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Special Issue

on

PEDAGOGIES AND USE OF TECHNOLOGIES FOR TRANSFORMATIVE HIGHER EDUCATION

on the occasion of

AIU EAST ZONE VICE CHANCELLORS' MEET–2022-23

hosted by

THE ICFAI UNIVERSITY, SIKKIM

on

December 13-14, 2022

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Table of Contents

Editorial

With too many development initiatives, modern concepts, and technological advancements in the field of education, teachers' job has become more of an administering of teaching processes instead of adopting suitable pedagogy to develop learning as a habit in the learners. How to access the learning management system, how to use technology aids, how to upload teaching material, upload grades, etc., have become the essentials or priorities of a teaching job. With conceptions like Instructional Design, Outcome-Based Learning, Design Thinking, and Learning Management Systems, too much of what we do is to break learning down into small chunks and linear steps carefully planned to inject the subject knowledge into the brains of the students without being responsive to the specific contexts, backgrounds, and experiences of students. All these applications act as 'directors' or 'tracers' of those elements of the task that are within the range of competence of the learner. They don't give scope to the learners to reach a point that is not there in their learning trajectory. For making students future-ready, teaching should help students understand the meaning of their learning materials and encourage them to focus on how to learn; much more than what to learn.

Teaching is a radical act. Finding the right pedagogy for teaching is even more radical. With the complexity of the students showing up in the classrooms, the traditional pedagogical methods are not serving the purpose well. Even advanced pedagogies are not able to provide solutions for the obscure problems of teaching arising day by day. In such a scenario, how long can we continue with pedagogical approaches that we've taken for granted as good without any concrete evidence? It is important that the existing education system is viewed from the point of critical pedagogy to understand it better and bring about cutting-edge improvements in the system. This is where the concept of Transformative Education or Transformative Pedagogy comes in. Transformative Pedagogy can improve the overall quality of education and make way for social change.

Pedagogy for Transformative Higher Education combines the elements of constructivist and critical pedagogy, involving social and technical processes from a systemic viewpoint that empowers students to examine critically their beliefs, values, and knowledge with the goal of developing a reflective knowledge base, an appreciation for multiple perspectives, and a sense of critical consciousness. In this, the teachers become facilitators with the disposition, knowledge, technology, skills, and commitment to supporting students to develop their full potential to learn.

It proposes that learners should not be taught the right and the wrong, but should be instead, given relevant knowledge that helps them identify what is right. Transformative education is quite complicated because several theorists have their own opinions and views when a new concept like this is initiated. This theory has numerous definitions and meanings. While some agree that the theory is beneficial for starting major advancements in improving inclusivity, others support the notion that it plays a vital role in examining the outcomes, mindset, and biases created by traditional education systems.

This Special Issue of the University News is being brought out on the occasion of the East Zone Vice Chancellors' Meet of the AIU being hosted by ICFAI University Sikkim on the theme of great national and international consequence, ***Transformative Pedagogies and Technologies in Higher Education,*** which is a Subtheme of the theme of AIU Annual Meet i.e. ***Transformative Higher Education For Atmanirbhar Bharat.*** This Special Issue contains articles on Pedagogy and the Use of Technology in Higher Education contributed by eminent academics and experts in the field. These articles will supplement the outcome of the Vice Chancellors' Meet to create a roadmap for the higher education institutions to work towards identifying the right pedagogies for higher education.

This is a small but significant effort to contribute to the Government of India's initiatives towards making India a *Vishwa Guru.* The aim is to bring about a change in the traditional system of imparting knowledge to provide a better future to the present generation.

Sistla Rama Devi Pani

Conceptualising the East Zone Vice Chancellors' Meet on Pedagogies and Use of Technologies for Transformative Higher Education

Pankaj Mittal* and Sistla Rama Devi Pani**

Indian Higher Education is going through the most interesting revolutions in the centuries, and that too at a very rapid pace. These revolutions are being reinvigorated and accelerated through both natural and manmade happenings. The most important happenings among others are the launch of the National Education Policy –2020 and the global Pandemic COVID-19. The National Education Policy geared the academia of the country to build an education system rooted in Indian ethos taking the best from global education practices which contribute directly to transforming India by providing high-quality education to all. Simultaneously, COVID-19 compelled us to undergo massive disruptions and shifts in education processes and practices. The need of the hour is to adopt Transformative Education and Transformative Pedagogies. Transformative education equips learners with the core knowledge, values, attitudes, and skills needed to address pressing local and global challenges in addition to preparing them to contribute to a more just, inclusive, diverse, equitable, secure, and sustainable future for all.

In order to guide and support the Indian HEIs in imparting state-of-the-art Transformative Education to the students, AIU as a representative body of HEIs in India has set out to organize all the Zonal and National Vice Chancellors Conferences in 2022-23 on the theme*:* ***Transformative Higher Education for Atmanirbhar Bharat.***

In Zonal Vice Chancellors Meets, themes on different essential aspects of teaching-learning in the light of Transformative Higher Education will be discussed exclusively.

a. *North Zone* : Internationalization for Transformative Higher Education
b. *East Zone*: Pedagogies and Use of Technologies for Transformative Higher Education
c. *Central Zone*: Transformative Curriculum for a holistic and Multidisciplinary Higher Education
d. *South Zone*: Research and Excellence for Transformative Higher Education
e. *West Zone*: Evaluation Reforms for Transformative Higher Education

The Present Meet

The present Meet is the East Zone Vice Chancellors' Meet. The theme for this Meet is '***Pedagogies and Use of Technologies for Transformative Higher Education'.***

Pedagogy can be described as the study of how knowledge and skills are imparted in an educational context and the approaches that can be adopted to make teaching impactful. The pedagogy adopted by teachers shapes their actions, judgments, and teaching strategies by taking into consideration, theories of teaching, understanding of students and their needs, and the backgrounds and interests of individual students. It involves the theory and practice of teaching-learning and how this process influences, and is influenced by, the social, political and psychological development of learners.

Pedagogy for Transformative Higher Education combines the elements of constructivist and critical pedagogy, involving social and technical processes from a systemic viewpoint that empowers students to examine critically their beliefs, values, and knowledge with the goal of developing a reflective knowledge base, an appreciation for multiple perspectives, and a sense of critical consciousness. In this, the teachers become facilitators with the disposition, knowledge, technology, skills, and commitment to supporting students to develop their full potential.

Thus, Transformative Higher Education *can be construed as higher education that empowers learners*

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to be reflective and critical thinkers and committed tech-savvy individuals who are able to contribute meaningfully to the local and global communities.

In this context, the HEIs in India have demonstrated their readiness towards adopting transformative higher education during the COVID-19 lockdown by shifting towards online technology and pedagogy to ensure that students' academic interests are protected in all aspects, including teaching, research, examination, internship, etc. This shift towards online methodology and pedagogy was considered a stopgap arrangement by some, but many have taken it as a permanent solution in view of its many advantages. Mostly so, because they have created the infrastructure for it. However, experts and educationists, and educational leaders are of the view that shifting to online learning in toto is not in the interest of the overall development of the students so it is better to integrate the best of both the methods, online and physical to devise hybrid or blended methods of learning. The COVID-19 lockdown has also compelled us to have the components of Social and Emotional, Spiritual, Philosophical, Global Citizenship Education, and Futuristic Education as an integral part of curricula to prepare the students for the new world order. In view of all this, HEIs need to fully adopt pedagogies and technologies that lead to *Transformative Higher Education.* In this Meet, there will be deliberations on the pedagogies and technologies that can accelerate transformative higher education in India.

The discussions will primarily focus on: fundamental principles, themes, and concepts of transformative pedagogies and technologies towards fostering and advancing Transformative Higher Education to tackle local and global challenges; articulate and address key issues to advancing transformative education in the current and emerging challenges posed as an outcome of the COVID-19 pandemic; professional skills to design, implement, and monitor contextualized and localized educational pedagogies and technologies; share relevant innovative and best practices, case studies, and lessons in the field of transformative higher education; ways to enable educational leaders, educators, policymakers, and other stakeholders to unlock and utilize the potential of transformative pedagogies and technologies to promote Transformative Higher Education. The two-day event will include the following 3 Technical Sessions to discuss the concerned topics:

Technical Session--1: Innovative Pedagogy and Lifelong Learning

Technical Session-2: Blended Learning

Technical Session-3: Personalized Learning through Edu-Technology

Format And Approach

The Sessions will be of 1 Hour and 30 Minutes each. In each Session, there will be experts from Government, HEIs, and ICT. Presentations will be followed by interaction and Q and A. On the basis of deliberations, a commitment statement will be framed for the universities to further the cause of Higher Education in India. In addition to academic deliberations, capacity development initiatives will be taken by forming a group of Vice Chancellors who will work on various dimensions of Transformative Higher Education.

Session Details

Technical Session-1: Innovative Pedagogy and Lifelong Learning

There is growing recognition around the world that it is not just enough to impart education through prevalent methods. There should be a strong readiness for innovation. NEP-2020 also envisions nurturing innovation in all domains of education and recommends the need to innovate in all fields of education. The vision of the policy is to improve the quality of education by giving equal space to creativity and innovation and transforming India into a vibrant knowledge society. Therefore, creating a conducive and enabling environment for innovation and not merely sticking to the traditional method of teaching and testing is the need of the hour. Unlike earlier years, these are not the days when people study at a particular age. Learning is unavoidable and happens all the time, so these are the days of Lifelong Learning. Whether pursuing personal interests and passions or chasing professional ambitions, lifelong learning can help us to achieve personal fulfillment and satisfaction. Lifelong learning does not necessarily have to restrict itself to informal learning.

In order to facilitate formal lifelong learning, NEP- 2020 has recommended a Multiple Entry and Exit System and Academic Bank of Credit. Through the Multiple Entry and Exit System, NEP 2020 seeks to pave the way for flexible and lifelong learning and encourage students to choose their academic path leading to the award of a certificate, diploma, and degree. The system allows students to drop their course and resume it at a later stage as and when they desire or deem it worth pursuing. This arrangement will prove to be a boon for those students who cannot continue their studies due to financial, social, or any other reason and desire to resume their studies when the conditions become favourable in due course of time.

To facilitate a Multiple Entry and Exit System; mobility of students; and multidisciplinary and holistic education, NEP-2020 recommended the creation of an Academic Bank of Credits. Academic Bank of Credit is envisaged as a digital bank that holds the credit earned by a student in any course. Students will be academic account holders to whom the Academic Bank of Credits will provide a variety of services including credit verification, credit accumulation, credit transfer or redemption, and authentication of academic awards.

The Academic Bank of Credits has been launched recently by Hon'ble Prime Minister. It has been developed by the National e-Governance Division (NeGD) of the Ministry of Electronics and Information Technology (MeitY) under the DigiLocker framework, with the facility and functionality of opening academic accounts by the students and on boarding of higher educational institutions. This virtual storehouse will ensure the opening, closure, and validation of the Academic Bank of Accounts, verification, accumulation, and transfer or redemption for students. It facilitates students to choose their own learning path to attain a degree/diploma/certificate working on the principle of multiple entry-multiple exits and anytime, anywhere, and at any level of learning. However, there are several impending issues in implementing them.

In this session, the deliberations will be on developing a conducive environment and infrastructure for Innovative Pedagogy for enabling Transformative Higher Education and Life Long Learning. There will be discussions on the feasibility of implementing multiple entry and exit systems and academic bank credits and strategies to effectively implement them.

Technical Session-2: Blended Learning

Of late, technology has had a profound impact on how teaching and learning work. COVID-19 lockdown had accelerated the use of online learning and one of the phenomena that have come to play an increasingly important role in education is blended learning. Blended Learning gives the facility to the students for doing part of their learning in a digital environment, and part of it face to face. The hallmark of blended learning is that the strengths of these two teaching/learning modalities are intentionally combined, resulting in a customised educational experience.

The most popular form of blended learning is the flipped classroom. It incorporates both face-to-face class time and web-based learning. Flipped learning is defined as a "pedagogical approach in which direct instruction moves from the group learning space to the individual learning space, and the resulting group space is transformed into a dynamic, interactive learning environment where the educator guides students as they apply concepts and engage creatively in the subject matter," (Flipped Learning Network, 2014). New material – in the form of lectures and videos on specific topic areas – is offered online, which allows the student the flexibility to access the content when it is convenient for them. The knowledge gained outside of the classroom is then applied in the classroom, as students participate in group work, problem-solving exercises, and discussions. A flipped classroom shifts the learning from teacher-driven to more student-centered as the class time is repurposed to include active learning and student engagement.

Nevertheless, blended learning should be used sensibly and thoughtfully, to avoid any gaps in learning and with an eye toward enriching student learning.

In this session, there will be deliberations on how to make the best use of Blended Learning in HEIs; the most appropriate pedagogy and technology for blended learning; the best practices of blended learning adopted by HEIs, etc.

Technical Session -3: Personalized Learning through Edu-Technology

Learning can happen in different places, activities, methods, and time frames. There are so many formats in which learning can take place

ranging from classrooms stuffed with more than a hundred students; to one-on-one mentorship programmes, interactive online games, and complex technical textbooks. Similarly, there are a variety of students with different learning conveniences. Technology has always played an important role in education, but its current use is more prevalent than ever due to the increased availability of smart devices and web-based curricula. With the rise of Artificial Intelligence in education, there are many ways in which students get support. Personalised learning is one among them which involves customization and adaptation of educational methods and techniques so that the learning process is better suited for each individual learner with their own unique learning style, background, needs, and previous experiences. In a personalized learning approach, the learner's personal experience, knowledge, and habits are connected with learning methods, so that they can learn faster, understand new concepts more easily, and improve their learning performance. If we want to increase the GER and improve the learning outcomes, personalized learning is essential.

NEP- 2020 has recommended that the teachers be trained in AI, Design Thinking, and other subjects through the AI-enabled Digital Infrastructure for knowledge sharing (DIKSHA) Portal.

Prime Minister Shri Narendra Modi recently announced the launching of several initiatives undertaken under the National Education Policy-2020 including the Artificial Intelligence programme to make the youth future-oriented and open the way for an AI-driven economy. The need of the hour is to make concerted and prudent efforts to make the best use of AI for Indian HEIs.

AI educational solutions can fill needs gaps in learning and teaching and allow HEIs to do more than ever before. AI can drive efficiency, personalization and streamline academics and administration tasks to allow the time and freedom to provide understanding and adaptability. By leveraging the best attributes of machines and teachers, the vision for AI in education is one where they work together for the best outcome for students. Since the students of today will need to work in a future where AI is the reality, it's important that our educational institutions expose students to use the technology. A few technologies with AI that are already affecting education in every way are Chatbots, Virtual Reality (VR), Learning Management System (LMS), Robotics, etc. These tools can be used for a variety of purposes, most importantly to assign coursework, communicate with students and parents, track student progress, generate reports on student performance, etc.

However, there are several disadvantages also which warrants prudence in utilizing AI for educational purpose. Adopting AI can be daunting for institutions lacking the time, expertise and resources to explore its many uses. These issues need to be discussed threadbare in the Meet to come out with tangible solutions.

Thus, in this session, there will be deliberations on methodologies and technologies required to impart personalised learning in Indian HEIs; measures and strategies to optimize the use of AI in higher education.

Participation and Organization

Vice Chancellors of Indian Universities, Experts from the Government of India, Apex Bodies of Higher Education, and Academia will be speakers and Session Chairs. Experts from international organizations will also be invited to contribute. Discussions will be conducted in English. Sessions will be in a blended mode. The speakers, chairs and participants need to inform in advance about the mode through which they would like to attend the Meet.

Conclusion

Given the increased demands placed on higher education due to, increased urbanization, globalization, privatization, and advancements in Information and Communication Technology, it is clear that immediate action is required to improve the techno-pedagogical aspects of higher education. In this scenario, it is befitting for higher education institutions to take the lead and work towards transformative pedagogies and the use of technologies in higher education. The recommendations of this East Zone Vice Chancellors' Meet will constitute the discussions at the National Vice Chancellors' Meets. On the basis of the recommendations of this National Meet, a handy guide will be prepared for Higher Education Institutions of the Country and will be prepared and presented to the Government of India.

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ICFAI University, Sikkim : A Profile

ICFAI University, Sikkim is hosting the East Zone Vice Chancellors' Meet of the Association of Indian Universities being held on December 13-14, 2022.

The Institute of Chartered Financial Analysts of India University, Sikkim popularly known as The ICFAI University, Sikkim has been established under Section 4(2) of the ICFAI University, Sikkim Act 2004 (Act 9 of 2004) passed by the Legislative Assembly of Sikkim. The University has been notified under Notification No. 9/LD/2004 Dated 15th October 2004. The University is recognised under Section 2 (f) of the UGC Act 1956 and empowered to award degrees under Section 22 of the UGC Act. The University is a member of the Association of Indian Universities, New Delhi, Member of Association of Commonwealth Universities, UK., the United Nations Global Compact and ECOSOC. The Bar Council of India has granted approval for offering 5-year BBA-LLB (Hons.), BA-LLB (Hons.) and 3-year LL.B Programs at the University.

The ICFAI University, Sikkim, Gangtok is located at the picturesque Himalayas in the Shivalik Hills of the Eastern Himalayan range, at an altitude of 1,437 metres (4,715 ft); bestowing it with a natural landscape and being blessed with an enviable cool climate throughout the year. The University can be lauded for its connectivity by air and road transport. Gangtok meaning 'lofty hill' was said to have been a small village until it gained the status of an important pilgrimage centre. Gangtok rose to prominence as a popular Buddhist pilgrimage site after the construction of the Enchey Monastery in 1840. In 1894, the ruling Sikkimese Chogyal, Thutob Namgyal, transferred the capital to Gangtok. In the early 20th century, Gangtok became a major stopover on the trade route between Lhasa in Tibet and cities such as Kolkata (then Calcutta) in British India. After India won its independence from Britain in 1947, Sikkim chose to remain an independent monarchy, with Gangtok as its capital. In 1975, Gangtok was made India's twenty-second state capital after the integration with the Union of India.

The first public airport 'Pakyong Airport' was operational in September 2018 onwards, which connects Gangtok with other parts of India. Now, instead of taking flights from Bagdogra (125 km away), passengers can directly board and deport from Gangtok, to other cities.

Vision

Establish itself to be a top-ranking private university of choice for students, staff and corporates, recognized for excellence in Higher Education and Research specially relevant to social needs.

Mission

The mission of the University is to offer world-class, innovative, career-oriented professional postgraduate and undergraduate programmes through inclusive technology-aided pedagogies to equip students with the requisite professional and life skills as well as social sensitivity and high sense of ethics. The University will strive to create an intellectually stimulating environment for Research, particularly in areas bearing on the socio-economic and cultural development of the state and the nation.

Objectives

- To identify the best in our students in every aspect and make them exceptional professionals in their respective fields of study.
- To nurture and develop the interests and talents of the students combined with the passion in them.
- To disseminate knowledge in a resourceful way with a view to help in the nation's development.
- To publish and circulate periodicals, newsletters and journals on subjects relating to the field of studies in the University.
- To associate with institutions and organizations in India and abroad for the development of the students and the University alike.

Infrastructure

The University has an extremely modern infrastructure that goes a long way in facilitating a number of services for the students as well as the staff members. The entire campus is Wi- Fi enabled with 100mbps. The classrooms are well-equipped with the latest audio-visual equipment, LCD projectors, etc. Other facilities include English Language Lab, IT Lab, Auditorium, seminar halls, smart classrooms,

Faculty rooms, Meeting Halls, Cafeteria, a food court, a Library, a Computer center, Indoor sports facilities and an Administrative area. The campus is also well equipped with a fire-fighting system, clinic and First Aid Centre, water harvesting and modern filtration system. With teaching excellence and state-of-the-art facilities all in one campus, ICFAI University, Sikkim is the place to take your next step in the world. And that's just the start of what sets us apart. Details of the same are mentioned below:

Academic Facilities

- Moot Court Room
- Library Facilities
- Computing Facilities
- Multi-Media Classrooms
- Workshops
- Industry Visits
- Soft Skills Training
- IT Lab

Campus Facilities

- Medical Facilities
- Transport Facilities
- Sports Facilities
- University Empanelled PG
- Cafeteria

Some Distinctive Features

- Excellence in academics
- Excellent Industry – Institute linkage
- Excellent Knowledge resources and initiatives
- Performance beyond books
- Reputed faculty
- Cultural Diversity with one of the largest mix of out-of-state and international students

Foreign Students

Because of its academic excellence and enriched infrastructural facilities, the University has attracted a large number of students mainly from Bhutan and Nepal.

Teaching Methodology

The ICFAI University, Sikkim has developed a unique teaching methodology which blends classroom learning with the practical aspect. Students are motivated into:

- Self-Learning through Presentations
- Research Work
- Case Studies and Analysis
- Role Plays
- Simulation Exercises

Dress Code

Students should follow the prescribed College dress code from Monday to Thursday and in any University Special Programs, Competitions, Guest Lectures, Seminars, Presentations etc., even if it is conducted on Saturdays.

Boys: Blue & White Stripe Shirt, Steel Grey Trouser, Red Tie, Steel Grey Blazer, Steel Grey Socks and Black Shoes.

Girls: Blue & White Stripe Shirt, Steel Grey Trouser /Pencil or Tube Skirt, Red Tie, Steel Grey Blazer, Black stockings or Steel Grey Socks and Black Shoes.

Programmes Offered

The ICFAI University, Sikkim offers career-oriented programs at postgraduate and undergraduate levels in management, information technology, hospitality and tourism, social sciences and law(Table-1). The medium of instruction for all the programs is English.

Table -1 Programmes Offered by ICFAI University, Sikkim

UG Programs	
BBA | B.Com (Hons.) | BCA LL.B B.Sc (Culinary Arts) | B.Sc (HTM) BA (Hons.) in (Economics, English & Political Science)	3 Years
BHM | BTTM	4 Years
BBA-LL.B(Hons.) BA-LL.B(Hons.)	5 Years
PG Programs	
MBA | MCom | MTTM | LL.M MA in (Economics, English & Political Science)	2 Years
MCA	2 Years

The University follows a semester pattern for all its programs. Each academic year consists of two semesters. Continuous evaluation is carried out through mid-semester examinations, assignments, quizzes, etc., culminating in an end-semester examination. A 5% relaxation on aggregate marks will be given to SC / ST / OBC applicants seeking admission. 25% of seats are reserved for students sponsored by the Govt. of Sikkim, which, if not availed, will be open to others provided they fulfill the eligibility criteria. A 50% fee concession is granted to the applicants admitted through the Sikkim Government Quota.

Anti-ragging and Anti-sexual Harassment Policy

The ICFAI University provides a ragging-free campus. The University follows the UGC guidelines and norms regarding the anti-ragging and anti-sexual harassment policies. The students are required to sign an undertaking preventing the above, which, in the case of minors (less than 18 years age) is also required to be ensured by the parents/guardians of the students.

Award of Degree

Students successfully completing the program are awarded degrees in their respective disciplines by the University, subject to University regulations.

Education Methodology

The education methodology adopted by the University encourages independent thinking and helps the students develop holistic perspectives, strong domain knowledge, a contemporary skills-set and a positive attitude. The University has evolved a comprehensive student-centric learning approach consisting of several stages, designed to add significant value to the learners' understanding in an integrated manner.

Classroom Instruction

Students receive full-time classroom instruction, which helps them learn and consolidate their understanding of the subjects.

Courseware

The University provides reference books, textbooks, and other related books designed for independent study in the library. In addition to physical library resources, the University also offers Digital resources with subscriptions to online libraries like JESTOR, IBISCO, SSC Online, and other open-source resources. The University can help the students in the procurement of textbooks on a payment basis.

Course Structure

The University updates the program structure from time to time to keep pace with the requirements of society and prospective employers in business and industry.

Assignments

The study package also includes self-evaluation assignments that help students to assess their own academic progress.

Computer Lab

Assignments related to computers will require the students to spend significant time in the lab. All students will have access to a well-equipped computer lab for their practical work in IT courses.

Soft Skills Training

Soft Skills training helps the students add a new personality. The core elements of methodology like peer work, group work, stimulating group discussions, mock interviews, skits, etc. instill confidence in the students to meet the challenges of corporate work culture.

Industrial Internship

The industrial internship enables students to experience the rigours of the business environment and apply the concepts learned in the classroom in real-life situations in organizations. For proper coordination and to ensure organized and smooth conduct, each student is placed under the guidance of a faculty member.

Projects

Students are encouraged to pursue live projects to enhance their learning by applying theoretical concepts to real-life situations in the corporate world or at any other workplace. This is under the guidance of experienced and well-versed faculty members to ensure proper focus and implementation.

Evaluation

Student performance in each course will be assessed by means of continuous evaluation. Students will be evaluated on the basis of assignments, seminars, projects and tests.

Internship Program

The Internship Program (IP) forms an important component of education at the University. It is an attempt to bridge the gap between the academic institution and the corporate world. The internship comprises training in a real work environment and requires the students to undergo its rigors in form and substance. It exposes them to technical skills and helps them to acquire social skills by drawing them into contact with real professionals. For proper coordination and to ensure organized and smooth conduct, each student is placed under the guidance of an experienced and well-versed faculty member. A representative of the industry/ organization also guides the student and assists the faculty member in monitoring the student's progress.

Internship assignments are necessarily those of direct interest to the host organization. Students are encouraged to take up time-bound, multi-disciplinary and goal-oriented assignments involving teamwork. Solutions to various problems confronted in the assignment might be open-ended, involving an element of analytical thinking, processing, and decision-making in the face of insufficient data, undefined parameters, and uncertain situations.

Internship Projects

For all programs, internship projects are undertaken either at the end of each academic year or during the last semester. These projects are meant to help students appreciate the applications of knowledge in real-time scenario. It increases their practical exposure.

Resources and Facilities

Faculty Resources

The University plays a significant role in ensuring quality education through interactive teaching. The faculty brings their extensive knowledge, professional experience, and advanced education to their task at the University. They have been practising professionals and academicians drawn from industry and leading institutions. The commitment to teaching inspires their involvement with the students. Faculty members emphasize both theory and practice in the classrooms.

Computing Facilities

The University is equipped with the necessary latest hardware and software as well as infrastructure to cater to the computing needs of all students and faculty. It is equipped with servers, multiple terminals, multiple operating systems enabling a client-server environment and Wi-Fi enabled internet facility. High bandwidth internet connectivity is provided to both the students and the faculty to help them in their continuous search for knowledge with the help of the world-wide-web.

Library Facilities

The University has a well-stocked library which is being augmented regularly with books, periodicals, journals, magazines, and other publications. Students have access to the finest collection of contemporary books and journals which supplement the prescribed reference books and textbooks. The library also subscribes to online resources to help the students in their research and project work.

Seminar and Presentations

Students participate in seminars on management topics and make presentations on the same in class. These are done under the guidance of the faculty members and hone the reading, summarizing and presentation and public oratory skills of the students apart from inculcating the reading habit in students.

Guest Lectures

Guest lectures play an important role in the developmental process of the students. Eminent academicians and practising professionals are invited for guest lectures where students get an opportunity to interact closely with them and understand the practical applications of various management concepts and ideas.

Merit Scholarships

The ICFAI University Sikkim offers merit scholarships to students pursuing the UG & PG Programs. The scholarships are based on performance in Class XII (or equivalent)/ Graduation (or equivalent) and Semester-wise performance during the Program.

Merit Scholarships Based on Past Academic Records

The percentage of marks achieved in the qualifying examination will decide the amount of scholarship. The Scholarship amount will be awarded in 2 equal installments i.e. in the first and second semesters of the program. The second installment of the scholarship will be awarded on securing a minimum 8.00 GPA in the first semester. The students availing of 50% program fee concession (i.e., Govt. Quota students) will not be eligible for scholarships based on Past Academic

records. However, they will be eligible for scholarships based on semester-wise performance. The scholarship details are presented in the table-2.

Table-2: Merit Scholarships Based on Past Academic Records

Aggregate % in the qualifying examination	Percentage of 1st Sem. The programme fee is given as a merit scholarship
≥ 90%	75%
≥ 80% - < 90%	60%
≥ 70% - < 80%	50%

** All subject marks will be taken into consideration while calculating Entry Level Scholarship percentage.*

Merit Scholarships Based on Semester-Wise Performance

Up to 10% of the students of the batch will be awarded merit scholarships based on their Semester-wise performance (Details presented in the table given below). These scholarships are offered in addition to the scholarships based on past academic records.

Table-3: Merit Scholarships Based on Semester-Wise Performance

Academic Performance (CGPA)	Category I ≥ 9.00	Category II ≥ 8.50 - < 9.00	Category III ≥ 8.00 - < 8.50
% of Program fee of the semester will be awarded as scholarship	30%	22%	15%

Co-curricular Activities

Students are encouraged to involve in several co-curricular activities which help them to improve communication skills; develop the right kind of attitude; enhance leadership qualities and abilities; manage stress levels; emerge as team players; refine interpersonal skills and develop group skills. The University has sports and recreation facilities for indoor sports like badminton, table tennis, carom, Futsal, etc.

Careers and Placement Assistance

The ICFAI University, Sikkim has an impeccable track record of achieving excellent placements every year, with top companies visiting the campus to recruit its students.

Placements

The University gives utmost importance to assisting students in getting suitable placements after successful completion of the program. The placement record of the University has consistently been of an exceptional order.

Research and Extension

The ICFAI University Sikkim is committed to the pursuit of excellence in research and aiming to the national agenda across the spectrum of science and technology, humanities and social responsibilities. The Research and Development Cell at the University promotes and monitors research and related activities. Such activities are inclusive of Webinars/Seminars, Workshops, Lecture Series, and Students Field visits based on Innovative Research, Intellectual Property Rights, Entrepreneurship & Skill Development, and Research Methodology. The University nurtures and mentors students for research right from the undergraduate level, as a result, IUS students have been motivated to participate in and presentation of research papers at various National or International Conferences and Seminars. Consistent contributions of faculties in terms of chapters in edited books and research publications and peer reviews in indexed journals enlisted under SCOPUS, WoS, UGC CARE and Referred Journals have been the observables. Such enthusiasm has been the robust input for the fabrication of the research environment in the University.

Awards and Recognitions

The University over the years has been awarded many awards and recognized by both Industry and Academia. The University has been ranked in the Gold Band with an A Grade in OBE Rankings 2022, Ranked A3 Band- Institute of Excellence by MHW Ranking. India Best Law Colleges with AA Ranking by Careers 360. AAA Ranking by the Education Standard & testing Council of India in the field of Quality Education and Training. Ranked 9th among the 10 Hotel Management Colleges for the value of money and the top 10 private emerging Hotel Management Colleges in India.

Career Counselling and Placement

The career counselling and placement wing at the University look after the training and placement activities on a full-time and continuous basis. Staffed

by senior professionals and placement executives, the team initiates and maintains the university-industry dialogue and manages the Internship program and final placement activities. The team Evaluates student performance Levels and ensures relevant preparation for their corporate placements, working on both the supply and demand sides of the placement, the team plays a vital intermediary role in matching academic excellence with industry expectations. For those students opting out of placements, career guidance, entrepreneurship training and help in preparation for competitive examinations are also provided.

Career Opportunities

Postgraduates will have opportunities to work both in public and private sector firms involved in both manufacturing and service functions. The following organizations provide career opportunities for fresh graduates. *Finance***:** National and Multi-National Banks; Credit Rating Agencies; Insurance Companies; Trading and Broking Firms and Other Financial Service Firms etc. Marketing*:* Sales and Marketing departments in both national and multi-national firms; Advertisement Agencies; Event Management Companies, etc. *Human Resource Management***:** HR departments in National and Multi-National Companies; Recruitment & Training Agencies; Counseling and Career Development firms etc. *Operations Management***:** Production, Distribution, and Logistics departments in both Manufacturing and service organizations.

BBA students are absorbed in appropriate management levels in manufacturing, marketing services, BPOs, Import/Export organisations, HRM, IT and Systems.

B.Com degree leads to opportunities for employment in the financial industry viz commercial establishments, banks and insurance industry. The degree holders are also eligible to the pursuit of higher studies leading to MCom, Chartered Accountancy and financial analysis.

BCA students can seek entry Level careers in the areas such as Management information systems, data base management systems, system analysis and design; internet, software engineering; e-business; enterprise resource planning, computer network, internet applications, portals, web-enabled services, business process outsourcing, etc.

BHM / BTTM students can seek career opportunities in Hospitality Management, Leisure & Tourism, Public Relations, Travel and Tourism. In addition, all students have the option of pursuing higher studies or teaching at appropriate levels.

Globalization and liberalization of the economy have brought in new perceptions. Diversified legal issues emanating from socio-political dynamics have also redefined the boundaries of legal education and many interdisciplinary approaches are required to address the emerging legal challenges. Law graduates have ample opportunities in Corporate Legal Departments, Law Firms as well as for private practice.

The entire placement assistance exercise is a joint effort between the University and the students. While the University provides guidance and networking support, the students have the responsibility to put in their maximum possible efforts to obtain suitable placements. Placement depends not only on the performance of students at the degree level but also on previous academic record.

Some of the top Recruiters are:

Banking Sector: Axis Bank | HDFC Bank | ICICI Bank | IndusInd Bank | Yes Bank

Hotel Sector**:** Hyatt Regency Kolkata | J W Marriot Mumbai | Mayfair Hotels | Taj Bengal Kolkata The Oberoi Group | Trident Hotels | The Pride Hotel Kolkata | The Sonar Kolkata.

Media Sector: Thomson Digital (India Today Group)

ITES Sector: Concentrix | IBM Global Process Services | TATA Consultancy Services | Tech Mahindra | Wipro Technologies

Aviation Sector: IndiGo Airlines ❑

Higher Education Needs Transition from High-Tech to High-Touch

Umrao Singh Chaudhari*

Within the past 7-8 years a wave of new Research Findings has washed our shores. This has been able to persuade the leading experts in the area of education and health to shift their focus from 'high-tech' to a high-touch approach. The meaning of great performance has changed. It used to be that you had to be good at machine-like. 'Now increasingly' says Geoff Colvin (2015), "you have to be good' at being a person. Great performance requires to be intensely human beings". Being a great performer in becoming less about what we know and more about what we are like. Our most fundamental need is the need for 'human connection'. No matter how far technology evolves some things can never be replaced. We have a biological drive for social interaction. We are social to the core, we 'long to belong'. Crucial - personal interactions are essential to true human feelings. Human spirituality is deeply rooted in the relationship (Vaillant, 2008).

Susan Pinker (2014) says that "face-to-face human interactions, not computer-mediated communication, are key to our well-being." Loneliness and isolations are our blights and other people are the source of our happiness. We must develop our students to value technology and the richness of interpersonal experience. The most valuable people are increasingly the 'relationship workers'. Not knowledge, but the quality of the human relationship is the great source and basis of values.

Skills, the economic values, are changing in historic ways. The world has moved from an economy built, on people's backs to an economy built on people's 'left brains'. Now, what is emerging these days is an economy and society built more on people's 'right brains'. 'High concept' and 'high-touch' are on the rise throughout the world economy and society. High-tech is no longer enough, we need to supplement our high-tech abilities with abilities that are high concept and high-touch. High concept involves creating artistic and emotional beauty, directing patterns and opportunities, and crafting a satisfying narrative to combine seemingly unrelated ideas into an invention. "High touch involves", says Daniel Pink (2006), "The ability to empathize, to understand the subtleties of human interaction, to find joy in one's self and to elicit it in others, and to stretch beyond the quotidian, in pursuit of purpose and meaning."

We need to create durable value that is not easily replicated by technology because we are hard-wired to want it from humans. "Our greatest advantage lies", says Geoff Colvin, "in what we humans are most powerfully driven to do for and with one another, arising from our deepest, most essentially human abilities: empathy, creativity, social sensitivity, story-telling, humor, building relationships and expressing ourselves with greater power than logic can ever achieve."

A majority of social thinkers agree that 'empathy' is the highest and most inclusive value (or human traits) of the 21st century. Empathy is the foundation of all other abilities that increasingly make people valuable as technology advances. In fact, empathy is the first element and the basis of every significant human relationship. Empathy means discerning what some other person is thinking and feeling and responding in some appropriate way. Research evidence reveals that empathy pays "Waiters who are better at showing empathy earn nearly 20% more in tips, and debt collectors with empathy (high-value skill) recover twice as much debt." Hence efforts are being made to transform the corporate world and medical services to ensure that empathy is at the heart of all business and health activities.

The notion of empathy is growing more important in today's economy and the education and health sectors are a reality and not just a theory. Employers around the world are saying explicitly that they value it and want more of it. Empathy and other interpersonal skills are "as important as proficiency in English and Mathematics in ensuring young people's employment prospects." An advisory

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group of top British educators and CEOs have urged that empathy and other high-value interpersonal skills be taught to all secondary and college-going students. These high-value skills may include leadership, coordinating, judging, problem-solving, subtle interpretation, persuasion, analysis, etc.

Thus, empathy will make the difference between 'good and great. High-concept and high-touch aptitudes are moving from the periphery of our lives to the center. All higher learning and research institutions should swiftly march forward to adopt and integrate a 'high-concept' and 'high-touch' approach with all learning and teaching transactions. Standford Business School has overhauled its curriculum to teach interpersonal skills through human-to-human experiences.

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The Association of Indian Universities

The Association of Indian Universities (AIU), is one of the premier apex higher education institutions of the Country established in 1925. It is a research-based policy advice institution to the Government of India in the field of Higher Education, Sports, and Culture. Since its inception, it has been playing a vital role in shaping Indian higher education. Most importantly, AIU is vested with the power of according equivalence to Degrees/ Qualifications offered by the universities across the world with those offered in India. AIU has also been mandated by the Department of School Education, Ministry of Education, Government of India to accord equivalence to the Indian Boards for the Secondary/Senior Secondary Examination vide Gazette Notification. AIU is a think tank body with the responsibility of undertaking academic activities such as: conducting Research Studies in higher education; acting as the bureau of information on higher education; liaising with international bodies and universities for the internationalisation of Indian higher education among many others. AIU conducts inter-university sports and cultural events at national and international levels. As a National Sports Promotion Organization (NSPO) it promotes sports among Member-Universities and maintains the standards in sports.

Being an apex advisory institution, it constitutes an integral part of all major decision-making committees and commissions in the country. As a representative body of Indian universities, it facilitates cooperation and coordination among Indian universities and liaises between the universities and the Government (Central as well as the State Governments) and also National and International bodies of higher education in other countries in matters of common interest. Whereas all the Indian universities benefit from its contribution, at present it has a membership of about 898 universities including 14 overseas universities from other countries viz. Bhutan, UAE, Kazakhstan, Mauritius, Malaysia Nepal, as Associate Members.

Some of the legends among many, who served AIU as its Presidents are Dr. Sarvepalli Radhakrishnan, Dr Zakir Hussain, Dr. Syama Prasad Mukherjee, Dr K L Shrimali A.L Mudaliar, Dr Akbar Hydary, Prof A C Woolner, Pandit Amarnath Jha, Sir Maurice Gwyer, Dr K L Shrimali, Prof Shiv Mangal Singh 'Suman', Prof M S Gore, Prof M S Adiseshiah, Prof M S Valiathan.

Transformative Pedagogy and its Infusion across Disciplines in Higher Education: A Review

Sunil Kumar Singh* and Ratikanta Senapati**

The 21st century educational systems across the globe in general and developing and underdeveloped countries in particular are experiencing a period of unprecedented knowledge expansion and change due to the influence of scientific discoveries, innovative technologies and globalization (Miler, Michalski, and Stevens, 1998). One of the most exciting changes that have occurred in education during the past decade has been the increased knowledge in the areas of brain research and cognitive science (Vijayachandran, 2018). This new knowledge has significant implications for pedagogy, curriculum and school organization. It is because in reality the kinds of conditions that are needed to promote learning are not seen in most schools (wgu.edu, 2022). It is no exception in higher education institutions of various types i.e. general or professional. Therefore, increased knowledge about new research related to pedagogy, curriculum and institutional organization is vital to making decisions about new strategies or innovations. According to Schnepfleitner and Ferreira (2021), "pedagogy is an important aspect of teaching and learning in educational institutions. Essentially, pedagogy comprises science, art, and practices that teachers perform when teaching learners and enable them acquire knowledge". According to this view, it can be said that pedagogy is a means that teachers use to communicate their knowledge to learners. Hence, pedagogy is more than knowledge because it entails exposition, the direction of activity, invitation of imitation, motivation, and criticism of knowledge during the process of teaching and learning (Saha, 2021). Thus, realizing the importance of pedagogy in 21st century, Yong Zhao (2016) rightly reflected the following: "The traditional teacher-centred pedagogy needs to be changed. It is also more feasible than ever before to make the change. The change is more than piecemeal tinkering. It is a paradigm shift, a complete rethinking of how teaching and learning are carried out. The reforms in pedagogy are to refine and transform the teaching and learning experiences".

So, the term pedagogy can be defined as the art and science of teaching. It refers not only to strategies or styles of instruction but also to the facilitation and management of sustainable transformations, whether individual, social, structural or institutional. In order to transform higher education holistically the transformative dimension of pedagogy deserves to be clarified, revisited and eventually adopted by educators to transcend the traditional role and facilitate an active participation for holistic knowledge enrichment. Accordingly, the purpose of this article is to introduce educators about transformative pedagogy and its infusion in higher education across disciplines and subjects.

Transformative Learning and Pedagogy

According to Oxford Languages Dictionary (2022), transformative means causing a marked change in someone or something. Therefore, in terms of education and learning the concept of transformation is linked to improvement in existing status of the learner. The theory of transformative learning was given by Professor Jack Mezirow in the mid-70's and later on revised over time based on critiques and discussions. As quoted by Schnepfleitner and Ferreira (2021) Mezirow's transformative learning as defined by him in 2009 is "the process by which we transform problematic frames of reference (mind-sets, habits of mind, meaning perspectives) sets of assumptions and expectations to make them more inclusive. Discriminating, open, reflective and emotionally able to change". It leads to deeper changes in thoughts, feelings and actions. This kind of learning experience involves a fundamental change in perceptions—learners start to question all the things they knew or thought before and examine things from new perspectives in order to make room for new insights, information, attitudinal changes and actions.

Thus, transformative learning has two basic focuses namely (i). Instrumental learning, and (ii).

