training, and scholarship programs offer opportunities to address systemic challenges and improve overall education quality.

By leveraging these opportunities, Telangana has the potential to create a more inclusive, culturally sensitive, and empowering educational environment for its tribal communities. The combination of technology, culturally relevant curriculum, community engagement, and targeted investments can pave the way for transformative change in tribal education, fostering holistic development and breaking the cycle of educational disparities.

Emphasizing the importance of sustained efforts in nurturing tribal education in Telangana.

Sustained efforts in nurturing tribal education in Telangana are imperative for transformative and lasting change. The challenges faced by indigenous communities require consistent attention and strategic interventions. Long-term commitment ensures the continuity of initiatives, allowing for the gradual dismantling of barriers like geographic isolation, economic disparities, and cultural disconnect. It enables the establishment of a robust educational framework that aligns with tribal needs and values. Through sustained efforts, Telangana can break the cycle of educational disparities, empower tribal communities, and foster a future where every tribal child has equitable access to quality education, contributing to the overall well-being and development of the region.

Conclusion

The sustained nurturing of tribal education in Telangana is indispensable for comprehensive development. By addressing challenges through technology, cultural integration, and community involvement, the state can foster lasting change. The commitment to long-term initiatives ensures that the barriers hindering tribal education are systematically dismantled, paving the way for equitable access and quality learning. It is through persistent efforts that Telangana can empower its tribal communities, promoting education as a catalyst for socio-economic upliftment and the preservation of indigenous heritage, ultimately creating a more inclusive and progressive society.

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Educational Equality: ODL's Contribution to Accessible Education in India

- Dr. Gedam Kamalakar *

Abstract

In the rapidly evolving landscape of education, the advent of distance learning has emerged as a transformative force, especially in a diverse and populous country like India. This paper explores the role of distance learning in promoting educational equality and accessibility across various demographics in India. As the world grapples with the challenges of traditional education, exacerbated by factors such as geographical constraints, socio-economic disparities, and the recent global health crisis, distance learning has emerged as a viable solution. The study delves into the impact of distance learning on breaking down barriers to education, emphasizing its ability to reach learners in remote and underserved regions. Through the analysis of existing literature, case studies, and statistical data, this paper seeks to highlight the success stories as well as the challenges faced in implementing distance learning initiatives in India. The examination of government policies, technological infrastructure, and socio-cultural factors provides a comprehensive understanding of the evolving educational landscape. Furthermore, the paper addresses the potential of distance learning in fostering inclusivity by accommodating diverse learning styles and individual paces. It explores the role of technology in enhancing the quality of education and overcoming traditional constraints, thereby contributing to a more equitable educational system. The study also investigates the evolving role of educators in the digital era, emphasizing the need for pedagogical innovation and professional development to ensure effective distance learning experiences. This

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paper synthesizes the current state of distance learning in India and its impact on educational equality. It offers insights into the opportunities and challenges posed by this educational paradigm shift and proposes recommendations for further integration and improvement. By understanding the nuances of distance learning's contribution to accessible education in India, policymakers, educators, and stakeholders can collaboratively work towards creating a more inclusive and equitable educational system for the diverse population of the country.

Keywords: *Equality, Distance Learning, Accessible, socio-cultural, technology.*

Introduction

In the vast and diverse landscape of India, where opportunities are as varied as its cultures, the pursuit of education has long been considered a powerful catalyst for social and economic advancement. However, the accessibility of quality education remains a formidable challenge, particularly in remote and underserved regions. The advent of distance learning has emerged as a transformative force, striving to bridge the gap and enhance educational equality across the country.

India's commitment to education is underscored by its demographic dividend, where a youthful population seeks knowledge and skills to navigate an increasingly competitive global landscape. However, traditional barriers such as geographical remoteness, socio-economic disparities, and inadequate infrastructure have historically hindered the equitable distribution of educational resources.

In this context, distance learning, bolstered by technological advancements, has emerged as a promising solution to democratize education. The integration of information and communication technologies (ICTs) has facilitated the delivery of academic content to learners regardless of their location, enabling a more inclusive and accessible educational ecosystem.

One of the key advantages of distance learning is its ability to transcend physical boundaries, bringing education to the doorsteps of learners in even the remotest corners of the country. This is particularly significant in a nation as vast and geographically diverse as India, where traditional brick-and-mortar educational institutions may be scarce or inaccessible.Moreover, distance learning has proven to be a great equalizer by mitigating socio-economic disparities that often hinder educational pursuits. The flexibility offered by online education allows individuals to balance their learning commitments with work, family responsibilities, and other challenges, fostering a more inclusive approach to education.

As we explore the impact of distance learning on educational equality in India, this article will delve into the various facets of this transformative approach. From the role of technology in enhancing accessibility to the socio-economic implications of a more inclusive education system, we will critically examine how distance learning is reshaping the educational landscape in India and contributing to a more equitable future for learners across the nation.

From its modest origins, distance education in India has come a long way to become a crucial modality of education for millions of people. This article examines the amazing development of remote learning in the nation, outlining its background, significant turning points, difficulties encountered, and effects on educational accessibility and inclusivity.

Origins of Distance Learning

The Directorate of Correspondence Courses, which was founded by the Delhi University in 1962, is where the origins of remote learning in India may be found. This programme ushered in a new era by enabling students to pursue higher education while juggling other responsibilities. Correspondence courses required the mailing of reading materials and assignment submissions via postal services.

Technological Progress

In the diverse landscape of India, where geographical, economic, and social disparities persist, the advent of distance learning has emerged as a powerful tool to promote educational equality. This article delves into the transformative impact of technological progress on to make it education more accessible across the country, narrowing the gap between urban and rural areas, and fostering inclusivity.

compared to traditional educational institutions. This affordability factor contributes significantly in making education more inclusive, ensuring that students from economically disadvantaged backgrounds have the opportunity to access quality learning resources. As technology continues to advance, the cost of devices and internet connectivity is likely to decrease, further promoting accessibility.

4. Customized Learning Paths

One of the advantages of distance learning is the ability to cater to diverse learning styles and paces. Technology allows for personalized and adaptive learning experiences, accommodating the individual needs of students. This flexibility is crucial in addressing the varied educational backgrounds and learning capacities prevalent in a country as diverse as India.

5.Government Initiatives and Policies

Recognizing the potential of distance learning in promoting educational equality, the Indian government has initiated several programs to enhance digital infrastructure and connectivity. Policies aimed at bolstering online education have been implemented, creating an environment conducive to the growth of distance learning platforms and ensuring that they adhere to quality standards.

6. Challenges and Future Prospects

While distance learning has made significant strides, challenges such as the digital divide and the need for a robust assessment and accreditation system remain. Future progress hinges on addressing these challenges and continually innovating to improve the quality of online education.

The fusion of technological progress and distance learning has become a catalyst for educational equality in India. By overcoming geographical barriers, empowering rural communities, ensuring affordability, and offering customized learning paths, technology has opened new avenues for students across the country. As India moves forward, sustained efforts in addressing challenges and fostering a supportive ecosystem will be key in realizing the full potential of distance learning and advancing accessible education. Distance learning in India has undergone a transformation because of technology, particularly the internet. E-learning resources and online learning platforms first became popular in the middle of the 1990s. This removed geographic restrictions and made it possible for students to access study materials, lectures, and assignments online, resulting in more engaging educational opportunities.

Establishment of Open Universities

The Indira Gandhi National Open University (IGNOU), the country's first Open University, was founded in 1985. A flexible learning framework that catered to students of various ages and educational backgrounds was created by Open Universities. They offered personalised support and held exams at regional centres, and they had study centres all across the country.

India's journey towards educational equality has witnessed a revolutionary chapter with the establishment of Open Universities. This article explores the significant contribution of Open Universities and distance learning in democratizing education, breaking down barriers, and fostering inclusive learning environments in the diverse landscape of India.

1.Genesis of Open Universities:

The establishment of Open Universities in India marked a paradigm shift in the education landscape. These institutions were conceived with the vision of making education accessible to a broader demographic, especially those who were geographically isolated or economically disadvantaged. The pioneering role of Open Universities in embracing distance learning methodologies has played a crucial role in achieving this goal.

2.Accessibility Beyond Boundaries

Open Universities leverage distance learning technologies to extend educational opportunities to learners irrespective of their location. This is particularly impactful in a country as vast and diverse as India, where traditional universities may not reach remote areas. Through virtual classrooms, online resources, and interactive learning modules, Open Universities bridge the gap between urban and rural education, ensuring that knowledge reaches every corner of the nation.

3. Flexibility and Lifelong Learning

Open Universities emphasize flexibility in education, catering to the needs of individuals who may be working or have other responsibilities. The concept of lifelong learning is promoted, allowing learners to acquire new skills and knowledge at their own pace. This flexibility is essential

for adults seeking to enhance their qualifications or embark on a new career path.

4.Affordability and Inclusivity

One of the cornerstones of Open Universities is their commitment to affordability. By reducing infrastructure costs and offering courses through distance learning, these institutions make education more economically accessible. This affordability factor contributes significantly to inclusivity, ensuring that individuals from diverse socio-economic backgrounds have the opportunity to pursue higher education.

