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National Education Policy 2020: Explicating Its Philosophy and Pedagogy

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Abstract

Education reform is one of the most complex and debatable subjects that any nation undertakes to bring about large-scale changes in its education system. Education is basically for public good, and as such it belongs to the realm of civil society rather than to the bureaucratic juggernaut. But any reform in it is usually feasible only through the intervention of the existing establishment and governed by prevailing paradigms. Further, the implications of an educational reform are bound to go beyond a few forthcoming budgets and elections; it affects generations. Yet the exercise is often expected to be pragmatic enough to endorse the current needs and aspirations of society, and reflect contemporarily desired values and skills. Despite all this, education has its own ethic which suggests that the whole venture is ultimately meant to make way for the pursuit of perfection; no matter the goal being more an ideal. This means to make life more meaningful, and everything that is conducive to our progress towards this ethical goal is essentially educational.

The National Education Policy 2020 of India is no exception to all the complexity of concerns and implications which have been outlined in the above. Being a meticulously thought-out document of education reform, it has a philosophy whose realisation depends upon corresponding developments in pedagogy and other related factors. Thus, it becomes mandatory for us to delve into these aspects and deal with the issues involved with a view to explicate them in a manner true to the text and spirit of the policy document. Hence, this paper attempts to look into the philosophy and pedagogy of the National Education Policy 2020 mostly in a self-contained manner and to have a close critical engagement with the policy as to weigh its advantages and downsides.

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Introduction

Education makes life more meaningful and the world better. It seems to be a truism that education gives humanity the best hope for a promising future. The fate of individual and society, nation and the world can be transformed through a good system of education. For any nation, to ensure quality education to all is thus an ethical goal in its own right. An education reform, in effect, has to be founded upon a profound philosophy and sound pedagogy. The National Education Policy 2020 (henceforth abbreviated as NEP 2020) of India is marked by a paradigm-shift in its philosophical outlook to education and also in pedagogical approach to teaching and learning.

Hence, in what follows, we will attempt first to explicate the philosophy and pedagogy of NEP 2020, while focussing mainly on the text and spirit of the document with a view to putting forward an in-depth analysis and understanding of it. Then, we will go on to look into the matter critically, so as to reach an assessment of the policy while weighing its merits and shortcomings, which will lead us to make a sum-up of the matter.

Philosophical Points of Departure

The policy opens strikingly with a proposition that gives an indication of its underlying philosophy. "Education," according to it, "is fundamental for achieving full human potential, developing an equitable and just society, and promoting national development" (NEP, 2020:1). Ensuring quality education to all makes the best way for the flourishing of various human capacities and optimum utilisation of myriad resources towards "the good of the individual, the society, the country, and the world" (NEP, 2020:3).

The good for which the education is ultimately meant is suggestive of a larger ethical goal including the concerns for those who have so far been systematically marginalised or somehow left behind. Thus, providing universal access to quality education is not only necessary to meet the developmental imperative of the country; it is also an essential ethical task of the nation. At a later place, the policy makes the point still clearer:

> Inclusive and equitable education – while indeed *an ethical goal at 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, 2020:24; emphasis added).

Ethics is integral to education. One of the fundamental elements which education refers to and which is "most clearly relevant to philosophy," according to O'Connor, is "a set of values and ideals embodied and expressed in the purpose for which knowledge, skills and attitudes are imparted and so directing the amount and types of training that is given" (1957:5). The basic ethic of the present policy is that "education is a public service" (NEP, 2020:6). Education should not be a mere commercial activity. For, "the purpose of education is to develop good human beings," who would be socially engaged in the "spirit of service" (NEP, 2020:33). In order to reinforce and sustain this philosophy of service, the policy is committed to "affirming the public-good nature of education" (NEP, 2020:32).

This also suggests that education has to be multidisciplinary, integrated and holistic; rather than fragmented and functional in silos. The guiding principles of this philosophy of education are significantly handed down from the great Indian tradition. The setting of

NEP 2020 is thus is marked by a mélange of legacy and vision. It takes note of classical and contemporary contexts, as well as emerging local and global concerns:

> The vision of the Policy is to instil among learners a deep-rooted pride in being Indian, not only in thought, but also in spirit, intellect, and deeds, as well as to develop knowledge, skills, values and dispositions that support responsible commitments to human rights, sustainable development and living, and global well-being, thereby reflecting a truly global citizen (NEP, 2020:6).

Noticeably, some of the overarching characteristics of Indian knowledge tradition form the guiding principles of this policy. For instance, "The pursuit of knowledge (*Jnan*), wisdom (*Pragya*), and truth (*Satya*) was always considered in Indian thought and philosophy as the highest human goal" (NEP, 2020:4). Thus, the policy takes into account not only knowledge but also of wisdom and truth. We need to have a closer look into these three key concepts.

a) *Knowledge* is commonly conceived as obtaining newer information and presenting them logically so that one can reach an objective and determinate understanding of things.
b) *Wisdom* signifies that sort of judgemental ability which is critical to making a distinction between right and wrong, good and bad. It is the wisdom that qualifies one as a knower in true sense.
c) *Truth* is generally viewed as a logical property which represents certain information expressible in propositions which are characterised by the bipolarity of truth-values, i.e., true/false.

The distinction between knowledge and wisdom is of great importance, and no less significant is how the two are linked with truth. Truth is suggestive of a deeper dimension too; it is also construed as an ultimate value having metaphysical bearings. All this intricacy is recognised in the Indian tradition and the policy points it out well:

> The aim of education in ancient India was not just the acquisition of knowledge, as preparation for life in this world, or life beyond schooling, but for complete realisation and liberation of the self (NEP, 2020:4).

This also shows that there is always a spiritual side to holistic and integrated education. But what does it mean to be spiritual? By being spiritual we enter into a deep commitment to our ultimate concern as humans. At this juncture, we are basically concerned with what really matters in life. In the idealistic traditions of philosophy, self-realisation is often regarded as the highest good, and thereby it is also viewed as encompassing the ultimate ethical goal of education. Self-realisation means "the making of self perfect," and we are also told that "a conscious choice of activities and a deliberate pursuit of ends is the way of attaining human perfection" (Lillie, 2003:196).

This philosophy of self-realisation holds that humans, as self-conscious beings, are essentially of spiritual nature endowed with great potentials, which can be unfolded and oriented towards perfection. Education helps us realize our inbuilt potentialities, and thus makes way for the pursuit of perfection. This way of life and thought is noticeably reflected in the policy:

Ultimately, knowledge is a deep-rooted treasure and education helps in its manifestation as the perfection which is already within an individual (NEP, 2020:12).

Interestingly, what we witness here is a clear influence of Swami Vivekananda's oft-quoted idea: "Education is the manifestation of the perfection already in man" (Vivekananda, 2011:49).

The Concept and Facets of Pedagogy

Pedagogy is commonly conceived as the art and/or science of teaching and educational method, but it is actually a more complex and comprehensive concept than this. Pedagogy concerns not only the methods applicable to the practice of teaching, but also involves curriculum, assessment and various theoretical issues and approaches pertaining to the educational process. The policy rightly recognizes five vital components that are involved in effective and quality teaching-learning: appropriate curriculum, high-quality pedagogy, continuous formative assessment, adequate student support, and engaging learning environment (NEP, 2020:38).

Pedagogy is pivotal in the educational process, and so NEP 2020 emphasises: "High-quality pedagogy is then necessary to successfully impart the curricular materials to students; pedagogical practices determine the learning experiences that are provided to students, thus directly influencing learning outcomes" (NEP, 2020:38). The impact of pedagogy thus extends to all other facets of education, and the fact is well recognised in the policy.

In fact, every educational process first calls for a well-thought-out curriculum, and then it involves an appropriate pedagogy for teaching of the mandated content. Pedagogy should be conducive to critical thinking and conceptual understanding; it must discourage rote learning and mechanical memorisation. Thus, the process further needs to be supported by an appropriate system of assessment that could test the actual achievements of learning outcomes measurably. Finally, pedagogy and attending facets of education all have to be dynamic and self-correcting features of the system.

The concept of pedagogy is thus not uniform and linear one. For the purpose at hand, three main forms of pedagogy are particularly interesting: General pedagogy, Special or Standard pedagogies, and Pedagogy as an academic field.

General Pedagogy: It is mainly concerned with the most foundational features and comprehensive principles, fundamental problems and pervasive issues involved in teaching-learning process which are applicable across disciplines.

The history of ideas shows that pedagogy in general has been entwined with epistemology. General pedagogy constitutes our main concern; for, it can provide deeper insights into the underlying philosophy of NEP 2020. The policy too is mainly concerned with pedagogy in general as a matter of course.

Special Pedagogies: It refers to discipline-bound variants of pedagogy. Various specialised subjects have considerably distinct kinds of pedagogies which are more relevant to and useful in respective domains. Thus, as the policy puts, we have "standard pedagogy within each subject" (NEP, 2020:12).

Specialisation tends to give rise to sub- and super-specialisations. Consequently, special pedagogies bring forth further specialised pedagogies. For instance, science has its own standard pedagogy distinct from those of arts and humanities, but the former itself gets further sub-specialised in the forms of pedagogy of physics, pedagogy of biology and so on.

Pedagogy as an academic Field: Pedagogy is also viewed as a considerably autonomous and specialised area at its own. This third thread of pedagogy usually forms a part of teacher education programmes. It remarkably combines general pedagogy and specialised pedagogies in theory as well as in practice. In addition to general principles and fundamental problems of pedagogy, the area of pedagogical studies also includes subject-specific pedagogical knowledge, skills and dispositions.

The pedagogy of teacher education, according to NEP 2020, should be multidisciplinary and facilitate desired dispositions and values. More specifically, it must be grounded in Indian values and ethos, and also incorporate the latest tools and technologies, and recent advances in pedagogy (NEP, 2020:42).

Notably, pedagogy has taken the centre stage in contemporary discussions on education reforms due to certain compelling reasons. In this age of knowledge explosion, we are at our wit's end in face of humongous amount of information. There is no dearth of facts and information that could constitute subject matter for our diverse cognitive pursuits. So it has rightly been suggested that pedagogy of our age should be based on the insightful saying: "Teach the child not the subject as fact will soon be outdated."

Move towards Meta-Learning

The world today is undergoing tremendous changes in knowledge landscape and employability scenario. What we have now is a new and upcoming education ecosystem, in which "it is becoming increasingly critical that children not only learn but more importantly learn how to learn" (NEP, 2020:3). This conceptual ascent in learning process is called meta-learning. It represents, *inter alia*, a paradigm shift in pedagogy – a shift from thinking merely about things and facts to a higher-order critical thinking about thoughts and thought processes, concepts and conceptual connections. As the policy emphasises:

> Education thus must move *towards less content, and more towards learning about how to think critically* and solve problems, how to be creative and multi-disciplinary and how to innovate, adapt and absorb new material in novel and changing fields (NEP, 2020:3; emphasis added).

Obviously, the kind of thinking involved in meta-learning is particularly germane to philosophical thinking; for, the latter requires a great deal of reflective and critical thinking. An education system aiming simply at developing cognitive skills is doomed to failure in the rapidly changing world today. "The aim of education," after NEP 2020, "will not only be the cognitive development but building character and creating holistic and well-rounded individuals equipped with key 21st century skills" (NEP, 2020:12).

Such critical goals call for a sharp departure from the meekly passive learning and mechanical memorisation. For instance, memorising grammar rules or parroting multiplication by rote represents rather rudimentary forms of learning. Whereas knowing how to apply them in appropriate contexts and in solving problems are suggestive of higher-order accomplishments. Thus, in NEP 2020, curriculum and pedagogy are set to undergo radical reforms directed towards enhancing meta-learning:

> The key overall thrust of curriculum and pedagogy reform across all stages will be to move the education system towards *learning how to learn* – and away from the culture of rote learning as it largely presents today (NEP, 2020:12; emphasis added).

This move does not amount to being rhetorical, nor is it just going trendy – there is instead a profound philosophy behind it. Meta-learning is a kind of higher-level cognition which involves conceptual and critical engagement with cognition itself. This means to go beyond the first-order objective cognition about things and facts, and get engaged deeply in reflective thinking about one's own thoughts and concepts at a higher intellectual plain as to reach a more critical and creative understanding. If thus viewed, educational experience is construed as "thinking *qua* thinking."

In sum, a new pedagogical approach and corresponding curricular developments are central to NEP 2020. The policy also speaks of the overarching principles in this regard (NEP, 2020:12). The main points of emphasis may be outlined as thus:

- Reduction of curriculum to core essentials
- So as to make space for critical thinking
- And, also to make more room for holistic, inquiry- and analysis-based learning
- Enhancing conceptual understanding by focusing on key concepts
- Understanding concepts and ideas through their applications, particularly in problem-solving
- Making the teaching-learning process more participatory, creative and enjoyable
- Taking in increased interaction and collaboration
- Promoting increased questioning and exploratory activity
- Ultimately, to achieve deeper and enhanced experiential learning

Experiential Learning

Fundamental to the pedagogy of NEP 2020 is experiential learning. A learner is required in it to go through the first-hand experience of the subject or problem. It involves active learning through reflections upon doing things under life-situations, and thereby developing competency-based knowledge. The hands-on learning is a paradigm example of experiential learning (NEP, 2020:12-13).

Experiential learning coupled with meta-learning can also transform the assessment system. The policy seeks to bring about a radical shift from the existing assessment system which primarily tests rote memorization to a new one which would test high-order skills under real-life situations (NEP, 2020:17). Thus examinations, in its wake, are going to be remarkably revamped:

> These examinations would test achievements of basic learning outcomes, through assessment of core concepts and knowledge from the national and local curricula along with relevant higher-order skills and application of knowledge in real life situations, rather than rote memorisation (NEP, 2020:18).

The policy also envisages the pedagogical plan and approaches to be adopted in implementing experiential learning at the large scale across different domains and various levels. The main aspects of the plan are noteworthy.

Standard Pedagogy: Insofar as specialised pedagogies of various subjects are concerned, certain components have been identified for inclusion in general as the "standard pedagogy within each subject." For instance, some of them are: "hands-on learning, arts-integrated and sports-integrated education" (NEP, 2020:12).

a) Arts-integration: "Various aspects and forms of art and culture will be utilized in learning of concepts across subjects.". This will not only make classroom transactions more joyful but also be helpful in "imbibing Indian ethos" in learners (NEP, 2020:12).
b) Sports-integration: This is viewed in the policy as doubly beneficial. First, it will reinforce "fitness as a life-long attitude" among various stakeholders. Secondly, it will naturally be helpful in developing essential life-skills, e.g., self-discipline, teamwork, collaboration, etc. (NEP, 2020:12).
c) Language & literature: Interestingly, "the teaching of language will also be based on experiential-learning pedagogy." Particularly, the teaching of Sanskrit and other classical languages and literatures, such as Tamil, Telugu, Kannada, Malayalam, Odia, Pali and Prakrit will be carried out through experiential and innovative approaches (NEP, 2020:14-15).
d) Integration of Indian ethos: "All curriculum and pedagogy," the policy emphasises, "will be strongly rooted in the Indian and local context and ethos." This would transform the extant ways and means of teaching-learning. "Stories, arts, games, sports, examples, problems, etc. will be chosen as much as possible to be rooted in the Indian and local geographic context" (NEP, 2020:16).
e) Integration of latest technologies: Educational leaders at all levels will be encouraged to incorporate latest technologies in their pedagogical plan. Particularly, the use of digital pedagogy – in its various forms, such as smart classrooms, online classes, apps and online platforms – would be of great help in enriching the teaching-learning process with several unconventional resources and newer collaborations (NEP, 2020:20).
f) Skills and values integration: The policy envisages identifying specific skills and values which have to be integrated into learning process across domains right from pre-school to higher education. Great emphasis has been placed upon the curricular integration of essential subjects, skills and capacities (NEP, 2020:11-12).

All this highlights a philosophically interesting point about NEP 2020. Noticeably, significant attempts have been made in the policy to integrate positivistic and heuristic approaches as well as hermeneutical perspectives into the pedagogy. Insofar as matters of value and lived-experience of man is concerned, "explicit knowledge" cannot be enough; we need to understand and incorporate "tacit knowledge" too. Recent researches into tacit knowledge also show that modern mind has mostly been mistaken in maintaining the sharp distinction between humanities and natural sciences (Polanyi, 2005:108).

Proper Skill Development and Value Inculcation

Experiential learning is just not congenial to the development of a desired set of skills and values but also conducive to their seamless integration with curriculum and pedagogy. This gives stronger rationale for individual efforts towards personal accomplishment as well as for working in harmony with others in larger interests of society.

Skills are not innate abilities; rather they are honed through competency-based learning. Skills are thus considered mostly as know-hows learnt through practice and life-experience. Many a time when difficult problems arise and solutions are sought after urgently, it is in fact the skilful and ethical dealing with the situation which provides the real test of learning achievements. Skill development and value inculcation have thus received focal attention in the pedagogy of NEP 2020.

Skills are of myriad kinds. Some of them are of greater pedagogical significance as they are ubiquitously applicable to discipline-specific contexts as well as across disciplinary boundaries. NEP 2020 too holds that "certain subjects, skills and capacities should be learnt by all students" regardless of respective specialisations. For, they are essential "to become good, successful, innovative, adaptable and productive human beings in today's rapidly changing world" (NEP, 2020:15). The policy also enumerates such skills which may be grouped as thus:

- Proficiency in language; oral and written communication
- Scientific temper and evidence-based thinking
- Creativity and innovation; sense of aesthetics and arts
- Health and nutrition; sanitation and hygiene
- Physical education; fitness, wellness, and sports
- Collaboration and teamwork
- Problem-solving and logical reasoning
- Ethical and moral reasoning
- Knowledge and practice of human and constitutional values

Furthermore, all the skills are not of the same order; some skills belong to higher-order thinking. Unlike soft skills, such skills call for great deal of reflection, reasoning, contemplation and judgement. They involve intellectual activities of the sort which inevitably bring higher faculties into play making way for meta-learning. These skills are thus central to NEP 2020. The policy goes in great details about some of the higher-order skills:

- Analytical and critical thinking
- Conceptual understanding
- Problem-solving and logical reasoning
- Ethical and moral reasoning
- Persuasive argumentation from multiple perspectives
- Formation of reasonable position on matters of contention.

Of all the higher-order skills, three are particularly interesting pedagogically and philosophically as well. They are: critical-creative thinking, logical reasoning and ethico-moral reasoning. It is also important to see how these three are marked by their complementarity and centrality in the scheme of skills and values envisaged in the policy.

Education is meant for fostering and furthering critical consciousness. It is the critical thinking that keeps us away from dogmatism and makes way for evolutionary epistemology. When we think critically, we in fact take genuine risks in face of potential emergence of crucial counter-examples and promptly correct or modify our standpoint or theory accordingly. Thus, "Critical thinking adapts to refutation by experience; dogmatic thinking rejects counter-examples" (Hollis, 2000:72). Critical thinking is also conducive to broad-based, creative and interdisciplinary thinking. For, it leads to "the ability to place ideas and problems in a larger context in order to locate creative links and clues by using information and concepts drawn from different subjects" (Kumar, 2019:8).

Logical reasoning can conceptually equip one with sound and valid frameworks as to reach ethical decisions and maintain one's positions on great many complex problems. Ethical and moral reasoning, in its turn, is inevitably necessary to formulate a position that can be right and good enough for anyone to stand up for. Thus on these bases, one can reach logically reasonable and ethically right decisions, and also maintain and express one's opinion more plausibly and persuasively. Notably, the act of persuasion differs from the scientific task of demonstration; the function of former is "to convince that something is *right, good, proper,* or some way *desirable*" (Goode and Hatt, 1952:18; emphasis in original).

The pedagogy of NEP 2020 takes all this well into account. Here is a passage that shows how eloquently the policy puts the crux of the matter:

> Students will be taught at a young age *the importance of doing "what is right,"* and will be given *a logical framework for making ethical decisions*. In later years, this would then be expanded along themes of teaching, violence, plagiarism, littering, tolerance, equality, empathy, etc., with a view of position/ argument about an ethical issue from multiple perspectives, and use ethical practices in all works (NEP, 2020:16; emphasis added).

Logical reasoning in itself is a core cognitive skill which helps us develop basic conceptual framework for most of the other skills and values. Scientific temper, evidence-based thinking, problem-solving, mathematical and computational thinking, and many more are indeed inconceivable without being founded upon logic. Thus the policy is all set for "critical thinking to encourage logical decision making and innovation" (NEP, 2020:5).

Ethical and moral reasoning is also crucial for the fulfilment of many other skills and values which are elemental to character building, and thereby creating good human beings who would be concerned about the larger interests of society. For instance, citizenship skills and values are inconceivable without having a strong ethical sense. The environmental crisis which humankind is facing all over the globe nowadays has also been unleashed by the moral breakdown of modern man, and it needs to be dealt with ethically.