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Communicative learning. The former focuses on task-oriented problem-solving, and evaluation of cause-effect relationships; whereas the later focuses on how people communicate their feelings, needs, and desires. Both of these elements are important in transformative learning—students need to be able to focus on different types of their understanding and view new perspectives that are both logical and emotional in order to challenge their previous understanding. It is somewhat similar to a constructivist learning perspective i.e. the idea that meaning is constructed from experience and internal understanding – with the importance of communication and reflection. Using these learning approaches, students challenge their own "meaning perspectives," which are the unconscious ways we view the world; and change their deeper thought, feeling hence their personal actions themselves. On the whole transformative learning involves some core elements like - personal experiences, specific context, dialogue and holistic critical reflection.

Pedagogy on the other hand, as rightly reflected by Saha (2021) refers to the method used by educator/ teacher to teach the theory and the practice. It also includes educator's teaching beliefs and concerns along-with the interplay between culture and different ways to learn. There are four common forms of pedagogy: social pedagogy (education as supporting social development), critical pedagogy (deconstructing normative perspectives), culturally responsive pedagogy (encouraging the sharing of diverse backgrounds and experiences) and Socratic pedagogy (developing intellectual and social skills to live in a democratic society).

According to Tinning (2017), "Transformative pedagogy has been defined as an educational philosophy that combines social constructivism and critical pedagogy," (Lynch, 2019). Further another definition by Ukpokodu (2009) mentions the following:

"Transformative pedagogy is an activist pedagogy combining the elements of constructivist and critical pedagogy that empowers students to examine critically their beliefs, values and knowledge with the goal of developing a reflective knowledge base, an appreciation for multiple perspectives and a sense of critical consciousness."

After reviewing the above definitions of transformative pedagogy, it can be visualized as an educational philosophy that combines social constructivism and critical pedagogy. Kincheloe (1993) reflects that, "Teachers and parents focus on children's education in such a manner that it is away from the child's point of view and their construction of reality. To help students create knowledge with keen understanding, teachers need to employ critical pedagogy in the classroom". (as cited in Uddin, 2019, p. 117). We know well that, teachers today are busy in the classroom preparing the students for high-stakes testing in the school/educational institutions. As a result, teaching is most often test-oriented rather than knowledge-centred. However, the most significant goal of teaching is to promote the critical thinking capability of students and thus, to create good citizens for a just society (Uddin, 2019, p.109). Therefore, Classroom teaching must awaken the values of justice and equality in students' minds. To fulfil this critical pedagogy plays an important role in improving their knowledge. It is a vital teaching strategy designed to strengthen the awareness of learners about justice and social equality. In a way, it enables them to change their feelings, attitude and action in a democratic society and makes them pro-democracy. Initially, the critical pedagogy was refined by Paulo Freire. It is designed to equip a given group of people to deal with social or economic systems that inhibit their potential. The truth unveiled by critical pedagogy is perceived to perpetuate the cultural, social, political, and economic dominance of one group of people. The origin and several concepts of critical pedagogy date back to the principles of early philosophers such as Karl Marx and Paulo Freire in the post-industrial modern world. It fosters conscientization, and context specificity to address real-life situations, value development and participation in the democratic social order. Critical pedagogy also values the diverse socio- linguistic and cultural backgrounds of learners in the classrooms. Such pedagogy helps promote democracy and harmony among diverse communities.

Another relevant term related to it is Social constructivism. According to Mckinley (2015) it is a sociological theory of knowledge in which human development is socially situated and knowledge is constructed through interaction with others. While social constructionism focuses on the artifacts that are created through the social interactions of a group, it also focuses on an individual's learning that takes place because of personal/individual interactions in a group (Social Constructivism, 2022). It is a

collaborative form of learning based on interaction, discussion and knowledge sharing among students. The teacher's role is to employ teaching methods that are learner-centered and collaborative in nature. As rightly reflected by Akpan, Igwe, Mpamah and Okoro (2020): "Social Constructivism deemphasizes teacher-monotony in the classroom but encourages active interaction among learners, the teacher and other components of the teaching-learning process. It also concretizes learning and knowledge by making students retain the facts that they discover and construct by themselves than those they are told by the teacher among other benefits," (p. 49).

Therefore, the concept of transformative pedagogy has been aptly defined by Senteni and Schneider (2007) as one which "… considers co-evolving social and technical processes from a systemic viewpoint in an evolutionary perspective of education and culture, allowing to build meaning and capacity through community development, support and networking". It is based both on a realistic view of the contemporary and on possible paths to improvement in our human life. Knowledge is a social concept its emphasis should be to value the multiple perspectives of learners during their teaching-learning experiences. By incorporating of critical pedagogy and a constructivist approach the process of transformative pedagogy opens the doors for the development of problem-solving skills of learners and makes them more productive and useful in society in multifarious ways.

Use of Transformative Pedagogy

According to Meyers (2008) teachers can effectively use transformative pedagogy by the adoption of following steps: (1) creating a safe environment; (2) encouraging students to think about their experiences, beliefs, and biases; (3) using teaching strategies that promote student engagement and participation; (4) posing real-world problems that address societal inequalities; and (5) helping students implement action-oriented solutions. According to Senteni and Schneider (2007) objects of transformative pedagogies is to take essential form of innovative methodologies (acting as conceptual artifacts) for crossing boundaries between strategies of instruction and management of sustainable transformations at the three levels i.e., individual, group and organisation.

According to Naamgyal (2020), "Transformative pedagogy is about engaging students through discourse, group work and partners. This set of learning emphasises student engagement, participation, ownership and making learning processes fun and exciting". Thus, it is a learner centred and student engaging method rather than the conventional lecture method. The teacher acts as a facilitator for learning. For instance, the transformative pedagogy also includes an emphasis on arranging the sitting arrangement in such a way that each group has a high and low-performing member. That way every student gets an opportunity to active participation in the class. A clear role is set out individually for every student so that every student proceeds at one's own pace.

The training in transformative pedagogy also incorporates lesson plans to suit the learning abilities of different students. For instance, while there are students who learn through writing and reading, some learn through visuals. The training thus emphasises considering the needs of individual learners. It also facilitates academic equity, bridges achievement gaps, promotes social skills, and personal organisation and builds students as an individual and as part of a team. The teachers are also oriented with skills to deal with learners from different family backgrounds, mood and circumstances considering their emotions. The training also attempts to refresh the teachers on assessing the student's progress on a daily basis.

Advantages of Transformative Pedagogy

According to Vijayachandran (2018) there are the following advantages of transformative pedagogy:

1. Transformative pedagogy places the student at the center of learning. It helps learners find their own inner voice and power; therefore, they feel empowered to effect social change. Teachers have to respect and have compassion for co-learners. All ways of knowing are interconnected and enriched by each other.
2. The desired outcome is to change- to transfer learning into social action outside the classroom.
3. Transformative pedagogy is closer to a collaborative approach. The power is more likely to be shared between students and teachers.
4. The curriculum focuses on problems and solutions by both teachers and students and they jointly construct meaning that informs learners' personal growth.

5. Learning is measured by observing each student's growth and thinking process, inquiry process, and students' predisposition to lifelong learning.

Hence, we can summarise that, the transformative pedagogy involves experiencing a deep, structural shift in the basic premise of thought, feeling, and actions of teachers. It is a shift of consciousness that dramatically and permanently alters their way of being in the world. Such a shift involves their understanding of themselves and their relationships with students. It enhances their visions of alternative approaches to teach students and create a sense of the possibilities for job satisfaction and personal joy.

Infusion of Transformative Pedagogy in Different Discipline and Subjects

Considering the potential of transformative pedagogy and its impact on learning in various disciplines/subjects some researchers have conducted researches in the disciplines/areas of on-line teaching, sustainable development, languages, mathematics, early childhood education, blended learning, teacher education, adult education etc. Their findings have been summarised in the table--1 as evidence of possibility of infusion of this innovative pedagogy in the related disciplines/areas in education/higher education.

Table 1: Researches on Transformative Pedagogy and its Infusion across Disciplines/Areas

Author and Year	Article Name	Discipline and Areas	Findings
Steven A. Meyers (2018)	Using transformative pedagogy when teaching online	On-line teaching	• Transformative pedagogy encourages students to critically examine their assumptions, grapple with social issues, and engage in social action. • Transformative pedagogy not only focuses on developing students' understanding of alternative perspectives and experiences on an individual basis, but it also expands their awareness of how societal forces impact people • Strategies to use transformative pedagogy by teachers who teach online (1) creating a safe environment; (2) encouraging students to think about their experiences, beliefs, and biases; (3) using teaching strategies that promote student engagement and participation; (4) posing real-world problems that address societal inequalities; and (5) helping students implement action-oriented solutions.
Patrick Farren (2018)	Transformative Pedagogy' in Language Teacher Education	Language	• Transformative pedagogy enhances the social-psychological model of autonomous language teaching and learning by underpinning it with an intercultural and moral-philosophical foundation. It supports the target language teacher in developing a more encompassing, professional identity that incorporates practitioner-researcher and leader. • Transformative pedagogy gears teaching towards learners and learning. Learners are understood as whole persons with an identity as critical and intercultural target language users for whom interactions are informed by moral values. • It supports target language teachers in developing a more encompassing professional identity as practitioner-researchers and leaders in the school and wider community. It enhances the social-psychological model of autonomous language teaching and learning by underpinning it with a critical, intercultural, and moral-philosophical basis.

Author and Year	Article Name	Discipline and Areas	Findings
Pallavi D. Khedkar and Preeti Nair (2016)	Transformative Pedagogy: A Paradigm Shift in Higher Education	Teacher Education	• Paradigm shift from traditional learning to transformative learning will provide a platform to the students and the teachers to show their abilities, potentials, and capabilities. The role of the teacher is helping the students in improving themselves in this journey so that they would be confident, strong, and stubborn in their future. • Teachers should get freedom to adopt and practice newer methods, Quality of students in terms of aptitude, knowledge and self-effectiveness needs to be accelerated, group discussions and group presentations can be adopted, industry interaction, vestibule training, industry internships, practical teaching & demonstration should also be the methods of teaching.
Charles Bonello and Paul Pace (2022)	Transformative pedagogies - a useful theoretical framework for promoting ESD	Education for Sustainable Development (ESD)	Living sustainably involves making daily sustainable choices from the variety of options available, even if it involves going against the grain. Such a radical change in lifestyle requires the development of attitudes and habits that is dependent on adopting critical consciousness as a daily on-going reality. Based on the characteristics outlined above, a transformative pedagogy can indeed provide a useful theoretical framework for promoting Education for Sustainable Development (ESD), both within and without schools.
Patrick Farren (2018)	Transformative Pedagogy in the context of language teaching: being and becoming	Language teaching	Transformative pedagogy creates conditions that support teacher and pupils (participants) in developing their identity as persons in relation to one another. Participants accept responsibility for expressing their meanings that implies metacognitive and socio-affective factors, and social interaction The construct supports participants in making connections between meaning making in class and meaning making in the world. Interaction in the school is informed by moral-ethical values that support participants in developing self-awareness and social awareness. ‘‘Being-in-relation’’ and ‘‘being-in-becoming’’ are two interlinked terms that express social interdependence and the capacity to self-direct and by implication, to bring about improvement.
Roisin Donnelly (2016)	Application of Mezirow’s Transformative Pedagogy to Blended Problem-based Learning	Blended Learning	• At the pedagogical level, transformative practice has the potential to engage students as critical thinkers, by encouraging them to be both participatory and active. • Blended PBL is regarded as inherently formative with respect to the role it plays in the development of individuals, but the transformative dimension deserves to be clarified, revisited, and ultimately deconstructed with regard to the responsibility of educators to transcend their traditional role and expand the scope of their work towards an active participation to knowledge advancement. Inherent in this is the role given to e-learning technologies to act as mediating artifact of emerging networked educational systems, supporting peer-to-peer collaboration as well as learners’ autonomy and responsibility for learning

Author and Year	Article Name	Discipline and Areas	Findings
Nicola Yelland and Eugenia Arvanitis (2018)	Transformative pedagogies in early childhood education	Early Childhood Education	Transformative pedagogies engage young children in being passionate about their learning and new discoveries to reflect on their practices in order to become more aware about the ways in which they might be able to challenge traditional. They live in complex and challenging times. So, there has never been a better opportunity to try and do things differently and learn from the experiences of others in the field. This will build knowledge base of empirical examples and share what works so that others might take from them and adapt to their own contexts based on their local knowledge
Shrestha, I. M., Luitel, B. C. and Pant, B. P. (2020)	Exploring Transformative pedagogy in teaching Mathematics	Mathematics	Personal /individual contextual experiences of teachers/ researchers can be incorporated for teaching mathematics. Researcher has narrated own experiences.
Frances Schnepfleitner, and Marco Ferreira (2021)	Transformative learning theory – is it time to add a fourth core element?	Adult Education	Learners actively participate and engage with the concepts presented within the context of their own lives and both independently and with others critically examine the justification of new knowledge. There is ample scope and justification for further, interesting research into diverse educational, social, and corporate fields and contexts because in the end it has the potential to aid further transformations of the human consciousness.

Conclusion

Based on the foregone sections of this article we can say that the Transformative Pedagogy is an innovative approach of teaching-learning which involves individualized contextual experiences, involving the intellect of the learner to promote fruitful holistic thinking in the learner to enable oneself to change the perceptions/feelings, attitudes and actions simultaneously to benefit oneself and the surroundings (Socio-cultural-ecological-economical-political) too to lead a blissful life. It respects the diversity of language, culture and experience altogether. It has multifarious advantages for teachers to teach and learners to learn. The infusion of transformative pedagogy in higher education disciplines /areas is practically beneficial to evolve individuals as transformative learners who are action-oriented for the development of a better democratic society. However, the infusion effort requires a major paradigm shift in thought and practice by teachers, learners as well as policy framers.

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Success beyond the Classroom: Technology Integration for Social-Emotional Learning and Cognitive Development

Rajanish K Kamat*

Graduation marks the beginning of the battle for effective learning that will determine the course of an individual's professional career. As challenging as it may be to apply knowledge learned in the academic institute, it is nothing compared to what awaits you outside of it. Furthermore, the profession requires the continual development and improvement of skills. Thus, graduation from an academic institution does not mark the end of the process of acquiring knowledge but rather marks the beginning of a lifetime of learning. In this context, despite the proliferation of screens and smartphones, it is important for the learner to develop social, emotional, and cognitive skills that will enhance their success in future careers. When considering the foundation of a successful lifelong learner, these three competencies are essential. Finding a balance between technology and social-emotional learning is a significant challenge for this generation. To help our students acquire these essential skills, how can we effectively integrate technology into our teaching practice? The answer lies in the simple question, "What and how do we want our students to learn?" Teachers can use technology to help their students become successful learners. It is also pertinent to consider how learning is facilitated from the perspective of the teacher-student dynamic. There is no doubt that technology can be an effective tool for bridging the gap between classroom learning and the development of these skills outside of the classroom, as this article demonstrates.

In Social and Emotional Learning (SEL), teachers use a variety of teaching strategies and learning environments to help students develop their social, emotional, and cognitive skills. In terms of cognitive expression, SEL can be defined as "the intentional use of a variety of instructional strategies aimed at fostering the development of critical thinking skills, knowledge, and values." Implementing a variety of instructional strategies designed to assist learners in identifying social problems and forming socially acceptable behaviors, can be translated into practice. It is through SEL skills that students are able to develop relationships by teaching conflict resolution strategies and understanding the needs of others.

Students and teachers can benefit from directly addressing topics such as diversity, self-esteem, and responsibility in the classroom and SEL activities. SEL is designed to address these differences and help all students succeed on an equal basis by assisting students in better understanding their thoughts and emotions, becoming more aware of themselves, and gaining a greater understanding of others in their community and around the world. The advocates of SEL claim that it helps students understand, control, and accept their own emotions as well as the emotions of their peers throughout their educational careers. As a foundation for achieving individuals' unique goals, understanding and managing emotions, developing positive relationships, making informed decisions, and demonstrating empathy, SEL is essential.

In general, learners equipped with SEL capabilities are better able to understand and regulate their own emotions, achieve their goals more successfully, accept the viewpoints of others, develop positive relationships, and make responsible decisions. The latest front in the classroom culture war has been social-emotional learning, which teaches skills such as empathy, self-control, and positive thinking. However, there are times when parents seem to oppose training and screening programmes they believe to be detrimental to their own teaching. They also believe that these programs threaten the privacy of their children. Instead, supporters of SEL often associate it with fostering responsible graduates who are tolerant, as well as their perceptions of themselves and their reactions to their surroundings. For classroom teachers, it is important to remember that SEL involves more than just academic achievement, but also the development of social and emotional skills. Teachers have increasingly turned to technology as a means of assisting their students. Technology integration allows educators to focus on social and emotional learning aspects rather than manually developing skills. The development of SEL is closely related to the development of cognitive and academic abilities. SEL is generally believed to improve concentration, self-control, and discipline. It has been demonstrated that SEL is associated with

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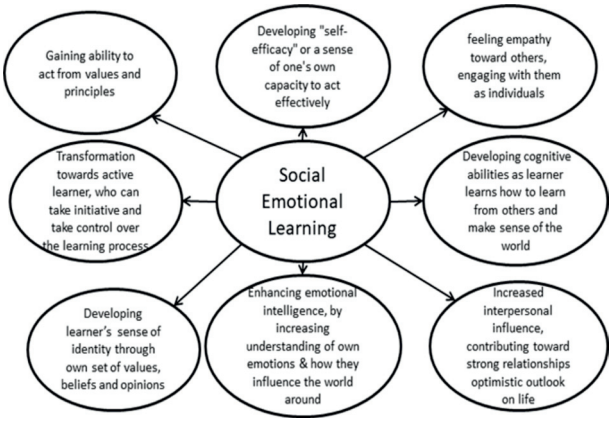
improved academic performance and higher levels of achievement in school subjects. In other words, students who possess higher levels of social and emotional skills are more likely to succeed academically. In addition, they tend to adjust more easily to the academic setting and are less likely to drop out than their counterparts who lack these skills.

When technology is used in conjunction with SEL, there is also evidence that bullying, aggressive behavior, and technology attitudes decrease. The use of technology in a collaborative and social environment enables students to become more comfortable with it later in life. The key to successful tech integration is incorporating social-emotional learning into the lessons, as well as focusing on cognitive learning goals, such as literacy and mathematics. If students are able to apply their knowledge in a practical setting, they will be more motivated to learn. For HEIs to succeed in improving academic achievement and promoting positive behavior, it is essential to embrace programs that promote both SE and cognitive learning.

Over the past few years, technology has become an integral part of classrooms, schools, and academic institutions. In spite of the debate among educators regarding the pedagogical value of technological endeavors, this article provides examples that provide an effective understanding of the ways in which technology can be utilized to foster social, emotional, and cognitive development.

Fig. 1: Advantages of Social-Emotional Learning



SEL and the Concept of 'Online Brain'

Recent research (Firth, et al., 2019) has demonstrated that the Internet can alter cognition in both acute and sustained ways, which may be reflected in changes in the brain. In view of this, the study of the effects of extensive online media use on cognitive development in youth is an emerging research priority, along with an examination of how this may differ from cognitive outcomes. There is increasing popularity for online brain and social-emotional learning platforms as a method of teaching as well as a method of reducing prejudice. In spite of this, parents and educators have voiced concern that such programs may be harmful or unsafe for their wards.

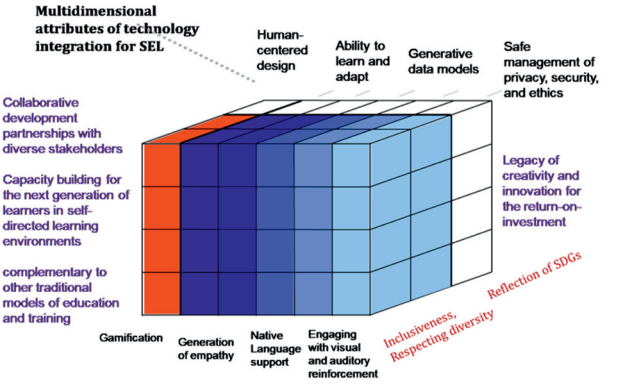
It has been demonstrated that brain-based learning platforms can reduce biases and improve critical thinking skills, thus contributing to public health. However, such platforms should be used with caution, since well-designed programs should be inclusive, accessible, and helpful. It is essential to develop a clear rationale for the effectiveness of a brain-based program before beginning to design it. Sound Brain-based programs concentrate on how the brain processes new information. As an example, a program may begin with a simple concept and gradually add more complex elements. This allows programs to gain an understanding of how the brain processes new information. By doing so, they may be able to determine which sections should be taught first and when additional information should be added that builds on previous knowledge. As part of the cognitive or brain-based approach, multiple learning modalities are used to enhance the information presented, such as visual, auditory, and kinesthetic. Combining different types of content increases the likelihood of a program resonates with people since the human brain processes information through all of these senses. There is a clear progression from one lesson to the next in such programs. As a result, both beginners and experts are able to develop the most complex skills at their own pace. It is also possible that some of them incorporate an element of gamification (i.e. the use of game design elements in order to enhance learning). The benefit of this is that it prevents anxiety caused by boredom and allows learner to progress at their own pace. There is no doubt that such SEL and cognitive programs and computer gadgets are beneficial to both young and adult learners. Nevertheless, young learners are still developing their frontal lobes, which play a major role in critical thinking. It is important to begin by introducing more basic concepts before moving on to more complex ones when designing a brain-based program. The purpose of this is to ensure that people progress at their own pace and that they are not overwhelmed by the amount of information or skills required. A Cognitive and Brain-based program should be implemented in a collaborative manner from the perspective of SEL. In addition to including adults

and children, it is also important to include parents and educators. In this way, everyone has the opportunity to learn something new about how the brain functions and how this knowledge can help them lead a more productive life. It is expected that brain-based learning platforms will continue to improve as technology advances. It is worth using them in a school or classroom environment because they are helpful now. Incorporating these criteria into the design of brain-based learning platforms will enable more people to learn critical thinking skills and contribute to a more productive society. Fig. 1 depicts the advantages of the SEL. The following section gives an overview of a few such initiatives by various research groups working in this domain.

Technology Integration for SEL and Cognitive Learning: Successful Examples

In their empirical research (Näykki, Laru, Vuopala, Siklander and Järvelä, 2019), researchers showcased technological innovations that have extended the learning and interaction opportunities of learners in educational and professional settings, including social networking systems, learning games, and digital fabrication. There is no question that technological developments have the potential to deepen, enrich, and guide learning and interaction, but there is also a possibility that they could neglect people's affective learning processes - that is, the learners' emotional experiences and expressions as they learn. Contrary to this Liu and Huang (Liu and Huang, 2017) have incorporated data-analytic thinking frameworks for pursuing SEL. The use of a well-defined model such as the one presented in their paper assures quality results, facilitates the understanding of the techniques behind the model, and makes knowledge discovery faster, more reliable, and easier. Further, it has been demonstrated that Interactive Virtual Environments (IVEs) are more effective at facilitating perspective-taking, empathy, and responsible decision-making than more traditional methods of teaching social and emotional skills. (Tan, Chye and Teng, 2022). In this way, an increasingly large segment of learners is able to facilitate perspective-taking and empathy by utilizing IVEs. Teeple and Benolken (2022), investigated the relationship between social-emotional competence and student performance in online learning environments. Elmi, (2020) has reported on the implementation of SEL practices in higher education and STEM programs, specifically mineralogy, an introductory Earth science course in a four-year university. According to the results, instructional practices that promote social and emotional learning are effective in engaging and stimulating learners' multiple intelligences. New Vision for Education: Fostering Social and Emotional Learning Through Technology (2022), outlines 16 crucial competencies in reference to the 21st century, including six 'foundational literacies', such as literacy, numeracy, and scientific literacy, as well as 10 skills labelled either as 'competencies' or as 'character qualities'. A key point of the report is that, as with traditional academic learning, technology can be invaluable in facilitating social and emotional learning. (Chetverikova, Kuzmina and Sinevich, 2020) have elucidated the mechanisms for implementing the technology of social and emotional learning in preparing future teachers to work in an inclusive environment, including living in a social and educational environment, evaluating and managing their own feelings, and understanding others' feelings. By using the technology, future specialists are expected to be able to solve professional problems in the field of inclusive education as well as possess a value attitude towards inclusive culture and its subjects, including people with disabilities. Based on the results (Bahrawi, 2020), the more Instant Messaging groups a person followed, the more likely he or she was to use a "communication" model when learning. Furthermore, it has been found that when a person is increasingly using the internet, they tend to use the pattern of "information seeking" when studying. Learning strategies that are more efficient and effective can be designed by determining someone's learning style earlier. The biggest trend in academics is engaging students in social-emotional learning, and technology can certainly facilitate learning to develop these essential life skills, as reported in Social-Emotional Learning: Bridging the Gap with Technology, (2022). Fig. 2 illustrates the desirable attributes of technology integration in SEL based on current research in the field.

Fig. 2: Multidimensional Attributes of Technology Integration in SEL



One of the primary drivers for embracing SEL in the classroom is the ease of use that modern technology provides. With podcasts, videos, game-based learning, and instant-response apps dominating the educational landscape, technology provides a means for implementing meaningful SEL activities. Social learning environments are usually characterized by constant communication between students and teachers, which is achieved through peer-to-peer and co-teaching techniques. Researchers who studied at-risk students and online learning found that at-risk students benefited from the social interactions and support provided by teachers, thus creating a more integrated learning environment. In situations where students are working with devices, teachers may also be able to incorporate social learning instructional strategies, such as turning and talking, sharing out loud, thinking/pairing/sharing, intentionally pairing students, and using questioning techniques. Several teachers are beginning to utilize technology in their classrooms for promoting SEL via platforms such as Blackboard, Brightspace, and Moodle. ("Social learning: How to cultivate a social online classroom", 2022), ("How to Integrate Technology in the Classroom - School of Education", 2022), ("Research-Based Tech Integration Strategies", 2022).

Social media is already prevalent among students, and integrating it into the classroom is one of the most effective ways of utilizing technology to connect them to the curriculum, class resources, and each other. It would be beneficial to utilize social media in this manner since students are now actively engaged in social media on a regular basis. Social media can be used to improve learning at any level and in any subject area, and to get students thinking critically about the technologies that surround them. The use of social media is an excellent method of facilitating SEL and cooperative learning for students since it simplifies both ends of the process. ("Guidelines for Using Technology to Prepare Social Studies Teachers – CITE Journal", 2022).

Discussion, Conclusion, and Future Research

Research shows that IQ alone is no longer enough - without social and emotional intelligence, we lack all the tools and skills needed for success in life. Yoga and mindfulness meditation are recommended by educators as ways to improve EQ. Clarity, compassion, inner peace, and happiness can be developed through these activities. Technology, nevertheless, helps us practice self-control in a big way by providing tools such as meditation apps, diet programs, stress management, and so on. Learning social and emotional skills implemented through such tools aims to help learners process their feelings. The human experience includes several classroom strategies, and social-emotional learning (SEL) is the preferred method for learners to learn. It is important to develop empathy for others and to understand the difference between what is acceptable for us to do and what we should do. SEL may sometimes simply mean acknowledging that you have walked in someone else's shoes. Thus, SEL is at the core of the 21st-century classroom paradigm in higher education.

Many other names are used to refer to SEL. Character education, personality, 21st-century skills, soft skills, and noncognitive skills are some of the terms commonly associated with this set of skills. Researchers have reported that they have a strong relationship with cognitive development. As individuals strive to strike a balance between personal development, professional fulfilment, and personal health, these skills are becoming increasingly important. It is important to note that the common thread behind all of these labels is a desire to explain what makes the learners so special. In recent years, this phenomenon has expanded beyond students, as both parents and teachers are looking for ways to identify and nurture those aspects of a student's personality that will help them succeed in the classroom, at work, and in life as a whole. There has been an exponential increase in the number of resources available to develop this mysterious set of skills within the world of education and lifelong learning. During the past decade, these resources have grown exponentially. Recent movements have focused on developing skills that are not just beneficial for education, but also useful in other areas of life.

In the higher education arena these days, the most pressing question is how teachers can effectively integrate technology into the classroom as well as teach social and emotional skills necessary to succeed in, out of, and beyond the classroom. It has become increasingly common for educators to use technology to communicate with their students outside of the classroom. Technology can, however, be adapted more effectively for social-emotional learning, and cognitive development. As a tool for enhancing self-esteem and interpersonal skills in learners, technology plays a significant role. Learning will be more successful when learners feel better about themselves, are more confident, and have a more positive outlook on the institution. Technology can enhance the efficiency

of teachers' work, so it is imperative that they are aware of its potential and how it can be used. Thus, they will be able to operate their classroom more efficiently. Technology cannot be used as an end in itself in order to meet the social, emotional, and cognitive needs of students, but rather as a means to accomplish those needs. In this article, we discussed the use of technology to teach social and emotional skills. It is clear from the examples presented here that teachers are able to integrate social learning into their technology integration in a variety of ways. Students are able to interact with one another, their teachers, and the lesson content through social learning tools. By integrating the tools with software and interacting with other users, they enable both physical and cognitive learning. In the 21st century, social learning tools can help guide the educational process by enabling students to achieve outcomes while developing skills for success in modern society.

Since students increasingly use technology for learning and living, Higher Education Institutions (HEIs) will need to provide specific support to students in technology. Educational technology will continue to challenge teachers to use it to make learning more fun and to develop lessons that are much more relevant to the students they serve. It is important to note that the impact of technology on students' social, emotional, and cognitive well-being can differ significantly by age and developmental level, so implementing social-emotional learning for students' digital lives can pose a number of challenges. The use of technology-mediated pedagogy as a means of imparting SEL capabilities in the modern classroom has become a leading pursuit. These endeavors have not gone unnoticed, with stakeholders of higher education, media scholars, and popular press alike reporting about to-the-minute efforts in curriculum design, educational technology, and education reform.

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Cultivating Graduating Students towards Academic Excellence and Society-friendly Citizens

Neelima Gupta*

The vast education system of India is churning out around 3.7 crore graduates per year. The biggest challenge today is whether they are able to produce academically rich and society-friendly graduates by providing high-end and value-based education, holistic and culturally rich, as per the mandate of National Education Policy 2020. There is a growing challenge of providing equal opportunities for quality higher education to an ever-growing number of students, correcting sectoral and social imbalances, reviving institutions, crossing international benchmarks of excellence and extending the frontiers of knowledge (Saini, 2015). Today, our young graduates are entering a world that is evolving technologically every second on one hand and on the other, they are compelled to face a world full of challenges – may it be climate change, societal reforms, occupational hazards, business hiccups or climbing up the service ladder. Our graduates must be able to untangle all these complexities. Our education system has to train students to be successful citizens in society by overcoming all odds and hurdles. Not only this, they should be prepared to face global challenges as insightful and responsible citizens to excel in the international market as well! We have to begin the groundwork Today.

Education System in India

The quality of a nation's education determines the level of its national development. The expansion in the Higher Education sector in India is spearheaded by the highest seats of learning, the Universities. The Indian higher education system includes central universities, state universities, deemed to be universities and private universities (Figs. 1-6). Over the years, the Higher Education sector has witnessed a considerable increase in the number of Universities/University level Institutions & Colleges since India became independent. There has been a 34 times increase in the number of Universities from 20 in 1950 to 677 in 2014 and the number has crossed 1000 (1056 universities) as of date (Wikipedia, October 2022). The sector boasts 54 Central Universities, 455 State Universities, 126 Deemed to be Universities, and 421 private universities (Fig. 1). The Universities in India are recognised by the University Grants Commission (UGC) governed by the *University Grants Commission Act, 1956*. Gujarat tops the list with 88 universities (Fig. 2), and also the maximum number of private universities, (55)(Fig. 3). Most deemed universities are present in Tamil Nadu (28) (Fig. 4) and West Bengal peaks the list in state universities(36) (Fig. 5). The capital city, Delhi has the maximum number of seven central universities(Fig. 6). In addition, Institutes of National Importance are also granted permission to autonomously award degrees [Indian Institutes of Information Technology (IIIT), Indian Institutes of Technology (IIT), the National Institutes of Technology (NIT), the All India Institutes of Medical Sciences (AIIMS), the Indian Institutes of Science Education and Research (IISER), the Indian Institutes of Management (IIM) and other autonomous institutes]. India's higher education system is under pressure to achieve multiple objectives, such as growth, quality and equitable access (Gupta, 2020). Next to the United States and China, India boasts of a publicly funded higher education system that is the third largest in the world. It is predicted that enrolments will go up owing to greater geographic mobility, growing aspirations, the reservation for the Other Backward Classes, and the demand for new skill sets (Trivedi, 2018) as also the Indian education system becoming more attractive due to the implementation of NEP- 2020.

Education mandates

Of course, education needs to be focussed towards creating employability of students as well as directed towards holistic development of students. Education institutes are home to providing enriching experience to one and all that will enable to survive in times of crisis. No doubt that latest teaching aids and rich learning resources have enabled better understanding of concepts and created unique learning experience for all. With the development of online mode of learning (MOOC's), learning is not restricted to classrooms and learning from anywhere, anytime from anyone, the best in the world has become a reality. Technology enabled learning has allowed educational institutions to plan, assess, facilitate, implement and monitor student's learning. This has helped in improving the

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Fig. 1: Total number of Universities in India

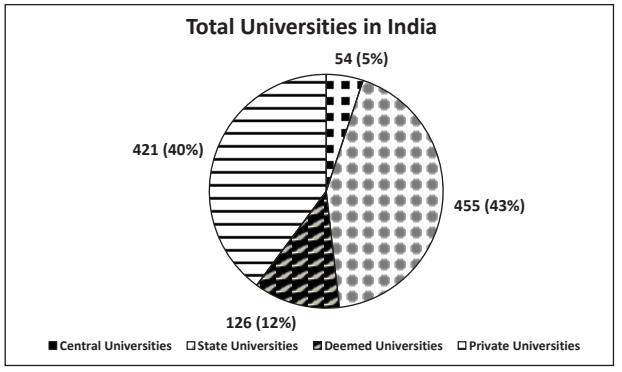


Fig. 2: Top 10 states having maximum number of Universities in India

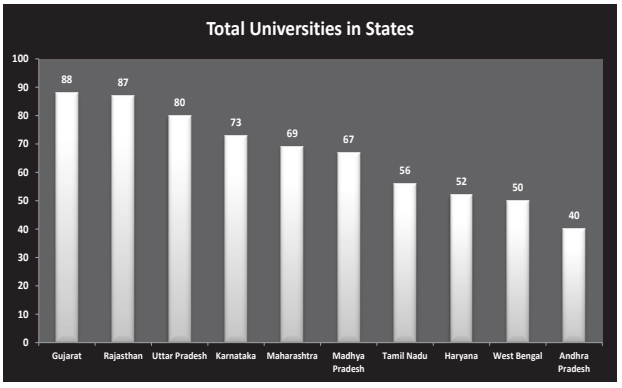


Fig. 3: Top 10 states having maximum number of Private Universities in India

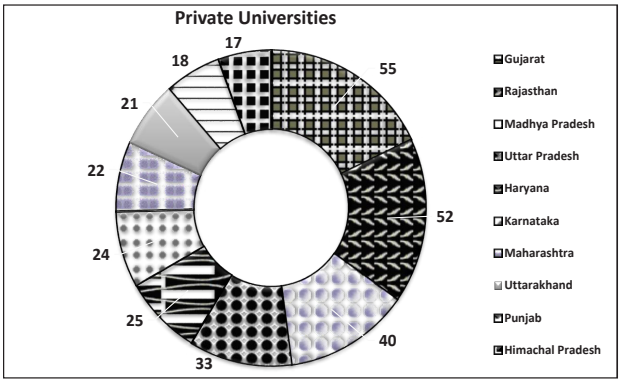


Fig. 4: Top 8 states having maximum number of Deemed Universities in India

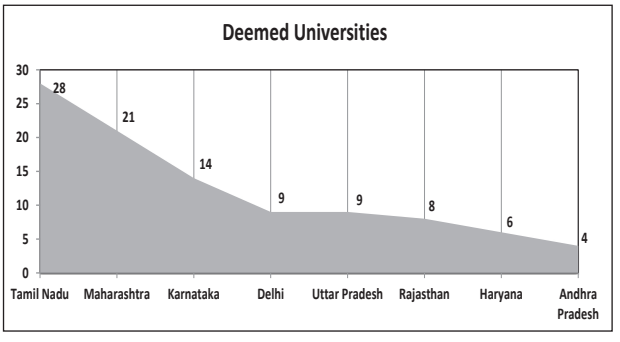


Fig. 5: Top 10 states having maximum number of State Universities in India

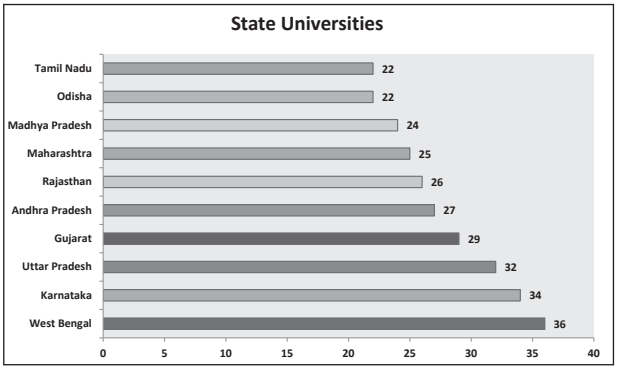
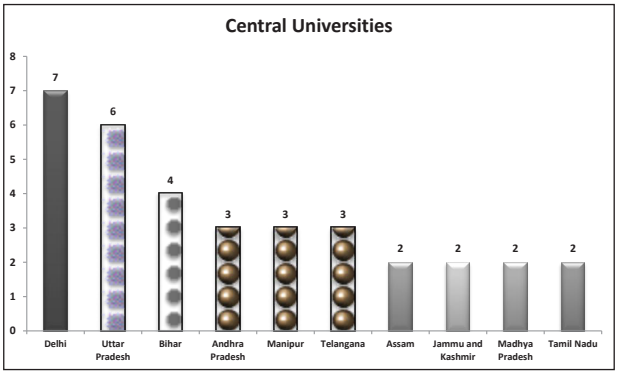


Fig. 6: Top 10 states having maximum number of Central Universities in India



employability of students passing from educational institutions in the present times.

There is no substitute for hard work and it is only through their perseverance that students are able to bring honour and respect to their parents, teachers, institutions and to the society as a whole. Education should empower the minds so that the students are able to conceive good thoughts and ideas. Students should not only rely on "Placements & Pay-Packages", rather focus on gaining the right knowledge and developing technical skills.

This is an era of competition and survival of the fittest. Extensive changes in technology, rapid automation and requirement of professional skills necessitates continuous acquisition of knowledge for thriving in the evolving digital economy. The increased use of robotics and cognitive technologies has affected the employment scenario. In this competitive scenario, the priorities of Corporate India are changing and the skills in future workforce must be aligned to the new expectations of the industry. 21st century students demand multiple areas of competency such as ability to collaborate effectively with others using strong

interpersonal skills, solve problems using critical thinking, implementation of innovative solutions to real life problems and communicate clearly with all stakeholders. New policies and work behaviours will be required to be adapted by the contemporary workforce. We have to stride steadily towards achieving academic excellence.

National Education Policy-2020

"*Education is the single greatest tool for achieving social justice and equality. Inclusive and equitable education – while indeed an essential goal in its own right – is also critical to achieving an inclusive and equitable society in which every citizen has the opportunity to dream, thrive and contribute to the nation*" (NEP, 2020).

The National Education Policy-2020 launched by the Government of India has ushered in a new era to pave way for the stakeholders of higher education. It aims to gear up reforms to convert India as an education destination hub. To create a knowledge society, NEP-2020 is a blend of human resource, material resources and traditional and indigenous knowledge systems. The policy aims at developing all capacities of human beings "*A holistic and multidisciplinary education would aim to develop all capacities of human beings – intellectual, aesthetic, social, physical, emotional and moral in an integrated manner*" (NEP, 2020) emphasizing the importance of multidisciplinary education through disciplinary and professional programs in order to develop expertise in critical thinking, adaptability and self-management amongst the vivid learners.

Indian Potential

India is a young nation with the youth population having a passionate pursuit of excellence. With most countries in the West and other countries such as Japan and China aging, this demographic potential offers India an unprecedented edge that economists believe could add a significant 2 per cent to the GDP growth rate. By 2030, India is likely to be the youngest nation in the world with nearly 140 million people ready to enter the portals of a Higher Education Institute (HEI). It is interesting to note that one in every four graduates in the world will be a product of the Indian higher education system. There is an urgent need to harness the potential of this high demographic dividend by focussing on development of latest skills. No less than 54% of all employees will require significant re-and up skilling as per a recent report by World Economic Forum.

Value-based Education

Education in its truest term is overall enhancement of every individual. The real meaning of education is overall development in social, political and cultural perspective. Indian education refers to achievement of four main aims (*Purusharthas*) in life: *Dharma, Artha, Kama* and *Moksha.*In the *Taittriya Upanishad*, the *DeekshantUpadesha* ordains the graduates of the university (*Gurukul*) to practice the knowledge acquired with a conduct and character akin to the righteous way of living with strict adherence to truth and humility, and working not just for self-glory but the welfare and wellbeing of the society at large (Newsgram, 2015; Sharma and Vij, 2020).Education can inculcate cognitive abilities, physical abilities and establish values and beliefs that allow us to act as a good citizens in life.

NEP -2020 is focused on holistic development of students, character building and can also be termed as a "*decent man-making policy*". It brings out the undeniable role of education in the building of human character and consciousness as character building addresses the moral values, ethics and shapes one's way of life bringing about positive changes in the society.

According to Swami Vivekanand, "*Education is not only for getting information, rather it should develop character, mental powers, intelligence and inculcate self confidence together with self-reliance*". True education should imbibe spiritual and moral quotients of the students. A person with moral values becomes a good citizen of the nation and enhances the national values and practise eternal values of the society we live in. Together with this motive, the character, competence and overall quality of the teachers top up qualitative enhancement of education and play a major role in national development and progression.