5.Diverse Course Offerings and Specializations

Open Universities often boast a wide array of courses and specializations, catering to the diverse interests and career aspirations of learners. This diversity is crucial in addressing the varied needs of a population with diverse linguistic, cultural, and professional backgrounds.

6.Government Support and Accreditation

The Indian government has recognized the pivotal role of Open Universities in promoting accessible education. Supportive policies and accreditation mechanisms have been put in place to ensure that the degrees and certifications offered by Open Universities hold value in the job market. This has boosted the credibility of distance learning programs and encouraged more learners to opt for this mode of education.

The establishment of Open Universities and the integration of distance learning in India represents a significant stride towards educational equality. By transcending geographical boundaries, offering flexibility, ensuring affordability, and providing a diverse range of courses, these institutions have become key players in democratizing education. As India continues its pursuit of inclusive and accessible education, Open Universities stand as beacons of progress, transforming the educational landscape and empowering learners across the nation.

7.Electronic Transformation

The number of online learning platforms increased dramatically in the 2000s. Universities and organisations started providing online degree programmes so that students could obtain degrees without taking regular lectures. Virtual classrooms, webinars, and video conferencing have all improved the learning process.

8. MOOCs (Massive Open Online Courses)

In the 2010s, the idea of MOOCs gained popularity as it provided a huge audience with free online courses. High-quality courses on a variety of topics are now available because of partnerships between prominent universities and platforms like Coursera, edX, and Udacity. Due to the democratisation of education, anyone with access to the internet can now learn important information.

Governmental Programmes

Digital India, a government initiative, and the National Digital Library have been instrumental in advancing digital learning. Initiatives like SWAYAM (Study Webs of Active Learning for Young Aspiring Minds), which promote skill development and lifelong learning, offer free online courses from eminent instructors.

In India, several governmental programs which aimed to promote accessible education through distance learning have been implemented. These initiatives primarily focused on leveraging technology to reach remote areas, providing quality education, and bridging the gap in educational opportunities. Some key components include:

1. National Digital Literacy Mission (NDLM): The NDLM, launched by the government of India, aims to make at least one person in every family digitally literate. This includes providing basic digital literacy skills, which can be instrumental in accessing online educational resources.

2. Digital India Initiative: Launched with the vision to transform India into a digitally empowered society, Digital India encompasses various programs to improve digital infrastructure, promote digital literacy, and facilitate online services. This initiative contributes in creating an environment conducive to distance learning.

3. SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds): SWAYAM is an online platform that offers free courses from school to postgraduate levels. It enables students to access high-quality education material prepared by experts. SWAYAM is a significant step toward democratizing education by making it accessible to a wider audience.

4. e-Pathshala: The e-Pathshala initiative provides digital textbooks and other educational resources to students from class I to class XII. This initiative enhances the accessibility of learning materials, especially for students in remote areas.

5. National Mission on Education through Information and Communication Technology (NMEICT): NMEICT aims to leverage ICT for education and enhance the reach of quality education in all corners of the country. It includes initiatives like Virtual Labs, NPTEL (National Programme on Technology Enhanced Learning), and more.

6. Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA): This scheme focuses on making rural households digitally literate. Digital literacy is a crucial aspect of enabling individuals to access online educational content.

    It's important to note that the landscape of educational initiatives is dynamic and for the latest and most accurate information, the official government websites or recent news sources can be checked.

Problems and Prospects for the Future

Even though distance education has transformed in India, issues like internet accessibility, quality assurance, and accessibility still need to be addressed. But these problems are gradually being solved due to advancements in edtech, digital infrastructure, and 5G technology.

The advent of distance learning has promised a transformative impact on education accessibility in India. With a vast and diverse population, the traditional brick-and-mortar model faces limitations in reaching every corner of the country. Distance learning, facilitated by advancements in technology, holds the promise of bridging this gap and providing education to the masses.

Current Landscape – Some Major Issues

*   Technological Disparities: Despite progress, a significant digital divide exists, hindering the accessibility of online education. Many rural areas lack consistent internet connectivity and access to digital devices, exacerbating educational inequalities.

*   Quality Concerns: While distance learning offers flexibility, concerns about the quality of education provided through online platforms persist. The absence of hands-on learning experiences and face-to-face interactions raises questions about the efficacy of remote education.

*   Inequitable Access: Social and economic disparities further contribute to unequal access to distance learning. Marginalized communities often face barriers, such as a lack of awareness, language challenges, and financial constraints.

Challenges

1. Infrastructure and Connectivity: Insufficient digital infrastructure and uneven internet connectivity in remote areas impede the seamless implementation of distance learning programs.

2. Quality Assurance: Ensuring and maintaining the quality of education in a virtual environment is a critical challenge. Strategies for interactive learning, assessments, and skill development need to be refined.

3. Inclusive Policies: Current policies may not adequately address the diverse needs of the population. Tailored initiatives for marginalized groups, differently-abled individuals, and non-traditional learners are essential.

Prospects for the Future

1. Digital Infrastructure Development: Continued efforts to improve digital infrastructure, expand internet connectivity, and provide affordable devices can enhance the accessibility of distance learning.

2. Pedagogical Innovation: Research and development in innovative teaching methodologies, augmented reality, and virtual labs can enrich the quality of distance education, offering a more comprehensive learning experience.

3. Inclusive Policies and Outreach: Governments and educational

institutions should formulate policies that actively address the needs of diverse learners. Outreach programs that promote awareness and facilitate participation in remote areas are crucial.

4. Public-Private Partnerships: Collaborations between the government, private sector, and NGOs can leverage resources and expertise to create a more robust and inclusive distance learning ecosystem.

Conclusion

The development of distance learning in India is proof of how innovation and technology can democratise education. Distance education has provided numerous people with the opportunity to pursue their educational goals, from conventional Correspondence Courses to interactive online programmes and MOOCs. Moving forward, the development of online learning promises to open up access to high-quality education to everyone, regardless of obstacles. While distance learning in India has made strides in advancing accessible education, challenges persist. The future lies in a comprehensive approach that addresses technological, pedagogical, and policy-related aspects, ensuring that the benefits of distance learning are equitably distributed across the diverse landscape of the country. Only through collective efforts can India pave the way for a more inclusive and egalitarian educational system.

In the vast and diverse landscape of education in India, the advent of distance learning has emerged as a transformative force, significantly contributing to the pursuit of accessible education and striving to bridge the gaps that have historically hindered educational equality. As we conclude our exploration of this topic, it becomes evident that distance learning has played a crucial role in democratizing education, breaking down barriers, and empowering learners across the country. In conclusion, the landscape of education in India is undergoing a paradigm shift, with distance learning emerging as a beacon of hope for a more inclusive and accessible future. The journey towards educational equality is ongoing, but the strides made in recent years demonstrate the potential of distance learning to be a catalyst for positive change. By addressing challenges, fostering technological inclusivity, and continually refining educational strategies, India has the opportunity to build a more equitable and empowered society through the transformative power of distance learning.

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Feedback Survey on Students' perception about counselling classes in Dr. BRAOU : A quick study

- **Dr. V.V. Kanaka Durga ***

Abstract

The academic activities in Open and Distance Learning Institutions are designed in such a way that knowledge and skill are imparted through course material and counselling of subjects. The counselling classes conducted at the 179 Learner Support Centers in DR.BRAOU have gained popularity in the student community as they are a motivating force for learners and provide them with guidance on academic activities like writing assignments, attending practicals etc., The counselling activities also instil confidence in the distance learners and provide information on the activities at headquarters. A quick study on students' perceptions about counselling classes is conducted, in order to address the lacunae in provision of counseling services to students and to render them more effective.

Keywords : *Counselling classes, Learner Support Centers, Open and Distance Learning Institutions, perceptions, Orientation*

Introduction

Counselling is a dynamic process. Counsellors have the function of (1) Helping the pupils evaluate their experiences 2) Helping the learners to liaise between home, community and educational institutions. (3) Helping the learners to adjust to the educational institutions and (3) Providing guidance in matters pertaining to study and career.

Counselling can be directive or non-directive. The counsellors have to secure effective conditions for counselling and assume the responsibility for making the learners conversant with different modes of learning. Counselling results in mutual confidence between the counsellors and learners. There should be open communication and rapport between counsellors and learners. Carl Rogers suggests that counsellers with specific qualities and skill-sets can perform the process of advisory activity to the satisfaction of learners.

Good counselling

(1) Provides realistic social and educational experiences and development of social skills which facilitate individual learning

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(2) Helps the learners develop capacity for interaction and communication skills.

(3) Helps in overcoming personal difficulties in learning and addressing inter-personal difficulties like shyness, communciation problems etc.

(4) Helps in promoting personality changes in desired directions.

Counselling can be seen as a cyclic process of five phases (Simpson, 1992)

1. clarifying : ensuring the learner's needs are clear;

2. checking : ensuring the counsellor correctly understands the needs;

3. conceptualizing : restating the need in the counsellor's own words;

4. challenging : pointing out contradictions and other ways of seeing an issue; and

5. consequent action : agreeing to what the counsellor and learner each might do as a result of their discussion.