Restructuring Pedagogy of School Education

A clear, perceptive, dynamic, and goal-oriented pedagogy and corresponding developments in related aspects of education system are essential. NEP 2020 has a remarkably new vision of pedagogy. It emphasises, "Pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-based, discovery-oriented, learner-centered, discussion-based, flexible, and, of course, enjoyable" (NEP, 2020:3). Accordingly, "This policy envisages that the extant 10+2 structure in school education will be modified

with a new pedagogical and curricular restructuring of 5+3+3+4 covering ages 3-18" (NEP, 2020:6).

The curriculum and pedagogy in schools are thus set to be restructured keeping in view "the developmental needs and interests of learners at different stages." The mandated restructuring (NEP, 2020:11) may be outlined as below.

a) Foundational Stage (Grade 1-2 covering ages 3-8) and Early Childhood Care and Education (ECCE) are set to go together. The basic guiding principles and aims of learning at this stage are: flexible, multi-faceted, play-based, activity-based and inquiry-based learning; physical, motor, cognitive, and socio-emotional-ethical development; the development of communication and early language, literacy and numeracy.
b) Preparatory Stage (Grade 3-5 covering ages 8-11) will focus basically on the following aspects: building on the play-, discovery-, and activity-based learning; incorporating some light textbooks; interactive classroom learning; lay solid groundwork for upcoming subject-based learning.
c) Middle Stage (Grade 6-8 covering ages 11-14) will incorporate new initiatives such as the following: introduction of more specialised subjects and subject teacher, incorporating more abstract concepts in each subject, exploration of relations among various subjects, experiential learning within each subject.
d) Secondary Stage (Grade 9-12 covering ages 14-18) will emphasise mainly on the following: multidisciplinary subject-oriented study with greater depth, enhancing critical thinking, greater attention to life aspirations, more flexibility in curriculum, additional choices of subjects for students to study.

Pedagogy in Higher Education

From school to higher education, as the policy emphasises, "there must be continuity across the stages to ensure sustainable reform" (NEP, 2020:41). A good education system is a harmonious and sustainable one, which functions as an integral whole from the most fundamental to the higher levels. Curriculum, pedagogy and all other vital components are at work in it synergistically. Though such a system is more an ideal, still it is worth pursuing. NEP 2020 strives to emulate this ideal, and the pursuit constitutes its basic philosophy.

The policy goes on to emphasise, "quality higher education must aim to develop good, thoughtful, well-rounded, and creative individuals." The curricular and pedagogical developments have to be aligned with the contemporary requirements. Pedagogy must make room for students "to study one and more specialised areas of interest at a deep level," along with wide open options to develop "capabilities across a wide range of disciplines" (NEP, 2020:33).

NEP 2020 envisions revamping the curriculum and pedagogy at higher educational levels as to give students more multidisciplinary and holistic educational experience (NEP, 2020:34). This goal is set to be effectuated through a pedagogical approach which will be participatory, interactive and interdisciplinary. Thus, "Pedagogy will have an increased emphasis on communication, discussion, debate, research and opportunities for cross-disciplinary and interdisciplinary thinking" (NEP, 2020:37).

If education is meant for all-round development, then learning should be skill enhancing and value based. "For the purpose of developing holistic individuals," the policy emphasises,

"it is essential that an identified set of skills and values will be incorporated at each stage of learning, from preschool to higher education" (NEP, 2020:33). Thus, the policy incorporates a spectrum of values – humanistic, ethical, constitutional, environmental and universal human values – whose inculcation in all students are essential (NEP, 2020:35).

The integration of humanities and arts with STEM has invariably shown positive results in this regard. Such integration is set to be promoted for the growth of "creativity and invention, creative thinking and higher-order thinking capacities, problem-solving abilities" and the like (NEP, 2020:36). The policy seeks to make the pedagogy of higher education more experiential too. Students will be involved more deeply with the practical side of learning through community engagements, internships, project works, etc (NEP, 2020:37). Vocational education is also set to be integrated into the mainstream education (NEP, 2020:44).

The autonomy of faculty is a prerequisite for innovations in pedagogy. Hence, "Teachers will be given more autonomy in choosing aspects of pedagogy, so that they may teach in the manner they find most effective for their students in their classrooms" (NEP, 2020:21). In higher education, where creativity, innovation, debate and discussion matter more, this sort of autonomy is considered as a must. The policy also takes note of this: "institutions and faculty will have the autonomy to innovate in the matters of curriculum, pedagogy and assessment within a broad framework of higher education" (NEP, 2020:38, 40).

Merits of the Policy

NEP 2020 is a remarkably new, broad-based and well thought-out reform in many ways, which give it some advantages over the previous education policies. There are thus certain noteworthy merits of this milestone reform.

(i) Philosophical foundations of NEP 2020 are strong enough to support and sustain a good education ecosystem. The policy is rich in ideas and ideals, values and vision all pieced together in a cogent theoretical framework. It emphasises higher-order skills that are essential for a policy being philosophically sound and sustainable. The sort of changes that this policy envisages to bring about in the extant education system is not just piecemeal; it is set to go for wide-ranging transformation. Yet its underlying philosophy remains so simple and appealing: Education has to be more holistic and its essential public-good nature must be retained to the greatest possible extent.

(ii) A good education policy should be firmly rooted in the nation's past; yet it must have adequate considerations for the current concerns of local and global contexts along with a clear vision of the future directions. NEP 2020 integrates the rich legacy of Indian culture into the contemporary educational settings and aspires to promote the country as a study destination of global standard, which it had actually been for long in ancient times. The policy rightly recognises that India is still viewed by foreigners as treasure trove of culture, and so promoting many of its finer cultural forms such as Yoga, Ayurveda, meditation and the like could be invaluable tools of soft power diplomacy and also open up new gainful avenues to access global economy.

(iii) Compared to the previous education policies, NEP 2020 envisions an ecosystem of education that would be more multidisciplinary in structure and more interdisciplinary in spirit. Such a system is really needed to cope better with the department-based parochial mindset widespread in academia which may be called *departmentality* (Choudhary, 2021:38). This move is going to be of great help overcome the ill-effects of overspecialisation and silo thinking. The policy is set to make the education system more integrated and all-round in developing human capacities and desired set of skills and values.

(iv) In NEP 2020, pedagogy has received greater attention than ever before. The Policy rightly envisages a pedagogical paradigm-shift which puts premium on enhancing higher-order skills, experiential learning, critical-creative engagement, interdisciplinary thinking and the incorporation of newer tools and technologies. The rationale adduced for such a shift is convincing one – the new pedagogy would be far more learner-friendly, and more efficacious and well-grounded than simply data-driven pedagogy and narrowly focused case-studies.

(v) NEP 2020 takes into account the learning crisis caused by the recent pandemic situation and also makes specific provisions for coping with ensuing existential problems through multi-pronged approaches. In effect, incorporating digital pedagogy, promoting collaborative research in infectious diseases management, counselling and training in socio-psychological issues have specifically given greater importance in the policy.

Critical Concerns

Education is such a complex and comprehensive subject that any endeavour to reform it thoroughly is bound to cause concerns and invite criticism from several quarters. NEP 2020 is no exception to all this and a critical engagement with the policy shows its potential downsides.

(i) The underlying philosophy of the policy may sound to some too much idealistic and its agenda overambitious. Critics of progressive bent, for instance, may find it lopsidedly loaded with essentialism and perennialism. It relies heavily on individual's innate potentials and capacities waiting to be self-realized. The policy envisions overhauling the country's education system over a decade aiming to achieve global standard and, that too, by retaining Indian ethos. This agenda may seem to be unrealistic to many. There has been a yawning gap between the rhetoric of reform and the prevailing state of affairs in the arena of education. Our system of education is already burdened by baggage of older problems. For example, educational degrees and formal qualifications are fast losing their worth in face of dwindling appropriate job opportunities, yet the policy wants new generations to gain diverse eligibilities as to suit as many kinds of jobs as possible (Kumar, 2023:6).

(ii) Does the philosophy of the policy then lead us to a travesty rather than what education is really meant for? NEP 2020 opens with the principles which constitute basic ethic of education but it eventually becomes expedient for the policy to embrace pragmatism when issues of implementation come to the fore. So some

critics may say that the policy is torn between principle and expediency. For, it seeks to address many wider concerns and long-term ethical goals of education through private initiatives and market-friendly structural changes. NEP 2020 endorses ethics and values loudly, but the ways and means to achieve them seem to be discordant and disproportionate with such goals and ideals.

(iii) The distinction between multidisciplinarity and interdisciplinarity has often been not maintained in the policy. The two concepts are intimately related, yet there are crucial differences between the two. "Multidisciplinarity refers to placing side by side of insights from two or more disciplines as, for example, one might find in a course that invites instructors from different departments to explain their disciplines" perspectives on the course topic in serial fashion but no attempt to integrate the insights produced by these perspectives into an interdisciplinary understanding of the topic" (Repko, 2008:13). But NEP 2020 at times confuses this distinction. Though the Policy speaks of the need for knowledge and skill integration of several sorts, it often glosses over the integrative characteristic while dealing with multidisciplinarity and interdisciplinarity in details.

(iv) Although one of the foundational thrusts of NEP 2020 is that critical thinking is essential for innovation and enlightened citizenry, this criterion often seems to be compromised, particularly while understanding the crux of cultural and philosophical heritage. No doubt, our nation is a treasure trove of culture and philosophy, and the policy is well set to continue such legacies in consonance with the emerging concerns. But the crucial point which is glossed over here is the highly self-critical nature of philosophical heritage. In true sense, philosophical heritage can never be merely a matter of conventional wisdom – it cannot be received just passively. Philosophical heritage is, as Derrida puts, "a heritage one calls upon to form new questions and new propositions" (Egéa-Keuehne, 2004:18). Being blindly faithful to one's intellectual heritage is bound to make it blatantly un-philosophical.

(v) In NEP 2020, Indian knowledge system seems to have emerged as a new metanarrative. The critics of progressive leanings may view it as an attempt to mainstream the religio-spiritual tradition and marginalize the alternative perspectives such as heterodox systems of thought available in the Indian intellectual tradition since antiquity. Arguably, "in philosophical discourses throughout Indian history, atheists and sceptics make frequent appearances, and even though, in many cases, their points of view are ultimately rejected they do get their say" (Sen, 2005:25). It would also be unwise to undermine the positive impacts of logico-rational tradition of the west which has been instrumental in the growth of modern science and which forms the backdrop of the fourth industrial revolution. Some critics see this as a sort of lopsidedness that is not in consonance with the spirit and soul of Indian intellectual tradition. Indian wisdom has been characterised by richness and diversity since antiquity. We actually need to strike a balance between the mainstream view and the alternative perspectives so that we might not miss the benefits and advantages of other traditions as well.

(vi) Interestingly enough, there is a paradox involved in the very idea of education. Ideally, education has to be holistic which means to go after perfection in the long run. This amounts to aspiring for being comprehensively complete in order to give the learner total educational experience and all-round development. But the pursuit of perfection in any arena has its own pitfalls, particularly when put into practice. What we need is to go for more practical and plausible perspectives too regarding education reforms. In nutshell, education is a continuously self-correcting endeavour directed towards newer horizons, better understanding and character-building.

Concluding Remarks

NEP 2020 is philosophically well-founded. The guiding principles of the policy are spelt out so clearly at the very outset of the document that shows how the subtle distinction between policy and principle has not gone unheeded. Policies are often matters of convenience and they can be changed pragmatically, but principles represent matters of value and ideals to live by.

NEP 2020 is culturally deep-rooted, yet it is contemporarily relevant. Though the policy is firmly rooted in rich cultural legacy of India's hoary past, it has remarkable considerations for the current concerns of local as well as global contexts accompanied by a considerably clear vision of future directions.

Advantageously, NEP 2020 is well set in the contemporary global scenario along with the rich legacies of Indian culture and philosophy forming its conspicuous backdrop. But in the matters of culture and philosophy, we are not simply required to participate submissively, but also to critique, reinterpret, enrich and renew them constantly through innovation and critical thinking. Interestingly, this also constitutes one of the main reasons as to why we need newer education policies with time.

NEP 2020 is marked by a welcome move towards multidisciplinarity. It is a felicitous initiative to ensure an education ecosystem that would be more integrated and holistic. The prevailing zeitgeist also finds multidisciplinarity quite research-friendly and more suitable for the current situation as most of the burning problems of our age are too complex to be dealt with in mono-disciplinary manners.

The genesis of the present policy should also not escape our attention. NEP 2020 is still in nascent stage of its implementation. What is more, it is a child of calamity – it is born in hard times of the learning crisis and pervasive existential predicament caused by Covid-19. The pandemic not only upended life at large but also laid bare many downsides of our extant education system. The point to be noted is that the policy makes commendable provisions for future to cope better with such unprecedented situations.

Last but not the least, real test of the policy lies in its effective implementation, which would call for constant consorted efforts of millions of myriad stakeholders. What needs special care and concern in this connection is how to keep the ethics of education intact. The public-good nature of education has to be retained so as to the whole endeavour might not end up simply with wishful thinking and pious hope.

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Schooling Provisions and School Performance at Secondary Level in India: A Correlation Analysis

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Abstract

Educational facilities play a crucial role in strengthening and improving the quality of education. Unfortunately, in India, educational institutions lack educational facilities which results in malfunctioning of these institutions. Poor and inadequate educational facilities affect the overall performance of these institutions. Sufficient facilities promote academic achievement and ensure a strengthening of overall institutional performance. This paper attempts to investigate the relationship between schooling provisions including infrastructure facilities, teachers and teaching-learning material and academic achievement of students at secondary level in India. Subsequently, an attempt has been made to identify the aspects of school facility design that have the greatest potential to impact learning. The paper aims (i) to analyse the status of schooling provisions and student performance at secondary level; (ii) to critically examine the relationship between schooling provisions and student achievement at secondary level, and its implications for policy planning in school education.

The paper is based on an analysis of the data and information collected from 2,58,913 recognised secondary schools/sections from all the 35 states and union territories under U-DISE in 2017-18, the latest year for which complete data on all components (access, participation, retention and outcomes) were available. Then it was organised, tabulated and analysed. Percentage was used as a statistical tool for the statistical treatment of the data. After analysis of the data, the researcher arrived at the conclusion that adequate educational facilities were not available in the schools at the secondary level which is the main obstruction and hindrance in acquiring quality education. The paper further revealed that schooling facilities were deficient in terms of school building, boundary wall, playground, library, laboratory, computer and related facilities like electricity facility, generator set, internet, computer laboratory, sanitary facilities (particularly separate urinal and lavatory facilities for boys and girls including female teachers), female teachers

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with qualifications, training of teachers who are directly involved in pedagogy and the like, though these are very crucial to high academic attainment of students at secondary level in India. Hence, the reform programmes like Samagra Shiksha and other centrally sponsored schemes should focus their attention on providing the basic infrastructure facilities and staff in the existing secondary schools/sections so as to make them confirm to norms and standards. This effort would certainly go a long way in improving and strengthening secondary education as well as improving the overall performance of the students and institutions at secondary school level in India

The Context

Secondary education occupies a very important position in any education system, The position of secondary education is very crucial in any society as it serves as a gateway to higher education and to the labour market. In other words, secondary education plays a transitional role between basic education and further (higher) education as well as a terminal role by providing and supplying required manpower for the development of the country (AIOU, 1998: 3). India is no exception. Secondary education in India, comprising classes IX to XII is divided, into two stages, i.e., Secondary classes covering IX-X (14-15 years age-group) and Senior/Higher Secondary covering classes XI-XII (16-17 years age-group).

Secondary education promotes the development of a skilled and knowledgeable citizenry with access not only to the national but also to the global economy (Lewin and Caillods, 2001). For faster economic growth, it is not sufficient to exclusively concentrate on primary education. It has been observed that early expansion of and public investment in secondary education paid rich dividends in East Asia (World Bank, 1993, Tilak, 2001). Hence, secondary education is crucial for economic growth.

It is also argued that investment in secondary education yields considerable social and economic returns, making it crucial for national development (World Bank, 1993, 2005, 2009; Tilak, 2001; Lewin and Caillods, 2001; Duraisamy, 2002; Lewin, 2006, 2008). Despite this, however, secondary education continues to be the most neglected segment of school education in many developing countries, including India.

India is following a service-led growth model and striving hard to survive the global competition. In these conditions, it is being increasingly recognised that secondary education is the most critical segment of the education chain. There is a need to pay greater attention to secondary education as it caters to the needs of the most important segment of the population – adolescents and youth, the source of the future human and social capital of a nation. In the Indian context, balanced development of education is critical for nation building. Education is one of the most important components of the inclusive development model of the emerging Indian democracy, which was well articulated even in the 1960s in the report of the Education Commission (1964-66). However, the current Indian setting no doubt reflects the socio-economic consequences of the distortions in the development model envisaged in the early years of freedom. India has grown visibly, yet remains far away from being a developed society and economy. This paper makes an attempt to bring about some facts and figures that describe the Indian setting and illustrate the need for renewed attention to development of secondary education.

It is well recognised that educational facilities play a crucial role in strengthening and improving the quality of education. There is direct relation between provision of educational facilities and overall school performance, i.e., student's performance, and teacher's performance. Lyons (2001) suggests that there is a direct relationship between the condition and utility of school facilities and learning. Availability of facilities promote academic achievement and ensure to strengthen overall institutional performance. Poor and inadequate educational facilities negatively impact teachers' effectiveness and performance, and therefore have a negative impact on students' performance.

Evidence shows that, in India, most of the educational institutions at secondary level lack facilities which results in malfunctioning of these institutions. Unattractive and old school buildings, cracked classroom walls and floors, lack of toilets, desk and benches, transport facility, proper security system, drinking water, power supply, playgrounds, teaching staff, sufficient classrooms, educational technology, first aids facility, etc, negatively affect performance of the institutions. Therefore, this paper is designed specifically to study the availability of educational facilities and its relationship, if any, with the performance of students at the secondary school level in India. It is expected that the paper will provide insights for improving and strengthening secondary education as well as for improving the overall performance of the students and institutions at secondary school level in India.

Objectives of the Paper

The purpose of this paper is to investigate the relationship between schooling provisions including infrastructure facilities, teachers and teaching-learning material on the one hand and, on the other, academic achievement of students at secondary level in India. Subsequently, in this paper an attempt has been made to identify the aspects of school facility design that have the greatest potential to impact learning. The findings of this paper will have implications for policy and practice regarding the planning, funding and design of school facility construction and renovation at secondary level in India. Broadly, the following are the objectives of the paper:

1. To analyse the status of schooling provisions and student performance at secondary level; and
2. To critically examine the relationship between schooling provisions and student achievement at secondary level; and its implications for policy formulation.

Research Questions

The paper will be guided by the following research questions:

1. Is there any relationship between schooling provisions/facilities and students' performance at secondary level?
2. To what extent do school facilities impact students' performance?

Limitations

1. It is impossible to identify all variables impacting student achievement, particularly attendance, behaviour, attendance, dropout rate, and teacher turnover rate. This could result in error variance and less significant correlation in the identified variables.
2. Correlations do not necessarily represent a causal relationship.

Review of Related Literature

A new body of academic inquiry is growing with a focus on the physical environment in education process. Studies may find specific design functions at their core. For instance, studies in the Capistrano Unified School District (CUSD) in Orange County, California found that the students in classrooms with natural lighting, large windows or well-designed skylights performed 19 to 26 percent better than their peers in classrooms without these features (Hale, 2002). Recent concerns with mold related health issues are driving schools to focus on the impact that poor indoor air quality has on the attendance and achievement rate of students (De Patta, 2002). Even the impact of furnishings in educational settings has been addressed.

More profoundly, studies are increasing their focus on the impact that the environmental design will have on student outcomes. When the learning process is at the core of design priorities, there is a significant likelihood that the facility will positively influence performance (Blair, 1998). The correlation appears to be positive between facility design and learning. Chan (1996) clarifies that poor learning facilities can foster negative attitudes just as exceptional designs may bolster achievement.

Schools are essential institutions that require a high quality physical and social atmosphere. Conducive and favourable physical and social atmospheres can affect students' performance positively in education (Lackney, 1999). The same author concluded that the standard and quality of the facilities provided has a relationship with learning performance.

Students really spend most of their school time within classrooms (Stockard & Mayberry, 1992). For that reason, the classroom atmosphere is crucial in influencing students' attitudes toward school as well as their attainment in attending and learning (Leung & Fung, 2005; Castaldi, 1982). Lackney, 1999; Leung & Fung, 2005; Tanner & Lackney, 2006) found that schooling facilities which have the greatest influence on students' attendance and learning performance/ outcomes are in the classroom. Leung & Fung (2005) claim that improving facilities in schools will enhance students' learning. Changes in the components of facility management are significantly related to changes in the learning behaviours of students. According to Earthman (2002), school facilities are playing a crucial role in strengthening and improving teacher effectiveness and student performance. Older facilities had problems with noise level and thermal environment. Therefore, the age of school buildings plays an important and crucial part in students' performance. The quality of the learning atmosphere is known to affect teacher behaviour and attitudes toward continuing to teach. It is unreasonable to expect positive results from programmes that have to function in negative physical atmosphere (Tennessee Advisory Commission on Intergovernmental Relations, 2003).