The Corporate Sector

For the corporate sector, there is a need for focusing on "Entrepreneurship". Most students are after "Better Jobs and Higher Pay Scales" and are not ready to struggle with uncertainties involved in 'Entrepreneurship'. But corporations alone cannot do the job of creating employment. At present, India's corporate sector lacks the capacity to generate the 12 jobs needed each year to absorb the flood of entrants into the job-market. Entrepreneurs have the potential to create wealth and give rise to a more robust economy. The rate at which India can grow into a developed nation

will depend on the efforts of various entrepreneurs. There are factors that keep students from exploring start-up ideas but with various government policies in place, the ecosystem conducive to entrepreneurs has been nurtured. Educational institutions also provide crucial support for the development of this ecosystem. Institutions hold the key to develop and bring forth entrepreneurs who would in turn produce more jobs and wealth for the entire nation. Often the most satisfying pursuits in life are those where actions lead to the most benefit.Indian management is progressing these days rapidly with an increased amount of resource and it is a challenging problem for the future. At the time of our independence, the options were limited due to the dearth of resources. The numbers of trained personnel were less in number to steer the country's education initiatives. Now a large number of accomplished educators and technocrats are available. Paul Krugman, winner of the Nobel Prize in Economics (2008) mentioned in a meeting in India *"Japan is no longer a superpower because its working-age population declined, and China is looking the same. In Asia, India could take the lead but only if it also develops its manufacturing sector, not only the services one".*

The Service Sector

Over the past several years, India has made a remarkable advancement in her service sector. A report shows that IBM employs more people in India than in the United States. Additionally, a study reveals the outstanding growth of TCS, one that has surpassed the growth of tech-giants like Accenture, HPE, and IBM.However, unfortunately, a substantial number of Indians are still in dire need of economic improvement. In the manufacturing sector, India has silently become one of the world's leading automobile markets. With over 4.39 million cars (in 2021) manufactured every year, India has passed the automobile giant, Germany. However, the manufacturing sector contributes to only about 17% of our GDP. Therefore, India still lacks in other manufacturing industries. The "*Make in India*" initiative by the GOI aims to increase this contribution to 25% within the next decade. However, a significant technological intervention will be the key to realizing this dream. Most importantly, more innovative and out-of–the–box measures have to be undertaken to come up with smaller, smarter, and cheaper technology that will be able to reach every Indian. We are looking for a brighter future India with the contributions of accomplished students.

The Way Ahead

Ability to learn continuously and evolve in order to stay relevant will be extremely critical for students to step into the future and will be career defining. Strong leadership skills will help to challenge the *status quo* therebyfostering innovation in the near future. As next generation Indian leaders, the students should be able to deal with all ambiguous situations and make themselves future ready. They will be required to demonstrate a willingness to take risks and move out of their comfort zones. It should be recognized that leadership lies not in the title that they hold but in the character they bear and the manner they behave.

We are now at a defining moment of our history when education is reshaping itself with the implementation of the NEP-2020. Times are critical, challenges are great and urgent and stakes are high. Many parts of the world are in strife, conflict and turmoil. The students are the versatile agents of change and thus have to meet the challenges by imbibing the wholesome values and virtues derived from their institutions guided by renowned humanitarian leader, Satguru Sri Mata Amritanandamayi Devi (AMMA)……

……'Education for Life' in addition to 'Education for Living'.

Graduating students should step out with a robust education backed by one of the most valued degrees. Only an educated country can aspire to be a developed country. We thus need to ramp up the numbers of HEI's as also architect 'world-class' institutions. Higher Education with an innovative mindset is the key to leveraging the demographic dividend for the benefit of the society and community. This will require both extensive public and private participation. The need for increasing HEI numbers is further complicated by the globalization, competition and knowledge-driven economy. Just as the Indian government is planning to set up foreign campuses in our country, we should also set up our campuses in foreign countries to spread the message of Indianization or '*Bhartikaran*' of education.

ICT tools, Internet and social media have resulted in the explosive growth of knowledge. Knowledge is not only going to drive the Indian economy, but also, it is going to permeate into all the strata of Indian society for a better quality of life for its citizens. The Indian higher education system needs to elevate itself in the knowledge economy by striking a balance

between quality and quantity. A multi-pronged strategy is needed. In addition to teaching institutions that primarily focus on skilling and teaching, there is need to promote many more "world-class universities" as hubs of innovation and research excellence. These will act as driving factors for innovation as also createnew knowledge and transform the country into a knowledge superpower.

As the graduating students plunge into a new phase of personal and professional life, they need to make all their decisions on their own. While taking decisions, students have to be serious and committed team players and bring positivity in interacting with their team. The focus should be on task-convertible dreams, preparedness to take calculated risks and not to get deterred by failures. Fullest potential has to be realized. Ronnie Oldham has rightly said "*Excellence is the result of caring more than others think is wise, risking more than others think is safe, dreaming more than others think is practical, and expecting more than others think is possible.*" Each graduating student has to leave his unique footprints of excellence.

The world beyond the boundaries of their institution is ready to make the best use of the knowledge they have gained to attain new parameters of success. It should be kept in mind that every moment of their life is an opportunity to learn. As Hellen Keller said *–"Every person you meet everyday knows something more than you, so learn from others what you do not know".*

If we go back to Indian history, India has had a long tradition of holistic and multidisciplinary education, from ancient universities like Takshashila and Nalanda to the multiple combinations of subjects across different fields. Banbhatta's Kadambari, an ancient literary work described a good education as knowledge of the 64 *kalaas* or 'arts' which were not merely subjects like music or painting but also included scientific subjects such as physics, biology, 'vocational' areas of study such as carpentry and clothes-making, 'professional' areas like engineering and medicine as well as what we now focus on, 'soft skills' such as communication and discussions. The idea of 'knowledge of many arts' has evolved today as 'liberal arts, i.e. a liberal notion of arts.

Then, where did we drift away? Was it the so called modernization or westernization? If that was the right path, why did we have to re-think, take a u-turn and re-start with the multidisciplinary and holistic approach? These questions can all be answered by NEP-2020 which aims to develop all capacities of human beings (academic excellence, intelligence, spiritual, social, emotional, moral, professional, technical) in an integrated manner and a student educated and graduated in this way will be a true society-friendly citizen.Graduating students standing at the peak and stepping out into the real world should be par excellence in academics and society-friendly to plunge into the reality of life.

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Elements from Sanskrit Education for Enriching Human Values

Ashis Sharma*

Khangchendzonga State University (KSU), is the first State University of the state of Sikkim. The only State University of Sikkim was established to fulfil the needs and dreams of the aspiring students of Sikkim and the North Eastern States of the country for a teaching, research-intensive and affiliating University. As of date, the work on the permanent University campus is ongoing at Tarku, South Sikkim. In the meanwhile, the University is functioning out of a temporary campus at Gangtok. The University commenced its operations by offering MA in Sanskrit, the mother of Indo-Aryan languages and the other MA in Nepali considered the *lingua franca* of Sikkim. Both courses are under the School of Languages and Literature.

KSU despite its small size and scale of operations made a conscious choice to offer Sanskrit as one of its initial programme offerings because it firmly believes that Sanskrit is not just a language but a form of the education system which was institutionalized as *Gurukula System* from the ancient times. Sanskrit is also an ancient and classical language of India. It has been considered by many as one of the oldest languages of the world with the Rigveda referred to as one of the first and oldest texts of the Sanskrit language.

The early research works of Aryabhatta, Brahmagupta and Bhaskara in the field of Astronomy and Mathematics; Charaka and Susruta in Medical Sciences; Gautam Shankaracharya in Philosophy and Kautilya in Economics have played an important role in shaping the human civilization. Today, the Sanskrit language is celebrated and recognized by many scholars around the world. Western linguists have considered the grammar of 'Panini' as one of the most scientific and structured grammars to date. It is also claimed that Sanskrit is a suitable language for Natural Language Processing, especially for application in the Artificial Intelligence domain due to its scientific structure and the precise nature of its grammar.

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The development of moral and human values is the bedrock of Sanskrit education. Ancient Sanskrit texts like Vedas, Upanishads and other epics like Ramayana and Mahabharata have given much importance to human values. Apart from being a language, Sanskrit contains in its realm, vast knowledge in diverse fields like yoga, philosophy, astronomy, medical sciences etc.

The modern education system has not done enough justice to Sanskrit by tagging it under the Languages stream. For a typical language course at the undergraduate and postgraduate levels, the curriculum usually consists of drama, folklore, grammar, linguistics, criticism etc. However, any student aiming to study UG/PG level in Sanskrit in addition to the above has to learn the holy scriptures and ancient sciences. Apart from this, he/she is expected to have a mastery of Indian philosophy through Vedas, Upanishads, and Puranas including concepts of Vedanta (Advaita, Vishishtadvaita, Dvaitadvaita, Shuddhadvaita, Dvaita, Sankhya, Yoga, etc.) to name a few. In addition, there are other specializations to opt for. This is just a small indication of the width and scope of the curriculum. Further, there are different pedagogies for teaching learning, unique Teacher (*Guru)* Student *(Shisya*) relation traditions and so on. Therefore, Sanskrit has been referred to as "Sanskrit Education" in this article.

Further, in Sanskrit education, a great emphasis is placed on moral and value education. This in turn is aided by the practice of yoga and meditation which encourage a learner to look inward to find peace and happiness. The contemporary education system favours outward exploration which if integrated with the traditional Sanskrit education system will help to create a balance in the education space.

Therefore, the contemporary education system instead of relegating Sanskrit as just another language should give its rightful place as a 'storehouse of knowledge". The one with its own education system, unique teacher-student relation, the one that withstood the test of time and has survived till this day.

The National Education Policy--2020 (NEP 2020) has given a lot of flexibility and freedom by putting the learner at the centre of the learning process. This flexibility and freedom may be exercised by creating modules from the Sanskrit education system, translating the same into the languages of choice and offering the same as minor specialisation or open electives or value-added courses, based upon the learner's interest.

Crass commercialization and blind patronage of anything "western" had made our youth today without a strong anchor, based upon a sound value system. This is reflected in the high mental and emotional disturbances faced in today's world. Therefore, it becomes imperative to explain the characteristics of Indian Philosophy and its universality to the youths today in the language of their choice towards the creation of a society based upon values and mutual respect. This means rather than creating one or two courses, we must create a multitude of different courses on various themes of Indian Philosophy, and traditional knowledge in different languages so as to reach out to the masses. For example, a student pursuing BA in Economics should have the flexibility to do a minor specialisation on the Advaita philosophy/Yoga Shastra and these may be taught in his/her mother tongue with only the essence being in the Sanskrit language. The other option as stated above could be the creation of a basket of value-added/open electives courses with its base in the Indian tradition/philosophy and the vast and diverse knowledge system. However, there is a need to repackage and brand the courses to attract learners and to find appeal amongst youth. For example, in the present-day, it is getting difficult to remember and store information due to over-dependence on gadgets. Our bio-memory is replaced by the memory of devices, as well as means to express ourselves in our natural languages are getting replaced by emojis. Therefore, a course on the ancient Sanskrit mnemonic methods used to remember sacred mantras will attract learners desirous of improving their memory. Different breathing techniques could be clubbed under one course and offered as an open elective/value-added course. Interested coders may try out programming using Sanskrit. The creation of a multitude of such courses will provide the learners with the opportunity to get exposed to a wide variety of Indian concepts, thoughts and knowledge and may motivate him/her to pursue further studies in that field and be on course to become lifelong learners.

For a course on value education to have an impact, there have to be interventions over a period of time rather than completing one off course. The pace and frequency also may vary from learner to learner. Here again, NEP provides that scope and flexibility to the learner with regard to the number of such courses to opt from, and where and by when to earn the required credits in order to pass that course. There is also a provision of credit transfer from other Universities possible under NEP. Further, the learner may also earn up to 40% of credits through online MOOCs. In this regard, the Swayam platform should be leveraged to the maximum in order to launch such courses and make it possible to reach out to a large student population. Value system is a cornerstone of Sanskrit Education can be aptly reflected in the sloka:

अयं निजः परो वेति गणना लघुचेतसाम्।
उदारचरितानां तु वसुधैव कुटुम्बकम्।।

Which talks about the world as one family.

Or

लोकः समस्ताः सुखिनो भवन्तु

Which means *let all beings be happy and at peace.*

Both the above "*slokas*" have much relevance today as they had yesterday. Therefore, it becomes our bolden duty to transmit this message and philosophy to the students of today and tomorrow.

This can also be reinforced by the Learning Framework 2030 of the Organisation for Economic Cooperation and Development (OECD) which talks of helping every learner not only fulfil his /her potential "but also help to shape a shared future built on the *wellbeing of individuals, communities and the planet".*

Therefore, it is imperative that the value system ingrained in Sanskrit Education may be propagated widely to build a better society for all beings on our planet. ❑

Transformative Learning for Sustainability, Improving the Social Good, and Other Wicked Problems

Jeff King *

"Future-ready universities" (Mittal and Pani, 2020) face short-term and long-term challenges. Some of these are existential for certain institutions or categories of institutions. No matter the kind of postsecondary credential provider, however, preparing future citizens, employees, and creator-contributors is essential for both the continued survival of the institution and for continued societal advancement. A combined framework within which Higher Education Institutions (HEIs) can contextualize their approaches to meeting such challenges mixes a target — the United Nations' 17 Sustainable Development Goals (SDGs) (United Nations, 2015) — with a process — implementing an instructional practice that honours and implements Transformative Learning (TL) and Critical Reflection (CR). Working in this manner can do much to create the epistemic and paradigmatic change that teaching for sustainability requires and for which TL and CR are proving effective (Brunstein et al., 2017). With HEIs being buffeted by changing student demographics, a post-pandemic world and the expectations it is fomenting, declining financial support, and a sometimes skeptical if not downright hostile view of the value of university education in the real world, survival and 'thrival' call for reconceptualizing the processes and purposes for what goes on in the college classroom. TL/CR to inculcate a sustainability ethos in learners is a proven strategy. Accomplishing the range of the UN's 17 SDGs requires HEIs and their faculty to accept that it is their job to develop students holistically and to become proficient in doing so. This article argues that TL/CR can help institutions meet short-term challenges such as preparing graduates for the workforce, as well as the long-term challenge of preparing graduates who are motivated and capable of contributing immediately to the social good and to the sustainability of the environment, culture, language, and a shared vision of humans helping humans to keep Liferaft Earth afloat and habitable in galactic seas.

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The United Nations' 17 Sustainable Development Goals and Transformative Learning

A narrow view of sustainability is wholly inappropriate when considering the United Nations' intent with the creation of the 17 Sustainable Development Goals (SDGs). Consider the range of what should be sustained, as made clear among the SDGs (United Nations, 2015, p. 14):

1. End poverty in all its forms everywhere.
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
3. Ensure healthy lives and promote well-being for all at all ages.
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
5. Achieve gender equality and empower all women and girls.
6. Ensure availability and sustainable management of water and sanitation for all.
7. Ensure access to affordable, reliable, sustainable and modern energy for all.
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.
9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
10. Reduce inequality within and among countries.
11. Make cities and human settlements inclusive, safe, resilient and sustainable.
12. Ensure sustainable consumption and production patterns.
13. Take urgent action to combat climate change and its impacts.
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice

for all and build effective, accountable and inclusive institutions at all levels.

17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

Accomplishing even a single of the 17 goals calls for innovation and new ways of thinking, valuing, and approaching "wicked problems" (Horst and Webber, 1973). The SDGs can be categorized as wicked problems according to the Interaction Design Foundation's characterization (n.d.): "problems with many interdependent factors making them *seem* impossible to solve."

New problem-solving approaches required to address wicked problems must involve a wide range of partners given the complexity and inter/intra-connections inherent in such problems. Dentoni and Ross (2013) identify "multi-stakeholder engagements" (MSEs) as a good approach to tackling wicked problems because such an approach draws together a variety of players whom all have reasons for solving the problem(s).

The necessary role of education in addressing the SDGs is fairly self-evident because helping humans do the things and change the behaviours necessary to solve wicked problems means equipping them with new understandings, skills, and values. Higher Education Institutions (HEIs), therefore, must be among the stakeholders working collaboratively to solve the wicked problems presented in the SDGs.

A big challenge for Higher Education, though, is that by many measures it is not preparing graduates with the skills and motivation to take on even complex problems, to say nothing of wicked (i.e., super complex) problems. One proxy measure indicating a lack of readiness to take on wicked problems is a lack of preparation to succeed with workplace challenges. If graduates are not prepared to deal with challenges at their places of employment, they are not ready to deal with wicked problems given the vastly more complex nature of wicked problems.

Employer responses in numerous surveys correspond to the characterization in *How College Contributes to Workforce Success: Employer Views on What Matters Most* (Finley, 2021): "Employers do not believe most graduates possess the level of preparedness needed for workforce success" (p. 16). Quoted in 2015, Anthony Carnevale, director of the Georgetown University Center on Education and the Workforce, put it this way: "Employers say students may have textbook knowledge but don't have the ability to take that knowledge to think critically, innovate, solve complex problems and work well in a team" (in Alsop, 2015), and employer dissatisfaction on those points surfaces in other surveys. One example is found in a 2018 survey finding that recent graduates' ability to "analyze/solve complex problems" is deemed very important for workplace success by 67% of business executives and by 75% of hiring managers, yet only 34% of the executives and 38% of the hiring managers believed recent graduates are well prepared in this area. The same survey reported similar gaps in the ability to innovate and be creative: 61% of executives and 66% of hiring managers said that ability is very important for success, yet only 36% of executives and 41% of hiring managers thought recent graduates were well prepared to do that (AAC & U/Hart Research Associates, 2018, p. 14).

The mismatch existing between a university education that focuses only or mostly on learning the content within courses and what employers say they need in new hires is illustrated by this statement to students about why their institution has implemented a Transformative Learning (TL) approach: Employers today need employees with well-developed 'soft' skills. Some examples include: 'Coachability'- the ability to take feedback and act on it; the ability to work effectively in multi-cultural teams; the ability to be a 'self-starter' – control your own learning to be able to solve complex problems. Current academic scripts do not highlight or acknowledge any achievements in these areas even though they are the very skills that employers are seeking (Technological University of Dublin, n.d.) !

Transformative Learning is an instructional process that combines good teaching practice (backward design, high-impact practices, active learning, peer-to-peer/group learning, etc.) with intentional and iterative development of student's ability to critically self-reflect. Critical Reflection (CR) is a key and distinguishing feature of TL and is central to its ability to better prepare college graduates for the workplace (Harvey, L. 1999; Booth, King, & Ziehmke, 2018; Smith, et al., 2018; Farrell, 2019) and to prepare and motivate them to embrace and implement sustainable practice for environment, culture, and language (Brunstein, et al., 2017; Brunstein & King, 2018; Lange, 2019; Taylor & Luitel, 2019).

Particularly regarding TL for sustainability education, Boström et al.'s (2018) review identified specific aspects of TL that match it well as an instructional paradigm for helping students develop a sustainability ethos:

Table 1. Summary of main assumptions, neglected aspects and ways forward.

Main Assumptions in the Literature on Learning for Sustainable Development	Neglected Aspects	Towards Transformative Learning
Focus on the individual	Narrow view of learning, often with a cognitive bias No theory of collective learning	Collective and organizational learning Learning includes cognitive, social, moral and affective components. Acknowledges that change is anchored in practice and institutions
Learning between separate knowledge worlds	Disregards institutional structures and disciplinary boundaries	Advocates inclusive, deliberative learning processes, but pays attention to social and political context, and power
System approach—focus on resilience and adaptation	Narrow view of change and future possibilities	Includes epistemological change and 'knowing differently'
Learning as an ongoing process based on the willingness to change	Disregards social and institutional inertia as well as anxiety	Pays attention to institutions, social context, social relations and power
Learning as win–win situations across different social scales	Ignores that knowledge is an unequally distributed resource	Pays attention to institutions, social context, social relations, affect and related defenses, and power

From Boström et al., 2018, p. 6

. . . the perspective of transformative learning has been prominent within sustainable development research for several years . . . It has been found to be particularly useful in this field since sustainable development involves not only technical challenges but also social challenges. That we need to transform frames of reference and change social practices, and the institutions and values that facilitate them, can hardly be questioned in light of increasing knowledge of the global degradation of life-supporting ecosystems. (Boström et al. 2018, p. 6)

Transformative Learning (TL) is an approach to education uniquely suited to helping learners and organizations solve wicked problems because its focus on developing critical self-reflection means it functions not only as a proven pedagogical/andragogical instructional strategy and process but also because it personalizes the process and the *why* for collaborative problem-solving. Yukawa (2015) highlights TL's suitability as an educational approach helping learners develop the skills and values to take on wicked problems such as sustainability, which demand a social good and society-wide approach: Transformative learning theory focuses on critical reflection on assumptions to undermine self-limiting mindsets and socially oppressive beliefs with the ultimate aim of changing society for the better. (p. 165)

Yukawa goes on to say: While disciplinary expertise and knowledge of best practices remain fundamental, it has been argued that higher levels of mental complexity and adaptive capabilities will be needed to manage an increasing number of novel situations and wicked problems likely to emerge in the future (p. 166).

Berner, Lobo, and Silva (2013) agree that TL is a good instructional strategy to help prepare students to meet sustainability challenges: A transformative education allows students to question their own paradigm and to reconstruct it by shifting their values and perspectives. This shift in paradigm is highly necessary to properly address the sustainability challenge humanity is facing (viii).

In other words, whether for the workplace (which can present complex problems) or for local and global societal challenges ("glocal" — Robertson, 1995), TL as an approach for preparing students to succeed is an excellent fit. Enkhtur & Yamamoto (2017) summarize the aim of TL with a description that illustrates its suitability in preparing graduates to tackle sustainability and wicked problems in general: "[TL's] aim is to prepare critical social agents, who are globally connected but are aware of local issues, with competencies to tackle complex issues from interdisciplinary perspectives, apply their learning across diverse areas and situations" (p. 208).

Transformative Learning and Critical Reflection

This article isn't meant as a deep dive into what TL and Critical Reflection(CR) are and/or how they are operationalized in the classroom, curriculum and co-curriculum, in the community and at the workplace, etc. There is, however, a need for some contextualization to understand enough about TL/CR to grasp why a Transformative Learning-focused approach at university is a good one for sustainability education. One of the TL theorists who consistently wrote succinctly and powerfully about TL was Patricia Cranton. To summarize TL, the two excerpts below from

some of her writing serve as an excellent orientation to Transformative Learning and to why TL is a good match for developing a sustainability ethos: At its core, transformative learning theory is elegantly simple. Through some events, which could be as traumatic as losing a job or as ordinary as an unexpected question, an individual becomes aware of holding a limiting or distorted view. If the individual critically examines this view, opens herself to alternatives, and consequently changes the way she sees things, she has transformed some part of how she makes meaning out of the world (2002, p. 64).

Transformative learning is a deep shift in perspective during which habits of mind become more open, more permeable and better justified (Cranton, 2006; Mezirow, 2000). According to Mezirow, the process centers on critical reflection and critical self-reflection, but other theorists (for example Dirkx, 2001) place imagination, intuition and emotion at the heart of transformation. Generally, transformative learning occurs when a person, group, or larger social unit encounters a perspective that is at odds with the prevailing perspective. The discrepant perspective can be ignored or it can lead to an examination of previously held beliefs, values and assumptions. When the latter is the case, the potential for transformative learning exists, though it is not called transformative until there is a deep shift in perspective and noticeable changes in actions as a result of the shift. (2011, p. 76)

Clearly, "doing TL" necessarily involves the process of critical self-reflection by both students and faculty. A brief overview of CR's embeddedness within TL is handled nicely by Kenney (2010, p. 1) of the Centre for Open Learning and Educational Support: Critical reflection occurs when we analyze and challenge the validity of our presuppositions and assess the appropriateness of our knowledge, understanding and beliefs given our present contexts (Mezirow, 1990). Brookfield (1990) explains that critical reflection involves three phases:

1. Identifying the assumptions ("those taken-for-granted ideas, commonsense beliefs, and self-evident rules of thumb" (pg. 177)) that underlie our thoughts and actions;
2. Assessing and scrutinizing the validity of these assumptions in terms of how they relate to our 'real-life' experiences and our present context(s);
3. Transforming these assumptions to become more inclusive and integrative, and using this newly-formed knowledge to more appropriately inform our future actions and practices.

The above descriptions of TL and CR make clear the ways they mesh to form a process whereby learners change their thinking, their presuppositions, and their perspectives. To solve sustainability challenges, our students must dispense with the prevailing paradigm thinking that so often makes unthinking action that harms the environment commonplace. We as educators can craft learning environments and activities thoughtfully and progressively to present disorienting dilemmas that prompt the critical self-reflection necessary to bring our learners to the shift point at which they embrace sustainability practice and act accordingly.

Transformative Learning and Critical Reflection as a Process to Achieve SDGs

Consider Temple University President James Wingard's (2022) clarion call, "Higher Ed must change or die," or the many reasons Levine and Van Pelt (2021) layout for why current times are forcing existential considerations across the academy. For the reasons they enumerate and others, HEIs realize they must innovate to survive.

Though TL as a theoretical construct has existed for over forty years, there are now reasons it may be a key innovation to address many of the issues that currently ail postsecondary education. Whereas before, HEIs have been slow to adopt TL as instructional practice, the current environment is forcing change in Higher Education, and TL is beginning to be recognized as a good solution to address many of those challenges. The 40-year-old 'innovation' of TL/CR as a 'way to be' regarding the core mission of Higher Education — educating students — fits today's needs to educate students so they are prepared for employment, for adopting and implementing the sustainable practice, and for co-creating a better world.

Academic and non-academic staff must be trained to infuse TL/CR in their teaching and in their engagements with students outside the classroom. Three universities that have successfully done this at scale as part of their operationalization of TL are the University of Central Oklahoma (n.d.; link here), Technological University of Dublin (n.d.; link here), and Universidade Presbiteriana Mackenzie (n.d.; link here), and there are others. These examples show that TL/CR can be taught as instructional practice, can be implemented, and can be assessed and documented.

Among the three examples, Mackenzie in particular has sustainability at the center of its implementation of Transformative Learning. Given the

extreme sustainability and pollution challenges facing the São Paulo metropolitan area, several years ago the municipal government shared with HEIs in São Paulo the expectation that graduates of business programs, especially MBA programs, would immediately implement the sustainable practice in their places of employment upon graduation. Grappling with ways to make that happen led Dr. Janette Brunstein, now Vice President for Undergraduate Education at Mackenzie but a leader among faculty in the School of Business at the time, to search for ways to make this happen (Brunstein, personal communication, 2017).

In Indonesia, South Africa, Nepal, Malaysia, Pakistan and other places, several faculty whose doctoral and master's degree work focused on Transformative Learning are actively bringing TL to their classrooms and communities for the purposes of sustainability of culture and language, to encourage TL as an instructional paradigm, to help move research methodologies toward more transformative approaches, and for other reasons (Taylor & Luitel, 2019).

In our own TL work here at the University of Central Oklahoma, we commonly hear two reasons why institutions look for HEIs that have implemented TL at scale. Having realized that the 'old way of teaching at university (i.e., the teaching paradigm; see Barr & Tagg, 1995) is simply not working in their 21st-century societies populated by their 21st-century students, they seek better ways of educating at university.

One reason given for the search for a better way is because they know the status quo is not adequately preparing graduates for the workplace — they echo the employer observations presented above. But they also tell us that they and their students need the kind of education that prepares graduates with the motivation and capability to contribute to the social good. On this second point, unemployment ranged between 27% and 90% in the area around one university campus at the time one of the faculty there connected with us. Such circumstances call for immediate, innovative action in the educational sector, and the shift to TL is part of the solution because the development of students' critical self-reflective capacities can lead them to *want* to contribute to solving the challenges they see in their communities.

Concluding Observations

TL is a proven instructional practice to help prepare graduates to meet the multiple challenges of sustainability. TL instructional practice also helps prepare graduates for the workforce via the development of the essential skills and graduate attributes ('soft skills') needed by employers. Finally, due to TL's development of students' critical self-reflective capacities, also helps prepare them to take on other wicked problems besides sustainability — or perhaps the United Nations' inclusion of such challenges as, "End poverty in all its forms everywhere," and "Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels," means the 17 SDGs effectively summarize many of the world's wicked problems.

HEIs maintain a powerful lever for positive change. To overcome the challenges threatening Higher Education and to serve as a change agent for a better society, the academy would do well to consider a commitment to Transformative Learning as a substantive part of the solution. One university president, Patrick Awuah provided several years ago a good summation of what Higher Education needed then; the need has not changed: We can no longer afford to graduate engineers who can only follow directions. We must graduate engineers prepared to ask, "What ought to be," (2017).

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Reimagining New Pedagogical Approaches in Higher Education Institutions in India

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There is a widespread notion and acceptance that higher education Institutions in the country should empower and prepare students with skills and competencies to cope with constantly changing job requirements. In particular, the skills such as critical thinking, problem-solving, collaborative skills, innovation, and adaptability along with the conceptual clarity of the subject matter are the need to comply with the job-related qualitative dictates. In the 21st century, can the same be achieved with the traditional way of teaching alone? Which teaching and learning approaches are suitable for facilitating or enabling complex skills development? In this paper, the author presents a set of innovative pedagogical approaches that have the potential to guide teaching and transform learning. During the COVID-19 Pandemic, educational institutions adopted a virtual /online mode of teaching to ensure the continuity of the teaching-learning process and eventually learned a lot from the whole process. Today when we are able to conduct offline classes & also have the option of online mode, what is the most effective pedagogy of the teaching-learning process that will ensure better Learning outcomes and employability of the students? In the extant study, students from Postgraduate & Graduate levels were presented with a set of questionnaires to ascertain their responses on the topic and based on the responses received, certain findings emerged. The paper concludes with the findings & suitable recommendations.

Pedagogy is often referred to as the activities of educating, instructing or teaching, the activities that impart knowledge or skill. The Oxford English Dictionary (2002) defines pedagogy as the profession, science, or theory of teaching. A survey by a few Researchers has indicated that except for a few reputed institutions, most of the Higher Education Institutions including the affiliated colleges, state Universities & private Universities in India are following the same age-old pedagogy of linear mode of transmitting information & lectures in the classrooms, precluding effective learning by the students. The effectiveness of pedagogy is one of the crucial aspects of the students' learning which impacts employability. In the 21st century, the role of teachers has changed from being an expert on the subject that transmits information to serving as a facilitator of knowledge for student learning. New initiatives stress the need for instructors to improve the capacity of students to solve problems, work together and practice practical thought. In fact, it appears imperative for teachers to adopt different creative pedagogy in the higher education teaching process. As per the World Economic Forum findings of 2020-21, of the 13 million people who join India's workforce each year, only one in four management professionals, one in five engineers, and one in 10 graduates are employable. In such a grim situation of employability, it is indeed very surprising that Higher Education Institutions are not able to develop the 21st-century skills & competencies needed in the students to be employable. If the students are prepared only to secure their graduate, post-graduate and Doctoral degrees without developing the skills needed by the industry, the employability situation is not likely to improve in the future as well. It is keeping this in view that an attempt has been made to recommend pedagogies that have proven effective for adoption by HEIs in addition to the conventional mode of teaching all over the country.

Behari, A. Saxena (2017), observes that the pedagogy is one such overarching element in the whole education process that supports and facilitates not only the conceptual or cognitive growth of the individual learners but has many implicit facets, such as the development of core values and value system, realization and comprehension of constitutional ideals, life skills, responsibility sharing, sustainable living, character building, etc. that add quality to the education system. Pedagogies to be adopted in higher education will be much more complex and multifaceted as compared to any other level of education, owing to the increasing complexity of the subject matter, as well as higher levels of learning and greater autonomy of the teacher. In his work on Critical Pedagogy (Girox, 2020) states that a context-specific pedagogy relates to the student's environment, culture, community, and resources. There is a rejection of the traditional methods of teaching and pedagogy that denigrate the value of justice, social relations, and ethics in the

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writings of Giroux. Pedagogy has largely been reduced to a 'culture of reproduction' and a transmission of knowledge.

High-quality pedagogy is necessary to successfully impart the prescribed body of knowledge to students. Pedagogical practices determine the learning experience and thus directly influence the learning outcomes. In Management education, for instance, a case study-based pedagogy has been very effective. Many of the institutions use case study-based pedagogy very effectively and it has been seen that this way of learning is long-lasting and has discernible learning outcomes. A particular type of pedagogy may be suitable for Management education but the same may not be effective for learning by Sciences & Engineering students. It should be well understood that the 21 st century student has access to a multitude of IT resources which include video lectures, YouTube videos, MOOCs, E-library & apps-based content, therefore a simple method or pedagogy will not be very effective as the students can easily watch such lectures at their convenience. The pedagogy used by the teacher has to generate curiosity & inquisitiveness in the mind of the learner and his/her involvement in the process has to be high for the learning to be meaningful.

When we look at the learnings of engineering students, it is indeed very disappointing that only one in five engineering graduates is employable. There is a need for a very serious introspection of our engineering studies. If the pedagogies used are only for providing theoretical lectures, the situation would continue to be grim and hitherto, and employment for our prospective engineering students may continue to be disappointing. The need of the hour is to make them learn through doing. For instance, the coding practice for Computer Sciences students is something that should be given high impetus, for if the student is able to write a program of let us say 200 lines and has constant practice of it, he or she will not have any problem in so far as the professional part is concerned. This coupled with soft skills training and good internship in companies of repute will make the students completely employable. During the author's tenure in two universities as the Vice Chancellor, this philosophy has been exercised successfully. It has been indeed extremely satisfying & gratifying to see that the engineering students are able to choose the company that they wish to join & get the desired employment. We need to churn out practising engineers rather than paper engineers.

Teaching cannot be a simple transmission of knowledge or facts. It has to in fact take into account the intellectual needs & inherent talent of a diverse group of students, understand their background & base knowledge & then design pedagogy to be effective in the delivery of the content. Two major developments that have impacted the pedagogical approach relate to the integration of Information & Communication Technologies, and the advent of open online courses. E-portfolio is another pedagogic innovation through which students use authentic evidence to document their achievements and skills, and for many other related purposes and uses. The potential of e-Portfolios to support and benefit learning and teaching has been increasingly recognized and understood (Kaufman, 2006). On a digital site, e-Portfolios reflect students' problem-solving, decision-making, reflection, organization, and critical thinking skills. For educators, they provide forms of teaching delivery, course management, personal development, and assessment.

MOOCs (Massive Open Online Courses) are a type of innovative pedagogy for online education. Since MOOCs emerged in recent years, they are described as the most prominent innovation in higher education due to their ability to change the nature of higher education, especially in the format and pedagogical base. Their innovativeness lies in their ability to foster interactions and social activities which allows for ideas sharing among participants who even get deeply involved in the subject through a wide variety of synchronous and asynchronous online activities; hence learners can get input from the teacher and reflect on the topic at different times and places. They provide learner independence and peer support through more expressive, reflective, and explanatory activities that strengthen the sense of creativity, ownership, control, autonomy, and personal direction because supportive technologies are, arguably, well aligned with good pedagogy and participation (Conole, 2008).

Very interestingly, MOOCs provide different learning arrangements such as platforms, online classrooms, teaching roles, tutors, multimedia, interactive tools, resources, and computer-supported collaborative learning Fuertes, 2018). With this innovation, the concept of eLearning has developed beyond textbooks. The availability of multimedia resources that combine the acquisition of evidence-based knowledge with educationally validated teaching methods and assessments is sparse, within different fields. The use of different tools that learners may use

to research, communicate, store, retrieve, construct, share, develop, and reflect, information, ideas, and resources, certainly enhances their learning.

Contrary to traditional education, MOOCs have the ability to attract a large number of diverse learners to an online community due to their shareable format, ability to enrol people with different educational profiles, and affordability which is learners' most advantage. Their constant availability makes them excellent resources for both students and life-long learners. Furthermore, MOOCs' online format allows learners to explore and be inspired by various contributions of peers which often leads to creative thinking.

Various Innovative Pedagogical approaches in the 21st Century

In 2010, UNESCO recommended the following teaching strategies for the twenty-first century: experiential learning, storytelling, values education, inquiry learning, appropriate assessment, future problem-solving, outside-classroom learning, and community problem-solving. Some of the most prominent components of 21st-century education are problem-solving, critical thinking, collaboration, authentic learning, appropriate use of technologies, and cross-disciplinary teaching. Critical thinking empowers students to discover the truth in assertions, especially when it comes to separating fact from opinion. With critical thinking, students don't just learn a set of facts or figures. Instead, they learn how to discover the facts and figures for themselves. They ask questions.

Fostering Experiential Learning Pedagogy for Holistic Development of Learners

It is crucial to design innovative solutions to foster the best teaching-learning pedagogy to cater to the needs of 21st-century skill sets and competencies for a better learner-centric model. Incorporation of project-based learning or experiential learning is crucial in the higher education system through intense checks on student intake quality, fair evaluation, and assessment policy as per global standards. Engagement of industry experts in curriculum design, delivery as well as continuous assessment and evaluation mechanisms will definitely accelerate the performance of higher education institutions to meet market demands. This way, students get a basic idea of the actual industry they are going to get absorbed into and are able to pick up ideas and tactics much more quickly when it comes to solving complex business problems, creating new development plans for a company, or taking up new challenges with a certain level of conviction. The UGC has also allowed HEIs to explore the appointment of Professors of Practice to engage industry experts for teaching on the campuses.

The 21st-century classrooms are characterized as being student-centred, digitally networked and connected, and learner-driven, where the students are placed in the driver's seat and are in control of their own learning in team-oriented physical and virtual (cyber) learning environments. The 21st-century learners are expected to be self-directed learners and have innovative skills such as creativity, critical thinking, problem-solving, higher-order thinking, collaborative and cooperative teamwork, meaningful use of technology, effective communication, and global knowledge. For the last three decades, various alternative innovative small-group learning and online teaching/learning methods have been developed and implemented worldwide to replace or supplement traditional lecture-based instruction. Online teaching/learning, cooperative learning, collaborative learning, problem-based learning, project-based learning, peer-led learning, peer learning, inquiry-based learning, and team-based learning are examples of such innovative reform-based student-driven pedagogies that can be used in 21st-century classrooms.

In general, small-group learning methods are considered a broad "*umbrella*" for the various forms of inductive and active student-centred instructional methods that empower the learners in small groups to work collaboratively and cooperatively with each other in a team-based environment using effective and interpersonal communication and interactive social skills to promote critical thinking and deep learning (A Kalaiin (2017)). In essence, students' active and collaborative engagement in their classrooms is grounded in the cognitive and social constructivism model of learning, which stresses and views the students as active learners engaged in constructing and restructuring their own newly learned course content based on their previous knowledge, previously learned course materials, and previous experiences through social interactions in groups in team-oriented settings/ classrooms ((Kocevar-weidinger, 2004). The constructivist model of learning views learning as being a learner-centred process with students in small groups continuously discovering, constructing, reconstructing, and restructuring their own newly learned instructional materials to fit into their existing cognitive framework in socially interactive collaborative environments. This constructivist learning

theory explains the process of learning as actively constructing knowledge, which interacts with previously gained knowledge, personal experiences, beliefs, and perceptions. The theory also views and stresses that knowledge is actively and iteratively constructed and reconstructed by learners in groups working together in socially supported classrooms/environments rather than Being passively and individually transmitted (transferred) to learners, which is the case in traditional lecture-based classrooms.

Tootoonchi, et al. (2002) conducted a study to investigate the perception of the students following a Master of Business Administration (MBA) on teaching methodologies and instructor characteristics that affected their learning. Regarding effective teaching methodologies, students highly expect the discussion of real-world scenarios in the class followed by open class discussions in addition to the already known key characteristics of teaching. Regarding the instructor characteristics, the study showed that communication skills, knowledge of the subject matter, attitude in general, fairness, and personality are the key characteristics that are expected of students.

In a study undertaken on the adoption of Innovative Pedagogies in Higher Education, Razeena states that the faculty have a significant & positive perception towards the adoption of innovative pedagogy in the teaching process however some members of the staff resist following the same because of a lack of knowledge in the field of technology. In order to gauge the perspective of students at the postgraduate and undergraduate levels on the changing needs of pedagogical innovations and their knowledge and awareness of the subject matter, a structured questionnaire was prepared and responses from the students were collated & analyzed. Primary data was collected from 127 PG & 165 UG students of the ICFAI University, Jaipur.

The Study

Pedagogy is often referred to as the activities of educating, instructing, or teaching, the activities that impart knowledge or skill. Over a long period, we have had the same old way of teaching in the classroom which is in fact transmission of information. In the 21st century, with the digital domain gaining prominence and high acceptability, is traditional pedagogy sufficient for effective learning outcomes in higher education today? In this context, 10 questions have been formed to elicit responses from students in IBS & Tech School so that some sort of analysis and research can be undertaken based on the responses. The questionnaire containing 10 questions was administered to the students. Box-1 contains the questions. The response to the questions was made on 5 points Likert Scale as provided:

Box-1: Questionnaire on Awareness of Students on Innovative Pedagogical Approaches

1. Is the traditional pedagogy of lecture-based knowledge transmission relevant in 21st- century Higher Education?
   (Highly relevant, relevant, neutral, irrelevant, highly irrelevant)
2. Do you think the traditional method supplemented with Innovative pedagogies such as Project Based Learning, Experiential Learning, MOOCs, Flipped Classrooms, Case Studies, etc will improve the overall learning on campus?
   (Strongly agree, Agree, Neutral, Disagree, Strongly Disagree)
3. Do you think MOOCs are a form of innovative pedagogies and are a valuable addition to normal classroom teaching in higher education?
   (Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree)
4. Do you believe, an appropriate pedagogy in Higher Education will help students become employable?
   (Strongly agree, Agree, Neutral, Disagree, Strongly Disagree)
5. Innovative Pedagogies not only support the cognitive & conceptual growth of the learners but add some implicit facets such as the development of core values & value systems, life skills, responsibility sharing etc. Do you agree?
   (Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree)
6. Case study-based pedagogy is one of the innovative pedagogies used by students, and has strong learning outcomes! Do you agree?
   (Strongly agree, Agree, Neutral, Disagree, Strongly disagree)
7. Two major developments have impacted the pedagogical changes in the 21st century the Integration of ICT & advent of MOOCs. Do you agree?
   (Strongly agree, Agree, Neutral, Disagree, Strongly disagree)
8. E-portfolio is a pedagogical innovation, which enables students to document their achievements & skills. Are you aware of it?
   (Fully aware, Aware, Neutral, Not Aware, Completely Unaware)
9. Flipped classrooms, project-based learning, experiential learning, case study-based learning, storytelling, and MOOCs are some of the pedagogies of the 21st century. What approximate percentage

of your normal learning in the classroom is through any or more of the above pedagogies?

(10%, 15% , 20%, 30%, 40%)

10. Do you agree that other than the quality of content, the most important parameter appropriate for learning outcomes is innovative pedagogy in higher education?