Counsellors take on a range of tasks when interacting with learners. These generally involve three primary tasks and associated sub-tasks like :

a) Selecting the appropriate mode for interaction, including informing learners, advising learners on a course of action and exploring with the learners the problems that they may encounter in their course of study and seeking possible solutions.

b) listening to the learners by reflecting back to the learners what the counsellor has heard and understood and asking them open - ended questions as opposed to closed questions.

c) structuring the interaction by clarifying understandings ; checking the learners' understanding and information and agreeing on the action that is to be taken consequent to the discussion in the classroom.

Methodology

A feedback survey was conducted to understand student perceptions on the Counselling classes provided by the University.

The survey was done by providing suitably designed questionaires on the counselling services of Dr.BRAOU to learners. This is a simple

radom survey spread across the Learner Support Centres and headquarters of the University. The feedback so received was analyzed.

Data collecton and analysis

Feedback forms filled by learners were collected at headquarters and Learner Support Centers. 508 students responded to the survey. The data thus collected was analysed and frequency of responses was calculated percentage -wise and feedback data is presented in Table (1)

Table - **I FEEDBACK FROM STUDENTS ABOUT COUNSELLING**

Statement	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
1. Academic Counsellors provide orientation which is useful	70.07	24.21	3.54	1.77	0.39
2. Counsellors conduct counselling sessions as per the prescribed schedule	53.34	37.40	6.69	1.96	0.59
3. The Counsellers have effective competencies	55.11	35.43	7.08	1.37	0.98
4. The delivery of content during counselling was found to be adequate	50.98	37.99	6.29	3.74	0.98
5. Counsellors generated interest in the subject	49.40	37.79	8.66	2.16	1.77
6. Counsellors used learner - centric methods.	53.54	34.05	9.44	1.37	1.57

Statement	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
7. Counsellors imparted effective guidance for research/ job skills effectively.	49.40	39.37	8.07	0.98	1.57
8. Counsellors inte grated environ mental issues / Gender issues / ethical issues in the subject matter	49.60	37.99	9.05	2.36	0.78
9. Counsellors were available both in and out of the class.	46.06	37.40	10.82	3.92	1.77
10. The academic counselling facilitated the process of self-learning	52.75	33.66	9.25	2.36	1.77
11. Practical classes were conducted by the counsellors as prescribed by the University	54.33	36.02	5.90	2.36	1.37
12. The academic counsellors came to the counselling sessions well-prepared and covered the entire syllabus	52.36	31.69	9.84	2.55	3.34

Analysis of feedback data :

Out of 1500 students supplied with the feedback forms 508, learners responded to the survey on counselling.

70% of the learners survyed have strongly agreed that the orientation provided at the learner support centres by the academic counsellors at the beginning of the academic year was useful.

90% of the learners agreed that the counselling sessions were conducted as per schedule. The competency of counsellors was found to be effective by 90% of the learners and 9.45% of the learners did not agree with the viw that the counsellors were effective.

Delivery of the content during counselling was found to be effective by 89% of the students while 6.2% stayed neutral and 2.7% learners disagreed on this statement.

Regarding teaching by the counsellors, 87% of the learners agreed that the counsellors were able to generate interest, while about 8% of learners were neutral and 3% disagreed. The teaching method was found to be learner- centric by 87% of the learners, while a small percentage (2.95%) did not find the counsellors learner- centric.

88.78% learners felt that the counsellors could impact guidance for research/jobs skills while a small percentage (2.55%) did not concur with this view.

Effective integration of environmental issues / gender issues / ethical issues in counselling sessions by the counsellors was observed by 87.6% of the learners while a small percentage (3.14%) did not agree with the statement.

The accessibility of the counsellors in and out of the class was noticed by 86.41%, while 3.93% disagreed with the statement 9% remained neutral.

90.35% of the learners agreed that the academic counselling sessions at learner support centres (LSCs) facilitate the process of learning while 3.93% of learners failed to agree with the statement and 9.51% stayed neutral.

90% of the learners strongly agreed that the academic counsellors take practical classes as prescribed by the university, while 5.09% remained neutral and 3.94% disagreed.

The academic counsellors were found to come well prepared and complete the syllabus (84% of the learners surveyed), while 9.84% stayed neutral and 5.95% did not agreed with the statement.

Inferences : This feedback tells us that the learners strongly agree that the orientation programme and counselling sessions organised by the University are satisfactory. However, the counsellors' preparation for counselling classes, their teaching methods and their accountability to the learners and the generation of interest in learners can be improved.

Conclusion :

(1)   Learners have more expectations from Counsellors and expect more general guidance.

(2)   Application of Learner-Centric teaching methods and effective counselling provide support for integration of skills with knowledge.

(3)   Orientation for Counsellors on counseling and guidance services by the University authorities helps in providing better services to learners.

(4)   Teaching methods that keep the distant learners interested and stay more motivated should be adopted by counsellors.

(5)   Distance Education Counsellors require specific skill sets by which they can integrate environmental gender / ethical issues in the counselling sessions.

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A Study on the Impact of National Education Policy (NEP) of India, 2020 on Students' Future

- Dr. P. Venu Gopal Reddy *

Abstract

The National Education Policy 2020 (NEP-2020) of India offers a precise and all-encompassing strategy for attaining sustainable higher education. This Policy has great importance since it is founded upon the ideas and wisdom obtained from ancient Indian knowledge. The plan has been devised with meticulous deliberation for meeting both the local and foreign demands. It is characterized by progressiveness, inventiveness, and a strong emphasis on meeting the needs of pupils. The method is very democratic since it involves seeking input from more than 200,000 persons, including professionals at different levels, ranging from local panchayats to national and international experts. A wide variety of opinions and suggestions were actively solicited for forming the National Education Policy. "The National Education Policy (NEP) of India places great importance on instilling a deep respect for fundamental responsibilities and constitutional principles, fostering a strong affiliation with one's nation, and promoting a conscientious comprehension of one's duties and obligations in a rapidly changing global environment within our education system. The Policy seeks to provide equitable access to excellent education for all students, irrespective of their place of residence, socio-economic status, or caste. The Policy primarily "focuses on improving the conditions of historically marginalized, disadvantaged, and underrepresented communities." The objective of the NEP is to augment the proficiency of educators' at all educational tiers and empower them to effectively use technology in their instructions. The primary emphasis is on recruiting and retaining exceptionally proficient educational experts to influence the development of the next generation of learners. In this context, the study presents the significant and essential policy reforms proposed under the National Educational Policy (NEP) and their impact on students' futures.

Keywords: Globalization, Higher Education, National Educational Policy, Students.

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Introduction:

The tremendous breakthroughs in science and technology have led to changes in program structure and results that have been noticed in the global education sector in recent times. "The global corona virus pandemic has necessitated the widespread use of Information and Communication Technology (ICT) to enhance the quality of education, leading to the establishment of a new standard known as the 'New Normal.' The National Education Policy 2020 (NEP-2020) in India provides a clear and comprehensive plan for achieving sustainable higher education."[1] This Policy is significant since it is based on the principles and insights derived from ancient Indian knowledge and wisdom. The strategy has been formulated with careful consideration of both the domestic and international requirements of the nation. It is progressive, inventive, and focused on the needs of students.[2] The strategy of arriving at the NEP is very democratic, since it includes soliciting opinions from over 200,000 individuals, including specialists at various levels ranging from local panchayats to national and international experts. This marked the first instance in the country's history when such a broad range of input was sought.[3] The NEP of India prioritizes the cultivation of profound reverence for essential responsibilities and constitutional principles, fostering a strong connection with the country and promoting a conscientious understanding of one's duty and obligations in a dynamic global context within our education system.[4] The Policy aims to provide "high-quality education to all pupils, regardless of their location of residence, background, or caste." The strategy specifically targets the improvement of historically underprivileged, disadvantaged, and underrepresented populations. The NEP aims to enhance the capabilities of teachers across all educational levels and enable them to use technology in their teaching practice successfully.[5] The focus is on hiring and maintaining highly skilled teaching professionals to help shape the next generation of people. The following are the fundamental policy changes envisioned under NEP to influence students' futures:

1. Revised Regulatory Framework for Higher Education:

The NEP has examined many significant adjustments at the architectural level that need modifications in the regulatory framework.[6] Currently, India has many regulatory authorities, including prominent regulators

such as UGC and AICTE, as well as "seventeen statutory professional councils, including NCTE, MCI, BCI, ICAR, NCI, COA, DCI, and others. The strategy proposes the establishment of a Higher Education Commission for India (HECI)" as a central agency to address the issue of overlapping tasks and to separate the responsibilities of regulation, financing, and certification in "the field of higher education." The commission is to consist of four distinct autonomous entities, each with its own clearly defined tasks and functions:

a) The National Higher Education Regulatory Council (NHERC),

b) The Higher Education Grant Council (HEGC),

c) The National Accreditation Council (NAC),

d) The General Education Council (GEC).