Mbakwem and Asiabaka (2007) explained that the cumulative effect of poor facilities results in poor motivation and low morale of teachers, which result in low quality work output. Hallack (1990) stressed that though the available sufficient and relevant facilities promote academic attainments, unattractive and ugly school buildings, cracked classroom walls and floors, lack of or insufficient playgrounds and surroundings reduce and slow down academic attainment.

Cash (1993) examined the relationship between building condition and student attainment in small, rural Virginia high schools. Student scores on achievement tests, adjusted for socioeconomic status, was found to be up to 5 per centile points lower in buildings with lower quality ratings. Achievement level was also found to be more directly related to decorative factors than to structural ones. Poorer achievement was associated with specific building condition factors such as substandard science facilities, air conditioning, locker conditions, classroom furniture, more graffiti, and noisy external environments.

McGuffey (1982) arrived at the result that heating and air conditioning systems were found to be very imperative, along with particular instructional facilities (i.e., science laboratories or equipment) and colour and interior painting, in contributing to student achievement. According to Iqbal (2005), classroom and other common facilities can be classified as (i) Non-classroom facilities; (ii) Administrative office and staff rooms; (iii) Custodial and service facilities; and (iv)Facilities for public use. Non-classroom facilities for students include library, lounges, gymnasium, lunch room, activities room, lockers, and showers, outdoor facilities, dressing rooms, clothing storage facilities, rest rooms, health services rooms and other recreational facilities. These facilities are non-classroom facilities which are required for the enhancement of instructional and overall performance of the schools.

Lalit (1989) and Iqbal (2005) stated that the arrangement of classroom educational faculties and instructional spaces should be chosen for learning rather teaching. In addition, it should facilitate teacher in providing an atmosphere which promote the right kind of learning. Along with classrooms atmosphere, instructional aids (e.g., audio-visual aids) includes maps, charts, globes, and graphs; instructional motion pictures; radio and recording; mock up; computers; multimedia; overhead projectors; internet. Phillips (1997) noted that one of the most important and critical physical characteristics of the classroom is lighting. The importance of proper visual environment for learning tasks deserves careful consideration. The visual environment affects the ability of learner to perceive visual stimuli and affects his/her mental attitude, and thus, performance.

Dunn *et al* (1985) claimed that the lightning of a school should be regarded as an active factor of the entire educational atmosphere. He concluded that good lighting contributes considerably to the aesthetics and psychological character of the learning space. Taylor and Gousie (1980) noted the side effects of poor lighting on nerve functions, hyperactivity, health, and on task behaviour.

Iqbal (2005) stated that the games are designed and planned for both instruction and enjoyment. Children, youth and adults who play, may develop skills. Most of the games can be played in the gymnasium or on the school grounds by the available equipment and facilities. Co-curricular activities play an important and crucial role in the development of personality of the child. That is why it is imperative to provide students with physical facilities for this purpose, he emphasised. Iqbal (2005) suggested the following facilities in a

school building. The number of rooms depends on the facilities provided in the school. Normally each section of the class should have a separate room. School rooms can be divided into (i) Instruction rooms, the classrooms and laboratories; and (ii) Non-instruction rooms as headmaster's office, clerk's office, staffroom, and library rooms, etc. All these buildings should have a proper system of ventilation, water supply facilities, and specially designed rooms for scientific equipment. Classroom should have sufficient number of desks or benches for the students. Similarly, geography rooms should have stands; maps; cupboards and drawing room tables; model stand; sidings board, etc. Toilets are the basic requirement of all because children spend most of their time in the school. Playgrounds are necessary for outdoor activities.

Bullock (2007) studied the relationship between school facilities and students' academic performance in senior secondary schools. The study examined the relationships that exist between students' academic performance and the overall, structural and cosmetic building conditions. He pointed out that the school administrators must be concerned with the structural and cosmetic conditions of school facilities as well as students' academic performance, the combination of existing school facilities, leadership decision, and the financial ability of the schools. He found that students perform better in schools that were new or renovated recently than in older schools. The overall building condition, the school age of the building, and the windows in the instructional areas were positively related to students' performance.

Methodology and Data

The paper is based on an analysis of data and information collected from 2,58,913 recognized secondary schools/sections from all the 35 states and union territories under the U-DISE in 2017-18, the latest year for which complete data on all components (access, participation, retention and outcomes) were available. Then it was organised, tabulated and analysed. Percentage was used as a statistical tool for the statistical treatment of the data. Besides, the correlation analysis has been used to measure the relationship between schooling facilities and students' performance measured by pass-out rate at secondary level (class X board examination).

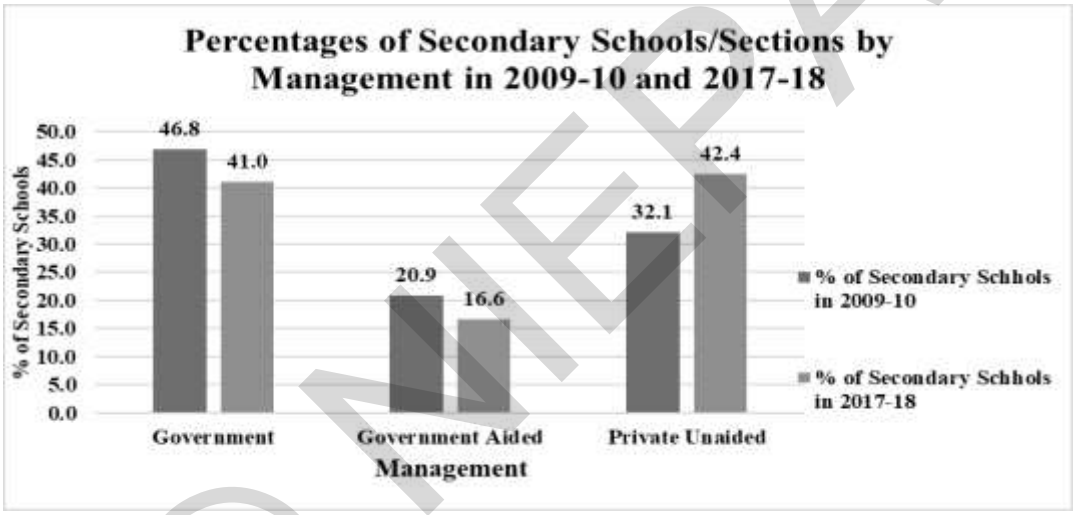
The paper is divided into six sections. The first section includes an introduction to the study, problem statement, objectives, questions guiding the research and limitations of the study. The second section contains the literature review pertinent to the impact of school facilities on student performance. The third section consists of a description of the procedures, instrumentation, methodology of research and general design of the study. The fourth section focusses on the status of secondary education in terms of access, participation and student performance at secondary level. The fifth section looks into the relationship between schooling provisions and student performance at secondary level. The final concluding section highlights the findings and major development challenges and their implications for policy planning in the development of secondary education in India.

Status of Secondary Education in India

Educational Institutions at Secondary Level: In 2009-10, government secondary schools constituted 46.8 per cent, government-aided secondary schools constituted 20.9 per cent, and private unaided schools constituted 32.1 per cent of the total secondary schools/sections in the country. This share of government and government aided secondary schools decreased to 41.0 per cent and 16.6 per cent respectively in 2017-18, whereas the share of private unaided secondary schools increased from 32.1 per cent to 42.4 per cent in 2017-18.

CHART 1

State-wise Percentages of Secondary Schools/Sections by Management in 2009-10 and 2017-18



Source: Data collected from SEMIS, 2009-10, and UDISE 2017-18, NIEPA, New Delhi

Enrolment at Secondary Level: At the secondary level (classes IX-X), although the total enrolment has increased considerably over the years, the share of enrolment of boys in classes IX-X decreased from 53.4 per cent in 2009-10 to 52.04 per cent in 2017-18 while the share of enrolment of girls increased from 46.6 per cent of the total enrolment in 2009-10 to 47.6 per cent in 2017-18. The Gross Enrolment Ratio (GER) increased steadily from 19.3 per cent in 1990-91 to 51.65 per cent in 2004-05 to 55.1 per cent in 2009-10 and further increased to 76.4 per cent in 2017-18. The Gender Parity Index (GPI) which measures progress towards gender equity in education, remained constant at 0.99 between 2009-10 and 2017-18.

Teachers at Secondary Level: According to U-DISE 2017-18, out of around 1.6 million teachers for classes IX-X, 66.4 per cent were serving in rural areas, and 33.6 per cent were working in urban areas. The share of male teachers in the total teachers in position has increased from 72.4 per cent in 2009-10 to 74.6 per cent in 2017-18 in rural areas and has

decreased from 27.6 per cent in 2009-10 to 25.4 per cent in 2017-18 in urban areas. The share of female teachers in the total teachers in position has decreased from 58.5 per cent in 2009-10 to 55.6 per cent in 2017-18 in rural areas and has increased from 41.5 per cent in 2009-10 to 44.4 per cent in 2017-18 in urban areas. As a result of this, the number of female teachers per 100 male teachers increased relatively more in urban areas than rural areas between 2009-10 and 2017-18.

At the secondary level, more emphasis is given on imparting knowledge of the subjects, and these teachers play an important role in the overall personality development of the students. As per the Samagra Shiksha guidelines, subject-wise TG/PG teachers for each subject have been deputed at the secondary and higher secondary stage in every school including specialized teachers for physical education, art/ craft, and culture education. Accordingly, RMSA as well as Samagra Shiksha guidelines suggested the appointment of at least five core subject teachers, one each for mathematics, science, social science, and two language teachers in each secondary school. However only, 30.9 per cent government, 18.8 per cent government-aided, and 20.3 per cent private-unaided secondary schools in the country had all the five core subject teachers in 2017-18. Besides the shortage of subject teachers, the availability of trained teachers (i.e., the required pre-service training) is also an important issue at the secondary level of education in India. In 2009-10, 82 per cent of teachers at the secondary level were professionally trained, which increased to 83.1 per cent in 2017-18, which shows that around 17 per cent teachers were still untrained.

Examination Results at Secondary Level (Class-X): Examination results (e.g., pass percentages) can be considered as an indicator of the quality of education imparted in the schools. However, results of the public/board examination are relatively more reliable than the results of home examinations. The data reveal that 78.9 per cent students in the country passed 2017-2018 class X board examinations which means more than 20 per cent students did not complete secondary level in ideal time. The performance of girls was slightly better than that of boys as the pass percentage of boys was 78.3 while 79.6 percent girls passed the class X high school examination in 2017-18.

Schooling Provisions and Student Performance at Secondary Level

School Building and Student Performance: Many research studies show that the success of any educational endeavour rest on the availability of physical facilities especially the school building. School buildings are very vital input to educational system; even though they do not teach but their use may facilitate or impede learning.

TABLE 1

Availability of Building in Secondary Schools in 2017-18

Availability of Building	*No of Secondary Schools having*	*% of Secondary Schools having*
School Building	249566	96.4
Pucca	246779	95.3
Partly Pucca	241877	93.4
Kuchha	240631	92.9
Tents	240017	92.7
Other	258176	99.7

Source: Data collected from U-DISE 2017-18, NIEPA, New Delhi

An analysis of data shows that in the country, only 3.6 per cent of secondary schools do not have a building of their own. The analysis of the correlation matrix indicates that there exists a positive, although weak relationship between school building and pass percentage of both boys and girls ($r = - 0.036$ and $r = 0.034$), but the relationship is significant at .01 level. This indicates that if a secondary school has pucca building, the students are more likely to perform better as reflected in pass percentage. Similarly, the relationship between partially pucca type of buildings and pass

TABLE 2

Correlation Matrix between Type of School Building and Student Performance

		Pass% (Boys)	*Pass% (Girls)*	*Pass% (Total)*	*Pucca*	*Partly Pucca*	*Kuchha*	*Tent*	*Others Building*
Pass% (Boys)	Pearson Correlation	1	.304**	.708**	.036**	.007**	-.007**	.006*	.041**
	Sig. (2-tailed)		0.000	0.000	0.000	0.006	0.007	0.020	0.000
Pass% (Girls)	Pearson Correlation	.304**	1	.746**	.034**	-0.002	-.014**	0.004	.048**
	Sig. (2-tailed)	0.000		0.000	0.000	0.412	0.000	0.100	0.000
Pass% (Total)	Pearson Correlation	.708**	.746**	1	.038**	.005*	-.011**	.006*	.046**
	Sig. (2-tailed)	0.000	0.000		0.000	0.050	0.000	0.014	0.000
Pucca	Pearson Correlation	.036**	.034**	.038**	1	.076**	.007**	.009**	.066**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.001	0.000	0.000
Partly Pucca	Pearson Correlation	.007**	-0.002	.005*	.076**	1	.077**	.026**	.023**
	Sig. (2-tailed)	0.006	0.412	0.050	0.000		0.000	0.000	0.000
Kuchha	Pearson Correlation	-.007**	-.014**	-.011**	.007**	.077**	1	.072**	-.020**
	Sig. (2-tailed)	0.007	0.000	0.000	0.001	0.000		0.000	0.000
Tent	Pearson Correlation	.006*	0.004	.006*	.009**	.026**	.072**	1	.011**
	Sig. (2-tailed)	0.020	0.100	0.014	0.000	0.000	0.000		0.000
Others Building	Pearson Correlation	.041**	.048**	.046**	.066**	.023**	-.020**	.011**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

Percentages of boys was found to be positive (0.007) but not significant but the relationship with girls was found to be negative (r = - 0.002) but here again the relationship is significant, However the relationship between kuchha building and pass percentage of both boys and girls were found to be negative (r = - 0.007 and r = - 0.014) and not significant, showing that if a secondary school has kuchcha type of building, the students are not likely to do well in the public examination. But the case with secondary schools being run in tents is little better as the relationship between tents and pass percentage of both boys and girls were found to be positive and significant (See Table 2).

Separate Room for Teaching and Non-Teaching Activities and Student Performance: Facilities at the secondary schools not only include buildings but also adequate classrooms as well as other rooms like Head Masters' room, Assistant Head Masters' Room, Teachers/Staff room, office room, library room, laboratory room and rooms for students etc. Analysis of data shows that 99.7 per cent secondary schools in India have Principal's or Headmaster's room which means only 0.3 per cent schools do not have separate rooms for Principal or Headmaster. However only 45.2 per cent secondary schools have separate rooms for Assistant Headmasters in 2017-2018 (See Table 3).

It is expected that secondary schools should have separate rooms for teachers and common room for students. The situation in this regard is far from satisfactory. It may be seen from Table 3 that only 31.8 per cent secondary schools in the country do not have room for teachers/staff. Similarly, girls' common rooms are available only in 28.4 per cent schools and only 31.4 per cent secondary schools have separate rooms for craft/cultural activities.

TABLE 3

Percentage of Secondary Schools/Sections Having Separate Room for HM, AHM, Staff/Teacher and Students in 2017-18

Separate Rooms	*No of Schools Having*	*% of Schools*
Head Master Room	258191	99.7
Assistant Head Master Room	116962	45.2
Staff/Teacher Room	176699	68.2
Separate Girls Common Room	73467	28.4
Craft/Cultural Activities Room	81299	31.4

Source: Data collected from U-DISE 2017-18, NIEPA, New Delhi

The analysis of the correlation matrix indicates that the relationships between pass percentage of students and availability of a separate rooms for Assistant HM, Staff/ teachers, girls and craft/activities (r = 0.061, r = 0.058, r = 0.032 and r = 0.047) were positive, moderately strong and significant at 0.01 level. However, the relationships between separate room for head master and pass percentage of boys was found to be negative, weak and non-significant (r = - 0.031) but the relationship with pass percentage of girls was found to be positive, string and significant at 0.01 level. Overall, these relationships are very moderate with a high level of significance (See Table 4).

TABLE 4

Correlation Matrix between Separate Rooms for Students and Teachers and Students' Performance

	Correlation	*Pass % (Boys)*	*Pass % (Girls)*	*Pass % (Total)*	*Head Master Room*	*Assistant Head Master Room*	*Rooms for Staff/ Teachers*	*Girl's Common Room*	*Craft/ Activities Room*
Pass % (Boys)	Pearson Correlation	1	.304**	.708**	-.031**	.046**	.042**	.021**	.039**
	Sig. (2-tailed)		0	0	0	0	0	0	0
Pass %(Girls)	Pearson Correlation	.304**	1	.746**	-.069**	.079**	.075**	.048**	.055**
	Sig. (2-tailed)	0		0	0	0	0	0	0
Pass % (Total)	Pearson Correlation	.708**	.746**	1	-.048**	.061**	.058**	.032**	.047**
	Sig. (2-tailed)	0	0		0	0	0	0	0
Head Master Room	Pearson Correlation	-.031**	-.069**	-.048**	1	-.230**	-.263**	-.150**	-.138**
	Sig. (2-tailed)	0	0	0		0	0	0	0
Assistant Head Master Room	Pearson Correlation	.046**	.079**	.061**	-.230**	1	.404**	.428**	.311**
	Sig. (2-tailed)	0	0	0	0		0	0	0
Rooms for Staff/ Teachers	Pearson Correlation	.042**	.075**	.058**	-.263**	.404**	1	.358**	.314**
	Sig. (2-tailed)	0	0	0	0	0		0	0
Girl's Common Room	Pearson Correlation	.021**	.048**	.032**	-.150**	.428**	.358**	1	.373**
	Sig. (2-tailed)	0	0	0	0	0	0		0
Craft/ Activities Room	Pearson Correlation	.039**	.055**	.047**	-.138**	.311**	.314**	.373**	1
	Sig. (2-tailed)	0	0	0	0	0	0	0	

Infrastructure Facilities and Student Performance: There are some facilities in secondary schools which are necessary for the effective, successful and efficient functioning of programme of public education. Such facilities include playground space for physical education and sports material, etc. School planning begins with the learner, ends with learner and the building of the school should be designed in such a way that it satisfies learners' physical and emotional needs and demands. The pattern of activities differs from school to school which depends upon learner's age, local interest, customs and climatic conditions as related to the possibility of outdoor play. It is unquestionably and indisputably acknowledged that the physical facilities purify and improve the educational process. It may be seen from Table 5 that a very high percentage of secondary schools in the country have boundary walls, water facility, sports material as well as play-ground facility.

TABLE 5

Percentage of Secondary Schools/Section Having Infrastructure Facilities in 2017-18

Infrastructure Facility	*No of Secondary Schools Having*	*% of Secondary Schools Having*
Boundary Wall	258190	99.7
Playground	201492	77.8
Water Facility	243443	94.0
Sports Material	257931	99.6

Source: Data collected from U-DISE 2017-18, NIEPA, New Delhi

An analysis of the correlation matrix shows that the relationships between availability of main physical infrastructure facilities like boundary wall (r = - 0.034) and playground (r = - 0.035) and pass percentage of students were found to be weak, negative and very significant. However, availability of water facility (r = 0.024) and sports material (r = 0.032) represent a positive relationship with the pass percentage of students and the level of significance is relatively high at 0.05 per cent (See Table 6).

TABLE 6

Correlation Matrix between Infrastructure Facilities and Student Performance

		Pass % (Boys)	*Pass % (Girls)*	*Pass% (Total)*	*Type of Boundary Wall*	*Play Ground*	*Water Facility*	*Sports Material*
Pass% (Boys)	Pearson Correlation	1	.304**	.708**	-.022**	-.019**	.018**	.029**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000
Pass% (Girls)	Pearson Correlation	.304**	1	.746**	-.053**	-.050**	.030**	.029**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.000
Pass% (Total)	Pearson Correlation	.708**	.746**	1	-.034**	-.035**	.024**	.032**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000
Type of Boundary Wall	Pearson Correlation	-.022**	-.053**	-.034**	1	.131**	-.087**	.006**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000	0.005
Play Ground	Pearson Correlation	-.019**	-.050**	-.035**	.131**	1	-.175**	-.007**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.001
Water Facility	Pearson Correlation	.018**	.030**	.024**	-.087**	-.175**	1	-.004*
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.028
Sports Material	Pearson Correlation	.029**	.029**	.032**	.006**	-.007**	-.004*	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.005	0.001	0.028	

* Correlation is significant at the 0.05 level (2-tailed)
** Correlation is significant at the 0.01 level (2-tailed)

Library and Related Facilities and Student Performance: Table 7 provides data about library and the related facilities like librarian, reading room, magazines and school annual report, etc, in the secondary schools in the country. It may be seen from Table 7 that more than 10 per cent secondary schools in the country do not have a school library. However, it is alarming to note that only 22.2 per cent secondary schools do not have a permanent librarian. It thereby means that in India about 67 per cent secondary schools have library without librarian. Besides, only 7.7 per cent secondary schools have reading corners but more than 75 per cents secondary schools subscribe to newspaper in the library.