(Strongly agree, Agree, Neutral, Disagree, Strongly disagree}

The above-mentioned questionnaire was shared with students of MBA, B Tech (CSE), BCA & B Sc(Honours). In total, responses from 292 students were received, out of whom 127 students were from MBA & 165 students from the technical courses.

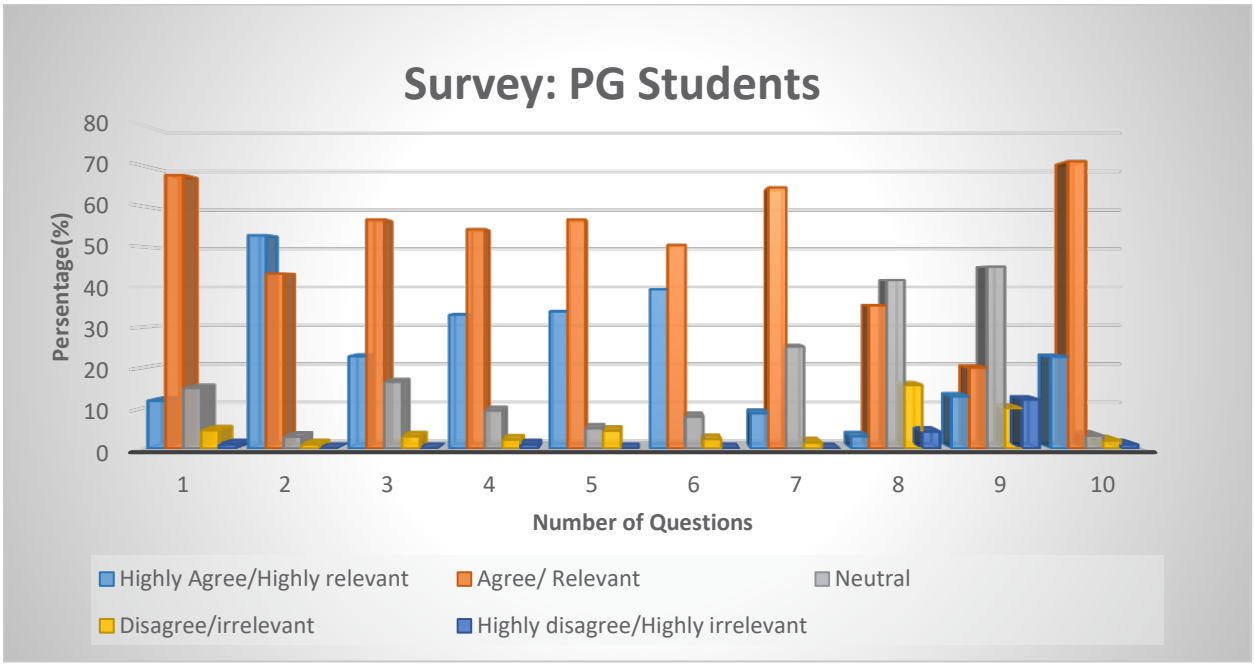
There were 127 responses received from the MBA Students. The responses question-wise in percentage are given in Table-1.

Table-1: Question-wise Response on Awareness of MBA Students on Innovative Pedagogies

Question no	Highly Agree/ Highly relevant	Agree/ Relevant	Neutral	Disagree/irrele vant	Highly disagree/Highly irrelevant
1	11.8	67.7	15	4.5	1
2	52.8	43.3	2.9	1	0
3	22.8	56.7	16.5	3	1,3
4	33.1	54.3	9.4	2.2	1
5	33.9	56.7	5	4.4	0
6	39.4	50.4	7.9	2.3	0
7	8.7	64.6	25.2	1.5	0
8	3	35.4	41.7	15.7	4.2
9	12.9	20	45	10	12.1
10	22.7	71.1	3.2	2	1

Source. *Primary data collected in response to the questionnaire*

Fig-1: Question-wise Response on Awareness of PG Students on Innovative Pedagogies



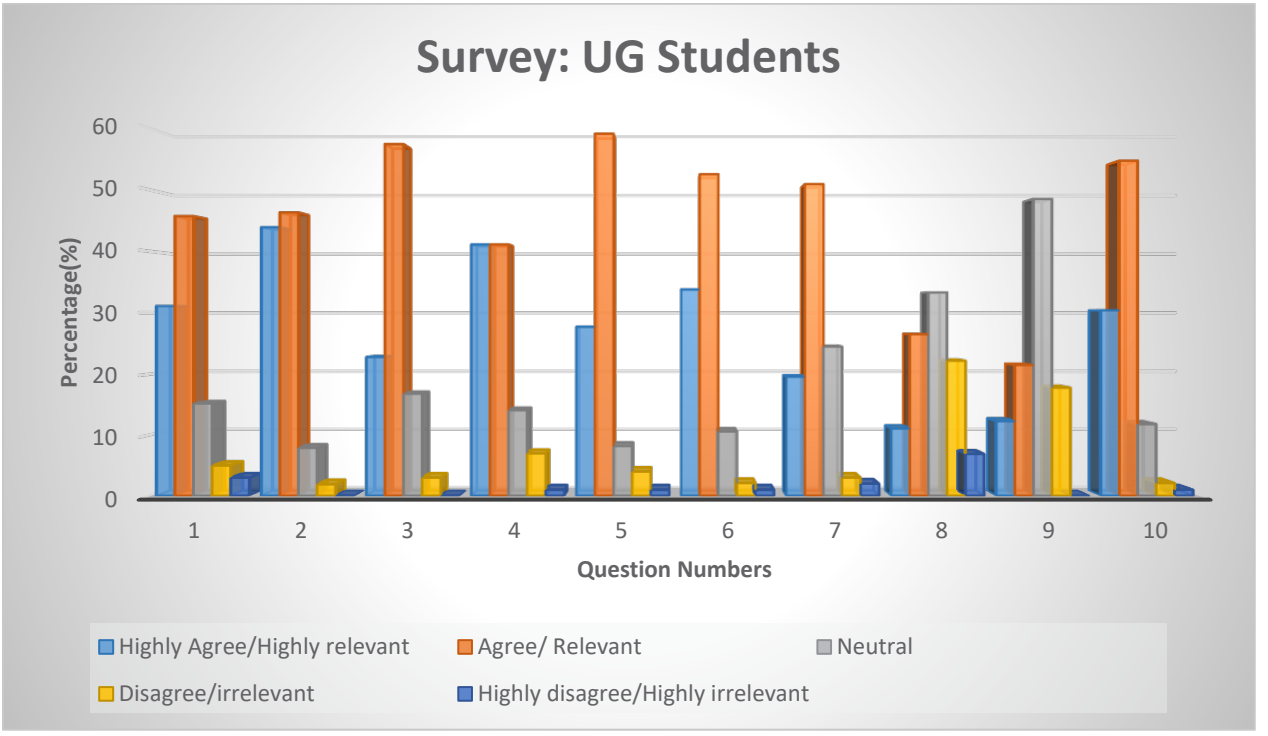
Responses from 165 students undergoing technical studies (B Tech, BCA & B Sc(H) were received. The responses in percentage are reflected in Table -2.

Table-2: Question-wise Response on Awareness of Students Pursuing Technical Courses on Innovative Pedagogies

Question no	Highly Agree/ Highly relevant	Agree/ Relevant	Neutral	Disagree/irrelevant	Highly disagree/ Highly irrelevant
1	31.1	45.7	15.2	5	3
2	43.9	46.3	7.9	1.9	0
3	22.8	57.4	16.8	3	0
4	41.1	41.1	14.1	7	1
5	27.7	59.1	8.2	4	1
6	33.8	52.5	10.6	2.1	1.0
7	19.6	50.9	24.5	3	2.0
8	11.1	26.5	33.3	22.2	6.9
9	12.3	21.5	48.5	17.8	0
10	30.4	54.7	11.8	2.1	1.0

Source. *Primary data collected in response to the questionnaire*

Fig-2: Question-wise Response on Awareness of UG Students

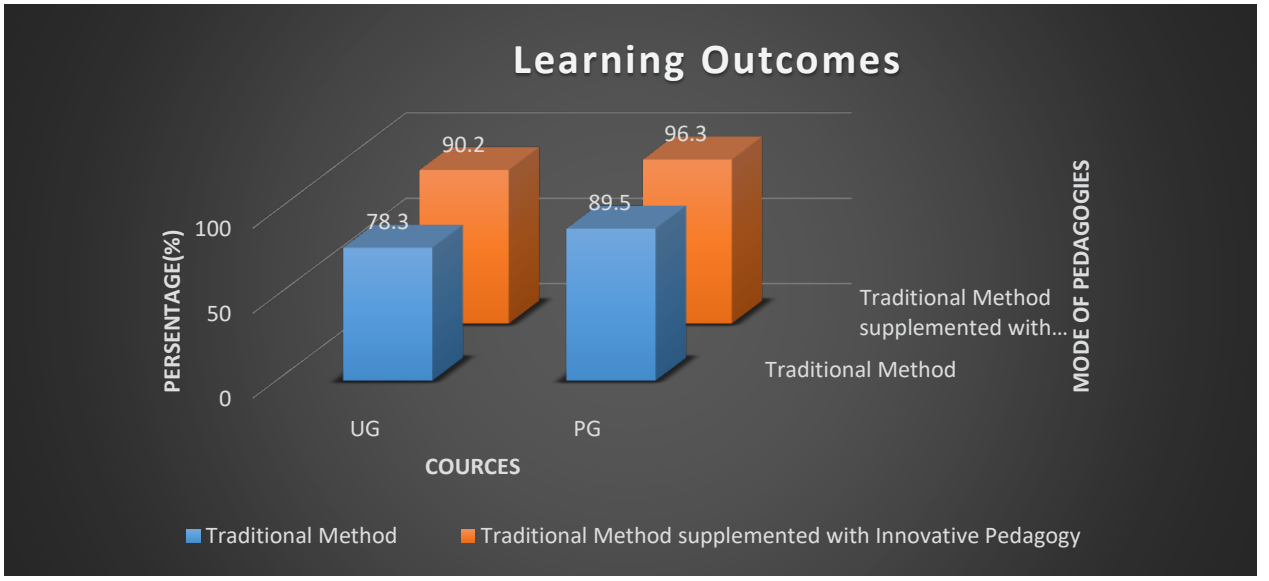


Findings. From the responses received from the students, the following has emerged clearly:-

1. The traditional method of classroom lectures is considered quite relevant even today for understanding the conceptual framework & fundamentals & the survey has categorically brought out the choice of students MBA Students. 89.5 %, Tech Students. 78.8% (Combination of highly relevant & relevant preferences).

2. The traditional method supplemented with Innovative pedagogies such as Project Based Learning, Experiential Learning, MOOCs, Flip Classrooms, Case Studies, etc., will improve the overall learning on the campus.

96.3 %, of MBA Students and 90.2% of Tech students are convinced largely that the reimagining of the pedagogical approach has to factor in the conventional method of teaching along with the innovative pedagogies.



3 Using Innovative pedagogies along with the traditional modes of teaching would improve the employability of students.

87.4 % of MBA Students agree while 82.4 % of Tech students agree that the addition of innovative pedagogies will improve employability to a very high extent. The HEIs need to supplement conventional pedagogy with 21st-century pedagogy to improve the employability of students.

Conclusion

It can be seen that the research survey has clearly established a crying need of including innovative pedagogies to supplement the traditional mode of teaching in the classrooms. The students very strongly feel that the traditional pedagogy of classroom lectures is extremely important for a conceptual framework and should be continued and retained. However, more than 90% of the 292 respondents believe that the inclusion of innovative pedagogies such as experiential learning, project-based learning, case study, MOOCs, Flipped classrooms, and storytelling, along with the development of innovative skills such as creativity, critical thinking, problem-solving, collaborative and cooperative team-work, meaningful use of technology, effective communication, in the usual classroom lectures will definitely improve the learning outcomes and make students highly employable. In fact, it appears imperative for teachers to adopt creative pedagogies along with their traditional pedagogy to improve the employability of the students. The requisite skill sets need to be developed by the teaching fraternity, sooner than later and it is more of a necessity at this juncture for reimagining the pedagogical approaches to meet the aspirations of the student fraternity in the 21st century.

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❑

Culturally Relevant Pedagogy: Education for the Future in the Light of National Education Policy–2020

MTV Nagaraju* and Ramesh M**

``Indian Knowledge' includes knowledge of ancient and modern India and a clear vision of India's future aspirations in terms of education, health, environment, etc. These elements are accurately and scientifically integrated throughout the relevant school curriculum. In particular, the Indian body of knowledge, including tribal knowledge and indigenous traditional learning methods, is closely related to governance, politics, and conservation. Special courses such as Ethno-Tribal Healing Practices, Forest Management, Traditional (Organic) Plant Growing, and Natural Farming are also offered.

Multicultural education is all about enabling students to learn in diverse ways and teachers to recognize and discover differences in learning. Culturally responsive teaching continually focuses on students' perceived strengths and bridges the gap between home and school cultures. Though diversity has continued to increase nationwide. However, the curriculum taught in these classrooms does not necessarily reflect this. Many students become disinterested and disinterested as a result of these feelings and become disconnected from the educational process, which can have significant lifelong consequences. Culture-oriented teaching methods create strong links between classroom instruction and the diverse backgrounds of our students. By developing techniques for planning and delivering culturally sensitive lessons, teachers can better engage diverse learners and promote success for all students. To be successful, culturally relevant teaching methods must be used at all levels of the learning process, from curriculum development to assessment. Students' ancestry and contemporary cultures, beliefs, and traditions should be considered in all learning opportunities and school activities. This includes observing students' important holiday traditions in class and trying to understand how and why certain courses are held in higher esteem by students and their educated families. The most difficult goal set by NEP- 2020 is to transform the evaluation culture. It's disappointing that no radical changes to the rating mode have been proposed.

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NEP Provisions Relating to the Promotion of Indian Languages, Arts, and Culture

- Crores of people from around the world partake in, enjoy, and benefit from the cultural wealth of India daily, in the form of visiting India for tourism, experiencing Indian hospitality, purchasing India`s handicrafts and handmade textiles, reading the classical literature of India, practicing yoga and meditation, being inspired by Indian philosophy, participating in India`s unique festivals, appreciating India`s diverse music and art, and watching Indian films, amongst many other aspects. The preservation and promotion of India`s cultural wealth must be considered a high priority for the country, as it is truly important for its identity and economy.
- Cultural awareness and expression are among the major competencies considered important to develop in children, to provide them with a sense of identity, belonging, and an appreciation of other cultures and identities. Children can build a positive cultural identity and self-esteem through the development of a strong sense and knowledge of their cultural history, arts, languages, and traditions.
- The arts besides strengthening cultural identity, awareness, and uplifting societies are well known to enhance cognitive and creative abilities in individuals and increase individual happiness. Personal well-being/well-being, cognitive development, and cultural identity are important reasons why Indian art of all kinds must be offered to students of all levels of education.
- Of course, language is closely related to art and culture. In particular, language influences the way people of a particular culture speak to others, including family members, authority figures, peers, and strangers, and affects the tone of the conversation. Intonation, perception of experience, and intimacy inherent in speech/*apnapan* are

expressions and records of culture. Arts such as literature, drama, music, and cinema. We cannot fully understand without language. In order to preserve and promote culture, the language of culture must be preserved and promoted.

- Unfortunately, Indian languages have not received the attention and care they deserve, with over 220 languages lost in the last 50 years alone. UNESCO has declared 197 Indian languages as endangered. Various free languages are particularly endangered. When one or more senior members of a tribe or community that speaks such languages die, those languages often disappear with them. All too often, concerted actions and measures are not taken to preserve or record these rich linguistic/cultural expressions.
- Moreover, even those languages of India that are not officially on such endangered lists, such as the 22 languages of the Eighth Schedule of the Constitution of India, are facing serious difficulties on many fronts. Teaching and learning of Indian languages need to be integrated with school and higher education at every level.
- Additionally, despite various measures being taken, there has been a severe scarcity of skilled language teachers in India. Language teaching too must be improved to be more experiential and to focus on the ability to converse and interact in the language and not just on the literature, vocabulary, and grammar of the language.
- Several initiatives to foster languages, arts, and culture in school children have been discussed in Chapter 4, which include a greater emphasis on music, arts, and crafts throughout all levels of the school; early implementation of the three-language formula to promote multilingualism; teaching in the home/local language wherever possible; conducting more experiential language learning; the hiring of outstanding local artists, writers, crafts persons, and other experts as master instructors in various subjects of local expertise; accurate inclusion of traditional Indian knowledge including tribal and other local knowledge throughout into the curriculum, across humanities, sciences, arts, crafts, and sports, whenever relevant; and much greater flexibility in the curriculum, especially in secondary schools and in higher education, so that students can choose the ideal balance among courses for themselves to develop their own creative, artistic, cultural, and academic paths.
- This policy recognizes that knowledge of India's rich diversity must be imbibed directly by the learner. In this direction, under *'Ek Bharat Shrestha Bharat'*, 100 tourist destinations in the country have been identified and educational institutions send students to explore these destinations and their history, scientific contributions, traditions, and indigenous peoples. dispatched to study the literature and knowledge of Expand your knowledge in these areas.
- There are already hundreds of academies, museums, art galleries, and heritage sites desperately in need of qualified staff to operate effectively. As positions are filled with well-qualified candidates and more artefacts are procured and preserved, additional museums, including virtual museums/electronic museums, galleries, and heritage sites will be developed to support heritage conservation and the tourism industry in India. can contribute to
- Indian Institute of Translators and Interpreters (IITI) is established to provide a truly vital service to India, employing numerous multilingual linguistics and subject matter experts, as well as translation and interpreting professionals to help promote all Indian languages to do. IITI also makes extensive use of technology to support translation and interpretation efforts. Of course, IITI can grow over time and be housed in multiple locations, including universities, to facilitate collaboration with other research departments as demand and the number of qualified candidates grow.
- Sanskrit is well established as a strong offering in schools (including as one of the trilingual language options) and higher education. It is not taught in isolation, but in interesting and innovative ways, and is related to other contemporary and related subjects such as mathematics, astronomy, philosophy, linguistics, theatre studies, and yoga. Therefore, in line with the rest of this policy, Sanskrit universities also evolve into large multidisciplinary universities.
- India will likewise expand its institutes and universities for the study of all classical languages and literature, and intensify its efforts to collect, preserve, translate and study the tens of thousands of manuscripts that have not yet been given due attention. I am planning to do Sanskrit and all Indian language institutes and departments across the country have been greatly strengthened by

properly training large new student groups to study their interrelationships with other subjects, especially large numbers of manuscripts. The Institute of Classical Languages seeks to merge with the university but maintains the autonomy of the university while still allowing faculty to work and students to be trained as part of a robust and rigorous interdisciplinary programme.]

- Efforts to protect and promote all Native American languages, including classical, tribal, and endangered languages, will resume with renewed vigour. Technology and crowdsourcing with full community participation will play a key role in this effort.
- An academy composed of the best scholars and native speakers shall be established for each language listed in the 8th Schedule of the Constitution of India to establish a simple and precise vocabulary of the latest concepts and to update the latest concepts on a regular basis. is published in Dictionaries (similar to successful efforts in many other languages around the world). These dictionaries would be widely disseminated, for use in education, journalism, writing, speechmaking, and beyond, and would be available on the web as well as in book form.
- All Indian languages and related arts and cultures are documented via a web-based platform/ portal/wiki and all endangered Indian languages and related rich local arts and protect cultures. The platform includes videos, dictionaries, and recordings of people (especially the elderly) speaking languages, telling stories, reciting poetry, staging plays, folk songs, and dances.
- Scholarships are initiated for people of all ages to study Indian language, arts, and culture in local master's programs and/or within the higher education system. Incentives such as awards for outstanding poetry and prose in all categories of Indian languages will be established to ensure the creation of vibrant poetry, novels, non-fiction, textbooks, journalism, and other works in all Indian languages. Indic language proficiency will be included as part of the eligibility parameters for employment opportunities.

Distinction of Justice

It is important to distinguish three key areas Culturally Responsive Education, Multicultural Education, and Social Justice Education when addressing gender issues. Their various functions are often misunderstood. As a result, we often confuse them. Table 1 depicts the difference between them. It's important to remember that this is not an ongoing process. Multicultural education is unlikely to lead to a culturally appropriate education. Why is CRT interested in the cognitive development of underserved students? Multicultural education and social justice education serve new functions as social support systems.

The following simple questions will help understand the concept:

Table-1: Culturally Responsive Education, Multicultural Education, and Social Justice Education are all Different.

Multicultural Education	Social Justice Education	Culturally Responsive Education
• The emphasis is on recognizing and appreciating differences.	• Emphasizes the social and political context in which students find themselves.	• Aims to improve the learning ability of a diverse group of pupils who have been educationally marginalized.
• The focus is on fostering constructive social contact among people of various backgrounds.	• Focuses on improving student awareness of unfairness in daily social, environmental, economic, and political conditions.	Focuses on the cognitive and affective components of teaching and learning.
• Efforts to promote diversity and inclusion can be seen here.	• This is where anti-racist activism takes place.	• This is where efforts to speed learning are made.
• Its goal is to expose privileged pupils to a variety of ideas and cultures. The goal for kids of colour is to see themselves reflected in the curriculum.	• Is concerned with developing a perspective through which inequitable patterns and practices in society can be identified and disrupted.	• Is concerned with increasing cognitive capacity and developing an academic attitude by challenging prevalent narratives about people of colour.
Social Cohesion	*A State of Critical Awareness*	*Independent Study for the Agency*

Source: Z. Hammond,(2020).https://www.kqed.org/mindshift/55941/how-to-develop-culturally-responsive-teaching-for-distance-learning

1. Can you recall a time when you felt isolated from others at school?
2. Did you notice a big difference between the life described in textbooks and the "real world" you lived in?
3. Can you relate the skills and experiences of your students to those of the communities in which they live?
4. Do you think culturally appealing ideas are effective in the classroom?
5. How do you help students improve or build key competencies?

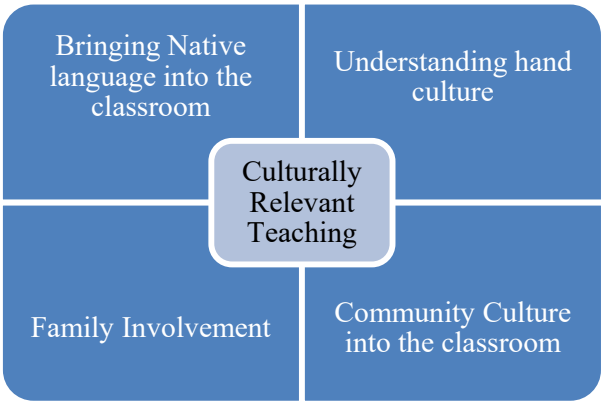
The school is like a disinfectant bubble, completely insulated from the problems that exist outside the school. As culturally competent educators, we should strive to burst this bubble so that our students can face challenges in the real world. Culture-related classrooms attempt to address and solve real social problems. You need to understand and research what it takes to be an effective and culturally engaging teacher to deepen and broaden your understanding of what it takes to be a successful teacher.

Concept of Culturally Relevant Pedagogy (CRP)

Culturally relevant pedagogy, also known as culturally relevant teaching, is a conceptual approach to education that influences what, how, and why students learn. CRP focuses on the academic and personal achievements of students as individuals and groups. Ensuring that students participate in an academically rich curriculum and learning process, feel accepted for their identity and experience, and receive the information and skills they need to engage critically with the world and others. According to Childers-McKee, "Today's teachers have a more diverse learning environment. We don't have children with the same backgrounds and experiences before us, so training must be tailored to each child" she explains. "It must be based not only on past knowledge but also on personal and cultural experience. It must be justice-oriented and reflect the real social environment. That's what I mean when we talk about education."

Culturally Responsive Teaching, an educational framework invented by *Ladson Billings* in the early 1990s, defined his three based on one pillar. These three pillars are interdependent. In other words, culturally relevant teachers cannot focus on one without inadvertently emphasizing the other.

Fig.1: Culturally Relevant Teaching



Source: https://i.pinimg.com/736x/d9/f4/76/d9f476629983f49cbefeb5a7817298e1--teach-for-america-teaching- methods.jpg

Academic Success

The first pillar, Academic Success, recognizes that the primary purpose of a teacher's responsibility is to develop the minds of students. Culturally relevant teachers hold high and fair academic standards for their students and meet them wherever they are. They know materials, learners and how to teach content to learners. Consider what you teach, why you teach it, and how you teach it, taking into account the student's personality and learning style.

Cultural Competence

Cultural competence is the responsibility of teachers to understand the culture and its role in education, to learn more about the culture and community of their students, and to respond in ways specific to their own identity questions. Demands that educational practices be evaluated and strengthened. Culture, prejudice, privilege. When cultural competence is working well, classrooms are filled with mirrors and windows where students can see themselves in the mirrors, learn more, and have the opportunity to see the world of others (windows). Teachers use student culture as a basis for learning and supporting students. When accessing and learning from the outside world, they recognize and respect its cultural ideas and practices.

Socio-Political Awareness

Socio-Political awareness is the ability of educators to actively educate themselves and their students about personal and sociopolitical issues affecting students, communities, and the world, and incorporate that information into their teaching. Encourage This means that teachers actively encourage

students to think and question why things are the way they are, and to consider themselves agents of social change and revolution. increase. As a result, students are encouraged to think and act in ways that challenge the status quo of injustice among individuals, communities, and society at large.

Table.2: Differences between Culturally Responsive & Traditional Teaching Methods

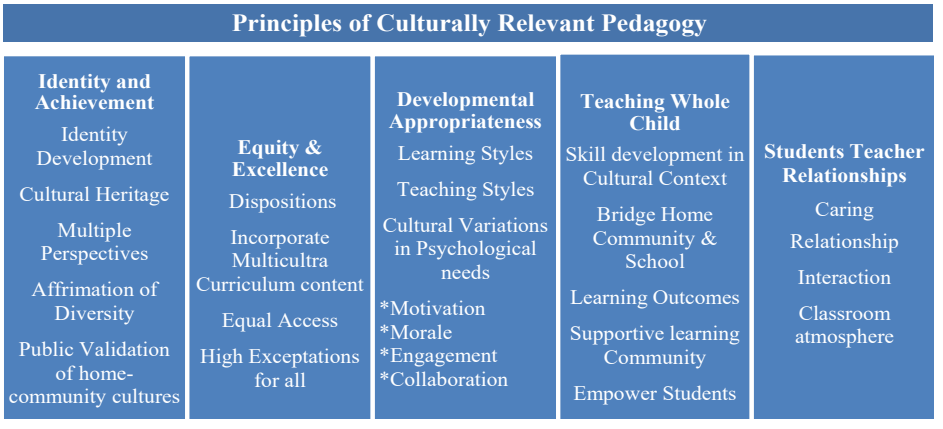
S. No	Traditional Activity	Culturally Relevant	How the Two Differ
1.	The teacher asked the student to write a mnemonic device to help them remember chemistry equations and provided melodies of well-known songs (like the ABC songs) for students who choose to write song lyrics.	For the same task, the teacher recognizes that writing a mnemonic rap would be more culturally relevant for some students and asks a few students to bring tracks of appropriate background beats that all students interested in writing a rap could use.	The rigour of the two options of the same as is the task but introducing a musical alternative that speaks to students' culture engages them on a different level and allows them to be themselves while learning.
2.	Students in a reading language arts class in learning about smiles and metaphors. They are assigned three poems from the textbook to read to identify these figures of speech. All three examples are from the 20th century white male authors.	When identifying similes and metaphors, students are given school-appropriate lyrics from contemporary songs/ raps which feature these figures of speech.	The more interested the students are in the sample writing the more likely they are to complete the task correctly and, in a way, that enhances long-term memory. Using contemporary and popular examples uses their interests to enhance learning and reinforces that learning each time they hear that song/rap.
3.	Students in a government class are learning about citizenship and participatory democracy. The teachers ask them to write an essay describing the different ways in which citizens can participate in democracy.	The students in the government tasks are charged with writing a letter to a government official describing something in their lives that the official has the power to impact and offering their solution to that problem	The second lesson speaks to the critical consciousness element of CRT. Students are allowed to think critically about the society they live in and to practice taking steps to participate in making it better

Source: *https://i.pinimg.com/originals/3a/74/b8/3a74b88c3f0c01c6096384476be25853.png*

Culturally Relevant Pedagogy Principles

Fig 2 shows the five themes using the culturally relevant learning principles of Gay (1994, 2000), Radson-Billings (1994), and Nieto (1999). (Her outfit, Student-teacher relationships in developing a conceptual framework for Chinese learning behavior). First, a list of 35 culturally relevant and important educational topics is compiled. After grouping similar concepts across authors, five main themes were taken up. The conversation was guided by these 5 CRP topics. Additionally, the CRT was used to highlight issues of race and racism.

Fig. 2. The Principles of Culturally Relevant Pedagogy



Source: *https://www.researchgate.net/figure/The-Principles-of-Culturally-Relevant-Pedagogy_fig1_284150721*

Characteristics of Culturally Responsive Teaching

The importance of culture in learning cannot be over-emphasized. This affects not only how people communicate and receive information, but also how organizations and individuals think. An education that recognizes, responds to and celebrates underlying cultures ensures equal access to education for students of all cultures. Gay & Lipman (2010) found that culturally appropriate education has the following characteristics:

Affirmation and Validation: Culture-related education affirms and validates students' diverse backgrounds by recognizing their creativity.

Broad*:* Culturally engaging education is broad because it 'uses cultural resources to impart information, skills, values, and attitudes.'

- ***Multifaceted****:* Culturally appropriate education covers a wide range of subjects and integrates multicultural theory into teaching and teaching methods.
- ***Liberation****:* Students are liberated by culture-conscious teachers.
- ***Empowerment*****:** Culturally appropriate teaching empowers students to thrive inside and outside the classroom. "Scientific competence, personal confidence, courage and drive" are examples of empowerment.
- ***Transformational*****:** Culturally responsive education is transformational because it requires educators and students to challenge educational traditions and the status quo on a regular basis.

The Advantages of Culturally Responsive Teaching

Traditional teaching methods often fail to promote equal success for all students. A culturally sensitive education fosters the success of all students equally. Language barriers, systemic biases, and lack of representation arise in the classroom when students' cultural backgrounds are not taken into account.

Language Barrier

According to the National Center for Education Statistics, about 10% of Public-School students were learning English in 2016. Students who are not fluent in English may find it difficult to understand what is being taught at English-speaking institutions. Additionally, individuals may be reluctant to ask questions or contribute ideas due to the lack of English proficiency required to articulate intellectual ideas.

Prejudice in Schools, Hospitals, Libraries, and Other Public Spaces

Many minority students face discrimination in schools, hospitals, libraries, and other public spaces. In the classroom, authoritarian expectations and punishments can create similar feelings, making students feel uncomfortable or unwelcome.

Poor Presentation

Many materials are unintentionally biased. The main characters in most of the books are white. Most of the film mainly depicts white classrooms. Even standardized test questions are often prepared in ways that favor the experiences of racial and ethnic minorities.

Students can become disconnected from the learning process for a variety of reasons, including class behaviour, homework absences, school skipping, or dropping out entirely. Ultimately, these practices lead to poor grades, which can become chronic and have long-term consequences, affecting everything from college enrollment to job performance and socioeconomic status.

How Can I Make My Classroom Culturally Responsive?

Teachers can promote cultural responsiveness in the classroom through a variety of strategies, such as enabling students to make educational decisions (see below) and designing courses that emphasize the diverse backgrounds of students. I can do it. Culturally appropriate teaching methods help build trust, foster collaboration, improve communication and create a supportive and respectful environment in which all students can thrive.

Get to Know the Students and Their Families

To create a culturally appropriate classroom, you need to show concern for your students' ethnic and cultural backgrounds. Make sure you know how to pronounce your students' names correctly and

encourage them to tell their friends about their family traditions. This can take the form of family history reports in which students explore and present their cultural heritage. You can also take a less formal approach and encourage students to bring food from home and share it with the class. Remember that you must be an exemplary citizen. Show what it means to recognize and respect differences.

Knowing Your Child's Family is Also Important

Family involvement can have a significant impact on a student's academic progress. However, it is important to recognize that participation varies from family to family. Cultural attitudes, family history, and other circumstances can all influence how and how families decide to participate.

Create an Inclusive Curriculum

In the classroom, all students need to feel present and involved in class and school activities. Consider the different cultural backgrounds of your students and think of ways to highlight those differences. Include books or other media that demonstrate the student's cultural background or, as mentioned above, encourage students to write about their cultural history and share it with the class.

Consider Language Differences

In a culture-savvy classroom, it's important to remember that English may not be everyone's native language. Teachers need to find ways to provide extra support to non-native English speakers rather than expecting non-native English speakers to overcome language problems on their own. Consider providing additional materials in the student's native language to help with tests and assignments. Create a personalized teaching strategy to accelerate your English acquisition.

Must Consistently Communicate High Expectations

Each child has unique talents and challenges, but each student must be motivated to succeed. Make it clear to your students that you expect them to come to class, challenge themselves, and achieve a high level of success. Unconscious personal biases may lead some teachers to have lower expectations of minority students or to believe that poor performance is due to family circumstances, race, or cultural issues. I have. Take your time and find out why your students aren't doing well. Be open-minded and tailor your intervention strategy to help him or her get back on track.

Encourage Student Participation

Authoritarian classrooms where student behavior is constrained by a long list of rigid rules can be problematic. Some students may believe that their teachers are socially unfair because their personal exploration is restricted. This is especially true for minority group students who are more likely to face prejudice and injustice. To avoid this, think of yourself as a facilitator rather than a trainer. Empowering students to have a say in what they learn by focusing lessons on topics of interest, providing opportunities to choose reading material, and encouraging them to share their views and ideas in a supportive atmosphere will do so.

Address Your Own Biases

Every teacher has personal biases that they bring into the classroom. These prejudices (race, ethnicity, gender, socioeconomic, etc.) can be difficult to recognize, let alone overcome. Find out about your cultural background, family history, upbringing, and benefits. Understand how other people's experiences differ. Try to look at yourself from an objective point of view. To gain more knowledge, find books, articles, movies, and other materials that help you understand the world from multiple perspectives.

Culturally Appealing Teaching Strategies for Teachers

1. Meet with children and their families outside of school hours to build rapport and learn about each student's background.
2. Assign family history projects to encourage children to research cultural heritage and share what they learn with their peers.
3. Send each student home a separate survey asking about their native language and how often and in which language they read with their parents. Use this information to plan for year-round support if you speak English as your first language.
4. Make a list of fair expectations and post it in front of your room. Use this list regularly to develop an attitude of openness, honesty, and encouragement, especially when discussing different cultures.
5. Replace lectures with class discussions and

collaborative projects to accommodate different learning styles and cultural environments. This gives students a sense of being active participants in their education.

Tribal Training Bottlenecks and Future Challenges

Since India's independence, the central and state governments have initiated several policies and programs aimed at educating indigenous peoples. Initiatives include Ashram Schools, Ekalavya Model Residential Schools, Kasturba Gandhi Barika Vidyalaya, Preschool Scholarships, and Vocational Training Centers. The culture, language, cognition, curriculum, and unique learning abilities of Indigenous children have been overlooked by political analysts and educators. They believe this will help improve the country's indigenous education system.

Teacher-student Relationships

One of the most important variables in promoting meaningful learning in the classroom is good relationships between Indigenous students and teachers. It is important to recognize that Indigenous students and teachers do not have the same background as non-Indigenous students and teachers. Indigenous students' culture, traditions, mannerisms, languages, and cultural heritage must be respected and valued. Surprisingly, many tribal societies have a positive side. Teachers and scholars must take responsibility for disseminating this amazing wealth of traditional knowledge among indigenous youth in schools and colleges.

Language of Instruction

According to Article 350A of the Indian Constitution, each state must have adequate facilities to educate children in their mother tongue. "Children's native language should be the primary medium of education so that they are gradually encouraged to learn the local language," the authors say. Some professors believe that Indigenous students learn at a snail's pace. It takes a lot of effort to overcome the language barrier. Tribes such as the Gond, Bir, and Santhal were educated in their native language by governments and civil society organizations. Indigenous youth respond well to such innovative programs, according to educators. However, there are some areas that need improvement. "The development and printing of textbooks and curricula should be decentralized." Indigenous youth need to be buffered by cultural specifics. and respect their ancestral history. It's time for schools to integrate folklore into primary education. This is because, among other things, it helps unlock the rich traditions of the tribesmen in arts, crafts, music, songs, and stories. Similarly, teachers should collect, document, and use stories and puzzles. To reduce dropout rates in tribal areas, tribal development experts have emphasized the importance of community participation and awareness raising. Youth empowerment and the development of tribal leaders can help create an environment conducive to positive community involvement.

Youth Potential and Tribal Leadership

It is important to fully integrate Indigenous youth into their culture. In tribal civilizations, development must focus on educational programs that encourage tribal youth to remain immersed in their culture. Working with tribal leaders is essential. Community leaders and key stakeholders need intensive participatory mobilization and awareness programs. Community leaders and key stakeholders need intensive participatory mobilization and awareness programs. Additionally, such awareness-raising events should be organized by reputable tribal educational institutions with a wide range of expertise. Thinking about holistic tribal education and inclusive growth is more important than ever. Government policymakers, civil society organizations, and international development agencies must work together to address chronic problems and allocate adequate federal and state budgets for tribal education policymakers need to focus on long-term approaches to improve educational conditions for Indigenous children.

Conclusion

Education is the cornerstone of tribal development, but the participation of indigenous youth is very low. Tribal development is taking place in India, but at a slow pace. Education among tribes remains dire until the government takes drastic measures. Therefore, it is time to go beyond the educational 'banking system' and increase opportunities for children of Scheduled Tribes to attend school. There is a need to raise awareness of government educational institutions to identify actions to engage and develop Indigenous students. It is a great asset for local youth to recognize and maintain their culture and integrity. It is important

to re-evaluate and fine-tune teaching methods and curricula to reflect the aspirations and perceived needs of Indigenous students. Tribal cultures and values need to be sensitized, integrated, and included in schools. This makes education a fun and engaging learning experience for every child. Schools and universities act as incubators for change. The National Education Policy--2020 overlooks long-standing issues affecting the socio-cultural identity of socially and economically disadvantaged and marginalized communities, especially *Adivasi*. Pushing marginalized children out of the mainstream and turning them into workers in the presence of vocational training is not a viable option. Teachers have a unique ability to influence the lives of their students. Attempts to bring thoughtful and inclusive education into the classroom can have long-term positive outcomes for children. Developing culturally responsive educational practices is a small step towards making a big educational change. Earning an advanced degree is a way to acquire the information and skills you need to lead your organization toward more positive change on a broader scale. No single teaching method will appeal to all students at the same time, but developing a strategy for consistently delivering culturally relevant courses will appeal to a wide range of students from diverse backgrounds. Offering culturally relevant courses help students to develop a personal connection with the material while at the same time helping to engage them. Other perks, etc. For example, more student investment should make them more rigorous and ambitious. The ideal effect is to make the classroom more enjoyable and focused.

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Understanding Culturally Responsive Pedagogy for Implementation of National Education Policy- 2020

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One of the major concerns of the 21st century has been around the issues related to the multiplicity of cultural roots of humankind. While on the one hand, the world has witnessed a rising surge in rightwing ideas and an explicit exhibit of racial, cultural and religious intolerance; on the other hand, such actions have given voice to the collective condemnation of such discrimination. Slogans like 'Black life Matters', and 'All Lives matter' have been echoed in social media worldwide. Discussions at most global meets have pointed out that the solution for a changed more accepting society rests in the educational approaches of our schools and higher educational institutions, which would shape future generations. UNICEF in its Global Annual Results Report 2020 – *Every Child Learns* – points out how the Corona Virus Pandemic has exposed the educational divide that exists not only amongst countries but within the social structure of the countries themselves. The tenants of the UNESCO report of the Delors Commission (1996) consider 'Learning to live together' as one of the four pillars of education (the other three beings: learning to do; learning to be; learning to know). The concept of 'Learning to live together' needs to have a stronger standing in the present education system, across the world. 'Learning to Live Together' involves the development of social skills and values such as social and interpersonal skills and an appreciation of the diversity of the world. Culturally Responsive Pedagogy is a step towards achieving such an educational goal.

Culturally Responsive Pedagogy

Culture (from the Latin *cultura* stemming from colere, meaning "to cultivate") generally refers to patterns of human activity and the symbolic structures that give such activities significance and importance. To understand the difference in different cultures one needs to understand the differences in attitudes, beliefs, behavior, language, perceptions and knowledge. Therefore, Culture involves all the ways of life of a certain population which have been passed down from generation to generation. Culture has been called "the way of life for an entire society" and in that it includes attire, language, codes of manners, religion, norms of behavior, rituals, art, law and morality, and systems of belief. James Spradley, Anthropologist defines culture as "Culture is the acquired knowledge people use to interpret experience and generate behavior."

Over the past several decades, educational researchers established several related frameworks for understanding the importance and value of an educational environment that centers on students' cultural identities and personal experiences. The concept of culturally responsive or relevant pedagogy (or teaching or education) is grounded in a history of research and literature from educational researchers and scholars seeking to build a case for the need, importance, and value of an educational environment that centers on students' cultural identities and personal experiences. While some use the terms culturally relevant and culturally responsive interchangeably, they stem from different, though related, approaches. Three foundational approaches are described below:

1. *Culturally Relevant Pedagogy* initially proposed and defined by Gloria Ladson-Billings, suggests a three-part framework of (1) student academic success, (2) cultural competency, and (3) critical consciousness. Ladson-Billings further notes that culturally relevant teaching relies on how teachers conceptualize themselves and others, structure social relationships, and conceptualize knowledge.
2. *Culturally Responsive Teaching* initially proposed and defined by Geneva Gay, is a similar approach that uses students' cultural experiences and backgrounds to increase engagement with instruction and learning. There is an overlap between the approaches defined by Ladson-Billings and Gay, which results in the interchanging use of terminology.
3. *Culturally Sustaining Pedagogy* initially proposed and defined by Django Paris, builds on these prior approaches with a new focus on valuing and maintaining (sustaining) bi- and multilingualism and bi- and multiculturalism.