2. University Restructuring

The strategy suggests the transformation of "higher education institutions into expansive interdisciplinary universities, colleges, and HEI clusters," each with a minimum of 3000 students. The objective is to raise "the Gross Enrolment Ratio (GER) in higher education from 26.3% to 50% by the year 2035." The NEP proposes the elimination of the affiliation system, which was imposed on our country as a result of British influence, during the next 15 years. "This objective will be accomplished by granting graded autonomy to around 40,000 colleges and transforming them into self-governing, independent institutions capable of conferring degrees."[7]

Additionally, the NEP policy has categorized universities into the following three classifications:

a) Universities with a strong focus on research.

b) Universities with a strong focus on teaching.

c) Colleges that have the authority to grant degrees independently.

The Research-Intensive Universities will prioritize both research and teaching equally. Conversely, "the Teaching Intensive Universities will likewise engage in both research and teaching, but their primary emphasis will be on teaching. The last group, known as Autonomous Degree Awarding Colleges, may engage in limited research endeavors. Still, its primary emphasis is on the instruction of undergraduate and postgraduate courses." Consequently, "the NEP" will lead to a restructuring of the University's organization. The strategy mandates that all universities adopt a multidisciplinary approach, meaning that there will no longer be universities dedicated to specific programs or faculties such as law, medicine, technology, agriculture, etc. Over time, colleges will need to include other fields and academic programs in order to become multi-faceted institutions. This approach will guarantee the comprehensive development of students, equipping them with fundamental knowledge across various disciplines and granting them the autonomy to pursue any other subject of their interest. By promoting online education, esteemed institutions will have the capacity to offer "both open and distance learning (ODL) as well as online learning programs." This measure will contribute to achieving the targeted Gross Enrollment Ratio (GER) of 50% outlined in the Policy. Additionally, it will provide students with the opportunity to balance their education with employment commitments or pursue two degrees simultaneously.[8]

3. Academic Program Restructuring:

"In our ancient Vedic civilization, students were educated in about 64 kalas, including not only artistic disciplines such as music, dance, and painting but also encompassing fields such as humanities, languages, science, medicine, and technology."[9]The NEP regards our old Vedic system, which encompasses a wide range of knowledge and skills, as the foundation for developing a comprehensive education system for students in the 21st Century. The liberal education system advocates for providing students with instruction in several areas to ensure that they acquire fundamental information in each field. Within the realm of "liberal education, the NEP has converted the three-year graduation program into a four-year curriculum" that allows multiple admissions and exit options. The primary benefit of this is that students can continue their education at any stage of their lives and from any institution in the nation by re-entering the system. The previous studies will not be in vain, and those who already have a certificate or diploma may continue their studies from the second or third year.

Furthermore, those who are unable to pursue higher education become qualified for employment based on their certificate and diploma degrees.

The Policy promotes a comprehensive and interdisciplinary approach to education, with a particular focus on project-based learning "in the fields of community participation, environmental education, and value-based education." The Policy advocates "education to cultivate global citizens" citizens who have a comprehensive understanding of global challenges and actively strive to address them. Efforts should be made to establish and encourage the development of societies that are characterized by peace, tolerance, inclusivity, security, and sustainability. Another notable change in the NEP–2020 pertains to the admission process to PhD programs." Henceforth, possessing a "Master's degree will no longer be the only prerequisite for entry into a PhD program. An individual who has a Bachelor's degree and has conducted research would meet the requirements for direct admission into the Ph.D. program.[10] Similarly, a Master's degree will typically take two years to finish if the Bachelor's degree is three years long. However, it is possible to get "a Master's degree in only one year if the individual has completed a four-year Bachelor's program that includes research." Hence, the NEP-2020 provides a highly adaptable framework to cater to the needs of pupils. The strategy further prioritizes the acquisition of practical knowledge by students via internships. Consequently, "it is now mandatory for students from all programs to participate in internships during semester or winter holidays in various sectors such as industry, business houses, schools, studios, craft institutes, research institutes, and so on. Institutions are now required to facilitate the active involvement of students in the practical aspects of their education, which may enhance their prospects for employment and entrepreneurship." The Policy proposes a 4-year integrated B.Ed. Curriculum to train the students who want to become teachers. The NEP–2020 also highlights "the need to ensure that the quality of online degrees" which is equivalent to degrees gained via traditional methods. The Policy emphasizes ongoing monitoring and evaluation of students throughout the semester, as opposed to relying only on a three-hour test at the conclusion of the semester.[11] Students may be continuously assessed using a range of strategies, including projects, exercises, direct communication, and group discussions. Universities must fully embrace and implement this in both its literal and figurative sense in order to cultivate accomplished and marketable graduates.

4. Academic Bank of Credit (ABC Formula)

The most ground-breaking proposal of NEP is the implementation of the Academic Bank of Credit (ABC), which will have a transformative impact by empowering students to explore and acquire information freely. ABC is conceived as a digital/virtual/online institution that operates similarly to a Commercial Bank. Its purpose is to serve students as account holders, offering them a range of services such as "credit accumulation, credit verification, and credit transfer. ABC will provide credit deposit accounts to all students enrolled in recognized Higher Education Institutes (HEIs), as well as to those who are not now students but want to pursue education as freelancers." The student's academic credits obtained from other schools, whether via online or traditional methods, will be added to their account. Once a student has earned enough credits to reach a certain threshold, they may exchange those credits for an academic degree at their convenience.[12] The ABC will enable the transfer of students within the educational system, allowing them to move between campus-based education and open and distance learning (ODL), "between skill-based programs and formal degree programs, and between Indian and overseas universities."

5. Globalization of Higher Education:

The strategy focuses on marketing India as a worldwide study destination, offering high-quality education at an accessible price, in order to regain its position as a world leader in education. The program has established a framework for the establishment of campuses of top-performing Indian institutions in other countries. This initiative aims to promote our cultural heritage, ancient knowledge systems, and Indian practices such as Ayurveda, Naturopathy, and Yoga. In addition, the top 100 institutions worldwide would be granted permission to establish their campuses in India. In order to foster research cooperation and facilitate "student exchanges between Indian and international institutions, Indian universities may recognize the credits earned at other universities for the purpose of granting a degree." This will be a ground-breaking development, considering that, approximately one million students from India study abroad for their higher education. In comparison, only around forty-eight thousand students come to India for higher education, with

the majority coming from Nepal, Bangladesh, and Afghanistan. The main objective of the strategy is to enhance the influx of international students to India while implementing strategies to decrease the emigration of Indian students."[13]

6. Revitalizing Faculty:

The NEP recognizes the significance of faculty members in facilitating the expansion of higher education. It suggests granting faculty members the autonomy to develop their curriculum and pedagogical methods while adhering to the authorized framework. The objective is to motivate and reward the faculty for engaging in ground-breaking research, exceptional and imaginative work, and implementing novel teaching methods that use technology. "The Policy also acknowledges the need to decrease the student-teacher ratio and alleviate the excessive workload of instructors, to guarantee that teaching remains an enjoyable task with sufficient time for student engagement and research activities." The faculty has been granted full autonomy to determine the curriculum, teaching methods, and assessment criteria for students. This includes implementing continuous evaluation throughout the semester, as opposed to relying only on a three-hour final test. The Policy prioritizes recognizing outstanding faculty members via awards or incentives while also emphasizing the advancement of academic members on the tenure track and fast track depending on their performance.[14] In order to cultivate competent academic leaders and administrators, the focus is on finding exceptional faculty members who possess strong leadership traits and administrative expertise. These individuals are then prepared for future leadership positions via comprehensive training and development programs.

7) Facilitating Research

The strategy emphasizes the significance of research and highlights that India's investment in research and innovation is "just 0.69% of GDP, in contrast to 2.8% in the USA, 4.3% in Israel, and 4.2% in Korea." The program places significant emphasis on raising the overall allocation of funds towards higher education, aiming for a target of 6% of the Gross Domestic Product (GDP).[15] Additionally, it highly prioritizes the augmentation of research spending. The proposal advocates the creation of a National Research Foundation that would have full authority to supervise and regulate the allocation of "research funds to institutions. The National Research Foundation will prevent the duplication of research funds from several sources and establish connections between institutions and diverse funding sources."

8) Enabling students to take control of their learning:

The NEP is a progressive and student-centered policy that grants students full autonomy in choosing topics, courses, various universities within a program, and the pace at which they finish their degree. The student has the flexibility to pause their studies and continue their education at any given moment.[16] The ability to transfer credits between online and normal modes, international and Indian universities, and different programs provides students with significant freedom in selecting their educational trajectory. The Policy emphasizes the use of open education materials and platforms such as Swayam for online instruction and learning. The NEP emphasizes blended learning, which involves the integration of online and offline learning methods.

9. Incorporating Vocational Education

The Policy emphasizes the employability of students and aims to integrate vocational education with higher education. Furthermore, it emphasizes the need to recognize and value skill-based education. It is advisable for reputable Vocational Education Institutions and Higher Education Institutions to gradually enhance their infrastructure to a world-class standard in order to increase capacity and achieve the goal of having 50% of students educated in vocational skills by 2025.[17]

Concluding remarks:

The National Education Policy is a highly creative and ambitious initiative that is deeply rooted in India's ancient knowledge system. This Policy has laid out a clear blueprint for the development of sustainable higher education. "The National Education Policy (NEP) prioritizes the comprehensive growth of students and can restore India's status as a Vishwa Guru."[18] The crux is in its execution with complete adherence to both the literal and intended meaning within a specific timeframe. All stakeholders, including the central government, state governments,

statutory professional councils, state councils of higher education, universities, colleges, educational leaders, faculty, and students, are diligently working with enthusiasm to ensure that the vision outlined in the Policy is successfully implemented. The key for thriving in this swiftly evolving environment is to acquire new skills, enhance existing skills, and adapt to new skills, all the while ensuring that no one is excluded from the process of transformation. Inclusive development refers to a comprehensive and all-encompassing approach to development. NEP 2020 is an absolutely excellent strategic tool to transform students into skilled and holistic human beings.