TABLE 7

Percentage of Secondary Schools/Sections Having Library and Related Facilities in 2017-18

	No of Schools Having	*% of Schools*
Library	231086	89.3
Librarian	57407	22.2
Reading Corner	19829	7.7
News Paper	196454	75.9

Source: Data collected from U-DISE 2017-18, NIEPA, New Delhi

The correlation results also show that, there exists negative correlation between the teaching learning facilities like library (r = - 0.045), librarian (r = - 0.070), reading corner (r = - 0.027) and newspaper (r = - 0.044) and students' performance and these relationships are moderate with low level of significance (See Table 8).

TABLE 8

Correlation Matrix between Library and Related Facilities and Students' Performance

		Pass% (Boys)	*Pass% (Girls)*	*Pass% (Total)*	*Library*	*Librarian*	*Reading Corner*	*News Paper*
Pass% (Boys)	Pearson Correlation	1	.304**	.708**	-.041**	-.066**	-.020**	-.036**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000
Pass% (Girls)	Pearson Correlation	.304**	1	.746**	-.048**	-.071**	-.032**	-.054**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.000
Pass% (Total)	Pearson Correlation	.708**	.746**	1	-.045**	-.070**	-.027**	-.044**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000
Library	Pearson Correlation	-.041**	-.048**	-.045**	1	.415**	.046**	.525**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000	0.000
Librarian	Pearson Correlation	-.066**	-.071**	-.070**	.415**	1	.036**	.404**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000
Reading Corner	Pearson Correlation	-.020**	-.032**	-.027**	.046**	.036**	1	.065**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.000
News Paper	Pearson Correlation	-.036**	-.054**	-.044**	.525**	.404**	.065**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Computer and Related Facilities and Student Performance: It is expected that all the secondary schools in the country should have computers that are to be used for both administration work as well as teaching learning process. However, the position of availability of computers in secondary schools is not very encouraging. A basic requirement for effective use of computers in the secondary schools is the electricity connection and internet connections (Zaidi, 2013). Table 9 gives data about computer laboratory and related facilities like electricity connection, and internet connections in the secondary schools in the country. An analysis of data shows that computer laboratories are available in only 59.5 per cent of the secondary schools in the country. In India, about 90 per cent secondary schools have electricity connection which means nearly 10 per cent secondary schools of the country do not have even electricity connection. It is also interesting to mention that, though 59.5 per cent secondary schools in the country have computers, only about 46 per cent schools have internet connections which means roughly 15 per cent secondary schools in the country having computers do not have internet connection.

TABLE 9

Percentage of Secondary Schools/Sections Having Computer and Related Facilities in 2017-18

Computer and Related Facilities	*No of Schools Having*	*% of Schools*
Computer Laboratory	154020	59.5
Electricity	234355	90.5
Internet	119334	46.1

Source: Data collected from U-DISE 2017-18, NIEPA, New Delhi

The analysis of the correlation matrix shows that the relationships between availability of computer laboratory and pass percentage of both boys and girls in class X examination (more in case of girls than boys) were found to be negative and highly significant, as reflected by the high values of r ($r = - 0.052$) and t. However, the relationships between availability of electricity and internet connection and pass percentage of both boys and girls in class X examination (more in case of girls than boys) were found to be positive, moderate and highly significant as reflected by high values of r ($r = 0.063$) and t. The pass percentage of girls represents a highly significant positive relationship with availability of electricity ($r = 0.078$) and internet connection facility ($r = 0.121$) (See Table 10).

TABLE 10

Correlation Matrix between Computer and Related Facilities and Student Performance

		Pass% Boys	*Pass% Girls*	*Pass% Total*	*Electricity*	*Computer Laboratory*	*Internet Connection*
Pass% Boys	Pearson Correlation	1	.304**	.708**	.045**	-.040**	.085**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
Pass% Girls	Pearson Correlation	.304**	1	.746**	.078**	-.059**	.121**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
Pass% Total	Pearson Correlation	.708**	.746**	1	.063**	-.052**	.105**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
Electricity	Pearson Correlation	-.040**	-.059**	-.052**	-.198**	1	-.183**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
Computer Laboratory	Pearson Correlation	.045**	.078**	.063**	1	-.198**	.409**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
Internet Connection	Pearson Correlation	.085**	.121**	.105**	.409**	-.183**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Sanitary Facilities and Student Performance: Non-availability of sanitation facilities in secondary schools is a serious concern for the students and their parents. Table 11 presents data on various sanitation facilities available in secondary schools of the country. An analysis of data shows that more than 99.5 per cent secondary schools have toilets, separate urinals for girls and boys as well as separate urinal facility for the teaching staff.

TABLE 11

Percentage of Secondary Schools/Sections Having Sanitary Facilities in 2017-18

	No of Schools Having	*% of Schools*
Toilets	257791	99.6
Separate Urinals for Boys	258186	99.7
Separate Urinals for Girls	258168	99.7

Source: Data collected from U-DISE 2017-18, NIEPA, New Delhi

The availability of sanitary facilities makes for a very close association with the pass percentage of students. All the variables represent a positive relationship. Although the relationship of toilet facilities has a higher level of significance associated with the pass percentage of students, the level of significance is visibly higher for the girl students. Separate urinals for boys and girls represent higher, positive and significant relationship with pass percentage of girl students, in comparison to boys (See Table 12).

TABLE 12

Correlation Matrix between Sanitary Facilities and Student Performance

		Pass% (Boys)	*Pass% (Girls)*	*Pass% (Total)*	*Toilets*	*Separate Urinals for Boys*	*Separate Urinals for Girls*
Pass% (Boys)	Pearson Correlation	1	.304**	.708**	.092**	.085**	.086**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000
Pass%(Girls)	Pearson Correlation	.304**	1	.746**	.097**	.093**	.093**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000
Pass% (Total)	Pearson Correlation	.708**	.746**	1	.099**	.089**	.095**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000
Toilets	Pearson Correlation	.092**	.097**	.099**	1	.604**	.578**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000
Separate Urinals for Boys	Pearson Correlation	.085**	.093**	.089**	.604**	1	.723**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000
Separate Urinals for Girls	Pearson Correlation	.086**	.093**	.095**	.578**	.723**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	

* Correlation is significant at the 0.05 level (2-tailed
** Correlation is significant at the 0.01 level (2-tailed).

Teacher Deployment and Student Performance: Teacher deployment continues to be one of the major issues in secondary education in the country. It may also be noted that identifying teachers by the level of education (i.e., upper primary, secondary, and higher secondary) is a problem, particularly in institutions with classes I-X or I-XII, and the states where there is no separate teacher cadre specifically for secondary education. Hence, this is a major issue in regard to data collection on teachers. However, teachers who devote more than 50 per cent of their time to teaching secondary and higher secondary classes are considered secondary and higher secondary level teachers since 2009-10. As per RMSA and Samagra Shiksha guidelines, subject-wise TG/PG teachers for each subject must be deputed at the secondary and higher secondary stage in every school. Besides, the specialised teachers for physical education, art/ craft, and culture education are also being appointed. Accordingly, RMSA guidelines suggested the appointment of at least five core subject teachers, one each for mathematics, science, social science, and two language teachers in each secondary school.

An analysis of data shows that out of 1.55 million teachers at the secondary level in 2017-18, male teachers constitute 56.9 per cent and female teachers constitute 43.1 per cent. However, only 36.2 per cent of secondary schools had all the five core subject teachers in 2017-18. Besides the shortage of teachers, the availability of trained teachers (i.e., the required pre-service training) is also an important issue at the secondary level of education in India. In 2009-10, 82 per cent of teachers at the secondary level were professionally trained, which increased to 87.3 per cent in 2016-17 but decreased to 83.0 per cent in 2017-18. However, the percentage of female trained teachers (84.9 per cent) is more than male trained teachers (81.7 per cent) at the secondary level. This may be due to the fact that more female teachers have been appointed during 2009-10 to 2017-18 (See Table 13).

TABLE 13

Availability of Secondary Teachers (Total and Percentage) in Secondary Schools/Sections in 2017-18

Teachers in Secondary	*Male*	*Female*	*Total*
Total Secondary Teachers	884314	670532	1554846
% of Secondary Teachers	56.9	43.1	100.0
Trained Teachers in Secondary	722136	569050	1291186
% of Trained Teachers in Secondary	81.7	84.9	83.0
Number of Secondary Schools Having Five Core Teachers			93653
% of Secondary Schools Having Five Core Teachers			36.2

Source: Data collected from U-DISE 2017-18, NIEPA, New Delhi

TABLE 14

Correlation Matrix between Teacher Availability and Student Performance

		Pass% (Boys)	*Pass% (Girls)*	*Pass% (Total)*	*No. of Male Teachers*	*No. of Female Teachers*	*No. of Trained Male Teachers*	*No. of Trained Female Teachers*
Pass% (Boys)	Pearson Correlation	1	.304**	.708**	-.006*	.056**	.027**	.069**
	Sig. (2-tailed)		0.000	0.000	0.024	0.000	0.000	0.000
Pass% (Girls)	Pearson Correlation	.304**	1	.746**	-.031**	.068**	.017**	.082**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.000
Pass% (Total)	Pearson Correlation	.708**	.746**	1	-.021**	.064**	.021**	.078**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000
No. of Male Teachers	Pearson Correlation	-.006*	-.031**	-.021**	1	.100**	.882**	.082**
	Sig. (2-tailed)	0.024	0.000	0.000		0.000	0.000	0.000
No. of Female Teachers	Pearson Correlation	.056**	.068**	.064**	.100**	1	.100**	.949**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000
No. of Trained Male Teachers	Pearson Correlation	.027**	.017**	.021**	.882**	.100**	1	.145**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.000
No. of Trained Female Teachers	Pearson Correlation	.069**	.082**	.078**	.082**	.949**	.145**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

An analysis of correlation matrix shows that there exists a negative relationship between the male teachers and the pass percentage of boys, girls and total students. The relationship with female teachers on the other hand represented a highly positive and significant relationship with the pass percentage of boys ($r = 0.056$), girls ($r = 0.068$) and total ($r = 0.064$). The relationship between the mail trained teachers and pass percentage of students was found moderately positive and significant but the relationship between female trained teachers and pass percentage of students was found to be highly positive and significant (See Table 14).

Findings, Conclusions and Suggestions

Summary of Findings: A diagnosis of the present status of secondary education with regard to the availability of secondary education facilities, teachers and the participation of children reveals the following;

1. The share of government and government aided secondary schools has decreased and the share of private unaided secondary schools has increased between 2009-10 and 2017-18.
2. At the secondary level (classes IX-X), although the total enrolment has increased considerably over the years, the share of enrolment of boys in classes IX-X has decreased but the share of enrolment of girls has increased between 2009-10 and 2017-18.
3. The increase in GER of females is more than that of males not only at the national level but also in most of the states and UTs. As a result, the gender parity index at secondary level of school education has increased over the years which shows that almost gender parity has been achieved at the secondary level.
4. As for the total teachers in position, government and aided institutions having nearly 75 per cent of the enrolment in classes IX-X had only 57 per cent of the teachers available at the secondary level which shows that teacher shortage is a major issue at the secondary level in government and aided institutions in India.
5. Besides the shortage of subject teachers, the availability of trained teachers (i.e., the required pre-service training) is also an important issue at the secondary level of education in India. In 2009-10, 82 per cent of teachers at the secondary level were professionally trained, which has marginally increased to 83.1 per cent in 2017-18 which shows around 17 per cent teachers are still untrained.

The following are the findings of the study with regard to the infrastructure facilities available in secondary schools in the country.

1. Around 4 per cent secondary schools in the country do not have pucca building.
2. More than 30 per cent secondary schools in the country do not have room for teachers/staff. Similarly, girls' common rooms are available only in 28.4 per cent schools and only 31.4 per cent secondary schools have separate rooms for craft/cultural activities.
3. A very high percentage (more than 95 per cent) of secondary schools in the country have boundary walls, water facility, sports material as well as play-ground facility.

4. Although around 90 per cent secondary schools have library, about 67 per cent secondary schools have library without librarian. Besides, only 7.7 per cent secondary schools have reading corners but more than 75 per cents secondary schools subscribe to newspaper in the library.
5. Computer laboratories are available in only 59.5 per cent of the secondary schools but only about 46 per cent schools have internet connections which means roughly 15 per cent secondary schools in the country having computers do not have internet connection.
6. More than 99.5 per cent secondary schools have toilets, separate urinals for girls and boys as well as separate urinal facility for the teaching staff.

The following are the findings of the study with regard to the performance of the students at secondary level in the country.

1. In the country 78.9 per cent students passed 2017-18 class X board examinations, which means more than 20 per cent students did not complete secondary level in the stipulated time.
2. At the secondary level, the performance of girls was slightly better than that of boys, as the pass percentage of boys was 78.3 while 79.6 percent girls passed the class X high school examination.

The analysis of the relationship between schooling provisions and student performance at the secondary level reveals the following;

1. The analysis of correlation matrices shows that the relationships between the schooling provisions and performance of students in terms of pass percentages of boys and girls in high school examination (grade x results) varies considerably between the provisions. While some schooling provisions or facilities exhibit strong, positive and significant relationships, some have positive and partially significant relationships with the performance of students. Besides, there are certain schooling provisions which have positive but not significant relationships and some others have even negative and significant relationships with students' performance at secondary level.
2. The schooling provisions/facilities which have strong, positive and significant relationship with student performance (pass percentage of both boys and girls) are school building (particularly pucca building), availability of drinking water, computer laboratories, sanitary facilities particularly separate toilets and lavatory facilities for girls and the number of female teachers, including trained female teachers. The findings also agreed with the findings of Ajayi (1987) and Ahmed (1999) that linked the decline in students' academic achievement with non-availability of teaching materials, non-availability of class rooms, libraries and laboratories, among others. Similarly, the findings can be linked with the report from Economic Commission for Africa (ECA cited in Johnson 1998) that the quality of West Africa secondary education has suffered partly due to inadequate teaching aids and partly due to poorly equipped laboratories and technical workshops.

3. There exists a positive and partially significant relationship between the performance of students and the main infrastructure facilities like separate rooms for Assistant Headmasters and teachers especially female teachers, girls' common room, craft and cultural activities room, drinking water facility, sports material, electricity and internet connection etc.
4. There exists a positive but insignificant relationship between female teachers and the pass percentage of boys, girls and total and negative relationship between the male teachers and the pass percentage of boys, girls and total students.
5. The relationships between the facilities like boundary wall, playground, separate rooms for head masters, library and related facilities like librarian, reading corner and newspaper, etc, and the performance of students were found to be negative but not significant.

Conclusions and Suggestions

Several secondary education development schemes including the Rashtriya Madhyamik Shiksha Abhiyan (RMSA) programme, were being implemented to develop secondary education in the country. The RMSA was launched in April 2009 with the basic developmental objectives of universalising the access to and improving the quality of secondary education (Grades IX-X) in the country. In other words, the RMSA aimed at making secondary education of good quality available, accessible and affordable to all young people. Specifically, the RMSA aimed at: (i) maintaining the standards in secondary education by making schools confirm to the prescribed norms related to physical facilities, staff and academic matters (rationalising facilities, staff and TLM across secondary schools as per norms); (ii) universalising the physical access to all young people (taking a distance norm of 5 kilometres at secondary and 7 to 10 kilometres at higher secondary stages); (iii) improving the participation and retention in secondary education (100% GER by 2016/17 and universal retention by 2020); (iv) overcoming the barriers to secondary schooling due to gender, socio-economic status, disability and other disadvantageous circumstances (improving equity and delivery of secondary education); and (v) enhancing the intellectual, social and cultural learning in secondary schooling, i.e., improving the quality of learning outcomes.

Recently, the Samagra Shiksha: An Integrated Scheme on School Education has been implemented which envisages the 'school' as a continuum from pre-school, primary, upper primary, secondary to Senior Secondary levels. The vision of the scheme is to ensure inclusive and equitable quality and holistic education from pre-school to senior secondary stage in accordance with the Sustainable Development Goal (SDG) for Education and the National Education Policy (NEP) 2020. The main outcomes of the scheme are envisaged to be universal access, equity and quality of education (including vocational education), inclusive education, and increased use of technology and strengthening of teacher education institutions (TEIs).

Although the RMSA had put too much emphasis on improving physical access to and facilities in secondary schools/sections, filling in gaps in the infrastructure and teaching staff in the existing secondary schools/sections (the only government managed) to make them conform to norms and standards, the success in this direction is far from satisfactory as

evident from the findings of the paper. Some of the major objectives of Samagra Shiksha also include provision of quality education and enhancing learning outcomes of students, bridging social and gender gaps in school education, ensuring equity and inclusion at all levels of school education, ensuring safe, secure and conducive learning environment and minimum standards in schooling provisions.

This comprehensive investigation underscores the pro-found influence that educational infrastructure wields as a decisive factor in shaping the scholastic accomplishments of secondary level students. The provision of amenities, encompassing the architectural integrity of school edifices, protective enclosures, recreational spaces, knowledge repositories, scientific laboratories, computing facilities and ancillary services such as reliable electrical infrastructure, power generation installations, internet connectivity and technologically equipped workspaces, alongside essential sanitary facilities particularly separate urinal and lavatory facilities for boys and girls, notably segregated restrooms for male and female students, as well as the presence of highly trained female educators, emerges as an indispensable cog in the machinery of fostering exceptional academic attainment.

The empirical findings elucidate that student's academic performance evinces a direct, positive correlation with the accessibility and quality of these facilities, as manifest in the substantial and statistically significant coefficient values. Given this resounding evidence attesting to the pivotal role played by infrastructure, it is incumbent upon the government to allocate substantial material and financial resources to secondary educational institutions, thereby cultivating an enriched pedagogical milieu that conforms to the rigorous standards set for educational provisioning.

In tandem with governmental efforts, collaborative initiatives involving Parent-Teacher Associations (PTAs), benevolent philanthropists, and charitable organisations may be galvanized to compliment and fortify the government endeavours in this noble pursuit. This synchronised and concerted endeavour undeniably represents a substantial stride towards the enhancement and fortification of secondary education, poised to usher in an era of elevated scholastic prowess, benefitting both students and educational institutions at the secondary level across the nation of India."

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Voices of Change: Perceptions and Strategies for Community-Engaged Service Learning in Technology-Enabled Higher Education in Post-Covid India

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Abstract

The study aims to explore the perceptions of stakeholders in Higher Education Institutions (HEIs) regarding community-engaged service learning, with a specific focus on social injustice, inequality, and the digital divide. Through the utilisation of a split-survey method, data were collected from 280 stakeholders representing technical and non-technical, private and public HEIs. The research design employed an exploratory approach with an academic analytical framework. The findings of the study emphasise the importance of community-engaged scholarship and highlights the need for its integration with technology-enabled approaches in HEIs. An original contribution of this paper is a focus on the challenges faced in employing technology-enabled methods for community-engaged service learning within Indian HEIs. By identifying these challenges and proposing potential solutions, this research provides valuable insights about enhancing the effectiveness and impact of community engagement initiatives in higher education. In conclusion, this study underscores the significance of community-engaged service learning and advocate for a more inclusive and sustainable integration of technology-enabled learning within mainstream education. The study seeks to contribute to the ongoing efforts to advance community engagement strategies in the context of higher education institutions.

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Introduction

The sudden outbreak of COVID-19 triggered a rapid shift to online learning in higher education institutions (HEIs) across India. The global pandemic has significantly influenced the education sector, emphasising the importance of technology in the learning process. Conventional methods and processes have been disrupted, prompting a paradigm shift in education worldwide. HEIs have realised that the future of education will require sustainable changes, encompassing all stakeholders, products and processes. It has become evident that education goes beyond content, assessments, and evaluations; it also involves social justice, equitable access, quality, emotional relationships, and lifelong learning, as highlighted by Sustainable Development Goal 4. However, the COVID-19 pandemic has also exacerbated the existing inequalities, social injustices, and the digital divide, necessitating a comprehensive shift towards inclusive and sustainable measures.

In India, the nationwide lockdown imposed in March 2020 compelled HEIs to transition to online teaching due to social distancing measures. This sudden shift brought about numerous challenges for educators and learners in terms of digital infrastructure, administrative support, internet connectivity, learning resources, suitable platforms for content delivery, and online tools and licenses. The pandemic highlighted the need for alternative safety measures, ethical considerations, privacy protection, and innovative assessment and evaluation methods. In India, the Ministry of Human Resource Development (MHRD) introduced various initiatives such as the PM's 'e-Vidya' programme and virtual labs to promote technology-driven education and enhance accessibility. The National Education Policy (NEP), launched in July 2020, further emphasised the adoption of technology in higher education, which has been accelerated by the pandemic's disruption of traditional academic operations. While these efforts have facilitated the integration of technology, challenges remain, including low digital literacy, insufficient digital infrastructure, inadequate policies and processes, and variations in quality standards.