Curriculum review is one component of a larger audit of a school or teacher's use of culturally responsive practices. There are multiple tools and rubrics for evaluating how the principles of culturally responsive

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education are reflected in the curriculum. These tools typically seek to identify if and how a diversity of cultural identities and voices are represented in the curriculum materials (e.g., authors and characters) and the accuracy of these portrayals. Content related to social justice is also commonly included, such as opportunities to build students' abilities to recognize, understand, and critique inequities and to ask critical questions about the cultural status quo. Finally, curriculum reviews should also consider if and how all students are held to high expectations and offered differentiation to support unique learning styles. Levels of Culturally Responsive Pedagogy Incorporated into Teaching Practices are as follows:

Level 0: No culturally or linguistically relevant materials were included in a class

Level 1: Heroes, holidays, historical events, & discrete cultural elements are incorporated into class lessons Level

Level 2: Multicultural content, concepts, and themes are incorporated into the lesson from multicultural students' perspectives

Level 4: The structure of the curriculum equips students to view issues, concepts, themes and events from the perspectives of diverse, racial, ethnic, and cultural groups

Level 5: Students make decisions on important social issues and take action to help solve them

Relevance of Culturally Responsive Pedagogy in India

Recognising and accepting the cultural diversity of India is the first step to understanding the importance of culturally responsive pedagogy in Indian classrooms. According to the National Education Association (NEA), cultural awareness or cultural competence is "understanding your own culture, other's culture, and the role of culture in education." Taking a student's culture into account and reshaping the curriculum accordingly to reflect the diversity among students, leads to better educational outcomes and at the same time creates a vibrant school system.

Traditionally, the various states of India have nurtured their unique culture within themselves. The meaning of being 'Indian' is at the same time culture of these individual states and at the same time an amalgamation of all. Urbanisation and better life opportunity which comes along with it, has led to more mobility of the population in India along the length and breadth of the country. The mega-cities of the country are truly cosmopolitan in nature. Such social changes have produced far-reaching consequences in educational institutions. The challenges include structuring a curriculum that could meet the need of a more diverse student body as well as promotion of school cultures that respect and supports diverse experiences.

A school can become truly inclusive only when it recognises and respects the individual differences of its students. A multicultural country like India with its many languages, many social customs, and many religious practices, requires a learning environment that is collaborative where student performance is not impacted by a 'culture gap'. Culturally responsive teachers can recognise the full potential of students irrespective of their cultural background. Teachers with strong cultural awareness will be able to administer a culturally responsive pedagogy in a classroom that has immense diversity just like India as a country.

Importance of Culturally Responsive Pedagogy in the Implementation of NEP- 2020

The Finnish Basic Education Act and National Curriculum recognise the importance of promoting cultural diversity among students. They also introduced the concept of 'multicultural assessments' in which immigrant teachers were encouraged to take into consideration the cultural diversity of students. Singapore has, for example, put into practice the mother tongue language policy which requires every child to study his/her mother tongue as a second language. Textbooks in the mother tongue are used not only to teach the language but also cultural values, folklore and traditions. In Australia, teachers are encouraged to use culturally responsive pedagogy.

The National Education Policy 2020 writes in its Introduction: "The aim must be for India to have an education system that ensures equitable access to the highest-quality education for all learners regardless of social and economic background…. Indian culture and philosophy have had a strong influence on the world." Such a rich legacy, according to the policy, must be nurtured and preserved for posterity and at the same time, there has to be research on it. The heritage has to be kept alive and put to new uses through our education system by integrating it into a holistic education. This will help develop the creativity and originality of students and encourage them to innovate.

The Indian Education system has long been under the influence of western knowledge and western language. Indigenous knowledge and culture, especially language, have been made to feel inferior in comparison with western language and culture. Continuous efforts need to be maintained to change this trend and a new system should originate where Indian knowledge and culture will flourish along with the West.

The policy points out that NEP- 2020 must provide to all students, irrespective of their place of residence, a quality education system, with a particular focus on historically marginalised, disadvantaged, and under-represented groups. Education is a great leveller and is the best device for achieving economic and social mobility, inclusion and equality. The enterprise must be in place to insure that all children from similar groups, despite essential obstacles, are presented with and given awareness about various opportunities to enter and get the best results in the educational system. These elements must be assimilated in an Indian manner and style, taking into account the local and global needs of the country, and keeping in mind the rich cultural heritage and diversity of the country. Students need to have a knowledge base that takes into account all of India and it is varied social, cultural, and scientific needs, unique artistic expressions, language, and knowledge traditions. A strong ethical foundation in India's young people is considered critical for purposes of national pride, self-confidence, self-knowledge, cooperation, and integration leading to overall national development.

These mileposts can be suitably achieved once we are able to plan a curriculum that connects with the culture of the learners. The curriculum should be such that it respects learners' cultures and prior experiences; acknowledges and values the existence of different cultures and not just the dominant culture of a society. It should encourage intercultural understanding by incorporating cultural aspects into the core curriculum, rather than adding them on as part of co-curricular activities. This in a true sense will lead to holistic education.

The policy states that India's rich culture has developed over millennia and manifested in the form of arts, works of literature, customs, traditions, linguistic expressions, artefacts, heritage sites, and more. This cultural wealth in turn has boosted India's tourism industry in the form of visitors experiencing Indian hospitality, buying India's handicrafts and handloom, reading the classical literature of India, doing yoga and meditation, finding inspiration in Indian philosophy, rejoicing in India's unique festivals, appreciating India's diverse music and art, and viewing Indian films, amongst many other aspects. Thus, preservation and promotion of India's cultural wealth must be considered a high priority for the country, as it is truly important for the nation's identity as well as for its economy.

The promotion of Indian arts and culture has not only national importance but also promotes the personal development of the individual. Cultural awareness and expression are among the major competencies considered important to be developed in children, in order to provide them with a sense of identity, knowing one's roots, as well as an appreciation of other cultures and identities. It is through the development of a strong sense and knowledge of their own cultural history, arts, languages, and traditions that children can build a positive cultural identity and self-esteem. Thus, cultural awareness and its expression are important for the well-being of the individual as well as the society as a whole.

A major aspect of this cultural diversity is expressed through the multitude of languages in India since language is inextricably linked to art and culture. The policy points out that: "Different languages 'see' the world differently, and the structure of a language, therefore, determines a native speaker's perception of experience." The influence of language and culture is mutual upon each other. While the characteristics of a language influence the way people of the given culture speak with others, the culture also influences the tone of the conversation, the mannerisms, and the correctness of how to address among other things. Culture is thus the soul of our languages. Language is that vehicle that transmits art, in the form of drama, music, literature, film, etc. Therefore, through the preservation and promotion of the language of a region one may preserve its culture. To preserve India's multicultural identity, one has to use its languages regularly and by using them for teaching-learning. Thus, Indian languages must also get the deserved attention. In spite of this crucial importance, the country has seen the loss of many languages while many others have become critically endangered in the last 50 years. UNESCO has declared 197 Indian languages as 'endangered'. Various unscripted languages in particular are in danger of becoming extinct. Even those languages of India that are not officially on such endangered lists -such as the 22 Schedule 8 languages – are encountering other critical difficulties. Due to the shrinking number of members of a tribe or community the languages they speak often perish with them. Most often, no definite actions or measures are taken to preserve or record these rich languages/expressions of culture. Along with this, there has been a shortage of skilled language teachers who can teach Indian languages. Many languages only remain in local conversations with no specific academic interest and others remain only at the academic level, almost dead in its usage. To bridge this gap, specialized language education programmes in Indian languages must be implemented. For languages to remain relevant and vibrant there must be a steady stream of high-quality learning and print materials in these languages - including textbooks, workbooks, videos, plays, poems, novels, magazines, etc. Languages must also have

continuous official updates to their vocabularies and dictionaries, so that the most current issues and concepts can be effectively discussed in these languages.

How Can Cultural Understanding be Included in Teacher Training?

Lisa Delpit (2013) in *Other People's Children: Cultural Conflict in the Classroom* says, "in order to teach you, I must know you." Teachers may become culturally responsive educators only when they are able to recognize and value their own cultural background and that of their students. Reflecting on one's cultural background which is an amalgamation of one's race, gender, ethnicity, religion, language, socio-economic status and special needs status, is a precursor to being sensitive towards the similarity or dissimilarity with the cultural background of one's students. Multiculturalism is to be considered an asset in a country like India where peer-mentoring amongst one's colleagues can easily develop a sense of mutual cultural respectfulness. Dyads or triads of colleagues within the teaching fraternity may work with different sets of students to come up with key cultural integration across the spectrum. This will build a cohesive ecosystem within an educational institution by connecting unique identities and teachers will be able to create culturally sensitive and engaging lesson plans. Though most teacher education programs acknowledge in the principle of pluralistic preparation of teachers, in practise they mostly represent a mono-cultural approach. Cultural training is critical in strengthening our collective capacity to build a more resilient and peaceful society.

An integral part of teacher recruitment policy should be to rule out implicit cultural bias in a candidate. 'Implicit Bias' refers to attitudes or stereotypes that affect our understanding, actions and decisions in an unconscious manner. Life experiences of teachers and students will understandably differ, leading to differing attitudes however, questioning those attitudes and encouraging an open mind helps overcome implicit biases. Teachers should continue to be lifelong learners, educating themselves about the cultural background of their students. Whether through professional development courses or discussions with students and their families, educators who find opportunities to understand the different cultural backgrounds of their students, succeed in bridging some of the gaps which impede learning due to cultural differences between students and teachers.

Parents play a crucial role in building this cultural cohesiveness within the school environment since students are often too young to identify their own cultural identities. Teachers are required to develop culture-related sensitivities in handling critical discussions during parent-teacher meetings. Parent-Teacher Associations may be formed to generate cultural interest groups with the objective to help teachers navigate culturally sensitive matters carefully.

Conclusion

The Human Resource Development of a country has at its core, knowledge about the cultural heritage and diversity of its people and teacher training programs should include sensitisation of teachers towards the same since students are the backbone of the future of a country. The curriculum should have a mix of home language as well as Indian and International languages, as has been highlighted in the three-language formula of the school curriculum of the country. The language textbooks should be judiciously designed to serve the dual purpose of language learning as well as introduce the students to the rich cultural heritage of the country through its literature. Textbooks should be made available in multiple Indian languages to facilitate the understanding of students with different home languages. English and other language textbooks may include translated literature and writing by Indian authors. Thus, a Culturally Responsive Pedagogy can only be developed through a collective effort of curriculum framers, teacher educators and administrators to make our education system more inclusive; the education more relatable to the student's own life; and India a country to live up to its motto of 'unity in diversity', connected to its roots yet reaching out to the entire world.

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Measures for the Qualitative-teaching Faculty in the National Education Policy– 2020

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The quality of education depends on the three Ts: Teachers, Taught and Tools. The teachers are trained at various levels—nursery, primary, secondary, higher secondary, undergraduate, and postgraduate levels—in addition to family settings. Although there is no formalized training or mechanism for becoming a quality family member, there is certainly a well-thought-out, formalized mechanism for teachers to become quality teachers. The whole paraphernalia of teacher education for the pre-recruitment training and human resource development centers (formerly academic staff colleges) and the recently established Teaching Learning Centers (TLCs) under PMMMNMTT are dedicated to the formal training of school and higher education faculties, respectively.

Teacher Training for School Education

It seems that the NEP-2020 has given adequate importance to teacher education. It has proposed a four-year degree program in teacher education. It proposes to open Departments of Education in every university and make them interdisciplinary (Recently UGC has published a document with detailed guidelines in this regard). It also plans to include Education Studies as a part of the UG/PG and research curricula. It points to the fact that the NEP 2020 has proposed fundamental changes in teacher education, which is more closely related to school education. On the contrary, it seems that it has not paid much attention to developing a robust mechanism to recruit, train, and retrain quality teachers in the higher education system in India.

Multiple Modes of Recruitment in Higher Education in the Country

India is a country with a federal structure where higher education appears in the concurrent list of subjects that come under the purview of both the union government and state governments. In India, there are various types of agencies and modalities for operating higher education in various states. Although it is mandatory for all states to follow the rules and regulations laid down by the UGC, various states have their own policies relating to the appointment of faculties in government and non-government colleges and universities. For example: in a state like Maharashtra, most colleges are run by private management. The management exercises the rights of recruitment and monitors the service conditions of the college teachers following the UGC norms. On the other hand, the state universities in Maharashtra advertise teaching and non-teaching posts independently, and once the faculty is appointed, he or she retires from the same university. There is no centralized mechanism for recruitment of the teaching faculties in the colleges and universities in the state.

In Madhya Pradesh, where most colleges are owned and managed by the state governments, the state government recruits the teachers with a single advertisement and governs their service conditions with the provisions of transfer. State university recruitments are done independently, and these positions are, of course, non-transferable. In the states like Bihar, where the state recruits teachers in the universities and colleges affiliated with them with a single advertisement on the large scale. However, the positions of college teachers are transferable, but not for university teachers.

In the states like Uttar Pradesh, West Bengal, Punjab, Rajasthan, Tamil Nadu, and Karnataka and in a few other states, there are colleges run and operated by both private management and the state government. State governments appoint teachers for government universities and colleges, whereas private management appoints teachers for the colleges run by them.

Ambitious Projects of the NEP- 2020 for Higher Education

While discussing the institutional restructuring and consolidation of the higher education institutes

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in India, the Policy sets its main thrust on ending the fragmentation of HEIs to transform the HEIs into large multi-disciplinary universities and colleges of 3000 or more students. The Policy speaks of reviving the ancient Indian tradition of universities like Nalanda, Vallabhi, Takshasheela and Vikramsheela which were the institutions of higher learning with vibrant multi-disciplinary environments developed by high-quality teaching, research, and community engagement (NEP 2020, P.34). It plans to gradually transform the existing colleges/institutions with commendable performance in accreditation into ADGC (Autonomous Degree Granting Colleges), then into Constituent Colleges of universities, and finally into research-intensive or teaching-intensive universities. It plans to break the prevalent rigid boundaries of disciplines in terms of subject and those time frames with multiple entry and exit points.

In addition to teaching and research, the Policy plans to assign the premiere institutions the responsibility of supporting other HEIs in their development, community engagement and service, faculty development and supporting school education.

The Policy expects the learners to have knowledge of 64 *kalaas* (arts/skills in performing, scientific, professional and vocational subjects) modelled on the universities of Takshasheela and Nalanda of ancient India. It expects to develop among the learners' multiple capacities like intellectual, aesthetic, social, physical, emotional and moral along with values like humanistic, ethical, constitutional and environmental concerns. To attain the expected goal, the Policy is set to transform every college/ institute into a multi-disciplinary institute with autonomy, financial support and stability for both public and private institutions with a public-spirited commitment by 2040. Prior to that, the Policy speaks of establishing more institutes in the under-served regions by 2030 and achieving the GER from 26.3% to 50% by 2035.

Initiatives for Faculty Development in the NEP–2020

The policy acknowledges that, despite previous initiatives, faculty motivation in HEI has remained far below the desired level in terms of teaching, research, and service. It speaks of addressing the various factors responsible for it. The Policy recommends the following measures in this regard:

Providing the Basic Facilities in HEIs

The policy mentions providing basic amenities such as drinking water and clean working toilets, as well as infrastructures such as offices, pleasant classrooms, labs, and libraries, along with blackboards and teaching aids. Each classroom will be technology-enabled for beta ter and more effective teaching and learning experience. In other words, it talks about developing smart classrooms in every HEI.

Developing the Sense of Belonging for Institutions

The Policy speaks of assigning viable teaching duties for adequate space for interaction with students, research and university/college activities. It says: Faculty will be appointed to individual institutions and generally not be transferable across institutions so that they may feel truly invested in, connected to, and committed to their institution and community. In short, teaching posts should be made non-transferrable to develop a sense of belonging and stay connected to the institution.

According Autonomy to the Teachers

To encourage, promote and utilize the creative talent of the teachers working in the colleges and universities, the Policy proposes autonomy in curricular and pedagogical approaches and innovative teaching and research along with community linkage and services.

Encouraging and Incentivizing the Excellence

The policy plans to lay down that excellence be incentivized in terms of rewards, promotions, and recognition and be preferred in institutional leadership. Non-performers' accountability must be fixed.

Nurturing and Developing Academic Leadership

a. Outstanding institutional leaders should be identified.

b. Excellent faculty with high academic credentials as well as demonstrated leadership and management skills should be enhanced through leadership programs.

c. Transition in leadership should be done in such a way that leadership positions do not remain vacant, affecting the smooth operation of the institution.

d. Academic leaders will cultivate a culture of excellence to motivate and incentivize innovations in teaching, research and institutional service to the community through outreach programs.

The mechanism for Recruitment and Appraisal

It speaks of evolving clearly defined, independent and transparent mechanisms for faculty recruitment and service conditions:

a) A suitable probation period be put in place to further excellence.

b) Rapid promotion system to recognize highly influential research and contributions.

c) System with multiple parameters for performance assessment for confirmation in employment, salary increase, and recognition.

d) Peer and student reviews, innovations in teaching and pedagogy, quality and impactful research, professional development activities; and other forms of service to institutions and communities should be taken into account for performance assessment.

e) Non-performinging faculties, on basic norms, will be held accountable.

Cultivating Excellent Academic Leadership

The policy underlines the need for cultivating, developing and encouraging outstanding, enthusiastic and innovative institutional leaders. It speaks about identifying the faculties with excellent academic and service credentials as well as demonstrated leadership and management skills and training them for leadership positions in the institutions.

It says: "The leadership positions shall not remain vacant but rather an overlapping time period during transitions in leadership shall be the norm to ensure the smooth running of institutions.

It is expected that the institutional leaders will aim to create a culture of excellence to motivate and incentivize outstanding teaching, research, institutional service, and community outreach among the faculty members of the HEIs.

Establishing the National Research Foundation

Admitting the negligence towards research activities, the Policy seems to have decided to lay special emphasis on research in the country. It has located the causes of the low and poor research output in India. Therefore, it envisions establishing the National Research Foundation (NRF). Its prime focus shall remain on the creation of knowledge. It sees the creation of knowledge and research as the prerequisites to make India lead research and innovation in the 21st-century world.

The Policy does not forget to state that research in social sciences and humanities is equally significant as research in science and technology. It does not miss to harp the tune of incredible ancient India, it states: India has a long tradition of research and knowledge creation, in disciplines ranging from science and mathematics to arts and literature, to phonetics and languages to medicine and agriculture. This needs to be further strengthened to make India lead research and innovation in the 21st century as a strong and enlightened knowledge society and one of the three largest economies of the world (45-46).

For this purpose, the Policy comes with a comprehensive approach to research. It speaks of devising mechanisms to identify the students' interests and talents and school education to make a discovery-based style of learning with an emphasis on the scientific method and critical thinking. One does not miss the contrast between the two approaches. On the one hand, the Policy talks about introducing the Panchatantra, Ramayana and Mahabharata which may carry some element of moral issues, but are full of miracles; on the other hand, it envisions inculcating scientific and critical thinking.

The Policy speaks of the inclusion of research and internships at the UG level. Again, one is curious to see how many things the Policy expects to achieve from the learners during their UG programme as most colleges are running single UG programs.

It comes out with the ambitious project of the National Research Foundation in addition to the

existing funding agencies. It speaks of NRF as: The overarching goal of NRF will be to enable a culture of research to permeate through our universities. In particular, the NRF will provide a reliable base of merit-based but equitable peer-reviewed research funding, helping to develop a culture of research in the country through suitable incentives for and recognition of outstanding research and by undertaking major initiatives to seed and grow research at state universities and other public institutions where research capabilities are currently limited. The NRF will competitively fund research in all disciplines.

Recommendations

- ***Central Government to Take Over the Entire Responsibility of the Higher Education***

At present, the subject of Education is found in the concurrent list, meaning both states and the center will fund, monitor, and manage the matters related to education. As a result, one finds that the policy is made by the center and the responsibility of its execution falls on the center as far as the centrally funded universities and institutes are concerned and on the states in the case of the universities and institutes funded by the state government. The maximum burden of higher education is borne by state-affiliated universities and their affiliated colleges. As per the AISHE report of 2019-20, the state higher education system has almost 68.96% enrolment against 8.69% by the Center and 22.33% by the privately managed universities and institutes. Naturally, the responsibility of implementing the NEP falls on the states with its universities/institutes and colleges.

As observed above, there are various mechanisms for monitoring higher education in various states. Again, as far as the burden of the salary expenses of employees is concerned, an arrangement is made such that the expenses of the first five years of salary are borne by the center and the remaining five years by the state government. UGC and a few other agencies provide very little funding in the name of development grants to the states and HEIs.

Moreover, the political scenario in the center and the states also plays a significant role. Political disagreement may lead to delays in the implementation of the policies taken by the central government.

To bring uniformity in the system, just distribution of development grants and considering the financial condition of the states, it would be wise that the center takes over the responsibility of the entire higher education of the country and the states be left with the school education up to the higher secondary level. Positively, it will improve the conditions of employees, and their service conditions and above all, measures in the direction of quality improvements may be taken and implemented more effectively by the center.

- ***Constitution of the Higher Education Service Commission***

The first Indian University Education Committee, headed by Dr. Sarvepalli Radhakrishnan had recommended developing a mechanism for the recruitment of higher education services on the lines of the IAS, IFS and IRS. The same was reiterated by the Dr D S Kothari commission in the 1960s as the policy. It could have been implemented at least for the centrally funded institutes. Unfortunately, this recommendation was never given a serious thought. It is high time that the center should take steps in the direction of implementing this recommendation. All the teaching and administrative posts of the HEIs may be recruited in a centralized manner like IAS, IPS, and IRS and posted as per the requirements. It will keep the recruitment process away from the local politics found in the universities and similar institutes.

The states will follow the same mechanism for their services of universities and colleges owned and managed by the state governments.

Creating Zones of the Universities for Transfers / Mobility

The NEP 2022 speaks of making the teaching posts non-transferrable to develop a sense of belonging and being connected to the institution which needs to be reconsidered and revised.

If the service conditions of the employees in the universities and other HEIs are governed by the higher education department of the ministry in the center and state respectively, like other departmental cadres, it is advisable to create zones for the universities on the lines of UGC and its regional offices. The policy of transfer of employees within such zones may be

followed. It should be applicable to all the teaching and non-teaching employees (except the tenure posts like VCs, Registrars, Finance Officers) of the university and similar institutes. It is essential for the larger interest of the institutes and learners so that the expertise of the teaching faculty may be used for various institutes and learner communities. Late Dr G Srinivasan (Joint Secretary of UGC) had very aptly made his observations on the conditions of the faculties working in the state universities, describing that these employees begin to have the feeling that the posts of the universities should be for the sons of the soil', killing the universal spirit of the university. Lifelong stay at the same institutes provides them with opportunities for various non-academic distractions and may give them the impression that they are the lords of the university. The transfers within the zones will minimize the space of using the transfer as a punishment tool at the hands of the officials in the ministry, and the sense of commitment and belonging may also be retained. It may be made more transparent by using the online mechanism. It will be in the interest of the employees as well, for it will provide new avenues of association with new colleagues and learning communities.

States may also follow the same model by recruiting teachers and officers through their public service commissions, creating zones within the state universities and making the posts transferrable like those in the central universities as proposed above.

Stability of the Academic Leadership Positions

The policy expects the institutional leaders to create a culture of excellence to motivate and incentivize outstanding teaching, research, institutional services and community outreach by the faculty members of the HEIs. However, one knows that among the HEIs, colleges are greater in number than universities. The principals of the colleges have to perform multidimensional roles as academic leaders, administrative heads, and catalysts between the government, society and the institutions. To work effectively in such roles, one needs stability in the posts. The posts of the principals have been converted into tenure posts for five years with the provision of an extension for one more term of five years. Given the nature of the posts of the principals, the tenure is very small. It needs stability in the jobs. Therefore, the tenure of the principal may be made for ten years or the post may be made transferable to utilize the academic excellence and administrative expertise of the principals. For the smooth and effective functioning of the institutions, there is a need for a mechanism in which a pool of academic leaders can be prepared and deployed as and when there is a vacancy in the institutions. For that purpose, uniformity in the mechanism across the country is the need of the hour.

Conclusion

To conclude, teachers are pivotal to the higher education system. As education appears in the concurrent list of Subjects, there exist various mechanisms for recruiting and controlling authorities in the country. The Policy expects the teaching faculties to bear the burden of implementing its goals in its entire form.

Though it has mentioned some directives like---providing the basic facilities in HEIs, according to the autonomy of HEIs, encouraging and incentivizing excellence, cultivating, nurturing and developing excellent academic leadership, developing a mechanism for appraisal and establishing the National Research Foundation as listed above; certain amendments/initiatives in the present system of teacher recruitment and controlling mechanism are needed. Owing to the funding responsibility of the centre, formalizing a central mechanism for recruitment and mobilization of the teachers within the geographical zones for the central and state universities at the pilot level and stability for the post of the college principals are a few significant issues.

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Artificial Intelligence in Teaching-learning in Higher Education

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The use of artificial intelligence has become increasingly significant in our lives today. Though the field of education is still in its infancy. Over the past few years, higher education has also undergone numerous changes, predominantly as a result of modern technological interventions and the pandemic. The rapid developments in cyberspace have made a way for a continuous evolution of methods for teaching and learning. Consequently, new technology alters how teachers and educators engage with students, developing innovative lesson plans and changing the design of a regular classroom. Information Communication technologies (ICT) are extremely important to organizations to complete daily chores quickly and effectively. Artificial Intelligence (AI) is a technology that is gradually increasing and enabling many processes of teaching-learning in higher education. Every sector, from e-commerce to medicine to education, has seen a multifold boom in the application of AI. Many organizations are currently making investments to create their own AI and machine learning systems. What is AI, and why is it considered the very next big thing?

Artificial Intelligence is the ability of a machine to mimic intelligent human behaviour is known as artificial intelligence. Our automated, digital processes get smarter as a result. Additionally, it raises any technology's level of dependability. Therefore, what we formerly saw in science fiction films is now a truth. Additionally, now data drives every decision that must be made. The online recommendations available while browsing retail websites like Amazon or Flipkart are the best illustration of the same. Product recommendations are made based on past purchases by machine learning technologies.

Adopting and implementing a similar technology tool to monitor a student's progress based on his prior engagement, grades, and performances. Will it aid the student in improving performance? As a result, Artificial Intelligence (AI) has been seriously considered as a means of literally closing the various gaps in the global education system. "Artificial Intelligence (AI) is the ability of machines to execute cognitive functions including thinking, perceiving, learning, problem-solving, and making decisions; it is inspired by the way people use their brains to perceive, learn, reason out, and make decisions,"(NITI Aayog).

The Fourth Industrial Revolution's software engine is artificial intelligence (AI). It will soon be operating vehicles, filling warehouses, and providing care for the young and old in its robotized form like Smart homes, Smart Toilet, Smart Fridge, Smartwatch, Smart glasses, AR Smart Contact Lenses, UHD High Dynamic Range (HDR) VR Glasses (Panasonic), The internet of things (IoT), Robots (Humanoid Robot Sophia), Xia Xiaomeng (World First Female Humanoid Anchor), Xinhua's AI Anchor, Reshmi (World's First Humanoid Robot RJ), Robot Nurses at Thai Hospitals, Micro-Bots (Micro Robots)- Inspection Robo, Mosquito Robo, Cobots (Clicbot: Educational Robot - It can listen, think, and even react. It can climb, dance, crawl or even serve morning coffee), Drones, etc.

Some AI systems require programming to operate, while others have an inbuilt capacity to pick up on patterns and build predictions. "Alpha Go, software created by Deep Mind, the AI division of Google, is an example which was successful in defeating the top player in the world at the extremely difficult board game of Go" (Gibney, 2017).

Emergence of AI

The pioneer of artificial intelligence John McCarthy coined the term "Artificial Intelligence" in 1955 by establishing and conducting research on artificial intelligence along with his associates Marvin Minsky, Herbert Simon, and Ellen Newell. A workshop was organised by John McCarthy in 1956 at Dartmouth College where the word "Artificial Intelligence" was used. Scientists have continued the research that was begun at that time, which has given John McCarthy's ideas a fresh outlook. John, an American cognitive and computer scientist, began working on it in 1955. Technology did not advance rapidly at the time. But

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today, artificial intelligence is a success because of advancements in sophisticated algorithms, computer power, and storage.

Categories of Artificial Narrow Intelligence (AI)

There are two types of Artificial Intelligence (AI): *Artificial Narrow Intelligence (ANI)* or weak AI and *Artificial General Intelligence (AGI)* or strong AI.

1. Artificial Narrow Intelligence (ANI): Also known as weak AI, it is designed to focus on a specific task. A weak AI example is a self-driving car. It is intended for a certain task.

2. Artificial General Intelligence (AGI): It is often referred to as Strong AI. In contrast to ANI, AGI can apply intelligence to more than one specified topic and can perform most mental functions that humans possess, if not all of them (Kurzweil, 2010; Voss, 2017). Several well-known experts and businessmen, including "Stephen Hawking, Bill Gates, and Elon Musk," believe that strong AI poses an existential threat to humanity.

The simplest way to put AI was what Amitabh Kant said, 'Democratic AI' is necessary for inclusive progress in India. NITI Aayog published a report establishing the "National Strategy for Artificial Intelligence" and advocating for #AIforAll with the goal of embracing this disruptive technology and advancing India's specific needs and goals. The key areas are Health services (Improving accessibility and cost-effectiveness of high-quality care), Agricultural production (Increasing farmer income, raising agricultural output, and cutting down on waste), Education (Enhancing access to and the level of education provided), Infrastructure for smart cities (efficient connectivity for the expanding urban population) and Smart mobility and transportation (include safe and effective modes of transportation as well as enhanced traffic and gridlock control).

The government of Andhra Pradesh, for instance, experimented in 17 districts. It includes Visakhapatnam. The data of pupils connected to numerous dynamics, such as academic performance, the cause for school dropouts, the quality and skills of teachers, social demographics, gender, and other factors, were collected and analyzed by a machine learning application. This programme has identified predictive patterns, such as likely dropout candidates. With help of it, the state government prepared a list of thousands of pupils who may leave their schools during the 2018–2019 school year much before 2018.

These studies demonstrate that AI can be a catalyst for expediting the educational process and assisting institutions in making wiser judgments. AI implementation on such a broad scale would undoubtedly assist us in closing the system's gaps. The rapid advancement of artificial intelligence has already made a profound impact on the nature of services provided by higher education. For instance, universities have been using IBM's Watson supercomputer, a developing form of artificial intelligence. At any time of day, 365 days a year, this service offers student guidance for Deakin University in Australia (Deakin University 2014).

Various Artificial Intelligence (AI) Based Activities in Education

Automated Feedback and Grading: Open University UK has reported that open essayists first considered the proposed text, check the structure of the essay and understand the use of important words.

Intelligent Tutoring: The University of California, San Diego reported that their curriculum includes quizzes and "just in time" tasks to determine whether the student has understood the material to guide students through an individualized learning path and allow assessment at every stage of the student's learning has given. If a student gives incorrect feedback, they are sent to a remedial site to help them understand and achieve the material. The curriculum also includes coding challenges to evaluate each student's progress and to replace the simple multiple-choice tests that are the mainstay of most MOOCs.

***Learning Analytics*:** The Arab University (Kuwait) has reported that their university has the facility of learning analytics by which they can identify students who are in danger and the cause of student attrition. The decision support dashboards, such as Student Risk Factor (SRF), score made up of the student's current GPA, progression rate, and the number of warnings received, are one of the most promising results.

Student Support Services: Deakin University reported that students can ask IBM Watson inquiries in natural language regarding administrative and course information whenever they want thanks to cognitive computing technology, which is available around the clock.

Virtual Agents: Georgia Tech A has developed a virtual teaching assistant (TA) named Jill Watson based on the IBM Watson platform by a computer

science professor in order to respond to the more than 10,000 forum posts in his online course with more than 300 students. The human TAs address the more sophisticated problems, while the virtual TAs deal routine, important topics like inquiries about suitable file formats, data usage, and the scheduling of office hours.

1. Virtual Reality: Queens University (Canada) is focusing on case-based education using simulations of real-world issues, allowing students to learn and improve their decision-making and problem-solving skills. These intelligent simulations from Ametros Learning are driven by IBM Watson's cognitive computing tool. Students interact with artificially intelligent characters on the platform using text, visual, and oral communication to practise "real" communication. Students learn through experience in a rich, risk-free simulation environment in their chosen field thanks to the simulation platform.

2. Personalized Adaptive Learning Environment: As reported by University of Zagreb that Spaced repetition is a learning strategy that uses longer gaps between learning new material and reviewing material that has already been mastered. It is frequently used in language learning to account for the substantial amount of knowledge that needs to be stored in the student's long-term memory. By figuring out how frequently the student needs to review material for it to stay in their long-term memory, software may adapt to the student's existing knowledge and utilize that information to assist the learner understand characters, vocabulary, and phrases.

3. Online Proctoring: Stevens Institute of Technology has a team from the School of Engineering and Science at Stevens Institute of Technology has tested a virtual lab tool that uses biometric verification to identify students and remotely manage their behaviour using facial recognition technology in a course for undergraduate mechanical engineers. The students sign in to the virtual lab tool by having a web camera scan their faces. The student sits in front of a camera as they do a lab evaluation, and the virtual lab tool watches their facial expressions and head movements to look for any unusual behaviours. When such behaviours are detected, the programme captures a video for further study by the lab administrator. When used with a virtual proctor, the virtual laboratory technology is effective and very accurate at spotting suspicious behaviour during assessments.

Application of AI

AI in education primarily started utilization of computers and computer-related devices. With the emergence of internet and digital education platforms, it has advanced further. Robots can be used as coworkers or independent teachers thanks to embedded systems, and chatbots can carry out teaching-related tasks. AI systems can capture a much wider array of data, at more granularity, than can humans. And

Though artificial intelligences' potential for use in higher education institutions is quite high and it offers a wide range of opportunities, its present situation in these institutions requires a significant commitment of both time and money. Therefore, institutions that are going to use AI must take into account a wide range of criteria to ensure that the adoption of AI will mark a turning point in their approach to teaching and learning and that it will benefit students, teachers, and the institutions as a whole.(Jain & Jain, n.d.)

Studies indicate that the usage of these tools and platforms has enhanced the efficiency of teachers, improved the quality of instruction, improved student learning experiences, and personalized or tailored learning materials to meet the requirements and skills of the students.

The main technologies that help AI in education are listed below-

S. No.	Application of AI	Techniques Supported by AI
1.	Pupils and the School Assessment	Educational analytics, adaptive learning, and individualized instruction
2.	Evaluation and grading of coursework and examinations	computer vision, prediction systems, and image recognition
3.	Individualized intelligent instruction	Learning analytics, data mining, Bayesian knowledge interference, and intelligent teaching systems
4.	smart school	Face recognition, virtual laboratories,
5.	Online and mobile distance learning	Hearing, sensing, VR, AR, and other technologies real-time analysis, edge computing, and virtual customized helpers

Impact of AI in Higher Education

AI will have an impact on higher education from many angles which has a significant impact on admissions, instructional programmes, and curriculum of higher education.

Advantages:

- **Personalized Education-**

In India, there is a severe shortage of teachers, as we have already learned. In addition, the quality of the curriculum and instruction has not grown more quickly. The lack of access to high quality education for our pupils has frequently been emphasized in numerous pieces in the mainstream media. AI might be able to help with this issue.

The ability of AI systems to adjust learning and comprehension capacities of individual student is the most crucial factor. Their abilities and shortcomings can also be discovered. No matter how hard we try, 60 children cannot be served by a single educator in a classroom.

In this case, empowering learners with access to AI systems in their homes, schools, and classrooms may be the best way to address both the issue of accessibility and low quality at once.

- **Teaching Assistants-**

Teachers are responsible for a variety of tasks, including grading, assigning homework, making mark sheets, and monitoring the progress of each student. They would concentrate more on curriculum development, quality of teaching, and skill development if these activities were made simple for them.

All these duties can be aided by AI systems, making them smarter as well as mechanized. Teachers will find it simpler to concentrate on kids rather than tedious administrative work with the help of AI technology.

- **Inclusive Education-**

Education for all has always been a policy that India has supported. India currently has more than 600 million young people. They all deserve a quality education, employable skills, and jobs.

AI education may become both more inclusive and more readily available. Around the world, a variety of tutoring services and learning programmes with skill-based curricula are being created and these are accessible to international classrooms thanks to these AI-enabled tools. In addition to empowering pupils, it will also help teachers keep up with modern trends. Such programmes might be beneficial for rural education. Students in India's most rural regions will be able to learn in the same way that urban students do.

- **Online Proctored Assessments-**

The new technology known as remote proctoring can make the process of invigilating exams easier. Students may take exams from any location, including their home or classroom. The system could remotely proctor such an exam.

To authorize remote students, a web camera that is connected to the computer system is used. With the help of Remote Proctoring's artificial intelligence, many educational institutions, businesses, and colleges have begun employing this technology to streamline the exam procedure.

- **Evaluation of Answer Sheets-**

One of the troublesome areas for universities or other educational institutions is the physical answer sheet evaluation. Due to its intelligence and ability to calculate the score automatically, onscreen evaluation systems are becoming more and more popular.

It also makes sure that the examiner has thoroughly checked all the answer sheet's pages. Additionally, processing tangible answer sheets costs less logistically. It can aid in automating the processing of results.

- **Streamlining Education System-**

Cortana by Windows, Siri by Apple, and Alexa by Amazon are the best-known examples of AI. These voice recognition technologies are capable of mimicking human intellect. These systems not only aid in our knowledge acquisition but also improve our capacity for selecting choices. The term "machine learning" also applies to the technology, which has been utilised in some contexts to monitor important educational concerns.

Limitations

In a Working Paper entitled 'Artificial Intelligence in Education: Challenges and opportunity for sustainable Development' (https://unesdoc.unesco.org/ark:/48223/pf0000366994)' presented by UNESCO and ProFuturo

at Mobile Learning Week 2019 (https://en.unesco.org/mlw) has presented cases studies on how AI technology is helping education systems use data to improve educational equity and quality. Beyond the opportunities, the Paper also addresses the challenges and policy implications of introducing AI in education and preparing students for an AI-powered future which revolve around are- *Developing a comprehensive view of public policy on AI for sustainable development, Ensuring inclusion and equity for AI in education, Preparing teachers for an AI-powered education, Developing quality and inclusive data systems, Enhancing research on AI in education, Dealing with ethics and transparency in data collection, use and dissemination.*

Higher Education is even a step behind than the corporate sector to adopt and use AI. Higher education institutions which integrated AI into their curricula maintain are already seeing its advantages. It can therefore be concluded from the discussion and analysis in the study that AI is significantly affecting higher education institutions. Numerous vocations are being rendered obsolete by AI development, indicating to the development of entirely new skill sets. Colleges and universities must train and develop their graduates face the challenges of the AI revolution and to thrive in the AI era.

A Way Ahead in Higher Education

The job market and skill sets needed in the future would fundamentally differ from what they are now due to the job substitutes and relocations brought about by AI (Siau, 2017, 2018; Rainie and Anderson). Numerous studies have shown that professions with organised routines are easier to automate and will soon be replaced by AI. Despite what would be predicted, work tasks that are increasingly unstructured and require managing people are more difficult to be replaced by AI. Advanced education should be flexible and continuously improve. The role artificial intelligence plays in the modern digital world are amazing, and it is anticipated that it will accelerate knowledge acquisition soon, (Sharma c).

As it has already mentioned, artificial intelligence has a plethora of benefits for educators, students, and educational institutions, and its potential is truly astonishing. However, there are certain difficulties with higher education. In the modern digital age, artificial intelligence plays a tremendous role in advancing knowledge acquisition.

To provide existing employees with skill and reskill training so they can advance toward the standard of technical expertise. To nurture young minds in accordance with the shifting demands of the employment market by adopting a decentralized learning system in cooperation with higher education institutions and the corporate sector. The creation of jobs in emerging fields like data analysis must be identified and encouraged.

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Innovative Pedagogy for 21st Century Skills in the Higher Educational Institutions of India

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Innovative pedagogy is the art, science and profession of teaching in the teaching-learning process. The skill sets required by the learners of 21st century are vastly different as compared to the previous generation learners as the problems of 21st century are vastly different and more complex than previously imagined. It means that the demands placed on the next generation workforce will be very different and they will need to be prepared to be more innovative. In order to achieve this goal, the Higher Educational Institutes of India in the 21st century need to play a very creative and inspiring role in tapping the intellect of students and scholars and guiding them to actualise their potential towards making India a global knowledge leader. The objective of the current paper is to present some of the innovative pedagogies which will enable the Higher Educational Institutions of India to inculcate 21st-century skills among the students so that they become global leaders, and compete and face the challenges of the next decades of the 21st century. The present study is based on secondary data and exploratory and the findings are based on a systematic review of existing literature.

Education is a process of facilitating the learning of knowledge, skills, values and habits and is extremely crucial for the social, economic and political development of any nation. According to National Education Policy, 2020 (NEP-2020) education must build character, and enable learners to be ethical, rational, compassionate, and caring, while at the same time preparing them for gainful, fulfilling employment. Nevertheless, crucial is the way how education is being imparted. Pedagogy refers to the interactive processes between teacher and learner and to the learning environment, which includes the concrete learning environment, the family and the community (Siraj-Blatchford, 1999; Siraj-Blatchford et al., 2002). It has been described as the 'act and discourse of teaching' (Alexander, 2004), the application of professional judgements or 'any conscious activity by one person designed to enhance learning in another (Watkins and Mortimer, 1999). In other words, pedagogy is the science, art and profession of teaching and is at the heart of the teaching and learning process. It may vary from teacher to teacher, classroom to classroom, institution to institution and from one platform to another. Preparing young people to become lifelong learners with a deep knowledge of the subject matter and a broad set of social skills requires a better understanding of how pedagogy influences learning (Paniagua & Instance, 2018). The term innovative means 'new to a situation, context, or environment' (Washor, 2003). It is understood to mean the introduction of anything novel and practical, such as new approaches, procedures, or procedures, as well as novel or modified goods and services. It is characterised by a desire to advance and is born out of discontent with the present. Innovative pedagogical approaches', are those pedagogical approaches which involve the usage of appropriate means (tools) and methods (ways) in a new and creative way and in varied combinations in order to make the teaching-learning process more effective by enabling the learners to attain the expected/defined learning outcomes, develop students' capabilities in problem-solving, teamwork, learning to learn, reflective thinking etc. to be creative, adapt to changes, manage and analyze information, and work with knowledge (NEP, 2020). Innovative teaching techniques are very important for the right development of children who are the future assets of a nation. Innovative pedagogical approaches are significant as far as creating a positive impact on students learning, behaviour and attitudes are concerned. In addition, these approaches are capable of ensuring that all students achieve the pre-determined/defined course/programme learning outcomes and to a considerable extent have the ability to translate students' potential into performance whether it be in cognitive, psychomotor or affective domains of learning. Finally, innovative pedagogy can inculcate an attitude of lifelong learning among both educators and learners. According to Hargreaves (2004), "Lifelong learning should mean what the term plainly says: learning lasts for life – cradle to grave.