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Assessment of Job Satisfaction of Secondary School Teachers : A Field Level Study

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Abstract

Job Satisfaction of teachers can have significant bearing on the quality of teaching and work performance of teachers. Job Satisfaction can be described as a positive emotional response resulting from appraisal of one's job. There may both intrinsic and extrinsic conditions that may influence job satisfaction. Demographic factors like age, education, martial status and gender also influence job satisfaction. The job satisfaction among Government teachers was purportedly found to be more compared to private school teachers. Here, this paper tries to understand how the factors like age, location and school-type can effect job satisfaction in teachers of Karimnagar District, Telangana. Such multi-level analysis can help us understand the nuances of teacher satisfaction and motivation which in turn can enhance learning in students.

Keywords : *Job Satisfaction, gender, school management, locality disparities, educated stakeholders.*

Introduction

The job satisfaction of secondary school teachers is a crucial factor influencing the quality of education and the overall well-being of educators. A comprehensive exploration of this topic in Karimnagar, a district in Telangana State, unveils intricate dynamics that shape the professional contentment of these educators.

The study embraces a balanced and representative sample, meticulously considering gender, school type, and urban-rural distribution. This approach ensures a nuanced understanding of job satisfaction factors, recognizing the diverse contexts within which secondary school teachers operate in Karimnagar.

One notable observation is the absence of a statistically significant

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difference in job satisfaction between male and female teachers, despite females demonstrating slightly higher mean scores. This implies a similar overall level of satisfaction but underscores the need for a gender-sensitive lens in educational policies and practices. Initiatives acknowledging and addressing potential gender-based variations could contribute to fostering an inclusive and supportive work environment for all educators.

Another noteworthy finding revolves around the urban-rural divide in job satisfaction. Urban teachers exhibit a higher level of job satisfaction compared to their rural counterparts, highlighting potential disparities in rural educational settings. This underscores the necessity for targeted interventions tailored to address the specific challenges faced by teachers in rural areas. Initiatives focusing on improving working conditions, providing professional development opportunities, and offering additional support could contribute to enhancing job satisfaction among rural educators.

The study also reveals a marginal difference in job satisfaction between private and government school teachers, with government teachers displaying a slightly higher satisfaction level. However, both sectors demonstrate a moderate and homogeneous performance overall. This suggests the need for comprehensive strategies aimed at improving job satisfaction that consider the unique dynamics of each sector. Policies focusing on collaborative professional development, fair remuneration, and recognition can contribute to a more equitable and satisfying work environment across private and government schools in Karimnagar.

The job satisfaction of secondary school teachers in Karimnagar is a multifaceted subject influenced by various factors. The study's insights offer a foundation for evidence-based interventions and policies that can enhance the well-being of educators, contribute to a positive work environment, and ultimately elevate the quality of education in the district. Future research endeavors can build upon these findings to delve deeper into specific aspects and contribute to ongoing discussions on teacher satisfaction and educational excellence.

Significance of the study

The study on the job satisfaction of secondary school teachers in Karimnagar holds paramount significance for educational stakeholders. By providing a nuanced understanding of factors influencing teacher

well-being, the findings inform evidence-based policies and practices. Policymakers can tailor interventions to address gender-specific needs, enhance rural working conditions, and foster collaboration between private and government schools. The study's insights contribute to the improvement of teacher recruitment and retention strategies, ultimately elevating the quality of education in Karimnagar. This research not only benefits local educational institutions but also enriches the broader field of educational research, encouraging further exploration into the intricate dynamics of teacher satisfaction in diverse contexts.

Statement of the problem

A study on the Job Satisfaction of secondary school teachers in Karimnagar district

Objectives of the study

* To know the job satisfaction among secondary school teachers.
* To examine the significant difference in job satisfaction with regard to male and female teachers.
* To examine the significant difference in job satisfaction with regard to rural and urban area school teachers in Karimnagar district.
* To know the significant difference between Government and Private school teachers with regard to their job satisfaction.

Hypotheses of the study

* There is no significant difference in job satisfaction between the teachers
* There is no significant difference in job satisfaction with regard to male and female teachers.
* There is no significant difference in job satisfaction with regard to rural and urban area school teachers in Karimnagar district.
* There is no significant difference between Government and Private school teachers with regard to their in job satisfaction.

Methodology

This study was a descriptive study. The design is the plan or strategy for collecting and analyzing evidence that make it possible for the investigator to answer whatever question she/he posed. The design of an investigation touches almost all aspects of the research, from the minute details of data collection to the selection of the technique of data analysis.

In this process formulating research hypotheses, designing a research strategy, collecting data, analysis and interpretation.

Population of the study

The Teachers of Secondary schools of Karimnagar district of Telangana was chosen for the study.

Sample of the study

The representative of the total population under study is sample/selection of the population

Sampling method: simple random sampling

Sample Size: The sample was the Teachers from Government and private schools of Karimnagar district. 80 Secondary school Teachers of Karimnagar district were selected for the sample study. 10 Teachers were selected from each school as sample of Karimnagar district of Telangana. The present study was conducted on 8 schools (rural-4, urban-4) selected randomly from Karimnagar district Secondary schools.

Variables:

The **dependent variables** in this study were:

* Job satisfaction:

Independent variables

* Type of Management (Govt/Private)
* Type of Locality (Urban/Rural)
* Gender (Male/Female)

Gender Both Male and Female teachers were included in the study to see whether there is any significant difference between the two genders in their job satisfaction.

Locality

Both urban and rural Teachers were included in the investigation to find out, whether there is any significance difference between the Teachers of two localities with respect to their job satisfaction.

a) Urban area

For the purpose of this investigation, a particular locality is considered urban if it has a municipality and modern facilities like adequate roads and rail connections, educational facilities up to college level, post, telegraph facilities, banks and hospitals, places of entertainment, organizations like rotary, Lions and such other clubs etc.

b) Rural area

A locality which has no facilities, has no government offices, has no modern means of entertainment like cinema etc, has no rail connections etc.

Type of school management

Both Government and private schools were included in this investigation to find out whether there is any significant difference between Teachers of two managements in their job satisfaction.

a) Government

For the purpose of this investigation the school which is under the control of Government and the teachers are recruited by the Government and facilities and funds are given by the Government are considered as Government schools.

Tools and techniques used for data collection

* The researcher developed a questionnaire on 'job satisfaction of teachers' which facilitated collecting the required data from the selected sample and established the reliability and validity of the tool by conducting a pilot study.

Procedure of data collection

For the present study, Survey Method was adopted. It is research technique in which data is gathered by asking questions of a group of individuals called respondents. Researcher personally visited the schools and met the teachers, established rapport with them and explained the features of the study. Uniformity was maintained in administrating the questionnaire, it is a self-administered questionnaire.

Procedure of data analysis

Arithmetic Mean:

The most popular and widely used measure of representing the entire data by one value is what the statistician calls the arithmetic mean.

Standard Deviation: The standard deviation measures the absolute dispersion or variability of a distribution.

t-test: The analysis variance frequently referred to by the contraction of the t-test. It is a statistical technique specially designed to test the means of two quantitative populations.

Major findings of the study

Gender Distribution:

The study reveals an equitable gender distribution among the 80 teachers, with 40 being male and 40 female. This balanced representation underscores a gender-neutral composition within the sample, allowing for a comprehensive analysis of job satisfaction factors irrespective of gender.

School Type:

The research indicates an equal split between teachers from private (40) and government (40) schools. This balanced distribution ensures a fair examination of job satisfaction within the diverse contexts of private and government educational institutions.

Urban-Rural Distribution:

The study encompasses 40 teachers from urban and 40 from rural areas, presenting an even representation across these diverse settings. This balanced sample allows for a nuanced exploration of job satisfaction factors within both urban and rural educational environments.

Gender and Job Satisfaction:

Table-4.1: Showing 'job satisfaction' - gender wise

Dimension	Gender	N	Mean	Std. Deviation	t Value	Sig	df
job satisfaction	Male	40	11.97	6.95	0.34	0.73	1,78
	Female	40	12.46	5.75			

The mean scores for job satisfaction indicate that female teachers (12.46) outperformed their male counterparts (11.97), and the calculated t-value is 0.34 which is not significant, indicates no significant difference between male and female teachers in terms of job satisfaction.However, the difference in mean score shows a higher level of job satisfaction among women than men.

Urban-Rural Disparities:

Table-4.2: Showing 'job satisfaction' - Locality wise

Dimension	Gender	N	Mean	Std. Deviation	t Value	Sig	df
job	Urban	40	12.85	3.22	2.06	0.04	1,78
satisfaction	Rural	40	11.55	2.33			

The mean scores for job satisfaction reveal that urban teachers (12.85) scored higher than their rural counterparts (11.55),and the calculate t-value is 2.06 which is significant at 0.05 level, indicates that there is a significant difference between urban and rural teachers in terms of job satisfaction, indicating a potential disparity in job satisfaction between these two settings.