Technology-enabled learning (TEL) holds significant potential to address the needs of higher education in India and provide sustainable and inclusive solutions. However, its implementation is still in its early stages, requiring a comprehensive shift in the higher education paradigm to adapt to the "new normal" by blending the online practices with in-person activities. This transformation can reshape educational policies and practices to create a more sustainable and inclusive post-COVID world. TEL platforms such as SWAYAM (Study Webs of Active Learning for Young Aspiring Minds) and the UGC's online course offerings have expanded the access to quality educational resources, particularly by providing content in multiple Indian languages. Nevertheless, there is a pressing need to build a resilient education system that democratises access to quality higher education in India.

Moreover, the societal responsibility (SR) of HEIs in terms of teaching, research, and service, along with their interactions with various stakeholders, has become a critical aspect of any future developmental agenda, particularly the Sustainable Development Goals (Didriksson, 2019). HEIs need to engage with external stakeholders, recognise the diverse forms of knowledge, and establish partnerships based on reciprocity and mutual benefit to achieve sustainable development. Community engagement (CE) has emerged as a significant global movement within HEIs, reflecting their broader SR purpose. Implementing CE activities in various socioeconomic, intellectual, and cultural sectors has become a common

practice, highlighting its effectiveness compared to other approaches (GUNi, 2017; UNESCO Chair in CBR, 2015; Singh, 2017). However, there is a need for further investigation to bridge the gap between theory and practice, making higher technical education socially responsible and impactful. This research article aims to shed light on the challenges and solutions in employing technology-enabled methods in community-engaged service learning in Indian HEIs. Through a comprehensive literature review and a study of stakeholder perceptions and priorities, this study seeks to sensitise HEI stakeholders to their social responsibility.

The paper seeks to address the gaps and challenges in employing technology-enabled methods with community-engaged service learning in Indian HEIs. By exploring the challenges and potential solutions, the study aims to sensitise stakeholders to their social responsibility and promote stronger community engagement in higher education. Overall, the integration of technology and community engagement has the potential to create a more sustainable and inclusive education system in India. It is through collaborative efforts and innovative approaches that higher education institutions can fulfil their role in achieving the Sustainable Development Goals and nurturing a knowledge-based society capable of addressing global issues effectively.

The Changing Canvas of Higher Education in Post-COVID India

The coronavirus pandemic is a watershed, disruptive moment distinguished by unprecedented situations worldwide. Researchers have identified it as a black swan, predicting that this situation has already catalysed permanent change in the processes, people, and their linkages to the education ecosystem. The pandemic exacerbates inequalities at higher education institutions, causing institutions to increase the integration of online and blended Learning under emergency remote teaching and overall access to quality education (Swinnerton *et al*, 2020). Technology-Enabled Learning (TEL) provides students with opportunities to interact with peers and teachers beyond the bricks-and-mortar structure. The paper views TEL as the "building blocks" in constructing service learning as a dimension of flexible community-engaged practices. The benefits of using Technology-Enabled Learning include flexibility in service-learning practices, a higher level of digital literacy, augmentation of audiences in the collaboration opportunities, and enhancement in stakeholder engagement. The paper also notes the COVID19-generated shift to the practice of flexibility and openness in the education ecosystem, linked to the use of open pedagogies, technologies, engagement, assessments, and evaluation (Huang *et al*, 2020), which are supported by the approach of social justice in terms of expanding access equality, equity, and quality in education.

The CE environment in India offers an intriguing proposition. A key component of higher education in India has always been the idea of "societal engagement" by HEIs (Tandon, 2014). Around the world, there are growing requests for academia to show its social relevance, focus on its public service mission, and use its missions to "meaningfully connect with the society," address problems, and come up with sustainable solutions (Farnell, 2020). HE systems have a unique leadership role to play in the massive challenge of building a sustainable future for everyone, and their social responsibility gives them the ideal platform to do so (Grau *et al*, 2017). As with any organisation, HEIs must adapt their operations and functions to meet the needs of the larger community in which they operate. HEIs must fulfil the information and knowledge of society's needs, wants, and interests. This is the

cornerstone of CE in HEIs, which encourages cross-sectoral cooperation to address urgent social challenges and concerns (Ali *et al*, 2021). The research function of HEIs has gained new significance in light of the current complicated difficulties, and it is now expected to deliver "new answers" by embracing alternative forms and several epistemologies of knowledge (Hall & Tandon, 2017). This type of cooperative "Community-University Research Partnerships (CURPs)" (also known as Community-Based/Community-Based Participatory Research) (CBPR) is aimed at the co-construction of knowledge. It involves framing research questions in accordance with community needs and designing the research in collaboration with the stakeholders impacted by the problem (that the research intends to address). It is also known as "engaged research" (Hall & Tandon, 2017; Singh, 2021).

Given the significance of interaction with external stakeholders, how HEIs handle these collaborations and partners is a crucial factor in determining the effectiveness of such interventions. To achieve this, HEIs must reconsider their primary responsibilities for teaching and conducting research through the lens of SD and include cross- and inter-disciplinary practice, secondment, and immersion programs (Tandon & Chakrabarti, 2017). While it is well known that these collaborations can lead to growth and learning outcomes, they are also associated with controversial problems such as power imbalances, resource inequity, and conflicting knowledge systems and cultures. Addressing such difficulties carefully is essential. Thus, from the perspective of HEIs, some additional requirements for successful MSPs for SD include ensuring complementarity of knowledge, resources, and networks, addressing power imbalances, and investing in capacity building for working in partnerships (Tandon & Chakrabarti, 2017). Even though community participation has long been a popular practice in higher education institutions (dating back to the ancient educational system), Boyer was the first scholar to publicly propose community engagement in a university setting (Boyer 1996). He dubbed it 'Scholarship of Engagement,' believing that universities' vast resources might help solve society's problems (Boyer, 1996). The literature indicates that HEIs that practice social connection are "engaged campuses" (Saltmarsh *et al*, 2001). According to them, “Such a campus, centrally engaged in the life of its local communities, reorients its core missions — teaching, scholarship, and service — around community building and neighbourhood resource development.”

Community engagement is based on the principles of mutual benefit, cross-disciplinary collaboration, intersections with teaching, research, outreach missions, and associated incentives for students and faculty (Tandon, 2014). Community engagement can take many forms, including service-learning, collaborative research, information sharing, academic-civil society partnerships, social innovation, and so on (Tandon, 2014). Although in the Indian HE sector, the assessment of educational quality focusses mostly on teaching and research, outreach initiatives have received a low mark. A campus must reorient its fundamental missions for socially responsible education by being centrally engaged with local communities. The IHE must evaluate the societal impact of its teachings and research, which is a "concrete and intangible contribution to society."

In the realm of community engagement, one important approach that aligns with the principles of socially responsible education is community service learning. Community service learning involves integrating academic coursework with meaningful community service experiences. It goes beyond traditional classroom learning by providing students with opportunities to apply their knowledge and skills in the real-world contexts while addressing community needs and challenges (Butin, 2010). Through community service

learning, higher education institutions can establish collaborative partnerships with community organisations, local government entities, and other stakeholders (Zlotkowski, 1995). These partnerships enable the co-construction of knowledge and the identification of research questions that are rooted in community needs (Bringle, *et al*, 2012). By involving the stakeholders who have been impacted by the issues being addressed, community service learning promotes a participatory and engaged research approach.

The concept of community engagement, including community service learning, has historical roots in higher education. Boyer (1996) advocated for the "Scholarship of Engagement," recognising the potential of universities to contribute to solving societal problems through their resources and expertise. HEIs that actively practice community engagement are often referred to as "engaged campuses" (Saltmarsh *et al*, 2001). Such campuses prioritise community building, neighbourhood resource development, and the integration of teaching, scholarship, and service around these goals.

Community engagement, including community service learning, is guided by the principles of mutual benefit, cross-disciplinary collaboration, and integration with teaching, research, and outreach missions. Regulatory authorities, such as the National Assessment and Accreditation Council (NAAC) and the National Institutional Ranking Framework (NIRF), evaluate the educational quality of the HEIs, based on their community engagement efforts, often referred to as "Outreach and Engagement" initiatives. These initiatives encompass a range of activities, including service-learning, collaborative research, information sharing, academic-civil society partnerships, and social innovation (Eyler & Giles, 1999). Despite the growing recognition of community engagement, outreach initiatives have not always received adequate attention in the assessment of educational quality within HEIs. To foster socially responsible education, HEIs need to reorient their fundamental missions and actively engage with local communities. This requires evaluating the societal impact of teaching and research, acknowledging the concrete and intangible contributions these activities make to society.

While we are at a 'watershed' moment in human history, where our current actions will define the type of our future, there is an urgent need for us to act together and work for a sustainable future for all. The significant issue that confronts our society today necessitates quality education in terms of meaningful and socially responsible involvement between higher education institutions and the community in mutually beneficial ways. To implement successfully technology-enabled learning in higher education institutions, may require that the institutions take a holistic vision of their processes, practices, and processes (Bates *et al*, 2011). This requires an immediate transformation in digital infrastructure, practices, and policies in the higher education system with adequate and appropriate capacities to realise access equality, equity, quality and inclusivity. This can help to bridge the gap between word and world readings. Socially responsible education is a way of learning that permits not just bidirectional information exchange, consulting, participating, and collaborating but also co-creation of knowledge based on a wealth of indigenous knowledge. The interaction of academic and community scholars contributes to creating new knowledge and producing meaningful, actionable information, particularly in livelihoods, environment, and governance, as well as their intersections.

Methodology

The exploratory study investigates community-engaged service learning within a technologically enhanced learning environment. In the midst of the disruption in education, caused by the pandemic and the abrupt transition to online education, this paper examines service learning through the lenses of social justice and access equality. For this investigation, a systematic literature review and a rapid field assessment were conducted. In addition, some recommendations to resolve the educational disruption caused by the pandemic and how these can contribute to the development of a long-term resilient education system are presented.

We have collected responses from our constituents via text-based, video-conferencing, and social media or online communities using ICTs. The purpose of the study is to investigate TEL usage, activity, and behaviour. In Covid, these are designated as the locations for data collection using verbal queries and visual prompts. The research method is exploratory, and the research instrument is a scholarly analytical strategy. The academic analytic approach guides researchers as they investigate educational problems and provides insight into the various strategies that could be employed to overcome the issue. With a mission of adapting, modifying, and adapting, this article examines the perceptions of stakeholders regarding the challenges of employing community engagement through technology-enabled learning through the lenses of social justice and access equality. It also examines these discourses in the context of the escalating coronavirus pandemic.

An important asset of the present study is its ability to present a comprehensive view of community-engaged service learning. In addition to its strengths, it also has some limitations that must be considered. First, the practises analysed in this article may not adequately reflect the totality of the reactions to COVID-19-related interruptions in education. The suggestions made by researchers in this article are subject to interpretation and can be somewhat subjective.

By administering a semi-structured questionnaire, data for the investigation were collected. The questionnaire comprises of two sections: demographic and perceptual. The survey consisted of eliciting the opinions of various stakeholders, including students, faculty, management and administration, and community-based think tanks of the HEIs. Participants in the survey were assured that the information they provided would be kept anonymous. The investigation involves conducting interviews with 280 stakeholders. A minimum sample size of 280 is required to achieve a confidence level of 95 per cent and an error margin of 5 per cent. The survey was conducted by using the split-survey methodology. Consequently, acquiring and capturing the necessary information from each stakeholder. This assures the most efficient use of survey time and resources by collecting specific information from each individual. The sample observation profile is presented in Table 1, and the responses garnered from respondents are presented in the following sections as perceptions. (Refer to Table 1, and Figures 1a and 1b). To ensure proportional allocation, 25 per cent of the respondents in the final sample originated from a higher education institution (HEI) in each of these categories — public technical, public non-technical, private technical, and private non-technical.

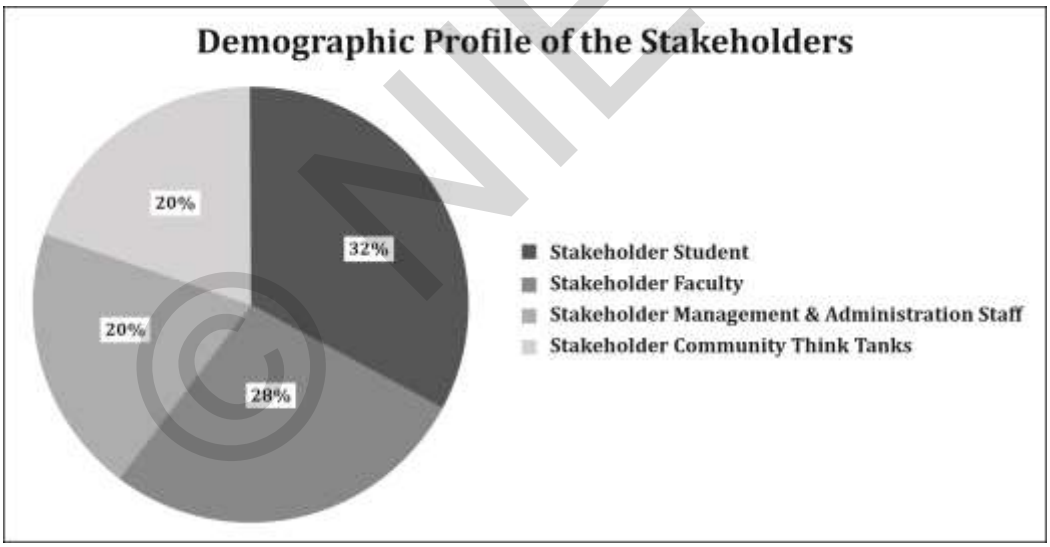
TABLE 1

Respondent Profile

Respondent Category	*Demographic Profile*	*Number of Respondents*
Stakeholder	Student	93
	Faculty	79
	Management & Administration Staff	56
	Community Think Tanks	56
Type of Institute	Public Technical	73
	Private Technical	70
	Public Non-Technical	67
	Private Non-Technical	70

FIGURE 1a

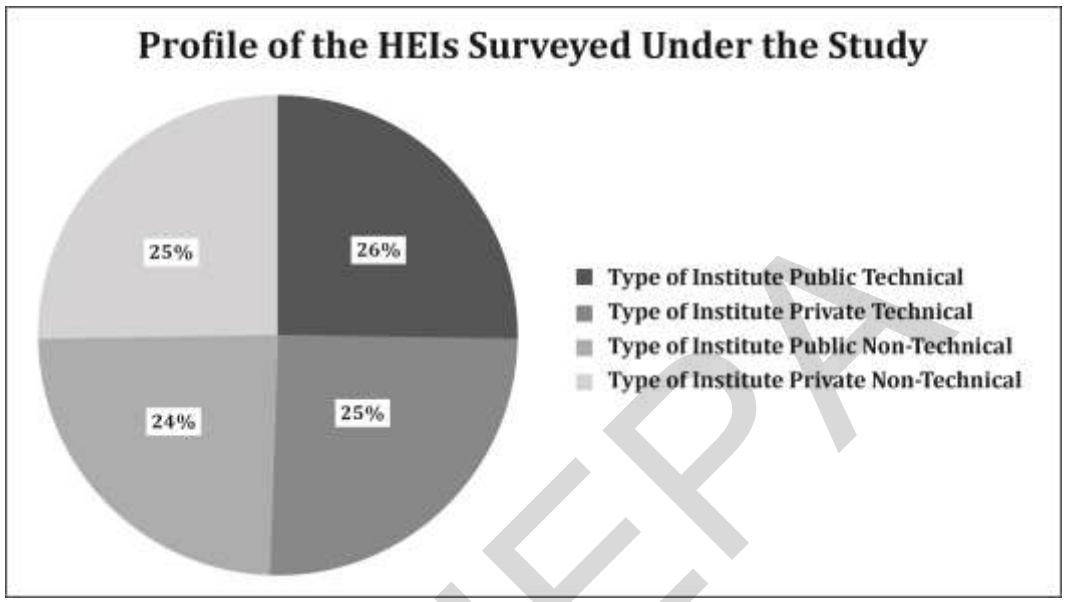
Profile of the stakeholders



Source: Field Survey

FIGURE 1b

Profile of Higher Education Institutions



Source: Field Survey

Analysis and Findings

Inferences: Stakeholder perceptions towards challenges in employing technology-enabled methods with community-engaged service learning.

In HEIs, where CBPR is a part of the curriculum, students are involved in conducting projects while employing community engagement techniques. As a part of the project, the students reach out to different communities to capture the behaviour and issues the community is facing and try to bridge the gap between the vulnerable and the authorities responsible.

This study was implemented through participatory action research, meaning students are the investigation agents, not the object of research. The study involved focus group discussions with the class of community-based participatory research from HEIs. These students were actively involved in conducting field studies that involved interacting with different communities in the team. As many initial participants objected to their names being disclosed, the identities of all the participants were kept anonymous. The collected data were tabulated with their consent and in alignment with the ethics and rules. Data were collected during two phases — first, there was initial observation using a pilot study strategy, followed by detailed intensive data collection. Both involved the stakeholders' participation though later involvement was more elaborate and assessed demands.

Quoting the International Organisation of Migration (IOM) Committee chair, *"The real challenge lies not in debating whether disparities exist, but in developing and implementing strategies to reduce and eliminate them,"* one of the team expressed that most of the studies

target the identification and measurement of the vulnerabilities. This leads to the knowledge creation about the issues, but the knowledge base does not become vast enough to involve the solutions and strategies. For many students, the pathways of community engagement lead to better interaction with the community. However, the community and the stakeholders of HEIs do not have efficient strategies to facilitate a two-way exchange of solutions.

> "A relevant input from the community is essential for addressing the issues. Digital solutions are available for connecting with communities, but a major lack is the absence of local connections or community partners. The screen interface creates a curtain between the researcher and the community. The techniques of capacity building, knowledge creation, and community partnership for achieving the joint targets become difficult to deploy."

The pandemic had provided a growth opportunity to reflect on the loopholes of the old world and move forward to collaboration, community service, interaction, and equity. Therefore, higher education institutions must lay emphasis on providing multiple technologies solution to reach every student by unfolding instructional strategies that does not harm those who are excluded from the system due to lack of any means. In this scenario, what started as a big challenge and as an emergency response could become a "new normal" for the higher education. This pandemic provides the golden opportunity to not rubber-band back to the previous conventional concepts and re-imagine the new traditional method in the light of access, equality, inclusivity with online tools and practices. Thus, it is quintessential to digitally transform the higher education sector to make a fascinating move toward the sustainable growth and development. The pandemic exacerbates inequalities at higher education institutions, causing institutions to increase the integration of online and blended learning under emergency remote teaching and hence overall access to quality education (Swinnerton, *et al*, 2020).

Digital solutions, though, provided immediate relief to the academia by hosting the teaching and research activities, but the service-learning part of the HEIs remained neglected for the year. Eventually, the teams started to work, but the fear of disease burden and the recurrent lockdowns led to the concept of virtual campuses. The partially running HEIs, where only administrative activities were carried out on-campus, students working from home were clueless about how to reach the communities that required assistance during humanitarian crises like a pandemic.

> "By whatever means, when we tried reaching the community, we found that they were unaware of the real issues they were facing. Rather a majority was found stating the generic insights about issues they capture through media. Thus, validating that intra-community connection is also lost during the pandemic. This led to the deterioration of the capacity of the communities to search for the solutions from within."

Paradoxically, community engagement for reaching the solutions can only occur when an outsider from an educated and privileged group invests their time, skill, and development. Though the technology-enabled solutions facilitated the connection in the troubled times, they were expensive, and the digital divide refrained outsiders from partnering with the communities. The opportunity cost for such a partnership through a

digital interface was low, leading the outsiders to not spend the precious attributes on mitigating the vulnerabilities.

> "The communities were not ready to accept the connection through the digital interface as they were expensive and effort intensive. Earlier, the researchers connected with them in physical space, thus enabling the comfort zone around them. As they were interacting with a human, not a human via machine, the rapport could be built easily. Also, the researcher was involved physically; thus, capturing the issues through participant observation was possible. The digital interfaces give the two-dimensional picture of the community, where the viewpoints via observational gestures are impossible."

In the HEIs, where the administration, academics, faculties and students were already struggling with adapting to the new regime, the service learning part was facing extensive challenges. A significant chunk of the student body does not belong to the spatial agglomerations where the physical campuses are situated. Thus, under the "work from home" order, students could not carry out community engagement activities with the communities around the campuses, and the teams could not work with everyone deskbound at isolated positions.