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This implies that as a teacher one must continue educating self by any means. Since, we are addressing the learners of 21st-century generation, who are highly influenced by advanced technology (Sunar, 2021).

Higher education in a country provides the much-needed impetus for growth and development, thereby benefiting both the individual and society (Haas and Hadjar, 2019). There is no doubt that investing in higher education helps nations build high-income economies with the innovation, knowledge, and technology needed to thrive in an interconnected, competitive world (Aggarwal and Sharma, 2020). India has the world's largest higher education system with over 50,000 Higher Educational Institutions (HEI's) primarily triggered due to a massive expansion in the higher education sector leading to a four-fold increase since 2001(Singh, 2020). However, various challenges like deficient funding, lower employability of graduates, poor standards of teaching, feeble governance, and complex regulatory processes continue to plague the education sector in India (Singh, 2020). The current system of higher education faces a number of difficulties, including issues of quality, public-private partnerships, increasing research capacity, research funding avenues, innovations in teaching and learning, the growing internationalisation of education, shifting demands of a globalised economy, or industry collaboration (Singh, 2020). The Indian higher and professional education sector for many decades have been going through a difficult, unsustainable era. It is tumultuous because several stakeholders, each with a different set of hopes and demands, were pulling and pushing it in different directions. It lacks direction since there are no comprehensive policies on governance in HEIs and the importance of education for a country's development (Nigavekar, 2013). The system is simply drifting. Most HEIs' pedagogical practises are still primarily focused on lecture methods and rote learning techniques, with little room for participative and collaborative learning techniques that encourage higher-order thinking skills such as critical thinking, analysis, and application. In addition, a multidisciplinary, interdisciplinary, and cross-disciplinary approach to the acquisition of knowledge and skills is lacking in the syllabi, curricula, and course structures for the courses of study.

The 21st century is a more complex world in comparison to the previous generations. As a result, the problems of the 21st century are much more complicated and varied than previous generations. This indicates that the responsibilities entrusted to the workforce of the future will be significantly different and they must be ready to be more innovative. Compared to the previous generations, the newer generations will need a different set of skills to solve the more complex problems being faced by the 21st century. In light of the above background, the current study highlights some of the pressing issues of HEIs in India and also presents some of the innovative pedagogy which will enable the HEIs of India to inculcate 21st-century skills among the students so that they complete and face challenges of next decades of 21st century and become global leaders in their respective field of endeavour.

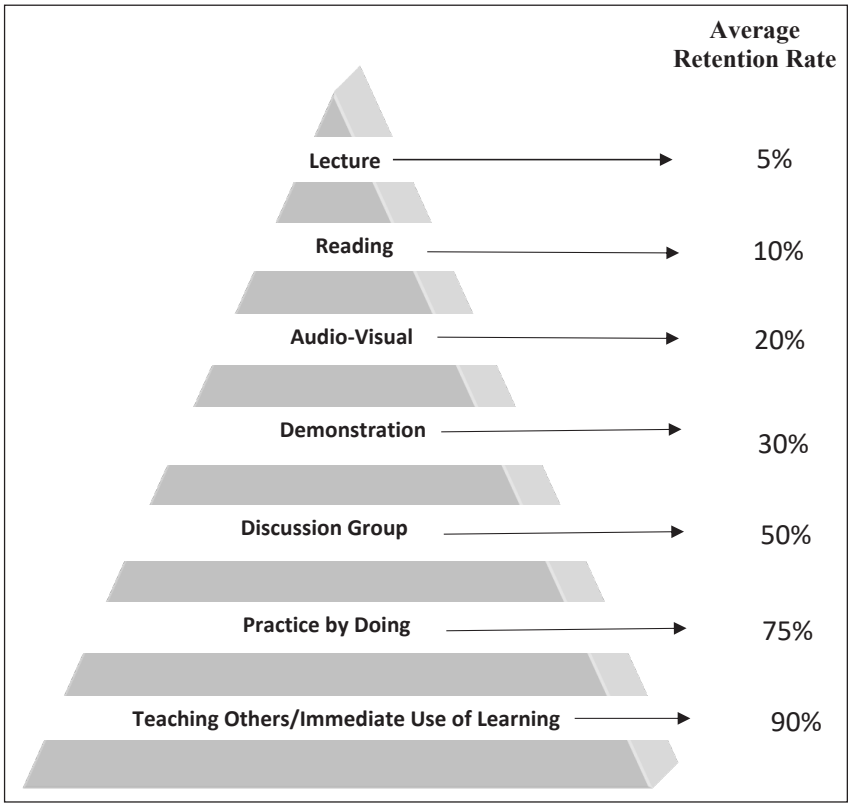
Traditional vs Modern Pedagogy – Which is Better?

In the teaching-learning process, previous studies have shown that various learning methods and materials improve the retention and recall of information, and enhance the learning experience of students. The "learning pyramid", suggests that most students only remember about 10% of what they read from textbooks, but retain nearly 90% of what they learn through teaching others(Fig 1). This model also suggests that some methods of study are more effective than others and that various study methods will lead to deeper learning and longer-term retention.

In India, the education system is still mainly traditional due to many reasons, most importantly, it is cheaper than modern techniques, which makes it the most sought-after choice of educational institutions, especially in rural areas. Even now, the main focus remains on subjects like theoretical mathematics and science with little or no emphasis on their application. On the other hand, modern education system is based on using high-tech equipment and lots of modern gadgets eliminating notebooks and textbooks. There is increasing use of LCD projectors and whiteboards to make the classrooms more interactive. These teaching methods generate more interest among the students and enhance the learning experience of the learners.

It is well known that in most of the schools in India, students are taught to memorise and write.

Fig 1: Learning Pyramid (Source: National Training Laboratories, Bethel, Maine



While in HEIs, they are suddenly asked to think, be creative and write papers but this mental shift takes time. Moreover, now, since India is a developing country and there is still time for it to adopt the modern techniques of teaching entirely, the only middle path remaining is – mix and match the traditional and modern methods so that we can take a step ahead and improve our education system. Even though modern teaching and learning techniques are expensive, however, it is better in the long run. Not only will the students be able to understand things better, but will be able to retain knowledge with them for their lifetime. Both traditional and modern pedagogy have advantages and disadvantages. So it wouldn't be fair to say that one of them is better than the other. None of the educational methods could be called wrong as it is about the changing times that demand innovation and evolution. Most of the people who have grown up in underdeveloped or developed nations have received education in traditional mode.

21st Century Skills

***Critical Thinking*:** The skill to think, and to innovate is a desirable 21st-century skill for students. Critical Thinking provides students with the ability to analyse information as well as problem-solving. In the information age, where a lot of information is false, we need to build thinkers who can learn to question the information they are given to verify its accuracy and accordingly apply the information in the correct context. This teaches students to stay engaged and ask questions rather than passively take the information.

***Creativity*:** Creativity means the art of thinking outside the box. We need future citizens who can analyse the problems from various different perspectives and in accordance come up with innovative solutions that we may not have considered before.

Collaboration: It is the ability to work together with other people. Almost every job requires people to work with other people. However, not everyone possesses the skills to work effectively with people. Being able to collaborate, share ideas, pitch solutions, take on the rejection of their ideas or even learn from the ideas of others.

***Communication*:** Students should have the ability to effectively communicate their ideas/solutions effectively. This means that students need to understand how to use the correct tone, language and understand the group of people they are speaking to and put their point succinctly without losing their attention.

A study by Wagner (2010) and the Change Leadership Group at Harvard University titled 'Overcoming the Global Achievement Gap', states that students need seven survival skills to be prepared for the 21st-century work; such as: (i) Critical thinking and problem solving (ii) Collaboration and leadership (iii) Agility and adaptability (iv) Initiative and entrepreneurialism (v) Effective oral and written communication (vi) Accessing and analysing information (vii) Curiosity and imagination.

Innovative Pedagogy in the 21st Century and National Education Policy--2020

Innovation is an essential component of higher education which has so far failed to get the required focus and attention in India. The innovative pedagogy in the teaching-learning process is beneficial to the students as these pedagogies enhance knowledge, and understanding and develop 21st-century skills among the students. In this regard, the National Education Policy –2020(NEP--2020) has been much needed and timely towards evolving and creating a new education system that will enhance skills among learners. It emphasises promoting creativity and critical thinking, which contribute to innovation. Therefore, the implementation of NEP-2020 in all the HEIs should be expedited.

NEP 2020 aims at building a global best education system rooted in Indian ethos, thereby transforming India into a global knowledge superpower" (*NEP–2020, p. 5*). NEP--2020 states that education must move towards less content, and more towards learning about how to think critically and solve problems, how to be creative and multidisciplinary, and how to innovate, adapt, and absorb new material in novel and changing fields. Furthermore, NEP 2020 also emphasizes that pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centred, discussion-based, flexible, and, of course, enjoyable.

Today, education needs to be more practical and skill-based in order to equip students. In order for our students to be successful in the future, they need to have deep knowledge, the ability to solve complex problems, and also know how to practically use their knowledge and skills across different contexts. It is not just education that can enrich one's life but the skills one applies that enhance the chances of getting a job. Hence, nowadays students are looking at courses with a practical approach. Education nowadays is no longer limited to science, commerce and humanities. However, despite many options available, there still lies a skill gap that needs to be filled. More than just providing degrees, the present education system must focus on bridging the skills gap that exists between degrees and competencies. The HEIs should revamp their existing pedagogy to enhance students learning experiences. Universities should be the engines of innovation where knowledge will come from books and the classroom will be about solving real problems.

Classification of Innovative Pedagogy

Innovative pedagogy can be classified into four heads as given below:

1. Technology-based pedagogical innovation - Online / digital, Multisensory learning, Open labs etc
2. Methodology-based pedagogical innovation - Flipped classroom, design thinking etc
3. Skill-based pedagogical innovation - Cognitive skills, creativity etc
4. Context-driven pedagogical innovation / real-world-driven pedagogical innovation- Community-based learning, Real-world etc

Innovative Pedagogy in HEIs of India

All the HEIs of India should plan to implement the following innovative pedagogy in their institutions:

(i) Crossover Teaching – Learning by combining both formal and informal methods

(ii) Blended Learning - Rethinking the purpose of the classroom and classroom time

(iii) Teaching through smart boards

(iv) Teaching through flipping classrooms – Use of Technology and classroom interactions

(v) Teaching through collaboration

(vi) Teaching through mind maps

(vii) Teaching through virtual reality

(viii) Discussion-based teaching – Fostering critical thinking and questioning

(ix) Teaching through 3D Printing Technology

(x) Teaching through Cloud Computing

(xi) Massive Open Online Course (MOOC) – Upgrading knowledge and skills across different domains of knowledge at one's own pace.

(xii) Artificial Intelligence

(xiii) Digital Learning

(xiv) Problem-Based Based Learning

(xv) Computation Thinking - Problem-solving approach through logic/ Giving problem-solving activities

(xvi) Experiential Learning – Inquiry-based learning

According to David Warlick, "We need technology in every classroom and in every student and teacher's hand because it is the pen and paper of our time and it is the lens through which we experience much of our world". However, technology works best in education when used in judicious measures alongside human intervention. he will have to continually make optimum use of the existing technology and progressively work for the advancement of novel technology (Prakash, 2021). Besides, the HEIs should also organize educational trips for the students on a regular basis. This is because educational trips add value to the learning experience and help shape a better professional out of a student. Students have curiosity and that needs to be encouraged in order to develop brains that have the potential to change the world for the better. Meeting industry/expert professionals and providing hands-on experience makes students grasp more knowledge than the ones they gain from books. Educational trips help break the monotonous routine of HEIs, make students better informed, and get ready for the world ahead after they complete their education thus they are well-armed to handle tough situations that lie ahead in their life.

The quality of education and learning in the HEIs have to be such that the challenges of the 21st century can be squarely met by our youth and they should be able to find ways to overcome those challenges (Dutt, 2020). The rapidly changing landscape of higher education requires new thinking and updated practices (Aggarwal and Sharma, 2019). The universities of 21st-century India need to play a very creative and inspiring role in tapping the intellect and generating awareness among its students and scholars to help translate the potential for growth and development in the country (Dutt, 2020). The higher education sector in India needs to shift its focus from teacher-centric pedagogy to student-centric pedagogy while ensuring the stimulation of higher-order thinking skills and achievement of outcome-based learning subsequently leading them to become lifelong learners so that they can contribute to the socio-economic growth and development of our country. Innovative teaching pedagogy has the potential to transform society into a knowledge society in which the creative and intellectual abilities of students are tapped to their fullest potential.

HEIs of the 21**st** century, while producing knowledgeable and skilled graduates with a good value system, must ensure that they contribute to the social, cultural and economic development of the country at large while moving towards achieving 17 sustainable development goals set by the United Nations (Mittal and Pani, 2020). Students of the 21st century need to be equipped with skill sets comprising of skills of complex problem-solving, critical thinking, creativity, coordination, people management, negotiation skills, cognitive skills, flexibility, judgment, and decision-making skills. Therefore, in the paradigm of new challenges, institutions of higher education need to create appropriate pedagogies and teaching in order to develop these skills to bridge the skill gap between graduates and the industry requirements (Mittal and Pani, 2020). Since the modern higher education system has been purely text-based learning and not at all skill-based, the focus should on learning which can ignite/stimulate thinking.

Conclusion

In general, the HEIs in India are yet to fully explore the potential of all the innovative pedagogy enumerated in this article. In order to be able to achieve this, the university system may have to organize special orientation and training programmes for their teachers. If every policy as envisioned in NEP--2020 is implemented in every campus of all HEIs all over the country, then India will certainly have an education system by 2040 that is second to none.

The COVID-19 pandemic generation learners have enrolled on various courses in the different HEIs of the country. It is going to be a challenge for the teachers to engage students in a group activity for promoting their effective learning as students now seem more reserved, and less eager to get engaged in group activities. Furthermore, there is anxiety associated with coming back into a social setting. Notwithstanding, with the use of appropriate innovative pedagogies the learning experience can be sustained.

The future of learning will certainly be in blended pedagogy comprising face-to-face, digital and online modes of delivery. For achieving the desired outcome, it will be indispensable on the part of faculty members to turn out to be more technology-friendly

and experience some preparation to carry them to the level that would be required. Additionally, it would bring a lot more positives to the learning process like improving both efficacy and efficiency. Innovation of pedagogy is at the heart of the growth process in the area of education. Innovation in education encourages students and demands teachers to be proactive to research, explore, and use multiple strategies to come out with novel ideas or a strategy to uncover something new. Continuous innovation is therefore crucial for all the HEIs. With NEP--2020 in place now and the new curriculum framework for teacher educators in the making, it is imperative that pedagogy should also be framed in such a way that there are enough opportunities and sufficient time for the prospective teachers to think, reflect and innovate.

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Training Deficiencies: Study of Skill Development Initiatives

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India being a developing nation today is transiting into a developed country and on the verge of becoming a global power. It is the youngest country possessing a huge demographic dividend in the form of human resources consisting of the youngest generation as against the more advanced nations like the US and Western Europe. It constitutes almost 25 per cent of the world's labour force therefore makes it imperative to skill the teeming millions to make them employable and productive to the economy.

The present skilling capacity is 3.4 million people per annum but more than 12 million people enter the workforce every year (Palit, 2009). Skills development in India: Challenges and strategies, Institute of South Asian Studies). Besides above 92 per cent of the working labour force is engaged in unorganized sector. A robust skilling mechanism is needed to train 15 million annually.

The absence of educational information in counselling can adversely impact skilling interventions. A study was undertaken in a USA University with three different ethnic groups to examine the effects of a career education program and results showed the enhancement in self-efficacy and career aspirations of the youth (Ali, S. R. Yang, L. Y. Button, C. J., & McCoy, T. T. 2012. Ober, A. M., Granello, D. H., & Wheaton, J. E. 2012).

Training Deficiencies

Hamilton, V 2012 in his empirical research agenda presented the need for integrating ACT with career counseling. Clark, G., Horan, J. J., Tompkins-Bjorkman, A., Kowalski, T, & Hackett, G. (2000), Evans, S. (2012), Harris, J. (1974) analyzed that interactive Career counseling programmes can remove the irrational career beliefs and occupational stereotype thinking common among young women and educate parents on practices affecting the career outcomes of their children. They can alter the beliefs relevant to the academic motivation and performance of at-risk youth.

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Hooley, T., Marriott, J., & Sampson, J. P. (2011) demonstrates that career development activity in schools can facilitate peoples to experience academic achievement, successfully transiting to the labor market and live more productive lives. Miles, J. (2008) studies conducted on South African youth revealed that different dimensions of the learners' career graph, maturity and academic motivation improved with the career intervention programme. The author of the book shows how counselors can improve both the delivery and impact of their counselling, consulting, and coordination services by incorporating data and advocacy in everyday work. This opinion is also voiced by Holcomb-McCoy, C. (2007).

Inadequate & Ineffective Evaluation Procedures

Salas, E., Wilson, K. A., Priest, H. A., & Guthrie, J. W. (2006) are many researchers who as part of the evaluation process studied various evaluation models were studied for their importance. The training design, delivery and evaluation of training play a vital role in bringing about positive outcomes, an integrated model of training evaluation and effectiveness was built which integrated four prior evaluation models and results of 10 years of training effectiveness research. There are 10 training effectiveness variables which had been found to consistently influence training outcomes, Alvarez, K., Salas, E., & Garofano, C. M. (2004). Results indicate that two areas which need further development and research are reaction measures and training motivation.

Inadequate Duration of Courses

Various studies have been done on the adequacies in the length of course training. Tomlinson Clarke S. (2000) study in psychology training programme revealed that students felt the need to extend existing training into new areas to acquire multicultural competency. Additional training experiences within a supportive climate can facilitate professional and personal cultural self-awareness and self-knowledge. Garavan, T. N., & O′ Cinneide, B. (1994) highlight a number of problems associated with entrepreneurship education and training programmes including less time devoted to practical aspects of training.

Inadequacies and Gaps in the Skill Programmes Implementation

There are various issues related to Skill Development in the country. More so in the case of NER, where the problem of providing decent gainful employment is more pronounced than in many other regions of the country. Most studies on skill development in NER happen as a part of larger (Pan-Indian) studies and are based mostly on secondary data. The present study examines the differences in the perception of various stakeholders towards a few inadequacies and gaps at the onset of the skill mechanism impeding the process of skill development in the State of Sikkim.

Inadequate Information on the Availability of Skill Courses to the Trainees

Studies by Godfrey, M. (1997), (Taylor, P. 2003) have indicated that lack of adequate information and training materials and collaboration can hamper training programs. Information asymmetries undermine choices by job seekers, prevent right conscious decisions and reduce government control over the training system. Hipp, L., & Warner, M. E. (2008), (Crawford, J., & Irving, C. (2012) highlighted in their research that lack of access to information and communication technologies also adversely impacts skilling interventions. Meyer E., Lees, A., Humphris, D., & Connell, N. A. D. (2007) have stated in their findings that course curriculum planning should be a collaborative activity between education providers and commissioners to ensure the impact of training on practice. Hafkin, N., & Taggart, N. (2001) explored the idea that the quality of material, the time provided to practice skills and new learning, and organizational support are also essential for successful training interventions.

Lack of Clarity on Eligibility Criteria for Skill-Based Programmes

Carnevale, A. P. (1990) in his study, "The Essential Skills Employers Want. ASTD Best Practices Series: Training for a Changing Work Force" identified 16 skills that an employer wants in his employees so that they can perform effectively and contribute to the organization. It has been emphasized that the *Employability Index* is an important tool for developing a framework for policy analysis for understanding the overall state of the labour market and change to assess the dead-weight effect and true assessment and interventions. Hillage, J., & Pollard, E. (1998) in their literature review state that Employability is about having the capability to gain initial employment, maintain employment and obtain new employment if required and or the individual, employability depends on the skills they deploy and most crucially employment opportunities.

Lack of Information on Employment Avenues and Training Centres

Sharma, E. & Sethi, (2015) in their study researched that there is a lack of proper career guidance for students as most of the education providers and Institutes do not have updated placement statistics and industry linkages. They are often set up in rural areas but the jobs offered to the trainees are in urban areas. There is an absence of information on the nature and location of the centers and placement leads and uninformed skill acquisition choices This has been also highlighted by other researchers, Crawford, J., & Irving, C. (2012), Godfrey, M. (1997, Hipp, L., & Warner, M. E. 2008), Crawford, J., & Irving, C. (2012), Taylor, P. (2003).

Lack of Documentation of Information and Other Formalities

Sharma, E., & Sethi (2015) states that one of the major reasons for the low quality of training is the low frequency of aptitude tests before admitting students to skill training institutes. Besides poor Industry interface and participation negates the role in helping an educational/ training institute to build a strong brand image in the minds of the students and make informed choices about whether the course curriculum is relevant to the practical industry requirements. Godfrey, M. (1997) have shed new light on what skill-development strategies should developing countries adopt to compete successfully in the international markets of the 21st century. This innovative new book skill development for international competitiveness provides a blend of theory and case studies. Designing and planning a training plan is one important aspect.

Result and Discussion

In this paper, we focused on the factors that need improvement for the effective implementation of the current skill development initiatives. The focus group discussion and interaction with the stakeholders in the skill eco space in the State of Sikkim helped in identifying six important factors. These are given in the following Table 1.

Scores and Ranking (Training Deficiency)

Results and discussion in this respect are discussed in this sub-chapter. Table 2 provides the summation of beliefs in this respect held by various stakeholders.

Overall Scorecard

The survey scorecard revealed that the most discouraging factor was the poor attitude and lack of value for skill training among the youth (1959), followed by the fact that the duration of courses was less (1928). Consequently, the trainees felt that they were not skilled enough to undertake employment. The third rank was assigned to the reason that the industrial training was absent or inadequate (1704). The fourth rank was assigned to lack of support by way of counseling and awareness of employment and utility for skilling programmes (1657). The fifth rank was assigned to lack of handholding and guidance to students (1635) followed by poor exposure to communication and soft skills and life skills (1603). The least importance was given to evaluation procedures in skilling (1475).

Teachers

The survey of the teachers for the aforesaid objective highlighted that that important training deficiency is the duration of the course was less. According to the teachers, the second rank was assigned to poor attitude and lack of value of trainees for skill courses. The third rank was assigned to poor industrial training and the fourth rank was assigned to lack of support by way of counseling and awareness of employment and the utility of skilling programmes. The fifth rank showed poor exposure to communication & soft skills and Life skills followed by closed margins between inadequate & ineffective evaluation procedures and lack of handholding and guidance for students for the sixth and seventh rank consequently (261, 260).

Students

As per the survey records the students believed that the most crucial training deficiency for them is their own attitude and lack of value for skill courses (1359). This suggests that the youth are not convinced, confident and positive towards acceptance of skill trainings. The second rank was assigned to duration of courses being less (1332) and the third rank was assigned to no industrial training provided to the trainees (1186) followed by lack of support by way of counselling & awareness of employment and utility for skilling programmes (1180). The fifth rank was assigned to lack of handholding and guidance for students (1145) and sixth rank was assigned to poor communication & soft skills, life skills in the training content (1123). The least importance was given to Inadequate & ineffective evaluation procedures (985).

Table 1: Variables and Respective Codes

SN	Training Deficiencies	Code
1	Poor attitude & lack of value for skill courses	PALV
2	Communication, soft skills, and life skills are missing from the training content	CLSM
3	Lack of support by way of counselling & awareness of employment and utility of skilling programmes	LoS
4	Lack of handholding and guidance for students	LoH
5	There is no industrial training provided to the trainees	LoT
6	Poor Training	PT
7	Inadequate Duration of courses	IDoC

Table 2: Scores of Training Deficiencies Variables

	Variable	Overall	Teachers	Students	Industry	Parents	Policy-makers
1	PALV	1959	303	1359	116	137	44
2	CLSM	1603	268	1123	104	63	45
3	LoS	1657	273	1180	90	72	42
4	LoH	1635	260	1145	108	77	45
5	LoT	1704	287	1186	100	93	38
6	PT	1475	261	985	102	88	39
7	IDoC	1928	310	1332	108	136	42

Industry-partners

For the above mentioned objective, the survey of Industry Partners revealed that it was the poor attitude and lack of value among trainees which demotivated them to accept the importance of skilling programmes. The second rank was shared (108) between lack of handholding and guidance for students and less duration of courses as being perceived by the Industry partners. The third rank was assigned to poor communication and soft skills and life skills (104). The fourth rank was given to inadequate and ineffective evaluation procedure (102) followed by fifth rank to no Industrial training for the trainees (100) and the last rank assigned to lack of support by way of counselling and awareness of employment and utility of skilling for the youth (90).

Parents

The survey of the parents for the aforesaid objective highlighted that most negative factor for discouraging the students was the poor attitude and lack of value for skill courses (137) According to them the second rank was assigned to duration of courses being less (136). The third rank was assigned to poor industrial training (93) and fourth rank assigned to inadequate & ineffective evaluation procedures (88) and fifth rank was given to lack of handholding and guidance for students (77). The sixth rank showed a lack of support by way of counseling and awareness of employment and utility for skilling programmes (72) and the least rank assigned to poor exposure to communication and soft skills and life skills (63).

Policy-Makers

The survey carried out with the policymakers indicated that the most crucial training deficiency is the student's poor communication& soft skills, life skills in the training content and lack of handholding & guidance (45) The second one ranked was the poor attitude and lack of values for skill courses (44). The third rank was assigned to lack of support by way of counselling and awareness of employment and utility for skilling programmes (42) and the fourth rank was given to inadequate and ineffective evaluation procedures (39). The fifth rank assigned to no industrial training provided to the trainees (38).

Overall Comparative Ranking

Overall Comparative ranking of the training deficiencies for skill-based courses has been provided in Table 3

From the comparative analysis, it is observed that the most significant training deficiency as expressed by trainees is poor attitude & lack of value for skill courses among the youth. This opinion was unanimously shared by Industry partners, themselves and the parents. The same attribute was given a second ranking by policymakers and teachers.

The overall second rank was assigned to the duration of courses being less by the students, Industry partners and parents. The same attribute was assigned the first rank by the teachers and the third rank by the policymakers. The opinion that no industrial training was provided to the trainees was assigned the overall third rank and also voiced by the teachers, students and parents. However, this factor was assigned the fifth rank both by Industry partners and the policymakers.

The overall fourth rank was given to lack of support by way of counselling & awareness of employment and utility for skilling programmes by all the stakeholders including the teachers and the students. The overall fifth rank was assigned to the lack of handholding and guidance of students and the same opinion shared by students and the parents. The Teachers assigned this factor the seventh rank but the policymakers ranked it first and the industry partners ranked it the most significant reason for demotivation among the youth.

Table 3: Ranking of Training Deficiencies

	Overall	Teachers	Students	Industry	Parents	Policy-makers
PALV	1	2	1	1	1	2
CLSM	6	5	6	3	7	1
LoS	4	4	4	6	6	3
LoH	5	7	5	2	5	1
LoT	3	3	3	5	3	5
PT	7	6	7	4	4	4
IDoC	2	1	2	2	2	3

Poor communication and soft skills, and life skills are missing from the training content assigned an overall sixth rank and the least rank was assigned to Inadequate & ineffective evaluation procedures.

Differences Across Stakeholders

HO: 11 Expressed beliefs on training deficiencies for skill-based courses differ significantly across stakeholders. (90% CL)

For all variables in the below table from 4b -4g it is observed that the mean is less than 1 and even zero in the case of variables 4b, 4c, 4d and 4 f. This implies that that the Null hypothesis that there is a significant difference in the expressed belief amongst stakeholders against listed training deficiencies in skilling is rejected completely. It reflects that the stakeholders shared the same views and beliefs unanimously for the commonality in the factors responsible for de-motivating the youth to undergo training. This is further corroborated by the F value for all variables from 4b-4g which was more than 3 implying that there was no difference in the opinions of the stakeholders.

For variable 4a the null hypothesis that there was a difference in the expressed belief across stakeholders on demotivating factors for skill-based courses amongst the trainees is accepted.

Training deficiencies for skill-based courses amongst the trainees across stakeholders have been provided in Table 4

Table: 4: Training Deficiencies ANOVA (Across Stake-holders)

	F	Sig.	
PALV	1.911	.107	Accepted
CLSM	11.311	0	Rejected
LoS	7.388	0	Rejected
LoH	7.550	0	Rejected
LoT	3.396	.009	Rejected
PT	10.960	0	Rejected
IDoC	2.177	.070	Rejected

Differences Across Castes

The General Ranking of the training deficiencies for trainees for skill-based courses as per the general category has been provided in Table 5.

Table: 5: Training Deficiencies (General Caste)

Var	CS	Ranking
PALV	286	1
CLSM	197	3
LoS	187	6
LoH	195	4
LoT	192	5
PT	186	7
IDoC	216	2

The given analysis implies that the first variable ie. poor attitude and lack of value for skill courses were the most significant factors in Training Deficiencies amongst the general category (286). This was followed by the second rank assigned to the duration of courses being less (216) and the third rank was given to poor communication skills and life skills in the training content (197). The fourth and fifth-rank margins were closed for lack of handholding and guidance and no industrial training respectively (195,192). The sixth and seventh ranks were also close (187,186) for variables 4c and 4 f.

Table: 6: Training Deficiencies (Scheduled Caste)

PALV	129	1
CLSM	93	5
LoS	104	4
LoH	104	4
LoT	114	2
PT	83	6
IDoC	105	3

Ranking of the Training Deficiencies for Trainees for Skill-Based Courses as per the Schedule Castes

The given analysis above implies that the first variable i.e. poor attitude and lack of value for skill courses were the most significant Training Deficiencies amongst the Scheduled Castes (129). This was followed by the second rank assigned to no industrial training (114) and the third rank assigned to the duration of courses being less (105) and the fourth rank was given to lack of handholding and guidance and Lack of support by way of counseling & awareness of employment and utility for skilling programmes both (104). The fifth rank was given to poor communication skills and life skills in the training content (93) and the last rank was given to Inadequate & ineffective evaluation procedures.

Ranking of the Training Deficiencies for trainees for skill-based courses as per the Schedule Tribes

From the aforesaid analysis table (4.43) it implies that the first variable i.e. poor attitude and lack of value for skill courses were the most significant *Training Deficiencies* amongst the Scheduled Tribes of Sikkim (627).

Table: 7: Training Deficiencies (Scheduled Tribe)

PALV	627	1
CLSM	514	6
LoS	565	3
LoH	544	5
LoT	546	4
PT	497	7
IDoC	621	2

This was followed by the second rank assigned to the duration of courses being less (621) and the third rank was given to Lack of support by way of counseling & awareness of employment and utility for skilling programmes (565). The fourth rank was assigned to no industrial training (546) and the fifth rank was given to lack of handholding and guidance (544). The sixth rank to poor communication skills and life skills in the training content (514)). The last rank was assigned to Inadequate & ineffective evaluation procedures by the Scheduled Tribes (497).

Ranking of the Training Deficiencies for Trainees for Skill-Based Courses as per the OBC

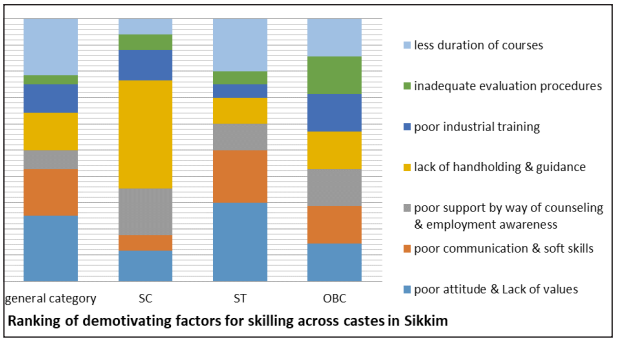
Table: 8: Training Deficiencies (OBC)

PALV	872	2
CLSM	763	5
LoS	765	4
LoH	755	6
LoT	819	3
PT	680	7
IDoC	945	1

The data in Table 8 reveals that variable 4 g i.e. duration of courses was less and this was the most significant factor in demotivating the trainees from OBC to undergo training. The students on whom the primary survey was carried out were mainly enrolled for the following short-term programmes of NSDC Beauty and Wellness, Hospitality & Tourism, Retail Sector and IT.

The ranking is assigned to poor attitude and lack of value for skill courses (872) followed by the third rank assigned to no industrial training (819) and the fourth rank to Lack of support by way of counselling and awareness of employment and utility for skilling programmes (765). The fifth rank was assigned to poor communication& soft skills, life skills (763) and the sixth rank was given to lack of handholding and guidance. The least important was inadequate and ineffective evaluation procedures. This analysis outcome is also indicated in the bar graph when data was converted into the graph showing the ranking of the factors.

Figure 2: Ranking of Demotivating Factors for Skilling Across Caste



H0:12: ***There is no significant difference in the expressed beliefs on Training Deficiencies for skill-based courses differ significantly across Castes.***

The Null hypothesis for the variables 4a, 4c-4e and 4g is rejected implying that there is a significant difference in the expressed belief by stakeholders across castes for the Training Deficiencies in skilling. This is further corroborated by the F value which is greater than 3 for all the mentioned variables above. The above table indicates that the Null hypothesis that there is a significant difference in the expressed belief held by stakeholders across castes regarding poor communication and soft skills and inadequate and ineffective evaluation procedures is accepted. This implies that there is no correlation between these across castes and the perception of these two factors was the same.

Discussion, Implications and Conclusion

The cumulative survey score analysis reveals that the most significant Training Deficiencies to reap the benefits of the skilling interventions were the poor attitude and lack of value amongst them. This opinion was unanimously shared by the students, parents and Industry partners. The same factor was assigned the

first rank across all castes in Sikkim as mentioned in Table 1.2.

This implies that the State and its implementing agencies should focus more on imparting professional counseling and training workshops to enlighten the employable youth in all the Districts of Sikkim and their parents about the importance and utility of such training. Success stories of various beneficiaries should be shared and incentives and awards to be provided to the training providers by the government who yield the best results by way of mobilization enrolments and employment generation.

The industry partners should play an important role in engaging in the training plan of the State by incentivizing the new trainees, organising career *melas*, counselling workshops and investing their CSR funds for providing internships and absorption of trainees in various job roles. The dignity of labour and the importance of vocational training should be emphasized so that the myth against such training is removed and boost the acceptance and faith of the trainees.

The overall second rank was assigned to the duration of courses being less the students by the industry partners and the parents. The same attribute was assigned the first rank by the teachers and the third rank by the policymakers. The duration of most of the courses has been between 3-6 months including practical and OJT training.

This opinion was also voiced in the FGD conducted by the stakeholders engaged in skill eco space including Industry HR Head who believed that the duration is not adequate to equip the trainees with the required skills and make them employable. National Skill Development Corporation which is the apex body at the centre needs to review the impact of training and revise the length of skill-based short-term programmes to impart employability skills and enhance employment.

Various studies have been done in the past which reveal that there are many factors which de-motivate the youth to avail the benefits of skill training and be employable by the industry. The recent analyses indicate that the most significant reason across all stakeholders is a poor attitude and lack of values towards acceptance of vocational skill training in the State of Sikkim. This prevents them from undergoing training successfully and being gainfully be employed post the training. The second most significant factor was the duration of courses was less for the trainees to be acquiring the right skills for employment.

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Empowering the 21st Century Higher Education Goals for the Medical Sciences Programme

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The educational standard of India is changing rapidly, and with the advent of the New Education Policy the country has embarked on a more fulfilling and professional path towards generating skilled manpower and focused workforce. Indeed, one of the most important prosect for development of any country is its approach towards educational policies, principles and practices which has a direct relationship with the advancement of the economy and general well-being of the overall human population. As published by the National Medical Commission of India there are approximately 542 medical colleges/ institutions of which 215 medical colleges are in the private sector and the remaining ones are Government operated medical organisation.

As published by the WHO, India produces the largest number of medical graduates in the world close to 90,000 per year, thus there is one doctor per one thousand population, which satisfies the standard globally accepted doctor-patient ratio. This has been largely achieved by the policies and practices as set by the Government policymakers. However, what lies ahead is perhaps the enhancement towards setting meaningful medical teaching, learning, and research development practices, and this is perhaps one of the reasons why of the 542 medical colleges in India only 150 colleges patriciated in rankings and accreditation survey programme in 2022, as published by NIRF (National Institutional Ranking Framework).

The Government and private sector ranking, and accrediting bodies are based on a few key fundamental scoring systems with maximum weightage imparted towards teaching and learning practices, research and publication prospects and placements of graduates within the professional/skilled industries. Thus, the open observations that an outstanding quality enriched higher education system must still lacks in many medical colleges can't be ignored. In this regard, each and every educator of a medical college/ institution play a crucial role, as they are the first direct link between knowledge and skills attained by the new medical graduates of any state or country. A medical educator should not only possess a passion towards teaching booked based medical subjects, but they should also focus more on imparting transferable skills such as developing a keenness to understanding the basics behind formulating and answering discovery lead research practices.

Therefore, educational leaders and Government policymakers need to emphasis more towards formulating standard goal orientated teaching and research practices across India. The total research budget set by the country still falls short to aid the development of many medical colleges. A tight vigil towards output driven quality research work needs to be emphasised as this is where the medical college in India is currently lacking in comparisons to international organizations.

What still needs to be sought is the amalgamation between attaining meaningful teaching-learning practices, cutting edge research development process, and sensitivity towards quality assurance and ranking strategies. Excellence in higher education is a continuously evolving process that operates to its maximum output when each and every educator is driven towards being the best. This strategic approach would also perhaps bring in more international visibility to Indian medical colleges, as currently there is only a few handful of medical colleges from India being featured globally as top 200 medical institutions by reputed ranking bodies such as the Times higher education.

Many private sector medical colleges are depleted in terms of research funds, high end laboratories, and adequate faculty development/

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teacher's training and upgrading programs. The Manipal group of universities and colleges are some of the few organizations with an endowment and research development plans, however being privately aided without any fiscal support from the Government sector its often difficult for many private organizations to develop world class research laboratories and sponsor faculties for international exposure. This is also where collaborations with eminent organizations in India and the world could benefit the private sector medical colleges and the upcoming Government run organisations.

Thus, the academic quality of the medical curriculum is very important to ace the ranking and accreditation prospect which still requires strong integration, unified design for inclusive lifelong teaching and learning process. Utilisation of available national and international research resources, collaborations and sources for information portal has yet to be more evidently displayed to reflect upon the global medical needs. In conclusion, inclusive, reformed medical curriculum with emphasis on innovative research approaches is therefore the key to achieve success and ace the 21st century science programme. ❑

Mobile Learning Prospects of Pedagogical Practices

S Prabu Shankar*

What we understand of mobile learning from what we hear is at least quite a bit notionally incorrect as the true concepts related to mobile learning are much deeper and more intriguing; it needs a thorough study to fathom the true meaning of Mobile learning. Mobile learning as it has widely been called M-learning is basically learning through multiple contexts using technological devices where content interactions happen using portable forms of electronic devices; in the case of mobile learning such devices are sorted to be mostly handheld devices that are laptops, notepads, tablets, portable mini-computers, iPod, iPad, mp3 players, etc., The major focus of mobile learning is the mobility it creates and provides the learner with opportunities that encompasses ease, portability, compatibility, customization, self-pacing, range of content, multiple application choices to choose from an array of applications, the design, layout, and presentation of content in its variedness and the instantaneous access and freedom of time.

Mobile Learning in Knowledge Transaction

Mobile learning in the present-day context may still be specifically defined as virtual, app-based, web-based content media with a unique choice of portability of unlimited choice of content, it may be ascribed that for carrying infinite books/materials of learning with oneself all the time and all through. In this context, learning is ever ready to happen and it awaits the learner to unfold and experience learning. This paper explores and highlights the various possibilities that mobile learning provides as it has unfolded an array of opportunities during the pandemic times when learning institutions are closed and then learning happened everywhere in a phased approach with technology being the central aspect catering to the multi-dimensional needs of teachers and all stakeholders involved in knowledge transaction.

Genesis of Mobile Learning

The general concept of mobile learning or portable data management and application was primarily conceived by Alay Kay in 1970s of Palo Alto Research Centre, Xerox Corporation, California, which later been established as 'The Learning Centre (TLC)' in 1977 aimed to provide child-centered and play-based learning with a goal of fostering emotional, social, cognitive and physical growth, backed by e-learning courses aimed to provide learning at one's pace covering all elements of technology from fundamental to specialized role-based learning. The basic idea of developing a 'Dynabook', a portable and hands-on personal computer that could provide children access to the digital world is the basis of mobile learning.

Later in 1994, with the development of the initial smartphone version known to be IBM Simon developed by Mitsubishi Electric Corporation, the concept of personalized mobile learning emerged as learning from a handheld personal communicator. Successive attempts to create portable systems led to the invention of laptops, mobile phones, smartphones, ipads, textpads and designpads, and the concept of mobile learning got established. In the present scenario, 'Mobile learning' is a prospective area of Research and Development of many information and communication technology giants across the globe and in the later course, Mobile learning emerged as a new area, 'Mainstream Education and Training' (Keegan, 2005).

Focus on Mobile Learning

The major focus of mobile learning is aimed at customization of learners' needs and upholding the compatibility aspects to suit across devices, of their content, the presentation, and networking across domains, interfaces, and systems. The most preferred mobile projects were undertaken by international companies and technology giants namely Ericsson Education Project called, Leonardo Da Vinci Project - from e-learning to m-learning; and successive projects namely Learning and Skills Development Agency (LSDA) of UK, MOBILearn project aiming the development of mobile learning solutions by Giunti Ricera an Italian based company, etc., The major area of concentration of the above mention projects are on the core aspects that affect m-learning namely,

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- Motivation toward Learning.
- Engagement in Learning and Self-learning Activities.
- Focus on Inclusion and Special Needs Children.
- Compatibility of Content Provisions Across Devices.
- Designing Content Suiting Diverse Learning Needs.

Notional Improprieties in Understanding M-learning

M-learning has mostly been misunderstood and misinterpreted as learning that happens only through a mobile phone, instead of conceiving the happening of learning through an array of portable / mobile devices, which in simple terms may be defined as devices that are able to be moved freely which has a physical capacity of portability. The general conception that m-learning is mobile-based learning is implicatively true in the present day context as almost all learners own or have an access to a personal mobile device or a similar another device such as ipad, textpad, smartphone, ipod, mp3 players that are portable in nature.