Private-Government Disparities:

Table-4.2: Showing 'job satisfaction' - Locality wise

Dimension	Gender	N	Mean	Std. Deviation	t Value	Sig	df
job	Private	40	11.35	6.23	0.01	0.98	1,78
satisfaction	Government	40	11.38	7.43			

The mean scores for job satisfaction suggest a relatively higher level of satisfaction among government teachers (11.38) compared to private teachers (11.35), the calculated t-value is 0.01 which is not significant, indicates no significant difference between private and government teachers in terms of job satisfaction, although both scores reflect a moderate and homogeneous performance.

Conclusions

The study presents a balanced and representative sample in terms of gender, school type, and urban-rural distribution, ensuring comprehensive insights into job satisfaction factors across diverse contexts.

While female teachers demonstrate higher mean scores in job satisfaction than males, the statistical analysis indicates no significant difference, highlighting a similar overall level of satisfaction.

Urban teachers exhibit a higher level of job satisfaction compared to their rural counterparts, emphasizing the need for targeted interventions to address potential disparities in rural educational settings.

The marginal difference in job satisfaction between private and government teachers suggests a relatively higher satisfaction level among government teachers, but the overall scores indicate a moderate and homogeneous performance in both sectors.

Implications of the study

The implications drawn from this study on the job satisfaction of secondary school teachers in Karimnagar District carry significant weight for educational policymakers, administrators, and practitioners. The balanced and representative sample in terms of gender, school type, and urban-rural distribution ensures that the study's findings provide nuanced insights applicable to a variety of educational contexts.

The observation of higher mean scores in job satisfaction among female teachers, while not statistically significant, indicates a noteworthy trend. Recognizing and addressing any subtle gender-based variations is crucial for fostering an inclusive and supportive work environment. Policymakers should consider gender-specific initiatives that acknowledge and cater to the unique needs and challenges faced by both male and female teachers.

The observed disparity in job satisfaction between urban and rural teachers emphasizes the need for targeted interventions in rural educational settings. Understanding the specific challenges faced by teachers in rural areas, such as limited resources, isolation, or inadequate infrastructure, is paramount.

Policymakers should consider implementing strategies to enhance working conditions, provide professional development opportunities, and offer additional support to rural educators. This may involve tailored training programs, mentorship initiatives, or financial incentives to attract and retain qualified teachers in rural schools.

The marginal difference in job satisfaction between private and government teachers, while indicating a slightly higher satisfaction level among the latter, underscores the need for a comprehensive approach to teacher well-being. Both sectors display moderate and homogeneous performance, suggesting that policies aimed at improving job satisfaction should be holistic and consider the unique dynamics of each sector. Initiatives focusing on collaborative professional development, fair remuneration, and recognition for both private and government teachers can contribute to a more equitable and satisfying work environment across the education landscape.

The implications of this study call for targeted and context-specific strategies to enhance teacher job satisfaction. By addressing gender, urban-rural, and sector-based variations, educational stakeholders can contribute to a more supportive and fulfilling teaching profession in Karimnagar District and potentially serve as a model for improving teacher well-being in diverse educational settings.

Suggestions for further research

1. The same study can be conducted on all the population of the school teachers of different districts.

2. Study can be conducted on college lecturers.

3. Comparative study can be conducted on teachers of different economic classes and castes.

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A Study on Access to Technology and proficiency in use of ICT by Distance Learners of Dr. BRAOU during COVID – 19.

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Prof. P. Madhusudhana Reddy *

Abstract

Distance Education in India has currently integrated online learning and access to devices, Internet connectivity and students' proficiency in using ICT for learning can have a bearing on the success of learning. The ICT skills require using smartphone / computer, internet and processing information and ability to communicate and collaborate online. The proficiency in using ICT for learning can vary with reference to gender, age, location of the residence and the programme the students are enrolled in. It is an undeniable fact that the students' success in learning in distance education programmes is dependent on the access to devices and internet connectivity (Technology) and the students' ICT proficiency levels. During COVID – 19, when online learning had become the norm, the issues of access and proficiency in using technology had become a concern for distance educators. It is in this context that this study is conducted to understand the access and proficiency levels in use of ICT by distance learners of DR. BRAOU.

Keywords : *ICT, proficiency, access, internet connectivity, covid-19, distance education programmes, online learning.*

Introduction

Dr. B.R. Ambedkar Open University, in association with Commonwelth Educational Media Centre for Asia (CEMCA) proposed a study to know the impact of COVID-19 pandemic on the learning of students in the university. The University is offering various academic programmes through distance mode since 1982 in the States of Telangana and Andhra Pradesh. Due to Covid-19 pandemic, the University adopted some more

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The literature survey shows that several studies were conducted with regard to ICT access for Learners. Male students are more confident in using technology for learning than female students (Naciri, 2016). Amini and Oluyide's study (2020) on ICT competencies among 186 distance learning students in selected study centres of the National Open University of Nigeria revealed that only a few students could use technology and ICT to create knowledge even though many of the students showed high level of literacy in computers and technology. Students' qualifications were reported to influence their competency in ICT, but no gender-based differences in ICT competency were observed. The review and meta-analysis of research indicated gender differences in ICT skill and use (Atika etal., 2021).

A study of Zimbababwe Open University's students revealed lack of sufficient time for study, difficulties in accessing and using ICT, ineffective feedback, and lack of study material as challenges in Open and Distance Learning (Musingafi etal., 2015).

Methodology

Dr. B.R. Ambedkar Open University in association with Commonwealth. Educational Media Centre for Asia (CEMCA) prepared a questionnaire consisting of various questions pertaining to online teaching and learning. The questionnaire was posted on the University website and kept for one month to get the feedback from the students. The site was kept open from 11th November to 30th November, 2021 for sharing the experiences of students. The information about the questionnaire was sent to students through SMS. Further students were also informed about the questionnaire in a letter posted on the University website. Nearly 400 students participated in the online survey.

Participants' (Students') Profile

The students' profile is generated by collecting the data pertaining to student age group, gender, place of residence, programme of study and area of the study.

88% of the respondents were aged between 31 and 50 years and the rest 22% were under 30 years of age.

Aproximately two-thirds of the respondents were male, and one-third were females.

Approximately 45% of respondents stayed in urban areas, 42% of respondents stayed in rural areas and 13% were from semi-urban areas.

More than two-thirds of the students who took part of the survey had enrolled in Under graduate Degree / Post Graduate Diploma Programme (68.71%) followed by Post Graduate Degree Programme (28.36%). Very few students from certificate programmes participated in the survey (2.92%).

About 58.5% of students who responded to the survey were from Sciences and Computer sciences background and about 36.3% of students are from Humanities/Social Sciences streams. 5.26% of the respondents were from Library Science and Commerce and Management Courses.

Survey findings and discussion

Due to Covid-19 pandemic, society faced many challenges. In the case of educational institutions the face to face interactions ceased. Dr. B.R. Ambedkar Open University was no exception. However, to reach the students and impart education, the University resorted to several new modes of teaching. The present survey was carried out to understand the accessibility of computerized / smart phones, net connectivity, band-width issues faced by learners, yielded results which were analysed and the data interpreted.

Analysis

Table 1 : Device used by students based on location (in percentage).

The device used			
Location	Smart Phone	Laptop / Tablet	Desktop
Rural	81.25	13.19	5.56
Semi-Urban	76.74	20.93	2.33
Uban	65.81	28.39	5.81

The most preferred device for learning during pandemic was smart phones (Table I) followed by laptops/ tablet irrespective of location of the students. Less than 5% of the students were using desktops.

Urban students were not much dependent on smart phones unlike rural and semi-urban students and urban students use laptops/tablets for their learning than rural students. This shows that, though a significant proportion of utban students use laptop/tablet for online study, significant proportions of students still use smart phones.

Table -2 : Status of Internet connectivity based on their location (in percentage).

Location	Internet Connectivity		
	Very poor/poor	Fair	Good / very good
Rural	11.81	20.83	67.36
Semi-Urban	13.95	32.56	53.49
Urban	5.81	23.23	70.97

Approximately 67% of students from rural areas expressed the opinion that internet connectivity is good/very good, while two-thirds of the students from urban areas expressed the opinion that their Internet connectivity is good/very good. Only 6% of students from urban areas felt that the Internet connectivity is poor/very poor.

Table - 3 : The data speed used by students based on their location (in percentage)

Data package used			
Location	Data Package	Secured wireless connection	Others
Rural	90.97	4.17	4.86
Semi-Urban	84.40	6.98	11.63
Urban	65.16	26.45	8.39

A significant proportion of students from rural and semi-urban areas use mobile data package for their learning. Though 26% of urban learners use secured wireless connection for online learning, a significant proportion of students still use mobile data for learning.

Table – 4 : The speed of access to data by students (in percentage).