> "The community partners always wish to seek quick action. Action is an essential feature of community-based participatory research. Although the digital interface may facilitate the connection between the community partners and the researchers, deploying the interventions becomes difficult. The impact analysis development and improvement of the intervention are associated with spatial and temporal dimensions. The HEIs are working partially, and the virtual campuses hinder the connection and partnership. The digital solutions are not providing for the service-learning component of HEIs."

Institutions are thus moving toward digitisation of the socio-cultural community development activities which have enhanced technology-enabled learning in the education ecosystem. Further, social technologies and social networks also play an important role in the design and delivery of community services.

The spread of the pandemic called COVID 19 has given the world a new way of working in the form of technology enabled digital platforms. Nevertheless, the service learning component and the community interaction have been reduced. The existing technology could not bridge this gap as reaching the vulnerable and marginalised communities may require disseminating technology on both ends, which was not the case. Potential solutions to complex societal difficulties necessitate concerted efforts through institutional focus, collaborative enterprises, the integration of multiple knowledge systems, and a collective effort to achieve inclusive and sustainable development. (See Table 2.)

TABLE 2

Category of Challenges

Category of Challenges	*Challenge*	*Commonly Cited Factors from FGD*
Methodological Challenge	**Infrastructural Divide**	• Lack of accessibility and affordability • Poor power infrastructure and digital connectivity • Age, gender, and cultural factors affecting the segmentation in technology diffusion
	Interface Knowhow	• Communities are "Data blind" about the skills required for a digital regime • Inability to identify the required skills • Remote spatial dimensions are positively associated with the extent of unawareness • Lack of professional exposure • Lack of Skilled professionals in the community • Lack of two-way ICT investments
	Sharing Power	• Difficulty in the decision-making process • Power structure dynamics • Lack in assuring compliance • No awareness of understanding the power issues
	Lack of Participant Observation	• Absence of physical interaction • The researcher can see only what participants can present • Only verbal pieces of evidence are recorded through a digital platform
Philosophical Challenge	**Trust Dilemmas**	• Follow-through on commitments • Lack of understanding of Community expectations • Lack of understanding of community values
	Assuring Participation	• Lack of understanding the grassroots participation • Lack of flow and ebb of community life • Guiding and scheduling the plans

The methodological challenges that were experienced while undertaking this research with the stakeholders in the field included the issues as related below.

1) Out of the total respondents who were interviewed for the present study, the infrastructural divide was perceived as a challenge by 32 per cent of stakeholders from private technical HEIs. On the other hand, stakeholders from public non-technical (27 per cent), public technical (21 per cent) and private non-technical (20 per cent) perceived infrastructural divide as a challenge in a decreasing order.
2) Out of the total respondents who were interviewed for the study, the interface knowhow was perceived as a challenge by 38 per cent of stakeholders from private technical HEIs. On the other hand, stakeholders from public non-technical (24 per cent), public technical (19 per cent) and private non-technical (19 per cent) perceived interface knowhow as a challenge in a decreasing order.

3) Out of the total respondents who were interviewed for the study, Sharing Power was perceived as a challenge by 45 per cent of stakeholders from public technical HEIs. On the other hand, stakeholders from private non-technical (23 per cent), public non-technical (20 per cent) and private technical (12 per cent) perceived Sharing Power as a challenge in a decreasing order.
4) Out of the total respondents who were interviewed for the study, the lack of participant observation was perceived as a challenge by 42 per cent of stakeholders from private technical HEIs. On the other hand, stakeholders from public technical (24 per cent), private non-technical (22 per cent) and public non-technical (12 per cent) perceived lack of participant observation as a challenge in a decreasing order.

The philosophical challenges that were experienced included the following.

1) Out of the total respondents who were interviewed for the study, the trust dilemmas were perceived as a challenge by 46 per cent of stakeholders from private non-technical HEIs. On the other hand, stakeholders from private technical (28 per cent), public non-technical (14 per cent) and public technical (12 per cent) perceived trust dilemmas observation as a challenge in a decreasing order.
2) Out of the total respondents who were interviewed doe the study, Assuring Participation was perceived as a challenge by 49 per cent of stakeholders from private technical HEIs. On the other hand, stakeholders from public non-technical (24 per cent), public technical (16 per cent) and private non-technical (11 per cent) perceived trust dilemmas observation as a challenge in decreasing order. (See Figure 2a and 2b.)

FIGURE 2a

Percentage of Respondents Who Perceived Methodological Challenges

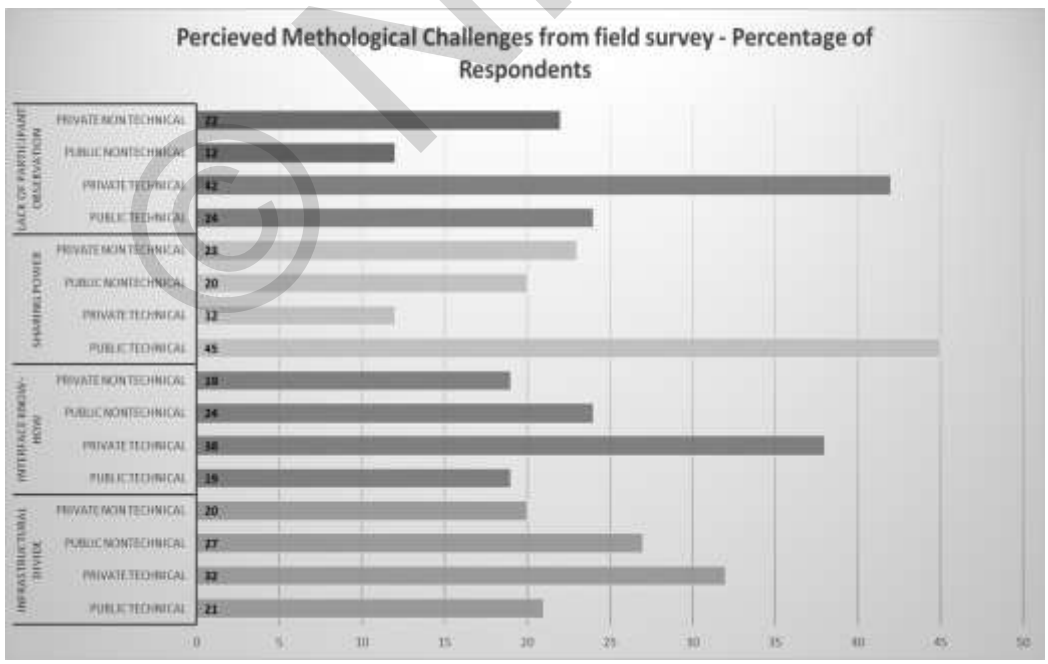
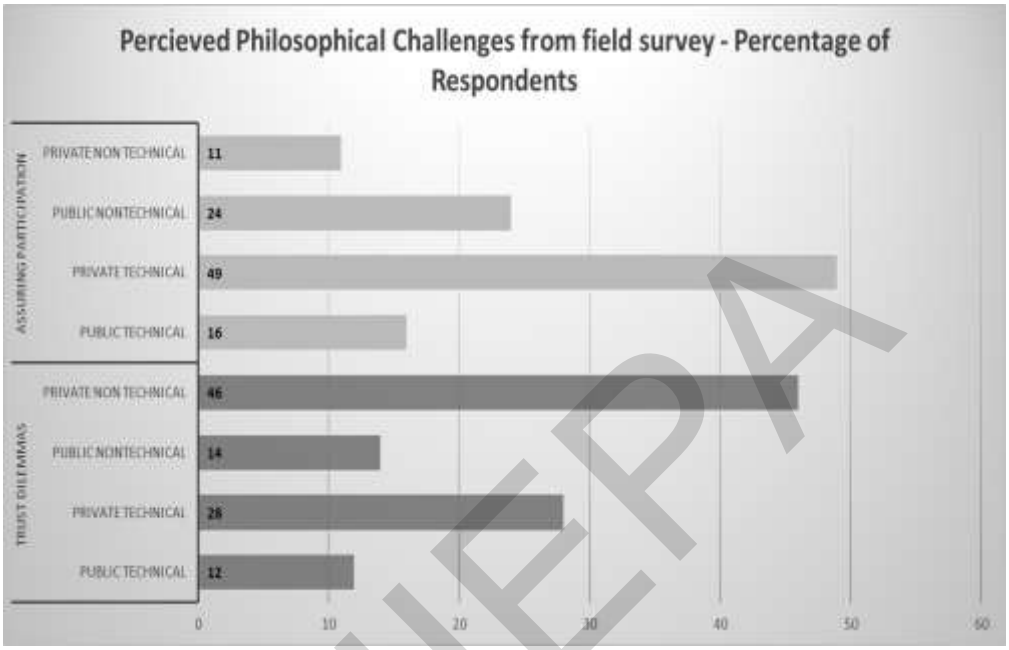


FIGURE 2b

Percentage of respondents who perceived philosophical challenges



Source: Field Survey

Challenges and Solutions

The higher education sector has been evolving rapidly after COVID 19 in India. With time, the need was realised for adopting a multidimensional approach to learning through outreach and service. The emergence of technology-based learning has been confined to the infrastructures and campuses. Service learning is a learning process involving interactions, community learning, peer learning, industrial discussions, and exposure. It is a tool for developing the temper for the skill-based competitive job market. However, in India, community engagement faces challenges on the following fronts – methodological and philosophical. (See Table 3.)

TABLE 3

Challenges and Solutions

Methodological Challenges	
Infrastructural Divide	
Challenges	The lack of equity in infrastructure amongst the different sections of the community groups in the form of limited mobility and internet accessibility is another challenge for the community engagement practices in higher education. The methodologists are constantly facing problems bridging the digital divide to augment their outreach to better engage people with different levels of ability, access, and status. The marginal and vulnerable community groups and the lack of digital infrastructure facilities often create hurdles in the engagement efforts. Thus, it becomes critical for the researchers to map the availability of the proper digital infrastructure before rolling out community engagement plans.
Solutions	The digital divide is the gap in usage and access to digital infrastructure and services between the community segments. Due to a lack of infrastructure, affordability, and skills, the marginal, low-income, and vulnerable population segments may be left out of community engagement activities. The local community partners may campaign to collect people for joint discussions at a familiar place to address these challenges by establishing the digital infrastructure at common points. Faculty members and administrators with social inclinations believe in enriching the learning experiences through outreach activities. Academia may play a more significant role in enlightening the neighbourhood communities about emerging digital tools. The high-level commitment to community outreach and engagement through the student-institution-community nexus may bridge the digital infrastructural gap. At every level the institutions, the communities must be empowered with sufficient policy and infrastructure support to deliver quality education in the new classroom context. Each institution must strike the most appropriate balance of various technologies and resources to enhance the learning paradigm without sacrificing equity and inclusion.
Interface Knowhow	
Challenges	The lack of awareness about the evolving digital platforms and their utility is a significant challenge for community engagement. It is hindering the outreach part of the community engagement. When strategising for the community engagement plan, accessibility to participation is the main aim. A significant chunk of the population is left out in India while utilising digital interfaces for engagement in the studies. A researcher in post covid era has to assess which channels can

	best reach the target community members living in vulnerable and marginalised setups. The non-digital techniques for community engagement are limited in scope, and the new digital platforms are limited in inaccessibility
Solutions	Digital skill intervention programmes can increase awareness of digital solutions for community engagement. Digital solutions to community engagement, synchronous or asynchronous, are fundamentally different from face-to-face involvement. Training programmes should be designed to help community members to identify, access, analyse, evaluate and disseminate the local knowledge, perceptions, and opinions through the screen. A proper strategy may involve the following steps: 1. Alignment – Before considering the appropriate digital platform for connecting with the masses, a researching methodologist should ascertain the community engagement goals and determine the impact and expected outcome of the activity. 2. Endorsement from the community leaders – The involvement and endorsement of the community leaders may lead to more active participation in the training Several of the tools may be new for some community members. This fact may need to build in time to provide lessons on acclimatising the community members and to give them time to practice. From technology-enabled working spaces and web-based communication to local community radio and mobile-based support services. Blended learning provides some add-on features beyond the conventional system of subject offering. It is cost-effective and provides flexibility to learners to access the course content and interact with faculties. Offsite education and out-of-class training interventions enabled by blending curriculum design, learning resources, technology integration to build personalised learning.
Lack of Funding	
Challenges	Digital technologies are expensive compared to other non-digital technologies. COVID-19 has hard-pressed the backbone of almost all the industries, including higher education leading to the lack of funds required for facilitating the outreach activities. The allocation of funds to outreach activities has reduced significantly, thus hindering the researcher's work.
Solutions	The community outreach programmes in HEI keep experimenting with the new distinctions of the outreach activities. The HEIs must expand from teaching and research forms into entrepreneurial forms of engagement (such as providing consulting services and direct services to the distressed communities).

Sharing Power	
Challenges	Community partners must be aware of the power structures and decision-making process. It is essential to establish working relationships. Most often, in conventional research, the information captured is not discussed with the community before dissemination. The digital platforms leverage information concealment in dissemination, thus drawing a curtain on research validation.
Solutions	As the partners in the research process, a proper board with all the key stakeholders must be organised to decide on disseminating the results. Researchers must recognise the community's understanding of power issues and the nexus between the community and experts.
Lack of Participant Observation	
Challenges	As in the conventional research approaches, in community engagement the researcher collects observations and responses based on visual and verbal evidence. However, collecting visual evidence and validating it becomes problematic under the new digital regime. This is due to limited reach to the community, and the researcher can see only what is shown or can be shown.
Solution	The devotion of the community partners and the key stakeholders towards the research process and their commitment to providing an accurate picture are crucial.
Philosophical Challenges	
Trust Dilemmas	
Challenges	The community members during the troubled time refrain from trusting the power dynamics. Thus, they consider digital technologies not reliable enough to share their stories. A significant aim of community engagement is to benefit the local community, but the reluctance of communities leaves perceptions of a substantial percentage out of the scope of the study
Solutions	The involvement of the political and spiritual leaders in the study may help resolve the community's trust issues. The equitable allocation of the benefits to the participants may also help.
Assuring Participation	
Challenges	Assuring participation is challenging as the participants are often afraid of the misuse of their testimonies and have established fear towards the rath of the power authorities. The digital regime reduces the physical presence, and the virtual interaction deepens the ridge between the researcher and the community partners.
Solutions	A critical step is to strategise participation by establishing partnerships in which all the key stakeholders have a vested interest.

Discussion

The present study provides valuable insights into the stakeholder perceptions and challenges associated with community-engaged service learning in technology-enabled higher education, particularly in the post-Covid Indian context. Firstly, the study emphasises the need for flexibility in post-pandemic planning for community-engaged service learning. It raises the critical question of whether the experiences gained during the pandemic can be leveraged to redesign these processes and maximise the advantages of service learning while taking full advantage of technology-enabled learning. It matches some earlier studies (Hassett, 2021; Storch, 2021) which underscore the importance of adaptability and innovation in integrating technology into community engagement practices.

Secondly, the study highlights the significance of providing multiple technology solutions that reach all segments of the community without excluding those who lack means or access. This necessitates unfolding community-engaged strategies that ensure equity and inclusion while leveraging the potential of technology-enabled learning. Some of the studies (Jarrott *et al*, 2022; Khiatani *et al*, 2023 underscore the importance of addressing the digital divide and ensuring that no one is left behind.

Thirdly, the study draws attention to the digital education hurdles in rural India and proposes solutions to overcome them. It emphasises the need for affordable and accessible e-learning options and outlines strategies such as content standardisation, government-school partnerships, teacher training programmes, blended learning, and initiatives by NGOs and CSR wings. These recommendations by Dickison *et al* (2021) aim to propel digital education in rural areas and bridge the gap between urban and rural communities.

Fourthly, the study emphasises the importance of empowering communities with policy and infrastructure support in order to strengthen the resilience of education systems. It calls for meaningful and impactful connections between HEIs and communities, highlighting the critical role that technology enabled learning can play in fostering interactive and collaborative service learning. The need for HEIs to evaluate the services and technologies they can provide to communities, emphasises the potential of technology to support flexible and accessible learning experiences (Nichols, *et al*, 2022).

Fifthly, the study acknowledges the importance of technology in today's world and the need for educators to create a balance between limiting the damaging impact and focussing on dynamic learning experiences. It recognises the potential of technology to advance the Indian education system and highlights the challenges related to digital literacy, infrastructure support, and policies and processes for a relevant and new-age transfer of learning as supported by Hayes *et al* (2021) and Symaco (2019). The study suggests that the recent pandemic experience has provided an opportunity to transform the education system by promoting adaptive learning platforms, tackling exclusion, and fostering inclusive learning environments.

Lastly, while concluding, the study emphasises the potential of technology enabled learning in higher education institutions to contribute to societal strengthening and the realisation of sustainable development goals. It highlights the role of HEIs in leading societal change by adopting sustainable practices and promoting responsible citizenship through meaningful community engagement. It supports the importance of aligning community engagement efforts with sustainable development principles to achieve social and human development goals (Goni *et al*, 2017).

In summary, the findings of this study provide important insights into the challenges and potential solutions in employing community-engaged service learning in technology enabled higher education in post-Covid India. The discussion section offers a critical analysis of these findings, connecting them to the arguments presented in the paper. It highlights the need for flexibility, equitable access to technology, rural education development, community empowerment, balanced technology integration, and the role of HEIs in promoting sustainable development. By addressing these challenges and embracing technology enabled learning, HEIs can contribute to building a more inclusive and sustainable society.

Conclusion

The present study aimed to examine the perception and priorities of stakeholders regarding community-engaged service learning in the context of Higher Education Institutions (HEIs) in post-Covid India. The findings shed light on the challenges and potential solutions associated with the integration of technology enabled learning into mainstream education, with a focus on addressing social injustice, inequality, and the digital divide. This section discusses the implications of the study's findings, highlights the significance of community engagement in HEIs, and makes certain recommendations for future research and practice. The analysis of the data revealed several key findings that are important to consider in the context of community-engaged service learning. First, stakeholders recognise the importance of integrating technology enabled learning into HEIs as a means to enhance the quality of education and address access inequalities. The Covid-19 pandemic has accelerated the adoption of technology in education, highlighting the need to bridge the digital divide and ensure equal opportunities for all learners. The findings underscore the potential of technology enabled learning to promote inclusivity and improve educational outcomes, particularly in the post-pandemic era. Second, the study identifies social injustice and inequality as critical challenges that need to be addressed through community-engaged service learning. Stakeholders recognise that HEIs have a responsibility to engage with communities, understand their needs, and co-create knowledge and solutions to societal problems. By actively involving community stakeholders in research and learning processes, HEIs can foster social justice, empower marginalised groups, and contribute to sustainable development goals. The study also highlights the importance of aligning community-engaged service-learning initiatives with the Sustainable Development Goal 4 (SDG 4) of ensuring quality education. The integration of technology-enabled learning can enhance the accessibility, flexibility, and effectiveness of educational programmes, ultimately contributing to the achievement of SDG 4 targets. By leveraging technology, HEIs can reach a wider audience, offer personalised learning experiences, and provide opportunities for lifelong learning.

Despite the potential benefits, the study acknowledges the challenges associated with technology enabled community engagement in HEIs. The digital divide, limited access to technology infrastructure, and uneven digital literacy levels among stakeholders pose significant hurdles. Additionally, power imbalances, resource inequities, and conflicting knowledge systems and cultures can hinder effective collaborations between HEIs and communities. These challenges call for a nuanced approach that addresses the needs and concerns of all stakeholders and promotes equitable and sustainable partnerships. Based on the findings, it is recommended that HEIs in post-Covid India prioritise the development and

implementation of community-engaged service-learning initiatives that leverage technology. This requires investing in digital infrastructure, providing adequate training and support for educators and learners, and fostering partnerships with community organisations and stakeholders. HEIs should adopt a holistic approach that integrates technology enabled learning, community engagement, and social justice principles into their core missions of teaching, research, and service.

Furthermore, future research should explore innovative pedagogical models and strategies that promote effective community-engaged service learning in technology enabled higher education. Longitudinal studies can assess the long-term impact of these initiatives on student learning outcomes, community development, and social change. Additionally, comparative studies across different regions and contexts can provide insights into the contextual factors that influence the success of community engagement in HEIs.

In conclusion, this study contributes to the understanding of community-engaged service learning in technology enabled higher education in post-Covid India. The findings highlight the importance of addressing social injustice, inequality, and the digital divide through innovative and inclusive approaches. By embracing technology, HEIs can enhance the quality of education, promote social justice, and contribute to sustainable development. However, it is crucial to address the challenges associated with community engagement and technology integration to ensure equitable and meaningful partnerships. Through collaborative efforts, HEIs can play a transformative role in building a more inclusive and sustainable society.