Because of this characteristic mobile learning in today's context is widely been referred to as 'ubiquitous learning' which means present, appearing everywhere for teaching and learning purposes. Hwang et.al. (2008) defined ubiquitous learning based on its aim, to provide learners with content and interaction anytime and anywhere that supports a learning environment by mobile or embedded computers or wireless network devices.

Attributes of Mobile Learning

- Mobile learning is based on and consists of short to minuscule modules based on bite-sized micro/ mini lessons that are aimed at quick information processing and distribution.
- The learning modules or units are comparatively smaller that support the learning process and cater to immediate access to bits of information and content.
- Mobile learning is learning on the go, is learning on the move, the major part of course content is present in the applications, and it does not require a download.
- Mobile learning modules/units/blocks are designed for a considerably shorter period of time that ranges between 4 minutes to 10 minutes; the evaluation aspect involves usually 2 to 4 minutes of reflection based on self-activity of the content presented in that m-learning duration.
- Mobile learning is optimized and customized for small screens and hence it may not contain highly detailed content areas, large amounts or lengthier information, complex graphics, or media (Lynch, 2019).
- The information or content area of instruction presented is bite-sized, one idea per screen with simple screen navigation options.
- The purpose of mobile learning is not to introduce or teach a large content area but to reinforce a small concept.
- Mobile learning may be used as a supplement to e-learning or it may be independently used as a separate learning system.
- Synchronous mobile learning refers to learning modes through live technology-based applications with video, audio, and text tools meant for live interactions, chats, discussions, and through voice/text/images; the communication happens with most likely a group presentation will be of individual or group communication.
- Asynchronous mobile learning methods use offline or non-time chats/posts to an individual or to a forum using applications and common communication modes like messages / WhatsApp chats to collaborate with the group and to interact through off-time messages with their tutors at their convenience.

Scope and Characteristics of Mobile Learning

Mobile learning as it can be generally referred to or Mobile based learning has already taken the world of knowledge transaction by storm and the effect of it is visible in all aspects of the teaching – learning process throughout. Learners of all ages and levels are into the mobile learning in a cohort manner and the impact of it in the teaching – learning still needs to be addressed. It can be notionally quoted that mobile learning is everywhere, happens with everyone and will take over with no point of return to native or conventional approaches. Meindi (2003) opined that, 'the general trend of computing devices to become smaller, faster and more powerful every few years', this has been said before two decades from now and

the present inventions of devices are evidences in the field of mobile technology proving the application of smart phones, smart watches, interactive glasses, virtual reality consoles, nano-computing devices, wearable devices, fit-bits, assistive techno-devices in the knowledge transaction process.

Limitations Mobile Learning

- Alternate or simultaneous scope of accessing multiple access to other potentially distracting media.
- Since it is based on the self-learning principle and when there is no restriction on time and when there is no periodical assessment, part of the students who lack self-control may lose pace and get stagnated and may suffer the risk of dropping out of learning/course.
- Risk of imbalances between studies and mobile-based entertainment activities.
- Open and unrestricted access to global content that may be age-irrelevant.
- Risk of inviting distraction and getting distracted, getting addicted to the over and above use of other apps during mobile learning.

Mobile Learning Management Systems (MLMS) and Tools

Mobile Learning Management Systems (MLMS) is basically a software-based or Software as a Service (SaaS) application-oriented and an interactive database that basically supports educational administration, automation of activities that are content specific and administration specific, and delivery of educational courses, training programs (that are generally offered in as modules or packages) and, learning cum development programs that helps to create, manage, interact and deliver content-based, designed instructional online content for learning, training or full-courses, as well as online/offline instructor administered and learner interactive learning/training content that are designed to suit the compatibility requirements for learning on mobile devices. In precise it helps to deliver training content/modules / materials to various stakeholders almost all content that ranges from online courses, real-time instruction sessions, and offline sessions via mobile devices (OECD, 2015).

Some of the commonly known and widely used MLMS used specifically by educational institutions

Table 1: Classification of Mobile Learning Characteristics Based on Technological, Pedagogical and Application Aspects

Technological	Pedagogical	Application
• Micro-learning content • Bite-sized content • Distance and Continuous learning • Social learning • Increased learning • Explorative and interactive learning experience • Aids learning with the use of augmented reality • Virtual learning • Assistive applications • Content presented in conversational tone rather than a complex theoretical frame • Infrastructure and resource cost effectiveness • Content indexing and serialization	• Frequent learning engagement • Remote access to knowledge • Embedded content • Built on Gamification mechanisms • Alternate mediums: Text/ Audio/Video • Interactive modes through Virtual consoles • Direct access without membership and login compulsions • Intuitive interface systems • Built on Active learning principles • Readily available synchronous and asynchronous learning experiences	• Address diversity of learners' needs • Simplified access and use • Seamless access • Allows restructuring and reusability of content • Artificial Intelligence based search interface that provides scope for additional exploration of related areas while search • Enhances collaboration and engagement with social learning • Reinforceable content presentations encouraging repetitive referencing • Increases self-motivation, interest, pace of learning, retention, and productivity • Saves cost, time, space and physical binding.

across the globe are Medium,GSMA Intelligence, Global WebIndex, EduMe, Xyleme, docebo, Moodle, Blackboard Learn, Schoology, Instructure Canvas, D2L Brightspace, Edmodo, Quizlet, Google's Workspace for Education which include Google Classroom, etc. Few other MLMS meant for professional training and instructional mobile learning management systems include Learn Upon, Tovuti, Digital Chalk, Looop, Sky Prep, Connecteam, Cornerstone, Synap, TalentCards, PlayAbo, Talent LMS, Pocket Study, Skill Lake, uQualio, SAP Litmos etc.,

The following are the features and services that are commonly provided by the above mobile learning management systems and there is wide scope to construct the MLMS to customize and build software and platforms that require additional features. Generally, the myriad MLMS comes with large ecosystems of educational tools and services right from basic learning tools to advanced features that offer high-tech synchronization of sophisticated learning systems with varied assessment modes.

- Open Source, Free, Granular role creation, web-based assessment, grading and annotations, Assessment Management Platform, Extensive inter-operability
- AI-based Intuitive feature that could presume needs based on key-word used in search options, Extensive and full-featured course assembler and course assembly tools, enables users and administrators to add or create the features as needed, supports a wide range of learning activities
- Rubrics and standards alignment, Common core micro-assessment options, large-scale audio and video conferencing
- App Center, User interface (UI) and User experience (UX), language localizations and unparalleled language support, Application Program Interface (API)

Mobile Learning as a Transformational Trend

Mobile learning has been naturally adopted during the pandemic times, the barriers of limited or literally no in-person interactions between the teacher and the taught mobile learning opened up and turned out to be the single most opportunity for teaching and learning with a greater paradigm shift in the education process model that has been mostly confined to classrooms. Mobile learning waylaid the opportunities by providing new ways to deliver instruction and content knowledge through different modes. The key attributes include flexibility, ease of adaptability, cost-effectiveness, engagement, and equity (Tapscott, 2009).

The conventional norms of rigid learning have been eased up and mobile learning happened everywhere with flexible schedules, pre-recorded tutorials, open-book assessments, the immediacy of results, and more than everything mobile learning provided an exhilarating learning alternative when compared to the traditional learning environment. Video-based interactive meeting platforms bridged the physical absence between students and teachers with voice-based and text-based chat options. Altogether mobile learning opportunities created remote access to learning beyond the digital divides and barriers; though are wide-felt gaps in the learning process and achievement, learning happened without compulsion and student engagement in academic activities through mobile learning was considerably high in terms of the relevance of the content area; instruction modes and learning of the certain concepts related to mathematics and science subjects where complex problem solving and derivational skills and problem-solving involved; but still with the virtual learning applications relating augmented reality, learning happened based on visual experience that is three dimensional and colorful. Lynch (2019) observed that special mobile-based applications, learning software, and learning management systems provided enriched content with relevant visual illustrations. It can be noted that mobile learning literally transformed the face of teaching, learning, and assessment during the pandemic and it proved to be more sustainable, accountable, and valid with few limitations indeed.

Future of Mobile Learning

Mobile learning will emerge as pedagogy by itself and it will predominate learning in the future. It will not be an overstating to mention that, mobile learning will be the future of learning; though the conventional trend continue to lead, mobile learning will be the way forward as the dependency on devices for learning by both the tutor and tutee is visible than ever. Academic activities get a new meaning and dimension with the aid of mobile learning and in future course mobile learning will consume other learning modes as it emerges rapidly with the development of futuristic information and communication based technological aspects.

The mobile devices come in handy and wearable forms offering multimodal information sharing and dissemination options right from voice and video interactivity with scan, surf, browse and learn options giving insights to near to real experiences through visual optimization techniques like augmented reality and artificial intelligence based looping that provides relevant content choosing options which makes learning more continuous and productive. Mobile learning creates scope for specific learning (area specific and interest specific), choice based learning, mini-learning and mini-course certifications that will become future learning trends. Mobile learning undergoes an exponential development phase because of its unique features of portability, mobility and compatibility. No doubt that beyond the digital gap and accessibility divides mobile learning will take over the future course of learning in all aspects; managing and regulating the course of teaching and learning will be the role of educators (Clark, 2011). Mobile learning is a boon for learners of the present times, as learning is available all the time and all the way; making learning more interactive and participative (UNESCO, 2019b).

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❑

Preparing Next-Gen Knowledgeable and Versatile *Raksha*-Force for India*

Narendra Damodardas Modi, Hon'ble Prime Minister of India delivered the Convocation Address at the first Convocation Ceremony of Rashtriya Raksha University, Gujarat on March 12, 2022. He said, "You have to ensure a role for yourself so that every individual can lead his life with happiness and that society can celebrate festivals with joy and pride. The physical strength to serve the country can be true to an extent for security forces, but this field has expanded and therefore we need trained manpower." Excerpts

It is a special pleasure for me to come to Rashtriya Raksha University. For the youth who want to make a career in the field of defence, it is not just about uniform and club, it is very wide. And the well-trained manpower in this field is the need of the hour. The Rashtriya Raksha University was born with the vision of developing our systems according to the challenges of the 21st century in the field of defence and also evolving the people handling those systems. Initially, it was known as Raksha Shakti University in Gujarat. Later, the Government of India recognized it as an important university for the entire country. Today it is a kind of nation's gift, the jewel of the country, which will create new confidence for the security of the nation through deliberations, education and training in the time to come. Today, I extend my best wishes to the students who are graduating from here and their family members.

Today is another auspicious occasion. Dandi Yatra was started from this land on this day for the Salt Satyagraha. The British government realized the collective power of Indians through the movement under the leadership of Gandhiji against the injustice of the British. I pay respectful tributes to all the Satyagrahis and the brave freedom fighters who participated in the Dandi Yatra as we celebrate 75 years of independence.

Today is an important day for students, teachers and parents, but it is also a memorable occasion for me. As Amitbhai was saying this university was born with this imagination and I have brainstormed and interacted with many experts for a long time. We studied the happenings around the world in this direction, and as a result, a small form took shape on the soil of Gujarat. We find that the domain of defence during the British era was generally a part of the law and order routine system in the country. Therefore, the British recruited sturdy people who could run their empire through the use of force. At times the British chose people from different racial masses, their work was to use stick as force against the people of India so that they could continue their rule easily. There was a need for reforms and radical changes in this field after independence. But unfortunately, we lagged behind in this field. As a result, there continues to be a general perception to stay away from the police force.

Uniform is worn by army as well. But what is the perception of the army? People find an end to the crisis whenever they see the army. This is the perception of the army. Therefore, it is very important to prepare such manpower in the security field in India which should generate a feeling of friendship and trust in the mind of the common man. There was a great need to change our entire training module. This experiment was done for the first time in India after long deliberations and today it has evolved in the form of the Rashtriya Raksha University.

Gone are the days when security meant uniform, power, force, pistols, etc. There are now many new challenges in the field of defence. Earlier, it would take hours for the news of an incident to travel to the farthest part of a village and a day to the next village. By the time the state would get to know about the incident, it would take 24 to 48 hours. Only then, the police could swing into action and control the situation. Today the communication happens in a fraction of a second.

In such a situation, it is not possible to move forward by concentrating arrangements in one place. Therefore, every unit needs expertise, capability and the same amount of force. Only then can we control the situation. More than the numeric strength, what is needed is trained manpower who can handle everything, who knows and follows technology and also understands the human psyche. They should also know how to communicate with the young generation, should have the capacity to deal with leaders during mass movements and should have the ability to negotiate.

In the absence of trained manpower in the sphere of security, one can lose the ability to negotiate and

** This is a verbatim reproduction of the Convocation Address of the Hon'ble Prime Minister in English Script uploaded on PIB Website.*

sometimes the favorable situation can take an awful turn because of one wrong word. What I want to say is that we should develop such human resources which are able to deal sternly with the anti-social elements while being soft towards the society in keeping with the democratic systems and considering the people's welfare as paramount. We often find news regarding the good image of police from different parts of the world. But the misfortune of our country is that if a film is made then the policemen are portrayed in a very bad light. It is same with the newspapers. As a result, genuine stories do not reach society sometimes. Of late, there were many videos of police personnel in uniform serving the needy during the Corona period going viral due to social media. A policeman coming out at night and feeding the hungry or policemen delivering medicines to those who ran out of medicines due to lockdown! A humane face of the police which emerged during the Corona period is now gradually on the wane.

It is not that everything has come to a stop. But due to a perceived narrative and a negative environment, sometimes even those who want to do something good feel dejected. All of you young people have set about in such an adverse environment. Your parents have sent you here with the expectation of protecting the rights and security of the common man and maintaining an atmosphere of peace, unity and harmony in society. You have to ensure a role for yourself so that every individual can lead his life with happiness and that society can celebrate festivals with joy and pride. The physical strength to serve the country can be true to an extent for security forces, but this field has expanded and therefore we need trained manpower.

In today's era, families have become smaller. Earlier during joint families, mother, father, grandparents, cousins, elder brothers and sisters-in-law could take care of the house if a tired policeman would return home after long duty hours. He would feel relaxed and was able to join duty the next day. Today, it is an era of micro families. Today a jawan works for 6 to 16 hours a day and under very adverse conditions. But when he returns home, there is nobody at home, no one to ask of him, no parents.

In such a situation, stress is a major challenge for our security forces. A jawan is always stressed due to family and work-related problems. Therefore, it has become necessary for stress-free activities in the security forces. We need trainers for that. This Raksha University can prepare such trainers who can keep the people in uniform in good humor.

Today, there is a need for a large number of teachers in yoga and relaxation activities in the army and police as well. This scope will now also come under the defence sector.

Similarly, technology is a huge challenge. And I have seen that in the absence of expertise we are not able to do what we should do on time and things get delayed. Just as there are issues of cyber security and the way technology is increasing in crime, similarly, technology is helping in detecting crimes. In earlier times, if a theft happened somewhere, it would take a long time to catch the thief. But today there are CCTV cameras. It is very easy now to trace the movement of a person by going through the footage of the CCTV cameras and use of artificial intelligence and he gets caught.

As the criminal world is using technology, similarly technology has become a very powerful weapon for the security forces as well. But the right weapon in the hands of the right people and the ability to do the job at the right time is not possible without training. During your case studies, you must have found how criminals use technology in carrying out crimes and how those crimes were detected through the use of technology.

The physical training and early morning parades are not enough in the field of defence now. Sometimes I feel that despite being physically unfit my Divyang brothers and sisters can contribute in the defence field after receiving training from Raksha University. The scope has changed vastly. This Raksha University should go in the direction of developing systems suited to that scope.

As the Home Minister just said that Gandhinagar is becoming very vibrant from the point of view of education. We have so many universities here and there are two specific universities that are only of their kind in the world. There is no forensic science university or children's university anywhere in the world, except in Gandhinagar in India which boasts of these two universities.

Similarly, the National Law University encompasses everything from crime detection to justice. But the results will accrue only if these three universities don't work in silos. If the Rashtriya Raksha University, the Forensic Science University and the National Law University go on their own, then desired results will not happen.

Today when I am amongst you, I want to request all the officials to have a common symposium of students and faculty of all the three universities after every three months in a year and come out with a new model to strengthen the security of the nation. The children of the National Law University will have to study how forensic science will be useful for justice.

Those studying crime detection will have to see which evidence should be put under which section so that they can get technical support from the Forensic Science University and legal support from the National Law University to ensure punishment for criminals and protect the country. When the judicial system is able to deliver justice on time and punish the criminals, then an atmosphere of fear is created among the criminals.

I would also prefer Raksha University to prepare students who should be well-versed with the prison systems. How to modernize the jail systems, how to utilize prisoners or undertrials by understanding their psyche, how should they come out of the world of crimes, under what circumstances did they commit the crimes, etc? There must be such an aspect in Raksha University as well.

Can we prepare such students who should have the expertise to reform the prisoners, change the prison environment, can attend to the psyche of the prisoners and make them better persons when they step out of jail? It requires able human resources. For example, if somebody in the police department who is tasked with the law and order is suddenly asked to take care of the jails. He is not trained in it. He has been trained to handle criminals. But it doesn't work like that. I believe that the domains have increased and we need to make efforts for all of them in this direction.

Today I have got the opportunity to inaugurate a grand building of the Raksha University. When we were in the process of identifying the place for this university, there were many questions and pressures. Everyone used to say why you are doing this and that too at such a faraway place. But I was of the opinion that if one has to travel 25-50 km away from Gandhinagar, it does not lessen the importance of the university. If the university has potential, it can become the hub of Gandhinagar and after seeing the building today I think a beginning has been made.

The responsibility for the upkeep of this building does not lie with a contractor or with the government budget. The building can be splendid if every occupant considers it as its own and maintains every wall, window or furniture and works for its improvement.

When IIM was formed in Ahmedabad about 50 years ago, its campus was considered a model in India. Later, when the National Law University was built, people from all over India were attracted to it. I firmly believe that this Raksha University Campus will also become a reason of attraction for the people in the days to come. The campus of Raksha University is another gem to the already existing campuses of the IITs, Energy University, National Law University and Forensic Science University. I congratulate all of you for this.

I would call upon the meritorious students of society not to consider it inferior. It has a huge scope to serve the country. Similarly, the people who have come here, our police personnel and home ministry should not be mistaken in considering it to be a police university. It is a defence university that prepares manpower for the defence of entire country. The students graduating from here will go to different fields. They will be experts who will have the expertise in deciding the nutrition of the defence personnel. There will be many experts involved in developing software against crimes. It is not necessary that they should be somebody in uniform, by working together they can give much better results. With this spirit, we are moving forward in the progress of this university.

We have plans to expand Forensic Science University and Raksha University in the country. Many students have the desire to become sportspersons, doctors, or engineers since childhood. Even though there is a section that has negative feelings towards the uniform, I am sure if the uniformed forces work hard while respecting human values, we can change this perception and instill confidence in the common man. Today there is an unprecedented growth in the private security sector. There are many start-ups that are working only in the field of defence. Your training also invites you to enter the world of such new start-ups.

At a time when the youth of the country are giving priority to the defence of the country, there is another important aspect which we need to understand. Like I said in the beginning negotiation is an art. Good negotiators become only after proper training. Negotiators are very useful at the global level. Gradually, you can progress to becoming a global-level negotiator.

I believe this too is a great necessity in society. Similarly, if you have not studied mob psychology,

crowd psychology in a scientific way, you cannot handle it. Through Raksha University, we want to prepare people who can handle such situations. We have to prepare a dedicated workforce at every level to protect the country. I hope we all will work together in that direction.

I extend my best wishes to the students who have completed their studies. But I would like to tell them not to make the mistake of entertaining any thoughts that the world would be in your hands once you donned the uniform. This does not enhance the respect towards the uniform. The respect of the uniform increases when humanity is alive in it and there is a sense of compassion and you have the desire to do something for the mothers, sisters, downtrodden, oppressed and exploited. Therefore friends, we have to consider the values of humanity as paramount in life. We have to resolve to connect the sense of belongingness that is there in society towards the forces. Therefore, I want that the influence of uniform should be there, but there should be no absence of humanity. If our young generation moves in this direction with this spirit, we will get great results.

It is a pleasure for me, I did not count while I was honoring some students but my first impression is, that the number of daughters was probably higher. This means that we have a large number of daughters in the police fleet. A large number of daughters are coming forward. Not only this, our daughters are moving forward in the army in important positions. Similarly, I have seen that a large number of daughters are joining the NCC also. Today the Government of India has also expanded the scope of NCC. You can contribute a lot by handling the NCC in frontier schools.

The Government of India has also made a very important decision regarding the admission of daughters in Sainik Schools. We have seen that there is no area of life where our daughters do not play an effective role and this is their strength. Whether it is securing victory in the Olympics, science and education, the number of daughters is much higher. I am sure that our daughters will also dominate in the field of defence and it will be very reassuring for our mothers and sisters. We have taken an important initiative and it is the responsibility of the first batch to make it successful.

I would like to present before you two incidents of Gujarat as to how important a change can this university bring, how important a change can a human resource development institute bring. A long time ago, the moneylenders from Ahmedabad, the eminent people of the society and the business class decided that there should be a pharmacy college in Gujarat. A pharmacy college was formed 50 years ago. A modest college was built then. But today if Gujarat leads in the pharmaceutical industry, then its origin lies in that small pharmacy college. The boys who graduated from that college later helped make Gujarat a hub of the pharmaceutical industry. Today, the world acknowledges India as a hub of pharma following Corona period. However, this started at a small college.

Similarly, Ahmedabad IIM is not a university and does not offer a degree course. It is not accredited to any university and it offers certificate courses. When it started, people would probably wonder what would happen with a six-eight-twelve-month certificate course. But IIM made such a reputation and today most of the CEOs in the world have graduated from IIM.

Friends, I can see the potential of a university in this Raksha University which will change the picture of the entire defence sector of India, will change the outlook of defence and will create new opportunities for our young generation. With this full confidence comes a greater responsibility of the first generation. The responsibility of the students of the first convocation becomes even more. Therefore, I say that those who have enriched themselves from this university and are getting farewell in the first convocation should enhance the prestige of this Raksha University. This should be the mantra of your life. You should motivate the promising youth, the sons and daughters to come forward in this field. They will be inspired by you. You can play a big role in society.

If you accomplish this task, then I believe that such a journey has started in the Amrit Mahotsav of independence that when the country celebrates hundred years of independence, then the identity of the defence sector would be different and the perspective of people towards the defence sector would have changed. And the common citizen of the country, whether he is the sentinel on the border, or the watchman of your locality, everyone will see how both the society and the system are working together to protect the country. When the country celebrates 100 years of its independence, then we would be standing with that strength. With this belief, I extend my best wishes to all the youth. I also extend my best wishes to their family members.

DISCLAIMER: This is the approximate translation of PM's speech. Original speech was delivered in Hindi.

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COMMUNICATIONS

National Education Policy (NEP) 2020: A Paradigm Shift

Madan Chhetri* and Uttam Kumar Upadhyaya**

Headed by the Chairperson Late Shri T.S.R. Subramanian, former Cabinet Secretary, *'The Committee for Evolution of the New Education Policy'* submitted its report on the core of new education policy in May 2016 which led to the preparation of the Draft National Education Policy, 2016. Once again in June 2017, a Committee for preparing Draft National Education Policy was formed under an eminent scientist Padma Vibhushan Dr. K. Kasturirangan who submitted the Draft National Education Policy, 2019 to the Honourable Minister for Human Resource Development on the 31st of May 2019. The draft policy was made available on MHRD'S website and 'My Gov Innovate' portal for stakeholders to invite observations, insights, and suggestions. On 29th July 2020, the Union Cabinet of India finally approved the new 'National Education Policy-- 2020' (NEP 2020). The new policy replaced the 34 years old National Education Policy, 1986.

Highlights of The Policy

1. NEP 2020 aims at establishing a new '5+3+3+4' structure while putting emphasis on the requirements and interests of the students at various levels. The stages in this new proposed structure have been classified as__ a 'Foundational Stage' (5 years), a 'Preparatory Stage' (3 years), a 'Middle Stage' (3 years) and the 'High Stage' (4 years, constituting the standards 9, 10, 11 and 12)

2. The National Mission on Foundational Literacy and Numeracy will be established by the Ministry of Human Resource Development towards materializing this objective.

3. A uniformly balanced assessment and accreditation process of all the public and private schools, except for those governed by the central government, on equal standards, is aimed at by the policy.

4. It also looks into achieving a 100 percent Gross Enrolment Ratio in the levels from the preschool to secondary by 2030.

5. The policy also reiterates that the medium of education shall be the student's mother language, or a regional language till grade five and preferably till grade eight and beyond.

6. The Central Government will initiate a *'Gender-Inclusion Fund'* to provide unbiased and quality education to all female and transgender students.

7. The policy also looks up to set up such **'***School complexes'* wherein secondary and other institutions offer lower levels of education.

8. Educational institutes throughout the country will be governed with similar standards of financial audit and disclosure as 'not-for-profit' organizations.

9. The HEIs will evolve a system to facilitate 2-way approaches of Master's programmes of one year and two years.

10. The HEIs will no more offer M.Phil. programmes.

11. Indian universities that perform well will be encouraged to set up campuses in other nations whereas foreign universities of excellence will be facilitated to operate on Indian soil.

12. A National Research Foundation to facilitate "merit-based but equitable" peer-reviewed research funding will be set up centrally.

13. The policy also reiterates that the centre and state governments will thrive to increase public investment in the education sector from the current 4.43 per cent of the GDP to 6 per cent.

Advantages

As per the provisions of NEP 2020, an Academic Bank of Credit will be set up.

NEP 2020 aims at establishing Multidisciplinary Education and Research Universities at the standards of IITs and IIMs throughout the country.

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Similar accreditation and regulation rules will be applied for the guidance of both the public and private educational bodies.

Online Education will be promoted to prepare the students for any sort of unseen pandemic situation.

Challenges

The challenges to the effective implementation of the Policy are:

Language Education

Language Education is a problematic area in the implementation of NEP 2020. India is currently having a poor student-teacher ratio and introducing a regional language policy in each of the subjects is a real concern. As per the provisions of NEP 2020, the English language will be introduced to the students of private sector schools much earlier than the Government sector schools as regional language theory will be applied to the students of government schools.

Multiple Exit/Entry Policy

The new education policy affirms the Multiple Exit/Entry Policy which might have an adverse effect on the students as they may think to leave the course midway.

Curriculum and Content

NEP 2020 aims to makeshift from the current 10+2 pattern to 5+3+3+4 structure in which the policy focuses on curtailing the curriculum contents to facilitate the learners with more space for critical thinking and creativity, leading towards the future with newer skills. Hence, the biggest challenge lies in the fact that the curriculum and pedagogy should drastically be restructured as per the present-day requirements and in accordance with the National Curriculum Framework. A thorough modification and restructuring of curriculum contents and teaching pedagogy must be actualized as per the NCF (National Curriculum Framework). The technological intervention will require a robust digital infrastructure throughout the country, which is the biggest challenge of the hour.

Availability of Teachers

While actualizing the implementation of NEP 2020 educational institutions need to provide training to the teachers so that a transition in the educational system is feasible in line with shifting from the current teacher- centered learning to student- centered learning.

National Curriculum Framework for Teacher Education alongside NEP 2020 is need of the hour, towards the building of a bunch of talented, creative, and efficient teachers who, in the real spirit, can impart quality education to the students.

Technology Perspective

The New Education Policy also puts its onus on the use of advantages of technology in the process of making the youths of the nation future ready. However, building digital infrastructure like smart classrooms, remotely accessible teaching and learning materials, and audio-visual tools for making physical teaching more beneficial is really a herculean task.

Examination Imperatives

The NEP 2020 puts its emphasis on formative assessment for learning rather than a summative assessment to encourage continuous tracking of learning outcomes which demands the use of innovative evaluation approaches and assignments with technological intervention and participative involvement.

Successful Implementation Strategies

The challenge in implementing NEP 2020 lies in the correct approach towards its exclusive nature and looking into the possible failure aspects.

The following are the main reasons if the policy fails

1. *Extensively Optimistic aspirations*: This may result in failure as the cost and time required are underestimated.
2. *Implementation in Diverse Governance System:* When a policy is made fit only from the perspective of a single governance system, it is prone to fail.
3. *Lack of Collaboration*: Due to the lack of collaboration with all the stakeholders, any policy may fail at any given point in time.
4. *Constraints of the Political Cycle*: If the policymakers focus on short-term results, the policy often fails as they are specially designed

for the legislation rather than a foolproof implementation.

The overall success and acceleration of the implementation of NEP 2020 will depend on the initiatives taken to address the challenges posed. For a successful implementation of NEP 2020 at all levels, the utmost essential requirements are comprehensive stakeholder consciousness, formulation of instruments such as legal, regulatory, and institutional, creation of authentic information repositories, and facilitation of adequate and transparent management principles. Last but most important thing to achieve a foolproof implementation of NEP 2020, all the stakeholders including the Central as well as the State need to work on it.

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National Policy on Blended Learning: A Proposal

Marmar Mukhopadhyay*

All learnings are blended. In conventional modes, students self-blend by listening to classroom lectures, taking notes, practicing during private tuition, reading books, discussing with peers, and watching ETV programmes. This is blending offline learning tactics. With developments in technology, especially the Internet for learning and the emergence of online education, the definition has changed to the blending of online and face-to-face learning.

Definition

The new definition is "Blended Learning is purposefully blending a chosen set of online and offline learning tactics[1] set into a learning design for deeper and happy engagement of learners resulting in improved learning outcomes at higher levels of cognition"[2]. There are several models of Blended Learning which are presented in the end of this write-up.

National Education Policy 2020: Blended Learning Policy-related Statements

There are Direct and Indirect Statements on Technology-Integration and Blended Learning. A few statements of special significance are Full-time or part-time/blended courses (pp 24); B.Ed. Programs in blended or ODL mode (pp 23); Blended mode will be preferred. (pp 35); Blended mode. (pp 53); Unless online education is blended with experiential and activity-based learning … (pp 59); Blended models of learning: (pp 60).

Benefits of Blended Learning

Benefits of Blended Learning, as derived from research evidence are:

1. Blended learning is more effective than either face-to-face or online learning; students perform better than F2F or online course students.
2. Student satisfaction is Higher in BL courses than in F2F lecture mode. Students enjoy greater independence and opportunities to progress at their own pace. Students get opportunities for peer and expert collaboration across countries and cultures, helping students become virtual global citizens.
3. Students enjoy higher flexibility - anytime, anywhere, self-pacing for mastery learning; and the opportunity of increased synchronous & asynchronous interaction among peers and with teachers.
4. Students develop the digital skills necessary for evolving as lifelong self-learners.
5. HEIs can increase access to higher education without expanding classroom space and associated facilities

Proposed National Blended Learning Policy

Policies bring in commitment and some kind of compulsion for the adoption of innovation for uniformity and comparable teaching-learning practices (facilitating equivalence among Higher Education institutions).

Statements

1. All Higher Education Institutions will adopt Blended Learning in all Certificate, Diploma, Undergraduate, and Post Graduate Courses and subjects.
2. All higher education students will earn at least 40% of credits through online education.

Enabling Policies

There are certain prerequisites for implementing National policies Enabling policies to enable implementation.

1. Every HEI will develop institutional readiness for adopting Blended Learning.
2. Requisite ICT infrastructure will be developed in all higher education institutions. It will be ensured that all teachers and students have access to digital devices with Internet connectivity. (NEP2020. P59)
3. There would be adequate financial support for adopting blended learning in HEIs.
4. All teachers will be equipped with knowledge about the science of human learning and the ICT skills necessary for implementing blended learning.

1 I have identified 70 face to face and online learning tactics; can be seen in Educational Technology for Teachers: Technology Enabled Learning by Marmar Mukhopadhyay (2020).

2 © Marmar Mukhopadhyay (2022).

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5. Every HEI and teacher will choose a Blended Learning Model to suit the context – rural and urban institutes, large or small institutions, uni-or multidiscipline institutions, and the learning needs and styles of students.

6. HEIs will reconstruct the curriculum to facilitate policy goals and align with the attributes of blended learning.

7. Every HEI will adopt blended programs, blended courses, and blended unit designs

8. A National OER of blended programs, courses, and unit designs will be created.

9. The assessment system will be modified to make the best use of blended learning; students to take online on-demand tests, collect micro-credentials, and benefit from the assurance-based credit scheme

10. HEIs will develop a Theory of Change to implement the National Blended Learning Policy.

Six Blended Learning Models

Face-to-Face Driver Model

This model is like a traditional instructional practice. It provides appropriate challenges to capable students, while those with low capabilities are given remedial education to accelerate their learning. It blends lectures with remedial learning techniques like tutorials and counselling.

The Rotation Model

In Rotation Model, students have a set timetable. They learn from their teachers' face-to-face teaching. Later, they move to online learning. This model is being used at all levels of education. The rotational model has been classified into station rotation, lab rotation, flipped classroom, and individual rotation.

The Flex Model

In this model, learning material is delivered online to the learners. The teachers or tutors are available for individual consultations and mentoring in their respective rooms. This reversal of the conventional mode (flipped learning) shifts the onus and initiative of learning to students; teachers work as facilitators and counsellors besides designing and/or curating online learning material.

Online Lab School Model

This is the online delivery of an entire course. Students can take/complete a course they might have missed in the institution. Students can visit the computer lab to complete their coursework and assignments if such facilities are not easily available at home. In this mode, institutions can offer courses where there are no teachers, and teaching is done under the supervision of some adults.

Self-Blend Model

In this model, students create their blending. They attend classes other than what is provided in the institution's timetable. They complement and enrich face-to-face learning with self-chosen online courses from remote sources and learning in peer groups. Students with initiative and motivation to achieve higher grades usually adopt this model.

The Online Driver Model

In this model, students receive learning material online and engage in chats with teachers online, although face-to-face interactive opportunities may also be available. This model is useful, especially for students who need more flexibility and take responsibility for their learning. ❑

Happiness App

Yogesh Kochhar*

At the *Matsya Bhed*, where Arjuna is competing alongside several princes for the hand of Draupadi. Says Krishna to Arjuna, "You have been trained by Guru Dronacharya and all you have to do is to focus on the eye of the fish in the bowl of water as you raise the bow above your head and string the arrow, stretch it and release it. You can do it"

Asks Arjuna of Krishna, "hey, Krishna if I have to do everything, what would you do?"

"I shall just keep the water still"

The opportunity and the challenge today are both; 'technology' that is as vital as E=mc2; as it can be fatal if that formula is used to create an Atomic Bomb.

Students with their mindshare sliced, tossed and diced in social media are *'consuming'* from the net in slices and slivers off their phones with no contiguity, no recall and no tangible use to their lives. The effect is that students cannot be **'***creating'* while *NIRF* remains wanting.

This *'consumption'* of random content severely and adversely impacts the **'***creation***'** of content and that is the reason India with 4 times the population of America is still 1/8th the size of GDP that America produces. Studies reveal between 4.5-6 hours as the average screen time(NOT talk time) on the phone alone. It is 'neuroplasticity' in the mind that is always **'***seeking'* while the data streets are colourful where spurred by neuroplasticity in the mind, students keep **'***soaking***'** in this quicksand of data.

The ramifications of this are deeper than the mere slicing and diminishing attention spans, it impacts humans at the endocrinal and cardiovascular levels too. With emotions replaced by emoticons, and reactions such as Wow, R.I.P, love and looking good etc all strung on the same timeline the chemicals such as dopamine, serotonin, oxytocin, endorphins and estrogen etc all go into a tailspin leading to maladies such as stress, infertility and impotence. Dopamine is no longer organic. It has turned into chemicals and substances and remains to crave and cry.

Yogesh Kochhar at YourOneLife studied this in-depth and created an app that has been approved by AICTE, on the same technology platform acknowledged by the UN and earned him a sobriquet and citation at the British Parliament. The world happiness foundation with leaders such as Luis Gallardo and Prof. Philip Kotler was quick to notice this and invited him to join the foundation's advisory board.

The app just like Facebook enables students to update their life with an inflectional albeit fundamental difference. It serves a buffet of 12 life aspects and each update must conform to one of these. As the updates keep the central timeline active, these simultaneously keep getting distributed in 12 subsidiary timelines.

These 12 aspects; 6 of which conform to the right or emotional brain and 6 that conform to the left or rational brain then draw the students back from the mindless vortex of digital imagery and apps that invite the neuroplastic mind unto them and then colonise that mind. In a way, it reverses the barrel of the telescope for the user from looking at the world around to first looking at one's own self. By gamifying the app and the curriculum the students will learn all about the blockchain rather than be taught about it from A to Z.

The app creates, calibrates and celebrates happiness. It evaluates the IQ and EQ, the mind map and mindshare of the students and counsels them too. Freeing the mind from unnecessary clutter will make it available for innovation and entrepreneurship and help improve the NIRF rankings.

In effect to a mind that is much like a bunch of jumping frogs on the two pans of a weighing scale that can never be weighed, it helps calm the frogs and brings stillness to the waters in the mind. "*Uttho Parth!"*

Yogesh Kochhar has earlier been part of the leadership team at Microsoft India and can be reached at yogi@yol.one for the syllabus and the curriculum.

❑

**Former Expert Microsoft Team. Email: yogi@yol.one*

CAMPUS NEWS

National Webinar on NEP–2020 and Indian Higher Education

A two-day National Webinar on 'NEP–2020 and Indian Higher Education: A Way Forward' was organized by the Department of Teacher Education, Nagaland University (NU), Kohima Campus, Meriema, Nagaland during July 19–20, 2022. The event was sponsored by ICSSR, NERC, Shillong. The Chief Patron of the event was Vice Chancellor, Prof. Pardeshi Lal, Patron was the Pro-Vice Chancellor, Prof. N Venuh and Co-patron was the Dean, School of Humanities and Education, Nagaland University, Nagaland. The Coordinator of the event was Dr P K Pattnaik, Head, Department of Teacher Education, Nagaland University, Dr Surender Yadav, Assistant Professor, Department of Teacher Education, Nagaland University was the Convener of the event.

The Inaugural Session was moderated and chaired by Dr. T Yolila Sangtam, Assistant Professor, Department of Teacher Education, Nagaland University. Dr. Pradipta Kumar Pattnaik, Head, Department of Teacher Education, NU delivered the welcome address, while Dr. Surendra Yadav, Assistant Professor, Department of Teacher Education, Nagaland University presented the opening remarks of the Webinar. He highlighted the subthemes of the event i.e. Quality of Higher Education: Challenges and Solutions; Equity and Inclusion in Higher Education and Teacher Education; Vocationalisation of Higher Education; and Use of Technology in Teaching, Research, Evaluation and Governance. He further mentioned that the success and failure of NEP-2020 can be determined by its implementation. Therefore, it is important to discuss how far the policy implementation process has been carried out in the last two years.

The Chief Guest, Prof. Bhagirathi Panda, Director, ICSSR, NERC, Shillong, in his speech emphasized the importance and relevance of NEP-2020 at the global level. Globalization of education particularly at the Higher Education level is stressed, in order to bring about changes in values and practices in the knowledge economy. This can be brought about by addressing the challenges such as increasing the Gross Enrolment Ratio, improving the student-teacher ratio, Indigenization of Higher Education, and access to inclusiveness and research. He emphasized that for a successful NEP-2020, there is a need to collaborate between Government, Market, Community, and Civil Society.

The Guest of Honour, Prof. N Venuh, Pro-Vice Chancellor, Nagaland University, Kohima Campus, in his address emphasized the need to be realistic and practical while implementing the NEP-2020 policies and goals, taking into consideration the social, cultural, geopolitical, economic challenges and issues. To upgrade quality in Higher Education, he encouraged research studies and utilization of available resources.

The Keynote Address was delivered by Prof. C B Sharma, IGNOU, New Delhi. He highlighted that there is a complete break between School Education and Higher Education. Bridge, this gap is one way forward to improving Higher Education. He emphasized the need for autonomy in the institutions for its improvement in quality.

The Technical Session on 'Quality of Higher Education: Challenges and Solutions' was moderated and chaired by Prof. G N Tiwari, Department of Teacher Education, Nagaland University. In the session, Resource Person, Prof. Ramesh Kothari, Former Vice Chancellor, Veer Narmad South Gujarat University, Surat highlighted the weaknesses of higher education such as limited resources, financial disparities due to privatization of institutions, no single yardstick for quality assessment, etc. One of the major challenges of NEP-2020 is the complete overhaul of teacher education and re-energizing of higher education. He deliberated on the multi-disciplinary education system as proposed by NEP-2020, the role of the National Higher Education Regulatory Council (NHERC), National Research Foundation (NRF), Choice Based Credit System (CBCS), grading system, extension work, need for campus placement

cell and open distance learning as important aspects for improvement in quality and quantity in Higher Education. A few solutions were also suggested such as the incorporation of seminar-based classes, 15 weeks of compulsory teaching, research culture, and autonomy of institutions. At the end of the session, ten participants presented their papers under this subtheme. In the concluding remarks, Prof. Ramesh Kothari suggested including and contributing toward vocational education, Choice Based Credit System, and a grading system in the discussions.

The Technical Session on 'Equity and Inclusion in Higher Education and Teacher Education' was moderated and chaired by Dr. M Rajendra Nath Babu, Assistant Professor, Department of Teacher Education, Nagaland University. In the session, Recourse Person, Prof. S K Yadav, Former Head, Department of Teacher Education, NCERT, New Delhi deliberated on the 'Importance of Education as the Only Instrument for the Development of Society'. In order to adopt inclusiveness, several suggestions were recommended such as access to opportunities; equity to all sections of society; quality in research as well as training quality teachers; affordability to all sections of the society; and curriculum to be inclusive in school education, higher education, and teacher education. He discussed in detail the structure of Teacher Education as per NEP-2020. For Pedagogy, he emphasized hands-on experience, storytelling, art integrated and sport-integrated pedagogy. At the end of the session, eleven papers were presented and discussed by the presenter on the subtheme of the session.

The Session on 'Vocationalisation of Higher Education' was moderated and chaired by Dr. Rashmi, Assistant Professor, Department of Teacher Education, Nagaland University**.** The Resource Person, Kalpana Kaushik, Director (I/c) Indian Adult Education Association, New Delhi expressed her views on Vocationalisation of Education in Higher Education with reference to NEP- 2020. The speaker also highlighted the aims, recommendations, and provisions of NEP-2020 on vocationalisation of education. She also emphasized the worldwide data on vocational education and the role and responsibilities of the Ministry of Education, Ministry of Labor and Employment and Ministry of Skill Development and Entrepreneurship as an agency for the implementation of vocational education in the country. At the end of the session, eleven papers were presented and discussed with the presenter on the topic.