Speed	The type of data package used		
	Mobile data Packages	Secured wireless connection	Others
Very poor/poor	11.24	4	0
Fair	24.34	14	32
Good/Verygood	64.42	82	68

From Table - 4, it can be observed that 65% of students who use mobile data for online learning revealed that speed of network is good/very good, 82% of students who use secured wireless connection for online learning revealed the speed of network as good/very good. Only 4% of students expressed the view that the wireless network is very poor. So, secured wireless connection was found to be more preferable than mobile data.

However, the study revealed that majority of the students are depending on smart phones for access to the course material and for attending online classes. They have learned the subjects using mobile data package. However, the students felt that the internet speed was higher in secured wireless connection (Table-4).

Perceived proficiency levels of students in use of ICT

To access and understand the subject content through ICT, it is important to have proficiency in use of ICT. In order to know the students' perception about the usage of ICT, the opinions of the students were collected and presented based on gender, age group, location of residence, programme and schools of study.

Table -5 : Students' perceived proficiency in using ICT (in percentage) (based on their gender).

Gender	Proficiency in use of ICT			
	No Experience	Require Help	Can perform basic function	Competent/ Very proficient
Male	10.21	16.17	20.00	53.62
Female	14.95	25.23	23.36	36.45
Transgender	0.00 a	0.00	0.00	0.00

Approximately 10% of males were not proficient in the application of ICT for online learning, while 16 percent of male students needed some help to use ICT and more than 50% of males were competent to use ICT for online learning. As compared to males, the proportion of female students who were proficient in use of ICT for online learning is less (36.45) and they require help to become proficient.

Table - 6 : Students' perceived proficiency in use of ICT, based on their age (in percentage).

Age Group in Years	Proficiency in use of ICT for Learning			
	No experience	Require help	Can perform Basic functions	Competent / very proficient
<30	14.08	19.42	20.39	46.12
31-50	8.21	17.91	22.39	51.49
>51	0.00	0.00	0.00	100.00

Approximtely 14% students whose age was under 30 years did not have proficiency in the application of ICT for online learning. Approximately 50% of students with age under 30 years were competent enough to use ICT for online learning. Interestingly the students with age less than 30 years have less experience (46.12 %) in using ICT for online learning when compared to students with ages between 31 to 50 years (51.49%). It reveals that the age group 31-50 are more capable of using ICT for learning (table -7).

Table – 7 : Students' perceived profiency in use of ICT, based on their residential location (in percentage).

Location	Proficiency in use of ICT for learning			
	No Experience	Require help	Can performance basic functions	Competent very profient
Rural	13.19	20.14	22.92	41.75
Semi - Urban	11.63	18.60	18.60	51.16
Urban	10.32	18.60	30.00	51.61

The competency in using ICT for online learning is almost the same between semi - urban and urban students. The proficiency in handling ICT is slightly higher among urban students (51.61%). Irrespective of

their residential location, about 20% of students need help in handling ICT for online learning. Approximately 22% of students are able to manage basic functions in using ICT for online learning in rural areas and 30% of students are able to manage basic functions in using ICT for online learning in urban areas.

Table – 8 : Students' perceived proficiency in using ICT, based on the programme they are enrolled in (in percentage).

Proficiency in use of ICT for learning				
Programme Enrolled	No. experience	Require help	Can perform basic functions	Competent / Very proficient
Certifiate Diploma	11.11	53.33	16.67	18.89
Degree/ PG Diploma	16.54	21.06	20.30	42.11
PG Diploma & above	0.00	0.00	0.00	100.00

From the above table, it can be concluded that the students who enrolled for Certificate / Diploma programmes require some help or assistance to use ICT for online learning (53.33%) as compared to the students enrolled for Degree / PG Diploma programmes (21.06%). In contrast, the proportion of students enrolled for degree / PG diploma programmes with no experience in handling ICT were more than the students enrolled for Certificate / Diploma programmes.

Table – 9 : Students' perceived proficiency in using ICT, based on the schools they are enrolled in (in percentage).

Proficiency in use of ICT for learning				
Schools Enrolled	No. Experience	Require help	Can perform basic function	Competent / Very proficient
Science/Computer/ IT/LIS	0.00	0.00	0.00	100.00
Social Sceinces/ Humanities	11.48	13.11	24.59	50.82

Management and commerce	23.08	23.08	15.18	18.46
Education/ Vocational /other	22.23	26.98	20.65	30.16

From the above table, it can be concluded that the students who have enrolled for Sciences / Computer / IT courses are highly comfortable with application of ICT for online learning (100%), followed by students enrolled for Social sciences / Humanities courses (50.82%). Interestingly this proportion is much less for the students enrolled in Management and Commerce courses (18.46%). The students enrolled for Education / Vocational courses require some assistance in handling ICT for online learning.

Conclusion

It was observed from the study, that the proficiency of male students in using ICT is much more than female students. This may be due to the fact that most of the male students are from that of working groups and most of the female students are home - makers. There is not much difference in proficiency in use of ICT between the age groups, but about 20% of the students need help in handling ICT for online learning. Post-graduate degree students are highly capable in handling online learning compared to other students. Only 40% of the students enrolled for other programmes, other than P.G. Programmes are having proficiency in dealing with online learning. The students who have taken Science and Computer Science subjects are more proficient in the use of ICT followed by students of Social sciences and Humanities.

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Book Review
Handbook of Open, Distance and Digital Education
Olaf Zawachi – Richter and Insung Jung (Eds).
Reviewers Prof. E. Sudha Rani and Dr. V.V. Kanaka Durga

Open and Distance Education (ODE) has become a distinct mode of education in the present day and digital education has strengthened the outreach of ODE. Open, Distance and Digital Education (ODDE has entered the main stream of education. The Handbook of ODDE provides a comprehensive and an updated overview of the field for educationists, researchers, policy makers and administrators working in ODDE and has come at the right time. Authors from more than 20 countries across all regions (Africa, South and North America. Asia Pacific, Europe and middle East, with different views and backgrounds were included so as to gain perspectives from both developed and developing Countries in ODDE research and practice. This Hand book referees both theoretical ideas and practical approaches and policies for the development and implementation of ODDE in various Countries based on research evidence. The open access publication of this Handbook is of immense benefit to the practitioners of Open and Distance Education. In the true spirit of the outreach of ODDE, the editors too hail from different Countries. Olaf Zawacki is from Centre of Open Education Research, University of Oldenburg, German, and Insang Jung is from National Education Research Institute from Seoul National University, Seoul, South Korea.

The Handbook is organized along the lives of 3 M-Framework covering all important issues related to ODDE at macro (ODDE systems, theories and methods) meso-ODDE Educational agreements and Institutions) and micro-(teaching and learning) levels.

The editors point out in the introduction that technological innovations in distance education led to internationalization of education. The

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philosophy of Open Learning meant access to educational opportunities by minimizing academic and administrative restrictions. The introduction section describes the ODDE Terminology and the structure and content of the Hand book.

The book has 1495 pages and more than 100 contributors with 80 chapters.

The book is open access because it has been supported by :

*   German Federal Ministry of Education and Research.
*   The University of Oldemberg.
*   Bring ham young University.
*   Japan Society for promotion of Sciences.
*   The International Christian University.

There are 80 chapters organized into seven sections each with its own sub-editor.

1. Introduction (by the main editors Olaf Zawacki Richter nd Insung Jung)
2. History, Theory and Research with (13 articles) Sub-editor Junghung Xiao)
3. Global perspectives and Internationalization (with 13 articles (Sub-editor Seenja Bedenlier).
4. Organization, Leadership and Change (sub-editor with 12 articles (Subeditor Ross Paul)
5. Infra – Structure, Quality assurance and Support Systems (with 12 articles (Tian Belawati)
6. Learners, Teachers, Media and Technology with 14 articles (sub-editor Vanessa P. Dennen)
7. Design, delivery and Assessment with 14 articles Sub-editor Richard E. West)

The Handbook offers a trans-disciplinary knowledge base in ODDE, which helps in creating a coherent framework that can address problems that arise in the practice of ODE.

He first section is the introductions Chapter by the main editors and provides a quick preview on the emerging field of ODDE through the past decades and its expansion resulting in pedagogical changes.

The Second section on History, Theory and Research in ODDE, starts with Junhong Xiao's article 'Towards informed approach of ODDE' which describes the necessity of historical knowledge for contextualization of ODDE theory building. The 'Universality' of ODDE theories and the mutual interdependence of theory and practice and necessity of rigorous research in ODDE are dealt in the articles in this Section. Specially, interesting in this section is Moore's Chapter on key developments, trends and players in ODDE followed by a paper which reviews Open Education from the perspective of social movement theory. The origin and development of instructional technology and design and ways in which digital education overlaps with Open Education, validation, interpretation and development of ODDE theories are elaborated in other chapters in this section.

Newer theories in Digital Learning spaces and motivation theories and 'Technology Acceptance Theories' are some other chapters in this section. The research trends post covid-19 in ODDE and Research tools from the perspectives of big science and small science are other chapters in part II.

The historical and theoretical background provided in this section helps to contextualize present day practices and guides the research that has to inform practice, while practice needs to be built on relevant research.

Part III deals with global perspectives and Internationalizations of Higher Education. This section is edited by Svenja Bedenlier.