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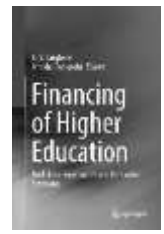

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How Gender Influences the School Participation of Girl Students: Insights from Gwalior, Madhya Pradesh

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Abstract

Education is a human right, as it empowers all human beings to participate in the social, economic, and political processes. But ensuring gender equity in education has always been a crucial element. Regardless of the progress in accessing education, girls are still facing various barriers in education and are more likely to be excluded from educational rights. In this paper an attempt has been made to understand two things, first gender-based factors which influence the participation of girls and, second the role of stakeholders like teachers and parents in girls' education. This is the study of four schools of Gwalior, Madhya Pradesh. This study has adopted qualitative method, and the data have been collected from girls' students, teachers, parents and, block officer through in-depth interviews and observation methods. The study finds that even though the views regarding girls' education has changed, gender-based roles still influence the participation of both girls and boys in elementary schools.

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Introduction

In 1948, when the Universal Declaration of Human Rights came into place, it made education one of the human rights. According to Article 26, every individual has the Right to Education (UN, General Assembly, 1999). But even decades after declaration of education as a human right, many children are deprived of this right. The Jomtien Declaration on Education for All, 1990, observed that millions of children have no access to education, and so it laid gave emphasis on universal access to education. The Dakar Declaration also focussed on free and compulsory primary education (UNESCO, 2000). Education has also been a part of the Millennium Development Goals (MDG), at number four, the objective of which is to achieve Universal Primary Education by 2015 (UNDP, 2000). In continuation with the purpose of MDG, Sustainable Development Goal (number 4) stressed on ensuring inclusive and equitable quality, to promote lifelong learning opportunities for all (UNDP, 2015). In all the international declarations, gender equity has been placed among the important goal and objectives. Ensuring gender equity has always been a concern for Government. The Sustainable Development Report (2019) mentioned that in spite of the progress in educational opportunities, 262 million children and adolescents (6 to 17 years old), were still out of school in 2017. Among this group, girls are more vulnerable at the global level, as 118 girls were out of school for every 100 boys.

In India, to mitigate the gender disparity, most educational programmes have emphasized on bridging the gap and bringing gender equity. The District Planning and Education Programme (DPEP) was initiated in 1991, drawing from policy guidelines 1986, and focussed on providing opportunity to each and every child irrespective of gender. This programme incorporated gender perspective in all aspects of the planning and implementation (Ramachandran, 2002). Another major program Sarva Siksha Abhiyaan (SSA), emphasized on achieving universal elementary education by bridging the gender and social disparities (Ramachndran & Chatterjee, 2014). Samagra Shiksha (2018) subsumes the three schemes of SSA, viz Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and Teacher Education (TE). It emphasises on bridging the gender and social gap in school education (MHRD, 2018b). Several other progressive initiatives have also been initiated, from residential schools for girls like Kasturba Gandhi Vidyalayas to Mid-Day Meal, in order to expand the access and improve the quality of basic education being provided, especially for girls (UNGEI, 2012). Thus, the government has been making several efforts to make education accessible to all. Despite having such enabling policies, however, girls in India still suffer from widespread prejudices (Bandyopadhyay, 2012).

Gender-based discrimination is a front of struggle for most of the developing countries. As Aikman et al. (2011), pointed out, developing countries needs to explicitly recognise and help in realising the rights and capabilities of all women and girls, and all men and boys. This demands an understanding of how gendered inequalities are experienced, maintained, and reinforced, not only in school but in the community. The link between nation development and female education was also discussed by Bandhyopadhyay and Subramanian (2008) they stated that female education has strong correlations with other dimensions of human and social development. Yet, despite strong economic and social evidence of the high returns to female education, most communities continue to under-invest in female education relative to male education.

Women in India

If we look at the status of women in India, they account for 48.5 per cent of the total population of India, and of it 64.63 per cent are literate (Census, 2011). Out of the total women population, 25.51 per cent women are part of the workforce, against 53.26 per cent male (MoPSI, 2018). India ranks 10th from below in the female labour force participation rate (22.3 per cent), (World Bank Development Indicators 2018). It implies that 3 out of every 4 women in India over the age of 15 are neither working nor seeking work. The low participation of females in the workforce can be attributed to their low status in education. The Gender Parity at the elementary level was observed at 1.05 per cent in the year 2016 (MHRD, 2018a). The dropout rate of girls was 6.42 per cent at the upper primary level in the year 2017 (U-DISE, 2017). The enrolment of women in education has improved but retention and transition still remain an issue. As per NSS the 71st Round, in rural India, the primary reason for dropping/discontinuance of education in the age group 5-29 years for males was engagement in economic activity, while for females, the primary reason for dropping out was engagement in domestic activities (MoPSI, 2018).

Why It is Important to Understand the Gender Gap in Elementary Education

Nambissam (2005) opined that society classifies attributes and qualities into 'masculine' and 'feminine,' which is dominantly reflected in the practices and culture. On the basis of this classification, specified roles, resources, and entitlements influence the opportunities for women. Furthermore, she added that in India, other dimensions also contributed to gender discrimination, like social structure such as caste, class, community status which also influence the participation of women in the educational institution and larger society. The realisation of gender equity in education is a serious issue of social justice, it is a more complex notion than gender parity and it is difficult to measure. We thus need to move beyond counting the numbers of boys and girls in a school to explore the quality of girls' and boys' engagements in the classroom, and their accomplishments in education institutions, (UNESCO, 2015). Education quality needs to be evaluated along several dimensions, including how well girls are prepared to start and continue school; how well are they received by schools and the extent to which teachers are prepared to meet their needs and uphold their rights; how safe the schools are as places for learning and how fulfilling they are in providing an overall gender-sensitive environment that is conducive to learning. Low-income countries can be successful in providing quality education only when they explicitly recognise and help to realise the rights and capabilities of all women and men. For the realisation of capabilities and rights, it is vital to understand the gendered inequalities which are experienced, continued and strengthened not only in school and through schooling but in the different social context which may deny rights to girls and boys differently and undermine their experience of education and the value it could have for their lives beyond school (Aikman et al, 2011). Therefore, to understand the influence of gender on girls' participation in elementary school, this paper has focussed perception of teachers and parents on gender roles and gender-based practices in school and their influence on girls' students. The study has selected Gwalior, a district of Madhya Pradesh, based on different

rationales drawn from the external factors contributing to the participation of girls' students in school.

Objectives

1) To explore the role of gender on girls' participation in elementary schools.
2) To understand the role of teachers and parents in girls' participation in elementary schools.

Methodology

A qualitative method was used to explore and understand the perception of teachers' and students' participation in school. The study was conducted in Morar, one of the four blocks of Gwalior district of Madhya Pradesh. Two villages have been selected for this purpose by using purposive sampling method based on literacy rate, availability of private and government schools, population, and school enrolment. Four schools: two government and two private schools were selected from the same villages as sample schools. The rationale behind choosing two different villages is to study the diversity and differences in the two different villages and their impact on girls' participation.

For the selection of the research site, purposive sampling method was used. First, the block was selected on the basis of literacy rate and educational facilities. Then with the help of U-Dise, a few villages were selected based on the availability of both private and government schools. Schools were selected on the basis of total enrolment of girl and boy students, numbers of teachers and, co-educational facilities. Convenient sampling was done to select, the parents and the teachers, from all sample schools. Purposive sampling method was also used for the selection of students for informal interaction.

Data Collection tools

First, a semi-structured interview schedule was used for the head teacher, teachers, students and parents. The questions were different for each stakeholder. Second, an observation schedule has been used to understand the gender-based practices in school and to verify them with the responses of the respondents.

The number of participants was as below:

Head Teachers – 4 (1 Head Teacher from each school),
Teachers – 20 (5 teachers from each school),
Parents– 20 (5 parents from each school),
Students – 24 (6 students from each school),
Block Officer – 1,
Total – 69

Overview of Madhya Pradesh, Gwalior and Morar

Madhya Pradesh has a literacy rate of 69.32 per cent, with 78.73 per cent literate males and 59.49 per cent literate females (Census, 2011). This gender gap of 24.24 per cent points is quite high. Rural female literacy is 48.49 per cent, lower than the state female literacy rate

(Census, 2011). 82 per cent of children between the ages of 6 - 17 years in Madhya Pradesh are attending school, and the attendance rate of these children is 90 per cent, in which 62 per cent are girls, as compared to 67 per cent boys who are attending school (NFHS 4, 2016). Out of 29.3 per cent of women with ten or more years of schooling, 49.1 per cent of women are from urban areas, while only 21.7 per cent are from rural areas (NFHS 5, 2021).

The literacy rate of Gwalior is 77.9 per cent. Gwalior (Grid) is one of the four Tehsils. It has the lowest sex ratio 864, as compared to the other tehsils. According to NFHS- 5 report 76 per cent of women are literate but only 37.9 per cent of women are with ten or more years of schooling As per NFHS – 4 report, out of 67.1 per cent literate women, 47.5 per cent are from rural areas.

Gwalior district has four blocks – Morar, Ghatigao, Dabra, and Bhitarwar. The literacy rate of Morar is 67.42 per cent, the highest among all four blocks. While the male literacy rate of Morar, is 79.69 per cent the female literacy is much less with only 52.37 per cent females are found literate according to 2011 census indicating a considerable (27.32 per cent) gender gap in literacy rate, highest in all four blocks. In addition to lower female literacy rate, the sex ratio has also been recorded as 815 (lowest in all four blocks), and the Child sex ratio is 810 (Census, 2011) indicating lower status of females in district. This indicates, the Morar block has witnessed considerable disparity in literacy rate. Thus, despite being located in Gwalior which is a comparatively advanced district amongst 45 other districts of Madhya Pradesh, the study area of Morar is still lagging behind in education. For this study, two villages named Utila and Sirol have been selected and from each village, one government school and one private school have been selected as sample schools.

The Demography of Sirol

The literacy rate is 72.79 per cent, with 84.25 per cent male literacy rate and 58.39 per cent female literacy rate. The Sex Ratio is 804 with the child sex ratio (0 – 6 years). According to local sources, around 600 families are living in the village. Farming and labour jobs are the primary earning sources for the families. It has been reported by members of focus group discussion that most of the families living in this village are from lower and lower-middle-income groups. The village has been provided with several government facilities like one primary health care centre, one Anganwadi, one Government Primary school, one Upper Primary or Middle school, one higher secondary school, and three Private schools. The high school was situated in a nearby village which is 3.5 km far away from the centre of the village.

The Demography of Utila

The literacy rate is 69.01per cent, along with 81.05 per cent literate men and 54.39 per cent literate women. Most of the people of this village are financially sound, engaged majorly in farming, and most of the youth are employed in private jobs in the urban Morar. This village has one Ashram Shala, three government Primary, one middle, and one higher secondary school, and five private schools along with one pre-primary private school.

Empirical Evidence

This is based on the analysis of the data obtained from in-depth interviews with teachers and parents, observations of school activities, and informal discussions with students.

Factors behind Dropout

After getting enrolled, there are a number of factors that are responsible for the students' flow in the education system. Not every child who enters the education system attends all the stages of education. To understand the situation from gender perspective, the issues of drop out were discussed with the teachers. According to the teachers, because of 'No Detention Policy', the dropout remains low, and students did not repeat the class. But after the elementary level, the pupil needs to perform better in exams to get promotion to the next grade. If they are unable to perform well, then the school would observe a rise in the number of repeaters and `dropouts. It has been observed that repeating the same class is not always an option for girl students. In the year 2017 in Morar Block, the repetition rate of boys at the upper primary level was 1.29 per cent, while that of girls was less (1.18 per cent), the dropout rate of boys at the upper primary level has been observed to be 10.55 per cent, and for girls, it is 15.53 per cent (U-Dise Reporter Module, 2017). It implies that even though girls are performing better than boys their chances of drop-out is higher than boys. Teachers said due to the 'No Detention Policy', many students are not able to perform well in further grades. However, it means that the teachers as usual tend to blame students for not learning in the initial classes but do not find any problem in teaching-learning process. As a result, students either struggle in higher classes or choose to leave the education system altogether. According to the head teacher of the Government School, in Sirol, both boys and girls accomplish average marks, while at the secondary level, unqualified students, especially girls, drop-out.

Are schools themselves promoting gender roles?

This theme would help understand the environment of the school, which plays a significant role in participation of students.

Government Schools: In both the government schools, a number of non-academic activities were observed during the data collection process. These activities included moving chairs and tables from one place to another, arranging utensils after lunch, bringing register, copies, chalk or duster from staff room or other classrooms and calling someone parents or some other person from the village, bringing vegetables, sugar, milk, and arranging drinking water, filling teachers' jug or bottles, etc. In both sample schools, out of ten, seven teachers said that girl students were good at managing classrooms, like maintaining discipline or can look after the primary sections in the absence of a teacher. While some teachers said that they could not give the responsibility of classes to boys, as per them, boys were stricter than girls, but they cannot handle the primary classroom. Teachers said girls are the mother, and they should be taking care of the family members. Due to this thinking, primary classes are assigned to girls. All the respondents said that girls could do work inside the classroom and school, like attending primary class students, bringing water and removing teachers' utensils after lunch. In contrast, boys can do outside's work, which includes calling someone and

carrying rations. According to a male teacher of the Government School in, Utila, the government asks not to perform any task by students, but girls do work in their home also and school is also their home. Teachers were manipulating their own statements and were giving out responsibilities as per the gendered role. Since there is a culture of not to say anything and listen to everything said by the teacher, the gender roles are perpetuating through the assignment of non-academic work. The parents were aware of the work which their children perform in the school, while the parents whose boys were studying in these schools were against this culture. However, out of 10 parents, seven were not against this culture if the task is only being performing by their girl child.

The School routine used to begin with girls cleaning the room/s and corridors, and boys arranging the mats or desks. These tasks were assigned to them by their teachers. In Utila, it was the culture of that school that after lunch, all teachers used to sit in the playground and use to have tea, despite having helpers and cooks, senior girls were asked to serve tea. In the same school, girls were engaged in several tasks. They were removing utensils, class 8th sat on the floor, and in that class, it was the responsibility of girls to rearrange the sleepers, and the role of boys was limited to assisting only. The non-academic activities were minimal for boys. They only needed to bring vegetables or call someone. This shows how patriarchy creeps in for girls in every socio-cultural set up including school. Out of 10, only one teacher was against the idea of giving work to the girls, and only three parents opposed the culture of gender-based role in schools. It shows that the majority of people from society, whether educated or uneducated, do not find anything wrong in giving household-related tasks to girls. This pattern of work was observed in both government schools. The hierarchy of assigning gender-based roles is not only limited between the teachers and students. Students who received tasks from the teachers used to pass on this wisdom on to the primary students. This can be seen from the culture of silence where teachers and parents impart their notions on girls, and girls are receiving them without any questions. Receiving knowledge as it is, is mostly seen in the girls who remain silent and who are from underprivileged category. The experience of these girls further motivate them to drop out. This concern was also discussed in CABE report (2005), it stated that discriminating, humiliating and, isolating experience of underprivileged children not only hurt the emotions of child, but turn out into one of the reasons for drop out. The environment, language, and attitude of teachers and parents all practice the gender discriminatory practices (NCERT, 2006). It indicates that girls who are already oppressed by their surrounding received knowledge and instructions without any question.

Private School: All the respondents from private schools opined that they don't give any task to students. Out of ten parents, nine parents said that they don't send their children to private schools for the purpose of doing chores, while one parent wondered, what was wrong in doing some work, if madam ask for something, then my child would do it. In Utila, both boy and girl students were involved in work like arranging the game room or library while in Sirol, except for bringing study materials from the staff room, students were not supposed to do anything else, and this task was being done by both, boys and girls. Unlike government schools, private schools do not give any non-academic tasks to students. Both private schools had human resources, which performed all the other tasks. Although government schools also have helper but their duties were restricted to Mid-Day Meal only. The parents from private schools also do not support the idea of their children performing non-academic work in the school. It may be due to the higher involvement of parents in

private schools as compared to government schools. Private schools are accountable to parents and village, as they were paying the fee. This concern was discussed by the Mehrotra and Panchmukhi, (2006) they opined that compared to private schools, teachers in government schools might have poor teaching activities because of their low accountability.

This difference between the government and private schools indicates that private schools are more responsible towards studies while government teachers have an irresponsible nature towards student needs. Juneja (2010) cited De et al (2005) in her paper and argued that, in most of the government schools teachers neglect the need of children while teachers from private schools are more accountable and hard workers towards the need of students. It means that the motivation and accountability of government school teachers are lower than the private school teachers. It could be because of many factors like private schools have to perform better to increase enrolment and parents are more involved in private schools than the government schools, consequently teachers need to perform better. While government school teachers do not feel accountable because parents are not interested in their child's study (according to the head teachers from both government school). This situation can only be changed if parents would track their child's study and teachers will change their attitude towards student.

Teacher's views on the participation of students in Extra-Curricular Activities

Government Schools - Three teachers from Sirol, opined that girl students are good in organizing festivals and decorations. The school scheduled one block period of Art and Craft for Upper Primary classes every Saturday. During functions, they promoted girls to use their Art and Craft skills, giving garlands to the guests while the role of boys during celebration days is limited to only moving heavy things like table or chair from one class to another. Nambissan (2005) also opined that in schools, girls can be found doing 'light' and decorative task, while boys are called when task is perceived as acquiring 'strength'. It implied that only girls are being promoted to learn Art and Craft. The girls are chosen for "feminine" work, which is fragile and doesn't need any muscular efforts, while boys need to perform only "masculine" work, which requires some physical strength. It indicates that decorating homes during festivals or cooking dishes is the duty of women, and the same culture was being followed in the Government School, Sirol. The same thinking about girls being delicate and boys being muscular was observed during the interviews with teachers in, Utila. Out of six teachers, five believed that boys are rougher and more interested in playing harsh games. It included games like Pakdam Pakdai, throwing balls at each other, 'kabaddi but in a more intense way,' running around etc. As one male teacher said both girls' and boys' play kabbadi, but boys' kabbadi match is much more aggressive than girls'. On the contrary, it has been observed that there were groups of girls in both the Government schools, who were more athletic and were also playing the 'rough games'. Similarly, there were boys in class 5th and 8th who were good at making Rangoli and designing, which, according to teachers, is the expertise of girls. The perception of teachers is influencing the students' interest, as well. The attitude of teachers taught both girls and boys about gender-based participation in extracurricular activities. One of the female teachers said that her boy is good at crafting Mehndi designs, and she always supports him, but he never shows his designs to other

classmates because he has experienced bullying from his peers. This implies that gender roles affect the hobbies and ambitions of students. Society will demotivate a girl if she wants to be a sportsperson and a boy if he wants to become a beautician. Teachers motivate and reinforce girl students to perform in art and cultural events, and boy students to become more muscular and harsh. These practices affect students' learning and so they imbibe gender-based role division and suppress their aspirations/interests. It was thus found that most of the male teachers promote gender-based participation of students in extra-curricular activities. Thus, despite government's aim of making school gender friendly, there is a stronger need to prepare the stakeholders- teachers and administrators and parents, who are directly dealing with students.

Private School – In Sirol, resources for both sports and art activities were available, but the number of girl participants were less. Out of five teachers, four teachers said that they encourage girls to take part in every activity, while one other male teacher said that these are village girls, they won't learn to play badminton. The head teacher said that sport teacher is preparing a basketball team of senior boys, so they can participate in inter-school competitions. As per the head teacher, boys were more interested and physically fit for sports games. There were few interested girls, but since the number was so few, they couldn't form a team. He said, we focus primarily on the boys because senior girls are hesitant and for primary girls, there is always a risk of injury, and we have facilitate indoor games for girls. Proper guidance and encouragement are not being given to the girls, and the teacher ends up thinking that girls are not interested in sports. It has been observed that there are divisions at many levels in sports. Boys overpowered girls because they have been taught to do so by their teachers. In the playground, they were dominating and girls are being conquered by them as well as by the teachers. This relation of teachers and boy students with the girl students is discouraging girls from pursuing their interest in every activity and subject, which is dominated by the boy students.

According to the head teacher of Utila, every student was attracted to sports and cultural activities irrespective of their socio-economic background. He said, girls too are winning gold medals for the country, so there is no difference between them and boys. He advised, to increase the confidence of students, the teachers celebrate sports day every year, where in every game, both girls and boys participate. According to a female teacher, every month, the head teacher allotted the duty of organising different games to students. All the five teachers said that while girls were good at making Rangoli and decoration, they all were trying to push girls into sports activities too. One of the teachers said that boys are naturally good in games. She said that they have a "God Gifted Talent" to excel in any sport, while girls need more guidance and coaching. Thus, private school of Utila was more inclusive and gender-friendly, but there were few teachers believed in following gendered roles for students. Gender-based participation has been found in both private and government schools, although the approach of dealing with it was different in all the schools. The number of activities is limited in government schools, which impacts the participation of girls in school. However, private schools have various extracurricular activities, and with the engagement of parents and teachers' awareness, students are getting the opportunity to participate in all the activities.