The Session on 'Use of Technology in Teaching, Research, Evaluation and Governance' was moderated and chaired by Dr. Surendra Yadav, Assistant Professor, Department of Teacher Education, Nagaland University. Prof. P.K. Mishra, Director, CPRHE, NIEPA, Resource Person for the session emphasized the use of technology in teaching, research, assessment and governance. He stressed the importance of the efficiency of using technology among individuals. At the end of the session, fourteen papers were presented and discussed by the presenter and participants.

The Valedictory session was moderated and chaired by Dr. Pradipta Kumar Pattnaik, and the valedictory address was delivered by Dr. Amarendra Pani, Joint Director and Head (Research Division), AIU, New Delhi. In his valedictory speech, he highlighted the journey of education from the Mudaliar Commission (1952) to the Kothari Commission (1964), NEP (1986), NEP (1986), Acharya Commission (1990), Programme of Action (1992), Yashpal Commission (2005) and National Commission (2006-2007). The speaker also remarked that UNESCO (1972) brought about innovation and transformation in the educational system of India. However, the country felt that these policies are outdated and needed a new policy for the changing need of the time which led to the introduction of the National Educational Policy (NEP, 2020). He emphasized that individuals now need not only the Intelligent Quotient and Emotional Quotient but also the Spiritual Quotient. With the internationalization of education, there is a need for adaptability, adjustability, and employability among students of higher Education. Asale Vitso and Thronlem Jorlim Konyak, research scholars, Department of Teacher Education, Nagaland University presented a brief report of the entire two days of the national event.

Prof. G N Tiwari, Department of Teacher Education, NU delivered the vote of thanks to all, in his address recognizing the significance of the event, Prof. Tiwari thanked the Coordinator and Convener

of the webinar for successfully organizing the event. Gratitude was also extended to the Pro-Vice Chancellor, Nagaland University, Kohima campus, Prof. N Venuh and to all the resource persons, paper presenters, and participants for their active and valuable participation. Also, thanked ICSSR, NERC, Shillong, Meghalaya for giving an opportunity to organize the webinar.

International Conference on Advanced Computational and Communication Paradigms

A three-day International Conference on 'Advanced Computational and Communication Paradigms-2023' is being organised by the Department of Computer Science and Engineering Sikkim Manipal Institute of Technology on February 16-18, 2023. The event is aimed to gather scientists, engineers, academicians and industry personnel to discuss various topics ranging from artificial intelligence, robotics, mobile communications, geographical information systems and internet of things. The event will feature the following Tracks:

- Networking and Data Communications.
- Cyber Security and Data Forensics.
- Signal Processing and Communication Engineering.
- Computer Vision and Image Processing.
- Computational Intelligence.
- Adaptive Computation and Machine Learning.
- Computational Neurosciences, Cognition, Bio-Medical Engineering and Biotechnology.
- Human Computer Interaction, Mechatronics and Robotics.
- Big-Data Analytics and Social Networking.
- Material Science and Nano Technology.
- Geophysical Remote Sensing and Geographic Information Systems.

Important Dates

Conference Date: **February 16-18, 2023**.

Registration: **January 25, 2023.**

For further details, contact Convener, Department of Computer Science and Engineering, Sikkim Manipal Institute of Technology, Majitar, East Sikkim, Sikkim-737136, Mobile No: +91-9593260890, +91-8001822676, +91-7872888120, E-mail: *icaccp.cse@smit.smu.edu.in*. For updates, log on to: *www.icaccpa.in*.

Conference on Entrepreneurship

A three-day Biennial Conference on 'Entrepreneurship' is being organized by the Entrepreneurship Development Institute of India (EDII), Gandhinagar, Gujarat during February 22-24, 2023. The event will provide a forum for researchers, educationists and practitioners to share their research findings and experience in entrepreneurship development. The Themes and Focus Areas of the Event are:

Entrepreneurship Theory

- Cognitive Theories of Entrepreneurship.
- Family Business Entrepreneurship Theories.00
- Social Entrepreneurship Theories.
- Entrepreneurial Intention, Motivation, and Behaviour.
- Theories on Innovation, Leadership.
- Entrepreneurial Team.

Entrepreneurship Policy

- Entrepreneurship Policy and Governance.
- Start-Up and Innovation Policy.
- Entrepreneurship Ecosystems.
- Entrepreneurship Support Systems.
- Government's Initiatives on Entrepreneurship Development.
- Entrepreneurship Policy for Disadvantaged Sections.

Entrepreneurship Education and Capacity Building

- Entrepreneurship Education.
- Entrepreneurship: Teaching Learning Process.
- Innovative Pedagogy in Entrepreneurship Education and Capacity Building.
- Capacity Building for Entrepreneurship Development.
- Startups, Incubators, and Accelerators.

Manifestations of Entrepreneurship

- Women's Entrepreneurship.

- Corporate Entrepreneurship and Intrapreneurship.
- Trans-generational Entrepreneurship (Family Business).
- Trans-Indian Entrepreneurship.
- Regional and International Entrepreneurship.
- Development Sector Entrepreneurship.
- Social Entrepreneurship.

Functional Areas of Entrepreneurship

- Entrepreneurship Finance.
- Entrepreneurial Marketing.
- Internationalising Entrepreneurial Ventures.
- Value Proposition and Business Modelling.
- Managing and Growing Entrepreneurial Venture.
- Sustaining New and Existing Enterprises.

MSME Entrepreneurship

- Cluster Entrepreneurship.
- MSME Competitiveness and Growth.
- Business Development Services in MSMEs.
- MSME Internationalization.
- Digital MSMEs and Technological Upgradation.
- Globalizing MSMEs.

Entrepreneurship Context

- Biotechnology Entrepreneurship.
- Green Entrepreneurship.
- Agriculture Entrepreneurship.
- Tourism Entrepreneurship.
- Technology Entrepreneurship.
- Inclusive Entrepreneurship.
- Digitalization Entrepreneurship.
- Traditional Healthcare and Wellness Entrepreneurship.

For further details, contact Organising Secretary, Entrepreneurship Development Institute of India, Bhat, Gandhinagar-382 428, Gujarat, Phone No: 079-6910 4900 / 6910 4999, E-mail: *info@ediindia.org*. For updates, log on to: *www.ediindia.org / www.ediindia.ac.in*

International Conference on Emerging Aspects of Manufacturing, Thermal and Design Engineering

A three-day International Conference on 'Emerging Aspects of Manufacturing, Thermal and Design Engineering' is being organized by the Department of Mechanical Engineering, National Institute of Technology (NIT), Hamirpur, Himachal Pradesh during February 15-17, 2023. The conference intends to provide a general platform to various academicians, scientists, researchers, research scholars and industry persons throughout the globe working in the broad areas of Mechanical Engineering (Design, Thermal, and Manufacturing Engineering) and allied areas to exchange and share their experiences and researches with the world. The Topics for the event include three different core streams of Mechanical Engineering with Fundamental, Numerical / Computational and Application, but are not limited, to the following:

Manufacturing

- Artificial Intelligence Applied, Optimization Methods in Manufacturing.
- Automation and Production Control.
- Computer-based Manufacturing Technologies: CNC, CAD, CAM, FMS and CIM.
- Machining (traditional and nontraditional processes)
- Manufacturing Design for 3r 'Reduce, Reuse, Recycling'.
- Mechatronics and Robotics.
- Nanomaterials and Nanomanufacturing.
- Rapid Manufacturing Technologies and Prototyping
- Real-time Enterprise Control.
- Robust Design and Quality Engineering.
- Stochastic Models and Decision Analysis.
- Supply Chain Systems.

Thermal

- Computational Fluid Mechanics.
- Micro, Nano-scale Transport.
- Turbomachinery.
- Propulsion and Power.
- Heat and Mass Transfer.
- Renewable Energy.
- IC Engines and Biofuels.
- Flow measurement and Flow Visualization.
- Circular Economy and Sustainability.
- Nanofluids.

Design

- Applied and Computational Mechanics.
- Finite Element Modelling and Simulations.
- Extended FEM, Meshfree Methods.
- Engineering System Design/CAD, Optimization.
- Fracture Mechanics/Solid Mechanics/Automotive Mechanics, Fatigue and Failure of Components.
- Tribology and Contact Mechanics.
- Vibration, Acoustics, Noise and Control, Condition Monitoring.
- Kinematics and Dynamics, Robotics.

For further details, contact Organising Secretary, Department of Mechanical, Engineering, National Institute of Technology, Hamirpur-177005, Himachal Pradesh, E-mail: *mathed.med.nith@gmail.com*. For updates, log on to: *www.nith.ac.in*

National Seminar on New Educational Policy—2020

A two-day National Seminar on 'New Educational Policy 2020: A Powerful Tool to Re-Establish Bharat as Vishwa Guru' is being organised by the Department of Political Science, St. Aloysius College, Jabalpur, Madhya Pradesh on January 27-28, 2023. The event is sponsored by Indian Council of Social Science Research, New Delhi.

'A *guru* is someone who has the power to see greatness even in the lowest man and has the power to raise it'. Since the beginning of civilization India has been the *Guru* for the whole world. When the whole world was groping in darkness, India was teaching about the identity of man with the Supreme. People from all around the world converged in India to gain from its priceless wisdom. Indeed, the country that showed the whole world its academic brilliance through Sushrutha, Kanad, and Aryabhatta deserves to gain the same pedestal of being *'Vishwa Guru Bharat'* again. From Ayurveda to Indian science, there's more to India that the world needs to know, learn, and adopt. India has all the potential to become *Vishva Guru* once again because of its value system, culture, and inherent belief in '*Vasudhaiva Kutumbakam'*. Now, is the time that the entire world also imbibes the spirit. The New Education Policy-2020 aims to overhaul the education system and create a new order that will meet the requirements of 21st century education while building upon India's traditions and value systems. NEP-2020 is Indian in origin, international in its outlook, inclusive in its approach, and innovative and impactful in its outcome. Access, accountability, affordability, equity, and quality are five pillars that will form the foundation of our future education ecosystem. It is aimed at transforming India and enabling the country to regain its position as *Vishwa Guru* and we will grow in knowledge, research, science and technology, and all spheres. The seminar is aimed at achieving a reinvigoration of novel research fields in academics. Research and development activities are the only pathways to reach the goals of the aspirational youth of India. The seminar targets the bridging of ancient knowledge with futuristic ideas. The Subthemes of the Event are:

- NEP: Origin, Implementation, and Future Path.
- Intellectual Legacy of India.
- Skill Development and Role of Vocational Training for Future Growth.
- Changes in Higher Education and Role of ICT.
- Ancient India's Education System and its Influence on NEP-2020.
- Role of National Innovation and Start-up Policy.
- Impact of National Education Policy- 2020 on Higher Education.
- Making India a Global Education Hub Opportunities and Challenges.

For further details, contact Organising Secretary, Department of Political Science, St. Aloysius College, Jabalpur- 482001 (Madhya Pradesh), Mobile No: 9424086040/8839436653/ 799970908. For updates, log on to: *staloysiuscollege.ac.in*

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THESES OF THE MONTH

SOCIAL SCIENCES
THESIS OF THE MONTH
A List of doctoral theses accepted by Indian Universities
(Notifications received in AIU during the month of Oct-Nov, 2022

Anthropology

1. Boruah, Chandan Kumar. **Syncretism among the Noctes of Tirap District, Arunachal Pradesh**. (Dr. Dhritiman Sarma), Department of Anthropology, Rajiv Gandhi University, Itanagar.

Commerce

1. Gowtham, R. **Impact of Goods and Services Tax (GST) on purchase decision of Fast-Moving Consumer Good consumers (FMCG) of Chennai City**. (Dr. S. Chitra), Department of Commerce, SRM University, Kattankulathur,Chennai.

2. Jain, Vani. **Impact of workplace spirituality on employees' satisfaction: A study of IT sector of India**. (Dr. R R Saini), Department of Commerce, Maharshi Dayanand University, Rohtak.

3. Nandal, Isha. **Knowledge management in life insurance sector: A study of Haryana**. (Dr. Seema Rathee), Department of Commerce, Maharshi Dayanand University, Rohtak.

4. Shah, Palak Rajeshkumar. **Shareholder value creation in Indian pharmaceutical industry**. (Dr. Deepak Raste), Faculty of Commerce, Gujarat University, Ahmedabad.

5. Sharma, Shiwani. **An empirical study on impact of advertisement on consumer behaviour with respect to cosmetic industry**. (Dr. Jatin Yadav), Department of Commerce, Bhagwant University, Ajmer.

6. Sonika. **Impact of capital structure on firms performance of BSE-S and P500 listed firms: An empirical study**. (Dr. Priti Sharma), Department of Commerce, Maharshi Dayanand University, Rohtak.

Economics

1. Pradeep Kumar. **Yoga and international tourism in India: An economic perspective**. (Dr. Kuldeep Singh), Department of Economics, Kurukshetra University, Kurukshetra.

2. Ramani, Bharati Manharlal. **India's food security policy: Changes and effectiveness therein**. (Dr. R R Tanchak), Department of Economics, Saurashtra University, Rajkot.

Education

1. Arockia, Pandiyan D. **Effect of resistance and plyometric training on selected motor fitness physiological and skill performance variables among intercollegiate men hockey players**. (Dr. N. Prema), Department of Teacher Education, SRM University, Kattankulathur,Chennai.

2. Basumatary, Pooja. **Perception of the stakeholders of secondary schools of Assam on smart class and its impact on students learning outcomes**. (Prof. Lokanath Mishra), Department of Education, Mizoram University, Aizawl.

3. Bhat, Suhil Ahmad. **A Study of impact of political disturbance on educational achievement and on adjustment of students of higher secondary schools of South Kashmir**. (Dr. Manzoor Ahmad Bhat), Department of Education, Bhagwant University, Ajmer.

4. Bhattacharjee, Rituparna Sourendrana. **Effectiveness of advanced organizer model in the teaching of some unit of science and technology of higher secondary students**. (Dr. H P Sawant), Department of Education, Gujarat University, Ahmedabad.

5. Bhojak, Shivani. **Shikshan prashikshan mahavidyalayaon mein internship kee vastuisthithi ka samalochnatamak adhyayan**. (Prof. B L Jain), Department of Education, Jain Vishva Bharati Institute, Ladnun, District Nagaur.

6. Choudhary, Madhu. **Do varshiye B.Ed karyekaram ke antargat internship va ayojit gatividhiya, unke kriyanvan va prabhav ka adhyayan**. (Dr. Rama Sharma), Department of Education, IASE Deemed University,Sardarshahr.

7. Dar, Ifshana Gul. **Self concept, social competence, level of aspiration and academic achievement of adolescent students of Kashmir Province (J&K)**. (Dr. Manzoor Ahmad Bhat), Department of Education, Bhagwant University, Ajmer.

8. Ghosh, Prasenjit. **A study on adjustment ability of Sanskrit teachers working in colleges of the State of West Bengal**. (Prof. Brindaban Patra), Department of Education, Central Sanskrit University, New Delhi.

9. Jan, Bisma. **A study of personality disposition, mental health, study habits and academic achievement of orphan and non orphan adolescents in Kashmir**. (Dr. Manzoor Ahmad Ahmad Bhat), Department of Education, Bhagwant University, Ajmer.

10. Kashyap, Seema Varyamsingh. **Evaluation of Virtual Classroom Project (VCP) for English**. (Dr. Bharatbhai Joshi), Faculty of Education, Gujarat Vidyapith, Ahmedabad.

11. Patel, Dipika Rameshbhai. **A study of human right awareness among higher secondary school students**. (Dr. G S Patel), Department of Education, Gujarat University, Ahmedabad.

12. Pramila. **Prachin Bhartiye vishwavidyalayoan kee shiksha padhiti kee vartman mein prasangikta: Ek adhyayan**. (Prof. Manisha Verma), Department of Education, IASE Deemed University, Sardarshahr.

13. Sharma, Girraj Prasad. **Ghumantu samudaye ko samaj kee mukhye dhara mein lane ke liye shaikshik paryasoan ka vishleshnatamak adhyayan**. (Dr. Sahab Ram), Department of Education, IASE Deemed University,Sardarshahr.

14. Sharma, Sonia. **A study of the effect of parental involvement and encouragement on self-efficacy, social competence and educational development of secondary school students**. (Dr. Ranjita Baid), Department of Education, IASE Deemed University,Sardarshahr.

15. Somvir Singh. **A study of academic achievement and academic anxiety of secondary school students in relation to their environment, learning style and school environment**. (Dr. Jitender Kumar), Department of Education, Maharshi Dayanand University, Rohtak.

16. Tabasum Farooq. **Effect of militancy on education. A Study of South Kashmir with particular reference to Anantnag and Pulwama Districts**. (Dr. Manzoor Ahmad Bhat), Department of Education, Bhagwant University, Ajmer.

17. Vashishth, Sweety. **Shikshan prashikshan mahavidyalyoan mein pracharyoan kee naitritav evam nirney kshamta ka adhyayan**. (Dr. Saroj Rai), Department of Education, Jain Vishva Bharati Institute, Ladnun, District Nagaur

Home Science

1. Chaudhary, Nidhi. **Development of amylase rich premixes for community based management of malnutrition in children aged 1 to 3 years**. (Dr. Swati vyas and Dr. Ila Joshi), Department of Home Science, IIS University, Jaipur.

Journalism & Mass Communication

1. Dubey, Manish. **The impact of new media in prevention of terrorist activities**. (Dr. Sumit Narula and Dr. Neeru Johri), Department of Journalism & Mass Communication, Amity University, Gwalior.

2. Dwivedi, Anil Kumar. **Chhattisgarh ke janjatiye kshetroan mein e-prashasan aur media: Ek adhyayan (Bastar ke naksal prabhavit Kanker Jile ke vishesh sandarbh mein**. (Dr. Pavitra Shrivastava), Department of Mass Communication, Makhanlal Chaturvedi National University of Journalism and Communication, Gwalior.

3. Kaul, Malvika. **Reporting in the Indian print media from the conflict zone of Jammu and Kashmir**. (Dr. Aastha Saxena), Department of Journalism & Mass Communication, IIS University, Jaipur.

4. Sabharwal, Dhruv. **Covert advertising in Bollywood movies: Effectiveness on youth of Gwalior**. (Dr. Sumit Narula and Dr. Neeru Johri), Department of Journalism & Mass Communication, Amity University,Gwalior.

5. Satendra Kumar. **Hindi samachar patroan mein gramin aanchaloan kee kavrage evam prastuti: Dainik Bhaskar evam patrika samachar patre ka tulnatamak adhyayan**. (Dr. Pavitra Shrivastava), Department of Journalism, Makhanlal Chaturvedi National University of Journalism and Communication, Bhopal.

6. Srisailam, Galipally. **The role of public relations in crisis management: A study of select IT, pharma, PSUs and others**. (Dr. K Rajaram), Department of Mass Communication, Telangana University, Nizamabad.

Law

1. Dahiya, Sujata. **Right to Education in India: A socio legal study**. (Dr. Monika Malik), Department of Law, Kurukshetra University, Kurukshetra.
2. Dutta, Mitul. **Right to self determination in international law: A study in human right perspective**. (Dr. Prafulla Chandra Mishra and Dr. Manoj Kumar Sinha), Faculty of Law, Kalinga Institute of Industrial Technology, Bhubaneswar.
3. Kannan, K. **The problems of insecurity of employees in information technology sector: A critical analysis**. (Prof. K Murugadoss), Department of Law, The Tamil Nadu Dr Ambedkar Law University, Chennai.
4. Pabbi, Babita. **Freedom of press vis-a-vis right to privacy: An Indian perspective**. (Dr. Ramesh Kumar), Department of Law, Kurukshetra University, Kurukshetra.
5. Priya, B. **Adhesion agreements in corporate competitive market: A study with special reference to packaged drinking water companies in Namakkal District**. (Dr. R Haritha Devi), Department of Law, The Tamil Nadu Dr Ambedkar Law University, Chennai.
6. Rohilla, Sandeep. **Law relating to plea bargaining in India, UK and USA: A comparative study**. (Dr. Rajesh Kumar), Department of Law, Maharshi Dayanand University, Rohtak.
7. Star, J. **Domain name protection in India with special reference to cyber squatting**. (Prof. A Raghunatha Reddy), Department of Law, The Tamil Nadu Dr Ambedkar Law University, Chennai.
8. Sudesh Kumari. **Cyber stalking and online harassment in India: Challenges and perspective**. (Dr. Dilip Kumar), Department of Law, Kurukshetra University, Kurukshetra.
9. Umayal, A R. **Implication of sovereignty on extradition procedures: With special reference to Indo-United Kingdom Bilateral Treaty: An analysis**. (Dr. V Ponmani), Department of Law, The Tamil Nadu Dr Ambedkar Law University, Chennai.
10. Upendrachar, P. **A socio-legal study of changing role of trade unions in the era of globlization with special reference to Hyderabad Karnataka Region**. (Dr. B S Reddy), Department of Law, Kuvempu University, Shankaraghatta.
11. Usha, C. **Right to Education: Its legal and constitutional implications in India**. (Dr. V Ponmani), Department of Law, The Tamil Nadu Dr Ambedkar Law University, Chennai.
12. Vijay Laxmi. **Crime against children in India: A socio-legal study**. (Dr. Dilip Kumar), Department of Law, Kurukshetra University, Kurukshetra.

Library & Information Science

1. Ganesh, P. **Use of electronic resources by the faculty members of SRMIST-Kattankulathur**. (Dr. P. Rajendran), Department of Library and Information Science, SRM University, Kattankulathur,Chennai.

Management

1. Basu, Nibedita. **Antecedents of e-satisfaction and e-loyalty with respect to the buying trends in the cities of Chennai, Hyderabad and Bengaluru**. (Dr. V. M. Shenbagaraman), Department of Management Studies, SRM University, Kattankulathur,Chennai.
2. Goswami, Neti. **A comparative study of marketing strategies adopted by select industries with special reference to personal hygiene**. (Dr. Kavya Saini), Department of Management, IIS University, Jaipur.
3. Harendra Singh. **An empirical analysis of weather risk management in agricultural sector: Feasibility study of weather derivatives as an alternative tool to hedge weather risk in Gwalior-Chambal Region**. (Prof. Anil Vashisht and Dr. Anand Kumar), Department of Management, Amity University, Gwalior.
4. Jain, Priyanka. **Digital wallet adoption: A comparative study of banking and non-banking wallets**. (Dr. Shuchi Singhal), Department of Management, IIS University, Jaipur.
5. Khan, N Muddasir Ahamed. **A study on effectiveness of advertising on fast moving consumer goods products with special reference to Bangalore City**. (Dr. Ritika Moolchandani), Department of Management, Bhagwant University, Ajmer.

6. Milan Kumar, P. **Artificial intelligence enabled digital transformation in smart factory by machine management index**. (Dr. V. M. Shenbagaraman and Dr. Revathi Venkatraman), Department of Management Studies, SRM University, Kattankulathur,Chennai.
7. Nayaken, Beena. **Role of leaders in recruitment and retention of teachers in private education sector**. (Dr. Meera Shanker), Faculty of Commerce and Management, S.N.D.T. Women's University, Mumbai.
8. Pathak, Rajat. **Study on integrated model for academia industry interface in Indian higher education system**. (Prof. Anil Vashisht and Dr. Manoj Pandey), Department of Management, Amity University,Gwalior.
9. Rimjhim. **Human resource management practice and job satisfaction: A comparative study of private and public sector hospitals of Gwalior and Chambal Region**. (Prof. Devendra Kumar Pandey and Dr. Anil Singh Parihar), Department of Management, Amity University, Gwalior.
10. Srinivasan, Shruti. **Role of soft skills development programme on employable skills of management students in Bengaluru**. (Dr. Ravi Kumar T), Department of Management, Christ University, Bangalore.
11. Swain, Namita. **Impact of Pradhan Mantri Jan Dhan Yojana (PMJDY) on the economically weaker sections in Odisha**. (Dr.Ajay Jain), Department of Management Studies, SRM University, Kattankulathur,Chennai.
12. Yadav, Bijendra Singh. **Work life balance and coping strategies among dual earner couples in service organizations**. (Dr. Divya Malhan), Institute of Management Studies and Research, Maharshi Dayanand University, Rohtak.

Physical Education & Sports

1. Asheervatham, D. **Effect of plyometric training with land and aqua based harness training on selected motor fitness components and long jump performance among junior boys long jumpers**. (Dr. R. Mohanakrishnan), Department of Physical Education, SRM University, Kattankulathur,Chennai.
2. Khokhar, Sahejadali Majarali. **Effect of asanas and pranayam on the selected respiratory and cardiovascular variables among university players**. (Dr. B D Vanar), Department of Physical Education, Gujarat University, Ahmedabad.
3. Maiyappan, S. **Effect of isolated and combined interval training and yogic practices on selected physical fitness physiological and skill performance variables among coastal area kabaddi players**. (Dr. R. Mohanakrishnan), Department of Physical Education, SRM University, Kattankulathur,Chennai.
4. Nagajothi, K. **Effect of different methods of yoga practices on selected body composition measures physiological and psychological variables among middle aged women**. (Dr. N.C. Jesus Rajkumar), Department of Physical Education, SRM University, Kattankulathur,Chennai.
5. Naresh Kumar, S. **Effects of different packages of repetition endurance training on selected physical fitness physiological and psychological variables among the polytechnic middle distance runners**. (Dr. K. Vaithianathan), Department of Physical Education, SRM University, Kattankulathur,Chennai.
6. Rangaraj, K. **Effect of resistance and plyometric training on selected motor fitness physiological and skill performance variables among intercollegiate men hockey players**. (Dr.N C Jesus Rajkumar), Department of Physical Education, SRM University, Kattankulathur,Chennai.

Political Science

1. Firdose, Hasina. **Contributions of Dr. A P J Abdul Kalam as the President of India**. (Dr. Dinesh Mandot), Department of Political Science, Bhagwant University, Ajmer.
2. Norbu, Man. **District administration in Arunachal Pradesh: A study of Tawang and West Kameng Districts**. (Prof.Nani Bath and Dr. Jajati Keshari), Department of Political Science, Rajiv Gandhi University, Itanagar.
3. Patel, Kanaiyalal Ramjibhai. **Women empowerment through Sakhimandal: A study**. (Dr Haribhai Patel), Department of Gandhian Studies, Gujarat Vidyapith, Ahmedabad.
4. Riba, Joba. **Political mobilization and political participation of youth in Arunachal Pradesh: A case study of selected district**. (Prof. P K Panigrahi), Department of Political Science, Rajiv Gandhi University, Itanagar.

Psychology

1. Geeta Kumari. **Impulsiveness, fear of failure, self regulation and coping strategies as correlates of academic procrastination among university students**. (Dr. Sonia Malik), Department of

Psychology, Maharshi Dayanand University, Rohtak.

2. Ullah, Sumi Said. **A Comparative study on depression among married couples in Jammu and Kashmir with special reference to Kulgam District**. (Dr. Rakesh Tomar), Department of Psychology, Bhagwant University, Ajmer.
3. Yadav, Priyanka. **Role of psychological flexibility in pain resilience, pain coping strategies and health related quality of life in arthritis patients**. (Dr. Deepti Hooda), Department of Psychology, Maharshi Dayanand University, Rohtak.

Public Administration

1. Rajni. **Sansdiye Lok Lekha Samiti kee karye pranali: Vishleshnatamak adhyayan**. (Dr. Anjana Rani), Department of Public Administration, Maharshi Dayanand University, Rohtak.
2. Ravinder Kumar. **Pradhanmantari Koshal Vikas Yojna ka mulyankan: Haryana Rajye ke chyenit jiloan ka adhyayan**. (Dr. Sewa Singh Dahiya), Department of Public Administration, Maharshi Dayanand University, Rohtak.
3. Singh, Neelam. **Implementation of National Rural Livelihoods Mission (NRLM): An empirical study of select district in Haryana**. (Dr. Sewa Singh Dahiya), Department of Public Administration, Maharshi Dayanand University, Rohtak.

Social Work

1. Jagpal Singh. **Slum children: Educational problems and social work intervention: Study with special reference to the city of Jaipur**. (Dr. Pushpa Mishra), Department of Social Work, Jain Vishva Bharati Institute, Ladnun, District Nagaur.

Sociology

1. Priyanka. **Haryana ke vishesh sandarbh mein mahilaoan kee samajik va arthik paristhiti ka vartman pariprekshey mein shodh adhyayan**. (Dr. Dinesh Mandot), Department of Sociology, Bhagwant University, Ajmer.

Tourism & Hospitality Services

1. Bindu. **Usefulness of online travel reviews: A content analysis of tourists' reviews about Himachal Pradesh**. (Dr. Ranbir Singh), Institute of Hotel & Tourism Management, Maharshi Dayanand University, Rohtak. ❑

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116629/AD A7-2/2021/AD A 7 — 26.11.2022

RENOTIFICATION FOR THE POST OF DIRECTOR

Ref.: Notification No.116629/AD A7-2/2021/AD A7 dated 13.09.2021

Nominations/Applications are invited for the post of Director, Inter University Centre for Biomedical Research and Super Speciality Hospital (IUCBR & SSH), Thalappady, Kottayam District, Kerala, India.

The IUCBR&SSH (websites:www.iucbr.ac.in and www.iucbr.mgu.ac.in) is a six year old autonomous center of excellence for the advancement of biomedical research and development. The Centre is seeking the services of an eminent scientist with appropriate experience and vision to lead the institution to better heights as its Director.

Nominations/Applications are invited for the post of Director, Inter University Centre for Biomedical Research and Super Speciality Hospital. The applicant should be below 60 years of age and should have either a PhD in any life science discipline or MD in an allopathic medical specialty with minimum 15 years research experience in biomedical research. Applicants/Nominees must have an excellent track record in biomedical research and development evidenced by high impact peer reviewed publications, patents, awards and elected fellowship to science and medical academies. It is desirable that the applicant/nominee has had experience in successfully running large scientific programmes/research centers/R&D institutions and documented success in leading such research activities in the areas relevant to biomedicine. The post of Director will carry UGC pay band for professor(Academic Level 14) with admissible DA, HRA and other eligible allowances for Central and State Govt. Class 1 officers of similar cadre. The period of appointment is for 5 years. Mode of application will be by Nominations / Applications / Deputations.

Nominations/Applications may be sent along with detailed curriculum vitae explaining in detail all the points referred to above and a brief note on the applicant's vision for the Inter University Centre for Biomedical Research and Super Speciality Hospital (maximum 1000 words) to Registrar, Mahatma Gandhi University, P D Hills PO, Kottayam, Kerala, India PIN: 686 560, Phone: +91 481 2731007, e-mail: registrar@mgu.ac.in with the cover/subject labelled "Nominations/Applications for the post of Director, Inter University Centre for Bio Medical Research"latest by 30/12/2022, 4.00 PM.

The application send as per the reference need not to submit again.

Late and defective applications will summarily be rejected.

PRO/1/Advt/40/2022-23

Sd/- **Dr. Prakashkumar B.** Registrar

For more details: www.mgu.ac.in

GUJARAT VIDYAPITH, AHMEDABAD–380 009

Employment Notification No. 04/2022-23

Gujarat Vidyapith invites applications from interested candidates for posts of Registrar, Finance Officer and Internal Audit Officer (on Deputation basis only). Online application shall be available on Gujarat Vidyapith's website : **www.gujaratvidyapith.org; www.gujaratvidyapith.ac.in** from 14/12/2022 11.00 AM to 13/01/2023 05.30 PM, and the print of the filled-in online application is to be routed through proper channel, wherever applicable, so as to reach the "Recruitment Cell, Gujarat Vidyapith, Ashram Road, Nr. Incometax, Ahmedabad – 380 009", on or before 20/01/2023. Detailed advertisement is available on the aforesaid website.

12/12/2022 — **I/c. Registrar**

Association of Indian College Principals (AICP)

Silver Jubilee National Conference at Goa

on

National Education Policy (NEP) 2020 : Opportunities, Challenges and Road Ahead

Venue : Goa (India) **Dates** : 10th- 11th February 2023

The Conference is hosted by Forum of Principals and the Representatives of Managements of Non-government Colleges of Goa in collaboration with Directorate of Higher Education, Government of Goa and V.M. Salgaocar Institute of International Hospitality Education, Goa.

Research papers are invited around the theme and must be sent in .doc/.docx format to **prin_hkarts@rediffmail.com** with the subject 'Research Paper for AICP Goa Conference'.

The delegate fee is **Rs. 6000/-** per person and includes accommodation for 3N/4D, conference kit, 3 breakfasts, 3 lunches and 3 dinners. Registration is through **Online mode only** while for payment can be made through Net Banking/ UPI/Phone Pay/ Google Pay/NEFT.

For registration/payment/brochure/details, kindly visit us at **www.principalsforumgoa.in**

The last date for papers submission and the registration fee is **1st January 2023.**

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The candidates will be short-listed for admission on the basis of their academic record, performance in the competitive examinations and Research Proposal (tentative) Presentation.

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Vidya Vikas Mandal Pathrud
Shankarrao Patil Mahavidyalaya, Bhoom-413504, Dist Osmanabad (MS)
(2022-2023)

Applications are invited for the post of full time **Assistant Professors** in the following Grantable Courses against the clear vacancy and subject to availability of the workload and the approval of Director of the Higher Education.

Sr. No.	Subject	No.of Vacancies	Reservation
1	History	01	Open-05
2	Hindi	02	SC-02
3	Sociology	01	ST-01
4	Commerce	01	VJ-A-01
5	Chemistry	04	NT-B-01
6	Botany	03	SBC-01
7	Zoology	02	OBC-04
8	Physics	01	EWS-02
9	Mathematic (Science Faculty)	02	
	Total	17	

- Qualification and Pay Scale as per UGC/Govt. of Maharashtra and Dr. Basasaheb Ambedkar Marathwada University, Aurangabad.
- Reserved category candidate should send one copy of their application to Dy Registrar (B.C. Cell), Dr. Babasaehb Ambedkar Marathwada University, Aurangabad.
- Those who are in service should apply through proper channel.
- Post reserved for VJ-A, NT-B, NT-C & NT-D category are interchangeable as per Govt. resolution.
- 30% Reservation for women category.
- One post is reserved for handicapped candidate.
- TA/DA will not be paid for attending the interview.
- The recruitment procedure initiated by this advertisement shall be subject to the out of the Writ Petition No.12051/2015 pending before the High Court.
- Application must be enclosed with the certified Xerox Copy of the original documents pertaining to educational qualification, caste and caste validity certificate Non-creamy certificate (OBC and VJNT Category).
- Application received after the last date will not be considered. The institute, college will not be responsible for postal delay, if any.
- Application submitted along with all the above documents should reach **within 15 days** from the date of publication of this advertisement to the Secretary, Vidya Vikas Mandal Pathrud C/o Shankarrao Patil Mahavidylaya, Bhoom, Tq. Bhoom, Dist. Osmanabad-413504 (MS).
- This advertisement is made as per NOC from, Joint Director, Higher Education, Auranabad Region, Aurangabad vide Letter No. JDHE/NOC/2019/03 Date 28/11/2022.
- Reservation should be given 10% to EWS. If process will be completed of reservation to EWS, there may be change in open category after 10% reservation to EWS.

Principal
Shankarrao Patil Mahavidyalaya, Bhoom
Bhoom, Dist Osmanabad-413504

Secretary **President**
Vidya Vikas Mandals Pathrud
Tal Bhoom, Dist Osmanabad-413504

Moreshwar Shikshan Prasarak Mandal Rajur (Ganpati)'s

Moreshwar Arts, Science and Commerce College, Bhokardan

Tq. Bhokardan, Dist. Jalna 431 114 (M. S.)
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Dr. Babasaheb Ambedkar Marathwada University, Aurangabad

APPOINTMENTS

Applications are invited from eligible candidates for the following granted posts. Qualified candidates should apply **within 15 days** from the date of publication of the advertisement to the **President/ Secretary, Moreshwar Shikshan Prasarak Mandal C/o Principal, Moreshwar Arts, Science and Commerce College, Bhokardan, Dist. Jalna - 431 114.**

Sr. No.	Subject	Post	No. of Posts	Reservation
1	**English**	**Assistant Professor**	1	Open – 01, OBC – 01, ST – 01, VJ (A) - 01
2	**Mathematics**	**Assistant Professor**	1	
3	**Chemistry**	**Assistant Professor**	2	

Permission as per NOC No.: JDE/Aurangabad/NOC/2019/4 Dated 01-12-2022

Educational Qualification and Pay Scale:

1. Educational qualification, Pay Scale and allowances for the post of Assistant Professor will be as per Norms of UGC, Govt. of Maharashtra and Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
2. Reserved candidates should send one copy of application to the Deputy Registrar, Special Cell, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
3. Eligible candidates who are already in service should submit their applications through proper channel.
4. All attested xerox copies of certificates and other relevant documents should be attached with the application.
5. No T. A. and D. A. will be paid to the candidates.

Details of advertisement is available on www: moreshwarcollegebhokardan.ac.in

President Secretary
Moreshwar Shikshan Prasarak Mandal,
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Principal
Moreshwar College, Bhokardan
Tq. Bhokardan, Dist. Jalna. - 431114

WANTED

Applications are invited for the post of **Principal (Granted)** to be filled in **Shivneri Mahavidyalaya, Shirur Anantpal, Dist. Latur (Granted)** run by **Guru Vishambher Krupa Bahuuddeshiya Shikshan Prasark Mandal, Lakkad Jawalga, Tq. Shirur Anantpal, Dist. Latur**. Eligible candidates should submit their application along with all necessary documents **within fifteen days** from the date of publication of the advertisement by registered post only.

Sr.No.	Post	No. Post	Full Time	Reservation	Period
1	**Principal**	One	Full Time	Unreserved	5 Years

a) Educational Qualification :-

1. A Master's Degree with a least 55% marks (or an equivalent grade a point scale whenever grading system is followed) by a recognized University.
2. A Ph.D. Degree in concerned/allied/relevant discipline(s) in the institution concerned with evidence of published work and research guidance.
3. Professor/Associate Professor with a total experience of fifteen years of teaching/research in Universities, College and other Institutions of Higher Education.
4. A minimum of 10 research publication in peer reviewed or UGC listed Journals.
5. A minimum of 110 research score as per Appendix II, Table 2 of UGC regulations 2018.
6. **Academic Eligibility and other rules regulations as per UGC Regulation 18 July 2018 and Govt Resolution No Misc-2018/C.R.56/UNI-1 Date 08 March 2019.**

b) Tenure: - A College Principal shall be appointed for the period of five years, extendable for another term of five years on the basis of performance based assessment, a Committee appointed by the University, constituted as per rules of UGC and Govt. of Maharashtra.

Salary & Allowances:
Pay Scales shall be given as per the rules of U.G.C., State Government & Swami Ramanand Teerth Marathwada University, Nanded.

Note:

1. Prescribed application form is available on the University **Website (www.srtmun.ac).**
2. No TA/DA will be paid for attending the interview.
3. Eligible candidate should submit their application through the proper channel.
4. Attested Xerox copies of S.S.C. Certificates, Degree certificate, Mark Sheets, etc. should be attached to the application.
5. The original Certificates must be provided at the time of interview.
6. The Vacant post is being under the decision of Hon. High Court, Aurangbad Bench Petition No.12051/2015.

Address for correspondence
To, The Secretary, GVKBSPM, Lakkadjawalga.
C/O, The Principal(In), Shivneri Mahavidyalaya, Shirur Anantpal, Tq.Shirur Anantpal, Dist Latur (MS) Pin-413 544.

President
GVKBSPM, Lakkad Jawalga
Dist. Latur - 413544 (MH)

Secretary
GVKBSPM, Lakkad Jawalga
Dist. Latur - 413544 (MH)

Announcement

Themes for Forthcoming Special Issues of the University News

Special Numbers of the University News being brought out on the occasion of AIU Zonal Vice Chancellors' Meets during November, 2022—March, 2023 are on the following themes:

1. ***Transformative Curriculum for a Holistic and Multidisciplinary Higher Education*** to be published on January 09, 2023 on the occasion of Central Zone Vice Chancellors' Meet to be held at Symbiosis University of Applied Sciences, Indore. Last date for receipt of Article is **December 30, 2022**.
2. ***Research & Excellence for Transformative Higher Education*** to be published on January 30, 2023 on the occasion of South Zone Vice Chancellors' Meet to be held at Andhra University, Visakhapatnam, Andhra Pradesh. Last date for receipt of Article is **January 15, 2023**.
3. ***Evaluation Reforms for Transformative Higher Education*** to be published on February 20, 2023 on the occasion of West Zone Vice Chancellors' Meet to be held at Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, Maharashtra. Last date for receipt of Article is **February 10, 2023.**
4. Special Issue on the theme '**Transformative Higher Education for *Atma Nirbhar Bharat'*** will be brought out in the month of March, 2023. Last date for receipt of Article is **February 20, 2023**.

Guidelines for Contributors and Editorial Policies

To submit the manuscripts for publication, the contributor need to follow the guidelines given below:

- Articles submitted for the Journal should be original contributions and should not be under consideration for any other publication at the same time. A declaration is to be made by the author in the covering letter that the paper is original and has not been published or submitted for publication elsewhere.
- Manuscripts including tables, figures and references should be around 3000-4000 words for articles, 2000 – 5000 words for Convocation Addresses, 1000 words for Book Reviews and 600 words for Communications.
- All the manuscripts should typed in double-space with 12 point font and ample margin on all sides on A 4 size paper.
- The cover page should contain the title of the paper, author's name, designation, official address, address for correspondence, contact phone/mobile numbers and e-mail address.
- The main text should not contain footnotes. References should be given at the end of the manuscript and should contain only those cited in the text of the manuscript. The full reference should be listed at the end in alphabetical order running the following style:

(cont'd. to page 119)

(cont'd. from page 118)

Book

Miles, M., and Huberman, M.,(1994). *Qualitative Data Analysis*. London : Sage.

Articles

Over, R.(1982). Does research productivity decline with age?

Higher Education, 11, 511-20.

Chapter in a Book

Rendel, M. (1986). How many women academics 1912-1977? In R. Deem (ed.), *Schooling for Women's Work*. London: Routledge.

Article Retrieved from Website

Mazumdar, T (Year, Month, Date Published). *Article Title.* Retrieved from URL.

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Welcome

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