Martin Wellers chapter (Chapter 6) " The Rise and Development of Digital education" gives a quick analysis of strengths and limitations of the web, LMS, blogs, Social media and MOOCs to provide a useful framework for understanding the 'importance and relevance of distance education. Bededict du Boulezg : In Chapter 7, "Artificial Intelligence in Educator ethics" provides reference to ethical frameworks for the use of A.I. in Education.

Part III deals with global perspectives and internationalization of ODDE. This section largely revolves around the macro level of distance education systems and theories. In this section several chapters focus on the meso level of the institutions and the micro level of teaching and learning within ODDE. The interrelatedness of International organisations and ODDE institutions in mediating expertise and sharing of pedagogical

resources and ODDE through the lens of non-formal education in developing countries, the necessity of locally anchored research for policy making, privatization of education and questions of privacy and security are the themes of various chapters in this section. The ways in which higher education institutions foster their partnerships in international learning settings, ethics and culture issues from the perspective of heterogeneous learners in Higher and adult education, designing programmes for inclusive learning environments are some of the interesting chapters in this section.

However several chapters also critique the global perspective as there are obvious differences between regions and countries in terms of voice and distribution of power in dissemination of online Education.

The perceived education potential varies, argue some authors (Tom Mays), and there are issues of equity within the global perspective of ODDE, (Laura Czerniewikz and Lucilla Carvalho). The different discourse revolving around ODDE, must be gauged from individual or from group learners' perspectives, inform the authors of the last chapter in part III. The main import that one gains after going through chapter III is that in ODDE 'the one size fits all approach' can not be applied if one considers cultural plurality and in the context of specific geographic and institutional preconditions, which require in-depth research at both global and local level.

Part IV on Organisation, Leadership and Change edited by Ross Paul focuses on institutional leadership and the trends in higher education and pressures on educational organisations in different nations, post-covid-19. Accessibility, Marketing, Costs of education, Quality concerns, professional development for teachers, strategic planning, international partnerships, innovation the moot points on which the Government and institutional leadership should dwell upon form the core ideas of these chapters. Such a transformation in education requires redesigning models, redefining roles, reengineering processes and realigning practices, concurs the editor of this section.

Part V deals with Infrastructure, Quality Assurance and support systems, and is edited by Tian Belawati. This part discusses the nature of institutional infrastructure, open Educational Resources (OERs), open

licenses and and metaverse and quality assurance in ODDE. Review of evolving delivery strategies, demand for IT infrastructure Support models for institutional infrastructure, ODDE, Library services, learner support systems, administrative support systems , are other chapters in this section. A chapter authored by Zawacki-Richter, Muskens and Marin give an overview of the quality assurance mechanism from a global point of view Santosh Panda's chapter of "Evolving learner support systems" brings out the changes that have compelled the Open and Education distance institutions to re look at their management styles or technological enabled support systems.

Part VI deals with learners, Teachers, Media and Technologies which is edited by Vanessa P. Dennen. The experiences. needs and competencies of learners and teachers are explored in the chapters. The media that houses the content and the technology that supports both people and the media, Learner attributes, Digital & Technology skills (by Martin, and Castaneda) Motivation, learners strategies, role of online instructor, media usage behaviours (Bing and Liu) online learning tools, synchronous and asynchronous tools are some of the enlightening Chapters in this Unit. The Chapter on ' Automated essay scoring systems' provides insights into technologies that help reduce labour in assessment, which has been one of the challenges in online assessment, Review of research and the role and significance of multimodal tutors and learning analytics (Prinsloo) are other chapters in this unit. All the chapters are deeply rooted in theories, research and practice of ODDE in the near future.. A holistic look at learners, teachers, media and technology can determine the course ODDE. Online learning automation has implications for redefining the instructor role and has use in assessment as has been pointed out in certain chapters.

Part VII deals with Design, Delivery and Assessment. This part overviews 14 chapters, which have themes on designing, blended and flexible learning environments, designing online learning, game-based learning and problem- based / inquiry based learning. Chapters that probe strategies for flipped class room (Lee) online learning communities (Cleveland – Innes and Hawryluk), MOOCs (Stracke etal) and Computer – supported collaborative learning environments (Hmelo-Silver and Jeons) provide

valuable perspectives. Improving student engagement (Bond and (Berg dahl) and Assessment within ODDE environments (Hickey et al) provide powerful strategies and frameworks to operate within ODDE. All these chapters provide a systemic understanding of learning in ODDE.

In conclusion, this massive handbook is wide - ranging and detailed and can be a valuable reference for assisting education researchers and ODDE practitioners. As it is described in the internet, it is indeed a one-stop-shop for researchers in the field of Open, Distance and Digital Education and serves as a ready reference. This is a publication by Springer publications and the open access is made possible by Frank Xiao and ISBN is 978-981-19-2079-0.

BRAOU - JOURNAL OF OPEN DISTANCE LEARNING

The Aim and Objectives

BRAOU's Journal of Open Distance Learning (JODL) is a bi-annual academic Journal launched by Dr. B .R. Ambedkar Open University with the intention of bringing intelligetsia in Open Distance Learning together for exploring all possibilities for the implementation of the ideal of Open Distance Education in the country. This concept is emerging as an alternative method of learning and is extensively used as an alternative model for capacity building, skill development and for professional development of the working population. The spirit of the system is in democratization of higher education with a focus on taking higher education to the doorsteps of the common people who were denied the opportunity of entry into portals of higher education for many centuries. The Open University system with liberal entry has revolutinized the learning process and access to higher education. As a result, millions of students all over the world are pursuing higher education through the distance mode. These trends call for the synthesis of ideology as well as technology and a culture of sharing among the institutions for enhancing the quality of academic programmes offered through distance mode. With this objective, this journal intends to provide a platform for debate across the world particularly, in the developing countries on research in Open, Distance Learning methods and practices.

GUIDELINES FOR PUBLICATION OF PAPERS

The editors invite original, scholarly article and research papers on Open and Distance Learning within the aim and scope of the journal. Articles, etc., that have not been published previously or submitted elsewhere, and that are not under review for any other publication in any medium (e.g. printed journal, conference proceeding, electronic or optical medium) should be submitted to the Editor, BRAOU Journal of Open Distance Learning (JODL). A declaration to this effect should be submitted to the editor along with the full length article. Authors will hold the responsibility for copyright violations, if any in their work. It will be assumed that submission of an article to this journal implies that all the foregoing conditions are applicable.

Feer Review : All contributions submitted will be subjected to Blind review. Author need to submit their identification, affiliation information on a separate sheet in order to facilitate anonymous refereeing. Author(s) should see that this information is not included in the main text of the article.

Format : The following guidelines apply for the length of articles and other text included in the journal.

The length of special article in 3000 - 6000 words

Other articles/research paper in 2500 - 3500 words

Case studies, Experiences and commentaries in maximum of 2000 words.

Book reviews in maximum of 1000 words

All the Abstracts in 200-300 words.

Page Layout

Times New Roman font size=12 regular

Paper - A4 size

Line spacing = 1.5

Alignment = Justified

Indentation Left = Right 0"

Organisation : The general organisation of research papers should be as follows :

Title should be specific followed by an abstract. Article should start with an Introduction. The objectives of the study should be stated clearly, followed by Materials and Methods, Analysis, Discussion, Findings and Discussion. Appendices may be used to amplify details where appropriate. Scholarly papers should have introduction, main section and sub-sections, and conclusion.

Tables and Figures should be typed in separate sheets and their position in the text should be indicated clearly. Please supply camera ready copy of all figures, as these shall not normally be redrawn.

Footnotes to the text should be avoided, but where used, should be numbered consecutively and presented as endnotes.

Citations of other works should be limited to those strictly necessary for arguments. Short quotations should be included in the text within inverted commas (" ") and quotations of more than 30 words should be placed in a separate paragraph indented from the main body of the text. However, all quotations should be accompanied by in - text citations, in author date style. Copyright of others' works in the text, wherever applicable, shall be obtained by the authors.

References should be in APA Style, All references should be alphabetically issued at the end of the paper in the following standard format. Some examples of references are given here.

Books : Rowntree, D(1992) Exploring Open and Distance Learning, London : Kogan page.

Journal Articles : Bansal, T. and Joshi, D. (2015). OER and Teacher Educators : Awareness and Barriers, Indian Journal of Open Learning, 24 (1-2), 59-68.

Book Chapters : Lawrence, J.A. & Dodds, A.E. (2003). Goal-directed activities and life-span development. In J. Valsiner & K. Connolly (Eds.), Handbook of developmental psychology (pp.517-533), London, England: Sage Publications.

Conference Papers :

Santhanam : E. Martin, K. Goody, A. & Hickes, O. (2001) Bottom-ap steps towards closing the loop in feedback on teaching: A CUTSD project. Paper presented at Teaching and Learning Forum - Expanding horizons in teaching and learning, Perth, Australia, 7-9 February, 2001.

Dissertations : Singh, S.K. (1994) 'Problems of women pursuing university degree course through distance education in India', MEd Dissertation, Banaras Hindu University, Varanasi.

Offprints : Ten offprints along with a copy of the journal would be supplied to the first author, and a copy of the journal to each of the co-authors.