Role of Female Teachers and their Influence on girls' participation

The attitude of female teachers was found to be more gender-friendly than the male teachers. In Government School, Sirol, two female teachers, said that they always tried to create inclusive groups during the activities. However, students themselves were reluctant to play with each other. It has been observed that in Private School, Sirol there were two sports teachers, both male, while music and dance were taught only by female teachers. Hence, when teachers themselves would not participate in all the activities, inspiring students to participate in sports and art becomes a difficult task. The Private School, at Sirol had the highest number of female teachers, but despite that, most of them were a little reluctant.

In the Government Middle School at, Utila, out of two female teachers, only one used to come while the other was on leave. She was found to be quite a gender friendly as compared to the other teachers of the same school. '. Parents also knew her, and she used to have informal interactions with the Mid-Day Meal helper. She was more connected with the students and parents as compared to the male teachers. In the Private School at, Utila female teachers were putting in more effort with students during assembly and lunch hours. One of the teachers said that she herself faced problems in getting an education, so she tried her best to provide opportunities to both girls and boys. It is evident from the above discussion that female teachers were making the school environment more comfortable for girl students. Female teachers were found to be more interactive with every student. Although the practices of most of the teachers were promoting gendered behaviour, it has been observed that many girls used to talk to only female teachers. Teachers' behaviour was also affected by their social and cultural environment. For example, in the Private School at, Utila they were found motivating and giving a chance to everyone, because they have been taught by the head teacher, to make sure the participation of children remains intact. On the other hand, in the Private School at, Sirol head teacher had no such communication with the teachers. So, in his school, female teachers were more conservative and kept their job limited to teaching only.

Awareness of Teachers and Block Officer on Gender Equity

Teachers were not aware of the term “gender equity” and “gender-based participation in education”. One teacher said it is gender equity is when all children are attending school, another said it means that girls would overpower boy students. Except for one head teacher, no one else was aware of the terms like gender parity, and gender-sensitive. Both, government and private school teachers had never attended any workshop on gender issues they did not know about the girl specific programmes being run by the state government. One teacher said "*han ladkiyo ko cycle to di jati hai*" (Yes, cycles are distributed to girls). The block officer thinks they have achieved gender equity, as most of the girls attend school. He was familiar with the schemes for girls, and he argued that incentive and scholarship should not be given to students as incentives which are provided to girl students, are further utilised by their parents. He did not seem to be aware of the objectives of providing incentives, as he argued that the scholarships should be given based on the rank of the students. He said that giving scholarships do not make any sense. The main stakeholders who are working on the ground level are not aware of the terms like 'gender equity' and

'sensitivity.' Although many parents are sending their girl children to schools because of availability of scholarships, but it is providing chance for girls to access school. It is the gendered environment that is pushing girls out of the education process. Incentive merely provides the accessibility. The concern of retention can be mitigated only by making people aware and sensitive.

Is Introversion a sign of dumbness?

Under this theme, the present researcher seeks to highlight the judgemental attitude of teachers and parents affecting girls' performance in studies. It was found during the classroom teaching-learning process that the mathematics teacher from Government Middle School of, Utila was engaging more with boys as compared to girls. It impacts the participation of girl students in mathematics, and as a result, they tend to dislike this subject. In the year 2018, in rural areas, at the all India level, 50.1 per cent of boys in the age group 14 to 16 could do division, while for girls, the figure was 44.1 per cent (ASER, 2018). Except for the Private School of, Utila, boys were being favoured in all the others. The girls were being discriminated against, and within this category, girls who were quiet, shy, or not good in maths were being pointed out by the teachers specifically. Girls are being discriminated and it was as remarked by a teacher that 'their brains are less developed than the boys and they need more assistance as compare to boys'. In the same context, a parent said that his boy is good in maths but his daughter is not because of gendered reasons; it was reflected in his statement: "She is quiet, and so her intelligence level is low, the boy is mischievous, but is smart in studies". Out of ten teachers, eight said that students who sit behind don't study well. Even if the teachers ask them to sit in the front, they go back to their old space the very next day. According to them, most of the girls who were not interested in studies prefer to sit in the last row or in the corner. It was observed that girls who remain silent, or a bit reserved, like to sit at the back. It implies that teachers are not trying to involve them in the learning process. In society, people from lower castes are oppressed by the higher caste. Similarly, in the classroom, students who are not involved much in the learning process are oppressed by the intelligent students and the teachers also. The students who remain silent were from the lower castes, and the vocal children were from the upper classes. The former kind of children stay silent and never speak against the discrimination, and the culture of silence suppresses them even more. In the Hindi class in Government School, Utila, it was found that the same students who were quiet and nervous in maths class were participating, even though the element of shyness was still there. The teacher's comments were less directed towards them as compared to the maths teacher. It means if these children are not pointed out by the teachers with insensitive remarks, they too can participate in the learning process. During informal interaction, boys who used to get nervous in front of teachers, were engaging in discussions with the researcher, and they also received support from other classmates. However, some of the introvert girls always remained silent. In Sant Joseph, Sirol, a girl student from class 6th, had not been participating in the discussion, while she was being encouraged by some students to talk, the other students kept pulling her leg. The difference between the participation of reserved boys and girls indicates that even boys are diffident or shy. However, they get motivation from the school and their family, but the same does not happen with girls. It has been analysed that girls who are branded as "Sharamili" or "Seedhi" (Shy and quiet), have visions also. But they are being suppressed by the teachers

and the parents. Girls' responses on their future vision included: will do household chores, will only go to a college if their parents allow, while boy Students, would open up a shop, become a teacher. The analysis highlighted that because of the discouragement received by teachers and parents, girls lose their interest and hopes for education. After a certain time, it becomes a reality for them that they are meant to take care of the house. It is not only creating barriers for girls to receive education, improving the quality of their lives, but also hampering gender equity in education. As Aikman and Unterhalter, (2005) said that development of freedoms against violence and discrimination is vital to achieve gender equity in education.

Loquacious: Sign of "Over Empowerment"

There were groups of a few girls in all schools who were dominating and were favoured by teachers. They were not the class monitors, but a group of active and intelligent girls. Teachers of Utila symbolized them as "Neta", as according to them, these groups can easily be recognized in a "crowd" of students. Two male teachers from the same school said that, these girls have absolutely suppressed our boys, "humare school ki ladkiya jyada he empower ho gayi hai" (Girls of our school are too empowered). Head teacher of Government School, Utila, said that women are dominating men inside as well as outside of the house. The head teacher of Government School, Sirol, said that because of this gender equity, girls are "over-empowered," and now they are dominating boys. The tradition of being humble and responsible is being forgotten by the girls. In Government School, Sirol, male and female teachers do not interact informally. One of the female teachers said that the male staff is more arrogant and avoids interaction with female teachers. In R R convent, there were active girls group, but they were not being labelled. Teachers' attitude towards girl students is very judgemental. Teachers are labelling them, either as "silent incompetent students" or as vocal "Netas," while dominating boy students are being ignored by the teachers. It implies that boys' dominating attitude is seen as normal behaviour, but girls' dominating behaviour is frowned upon. It is clear that an attitude on part of teachers towards girls cannot create a gender-just environment. Society is unable to accept vocal girls, as it is against the patriarchal norms. To make women empowerment a reality, people need to revisit and understand their patriarchal attitude to make a gender sensitive society.

Theoretical Understanding

Paulo Freire's concepts in the Pedagogy of the Oppressed has been taken to understand the influence of gender on girls' participation in elementary schools. The study is looking at the relationship between **Oppressors and oppressed**, from the perspective of school as well as society. This theory helps to understand by what means a girl who is already oppressed in a patriarchal culture is facing discrimination and being oppressed in the school also. According to Stromquist (2014) Freire's concept of the oppressed and the oppressor, is a binary situation in which we are all involved, has brought challenges to a simplistic understanding of liberation. The school environment is also not apart from the relation of oppressor and oppressed, as Freire said that education is political and, as such can never be neutral. **Culture of Silence** - Freire talked about the culture of silence, where no one can speak against the knowledge of the teacher. This culture he relates to the concept of

"Banking System," where a teacher deposit understanding in the mind of students, and they collect this information and memorise it (Freire, 1985). In the context of influence of gender on girls' participation, this concept is very relevant. It helped in analyzing whether the teacher is giving any space to girls' where they can also share their views instead act only at the receiving part. The Culture of silence in schools and in the relationship of teachers and students, reinforce both girls and boys to play their gender assigned role. Rugut and Osman, (2013) stated that within the established power of society, banking system works as a negative influencer and demolish individual by conditioning them to accept and practice the social and political affairs of the dominant culture. Freire saw culture of silence as fabricated generosity from the dominant group who are oppressor who use teaching as a way of governing and regulating people who are turn in to the oppressed.

Both concepts can be understood in the realm of society and school, in which girls are taught how to walk, how to eat, what to aspire, how much to think, among many other things. In this process, most of the girls are being suppressed by power or dominance of the society, and they never become empowered. According to Freire (1970), oppressed has to lead the struggle for the protection of humanity. Only then will he not turn in to oppressor. So, to mitigate the culture of silence first, the oppressors (in the case of education- Parents, Teachers, and Students) need to retain the humanity so that this process could be stopped. The culture of silence, learnt from society and school, can be alleviated if an oppressed person, instead of turning in to an oppressor, would preserve the humanity. It will lead to a break in the power structure between men and women, and everyone will be equal. According to Stromquist (2014), breaking the culture of silence is the only method through which gender-based discrimination can be ended.

Silver Lining

It has been found that out of the four schools, only one Private school at, Utila was promoting a gender-friendly environment in a more efficient manner as compared to all other sample schools. It was good to see that despite being located in a village-like Utila, which is situated in the interior of Morar, follows a patriarchal system, divided into different social categories and where only 54.39 per cent females are literate, a school was promoting girls' participation not only in school but is also encouraging them to become a part of social and economic development. Instead of hiring teachers from the city, this school preferred local teachers so that students can make connections with the teachers, and teachers, too, can understand students' social and cultural profiles (As mentioned by the head teacher). It was also supporting few students who could not afford the price of stationery and other yearly activities. This school could be a role model for the other schools, they can take inspiration from this school that, gender equity can be achieved. Hence, it won't be a surprise if girls who reside in rural areas, face exclusion, lack of access to participate in school, can also perform well and aspire to become what they want if they get an equality of opportunities. It is just because of gender-based norms and beliefs which are still prevailing in society particularly in rural areas of Madhya Pradesh, the girls are vulnerable to educational and social exclusion.

Findings

This paper brings out that in Morar block, there are visible influences of gender on the participation of students. The participation in curricular and extracurricular activities is still based on the gender of the students. Schools have become an additional space where gender stereotypes are being reproduced. As observed in the study teachers force girl students to remain preoccupied by engaging them in gender-based non-academic work of school leading to loss of precious time that they could devote to academic purposes. This discrimination is visible not only in the classroom but also in the playground, in terms of participation in sports and games, as sports teacher also reinforce gender-based selection of activities. The study shows that how the prevalent patriarchal values are pushing the girls out of the education system and forcing them to follow gendered roles constructed by society. Most of the parents interviewed in the study shared their preference to educate their sons over their daughters. Parents expressed their preference for daughters to first fulfil domestic responsibility over their education. The stakeholders, like teachers and local administrations showed ignorance towards the existence of any gender discrimination, they didn't even were aware of the terms like gender parity, gender-sensitive, and gender equity. Despite many government programmes for improving the education status of girls, there has been a narrow approach at the implementation level, and so these programmes fail to achieve gender equity in school education. Indicators like enrolment, drop out, and the transition rate only tells us about numbers. However, in order to retain a child in the education system where she can actively participate, and make herself capable of contributing to the nation's development, policymakers need to understand the system which pushes children, and more so the girl children, out of the system. Each case of not enrolled, drop out, or poor performance needs personalised attention. It does not merely seek the attention of parents or teachers, but demands tracking of such cases for over a period of time, so the events around a child can be captured and analysed. Thus, the mere provision of incentive is not helpful in retaining girls' students at higher level of education.

Conclusion

After independence, India endeavoured to provide education to all by transforming the colonial and elite school system inherited from the past. Policymakers implemented several educational programmes with the commitment to providing education for all. Since independence till now, India has achieved significant growth in education. The number of schools and teachers has increased with other essential resources like classrooms, drinking water, toilets, electricity, etc. Education is now a fundamental right, according to Article 21A, for the age group of 6 to 14 years. Due to the expansion of school infrastructure, the non-availability of primary schools is no longer seen as a foremost cause for the low participation of children (Govinda & Bandyopadhyay, 2008). But even after the growth of the national education system, the participation of girls remains low. According to Bandyopadhyay and Subrahmanian (2008), most of the girls still find impediments in entering schools and continue their education. Situations in states like Bihar, Rajasthan, Uttar Pradesh and Madhya Pradesh are the worst in the matters of girls' participation. These states are also infamous in terms of violence against women and girls. Security of school going girls and female teachers is a matter of concern in many areas of these states. The fundamental

educational problem for women, whether poor or rich, concerns with unquestioned, non-problematized gender biased nature of schooling. Policy makers and school administrations should understand that gender equity is not an add on in their work, instead, it needs to be in the understanding and in practice (Bandyopadhyay, 2019). To understand and mitigate those factors, we need many more such researches in this area. More studies are needed on the interrelation of patriarchy, poverty, and location, which affects the education of girls. This study is expected to be useful for further policy planning and administrative reforms and for undertaking various other initiatives including capacity building of teachers and other stakeholders. In nutshell, the onus is on governments to ensure equitable access for all children to quality school education at the elementary as well as higher levels.

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Book Reviews

BHUSHAN, Sudhanshu (Ed.) (2019): ***The Future of Higher Education in India***, Singapore: Springer, pp. XII + 328, ISBN: 978-981-32-9060-0 Price: ₹ 11,815.00 (Hardcover)

Higher education is the one of the most important catalysts of socio-economic development, prosperity and competitiveness in any country. To imagine the future of higher education it is indispensable to investigate and analyse the past to draw meaningful lessons from the genesis and expansion of the tertiary education system in India. Initial chapters of the book attempt the same. The book under review is not a book about the future but is a critical scrutiny of the various policies, programmes, structures and endeavours of the present and past and their projections on the future of higher education in India. The book broadly discusses three main themes. First, under the 'Structure' theme, it investigates the historical, political and ideological foundation of the university system and its implications on the future of higher education in India. Secondly, the book discusses issues of governance and shifting trends of financing in higher education in India. Thirdly, it analyses issues of inclusivity and sensitivity in higher education through the capability approach of Amartya Sen and Martha Nussbaum. A wide range of issues from the very philosophical idea of a university, the impact of global politics on higher education, emerging trends in financing of higher education, capability development of various stakeholders to issues of regulation, autonomy, governance and their future implications on quality of higher education is critically analysed in the book.

The first part of the book comprises six chapters which discuss various aspects about the structure of higher education in India. Mona Sedwal examines the emergence and expansion of higher education in India in colonial context, she also analyses the changing character, nature, role, function and governance of Indian universities with reference to major transformations in different historical contexts. However, she underlines that the university system in India continues to carry colonial legacy till today and needs Indianisation and democratisation. Idea of democratisation of Indian universities is carried forward by Prof. Sudhanshu Bhushan, author of the chapter "Future of Higher Education: Conceptualising Teacher's University," who further reinvigorates the idea of democratisation of Indian universities by reinforcing Dr Ambedkar's concept of teacher's university in Indian higher education. The author states the view of Dr Ambedkar to invoke the agency of teachers in matters of teacher appointment, promotion, examination, administration or any other academic or non-academic affair of the university instead of authoritative control of bureaucratic and technocratic administrators.

Prof Bhushan comprehensively analyses in this chapter that Ambedkar's concept of reinstating the agency of teachers in the administrative centre of the university is the democratic solution against the fragmentation and compartmentalisation of higher

education. He points out that authoritative control of teachers in all affairs of the university is a prerequisite for development of Indian universities as the Humboldtian idea of university. Public discourse in the higher education arena is not isolated from market-oriented values of privatisation, efficiency, competition, etc. Idea of a world-class university is also the brainchild of a globalised market economy which believes in quality enhancement through promotion of competition, efficiency and ranking based framework. Saumen Chattopadhyay, the author of the chapter, "World Ranking of Universities: What does It Entail for the Future" and Aishna Sharma in her paper on "The World Class University Discourse: Disentangling the Conflict between Efficiency and World-Classness," critically examine the new public management policy and its role in governance of public universities in context of ranking based world class universities. According to the authors, the new managerial approach in governance of universities is an attempt to reduce the public character of universities by giving them pseudo-institutional autonomy to follow business approach in governance of the university. The authors note that the new public management model alters the very character of the public university in the name of accountability, output and fast decision making and creates a harmful hierarchy among universities. They analyse the power-knowledge relationship between market and university and reveal that functioning of universities may be controlled by need of the market and university may surrender its institutional autonomy to align with the changing needs of the market-based economy. According to these authors, universities will deviate from the function of knowledge generation to catering the short term needs of the market. Thus, the very character of a public university may be altered through world-class university discourse.

Prof Manisha Priyam makes an interesting case of the dilemma of institutionalism of public universities in her paper titled "Global Wars, National Legacies and State Controls: The Dilemmas of Institutionalism of Public Universities." She also points out that despite the talk of a globalised plural university system, the balance of power in higher education is tilted towards core countries and there is a significant outflow of resources from periphery countries to developed countries. According to the author, the future of higher education in developing countries like India and China is dwindling between national and global expectations. She proposes a contesting and deliberative framework for Asian universities amidst all the existing conflicts and confinements to overcome institutional dilemmas, to maintain public character and to claim global institutional space. University, as an agency, has a very pivotal role to play in the higher education sector. Nowadays private universities have a big say in the future of the higher education sector in the modern era of privatization, liberalisation and globalisation.

In her paper on "Idea of a University: Rethinking the Indian Private Universities Context,'' Sangeeta Angom analyses the burning questions on philosophical idea, financing, governance, nature, characteristics and functioning of private universities. Author revisits the idea of a university from the perspectives of Immanuel Kant, Karl Jasper, Habermas, Humboldt, Newman, etc. She visualises public universities as a common, free and shared public sphere for research, teaching, training and knowledge generation for the benefit of the community.

The author also notes the role and importance of public universities in India and their changing character with respect to the socio-economic character of the Indian soil. Angom highlights the circumstantial emergence and expansion of private universities from the new

liberal economic policy of the 1980s. According to her, market driven private universities are continuously challenging the ethos of the idea of a public university. She highlights the dire need of policy intervention by the state to safeguard the character of publicness in modern Indian universities for the sake of a better future of higher education in India.

Thus, Part I of this book is an attempt to establish the existing structure of higher education in the country by tracing the past and present of higher education through multiple perspectives and lenses. Although the book is authored by multiple authors, there is a coherence among composed chapters to convey a collective and synchronous idea. For example, the first chapter by Dr Mona Sedwal traces the historical trajectory of the university system in India. The very next chapter by Prof. Bhushan prepares ideological ground for the concept of a university through revisiting Dr Ambedkar's idea of a teacher's university. Upcoming chapters in the section critically analyse some contesting ideas of higher education, e.g., the public-private debate in the context of higher education, ranking based framework for quality assurance, debate regarding market guided policy interventions and developments due to geopolitical contestations in higher education. Each chapter is complementary to others and ideas in this section are interwoven beautifully with shared arguments. As a reader, one will find a great amount of information, coherence, novel and critical arguments and thought-provoking realities about the structure of higher education in India and its possible implications on the future of higher education in India.

Second part of the book, comprising five chapters, is on the financing of higher education in India. It deals with the shifting trend of financing of higher education from public exchequer to households. Prof. Sudhanshu Bhushan and P Geeta Rani, in their respective papers, establish the close link between the shifting trend of financing of higher education and the future of governance of higher education in India. These authors make the case that there may be direct bearings of this transfer of burden of financing of higher education on households in sensitive matters of access, inclusion, course choices, student and institutional autonomy etc.

Financing of higher education is at present going through multiple structural shifts. Grant-based financing to loan-based financing is a new common in financing of higher education. A close reading of the book reveals a nexus between private financing and ranking based quality framework to create a harmful and sometimes fabricated hierarchy among higher education institutions. Research papers included in the 'financing' section of the book reveal that there is a looming caste, class, gender, locale and stream divide in household expenditure on higher education due to intervention of market forces in different aspects of higher education. Thus, Part II of the book deals with a very fundamental aspect of higher education which is financing. This part comprehensively deals with the economic aspect of education. The authors primarily investigate the shifting trend in financing of higher education due to intrusion of market forces in the existing traditional mechanism of public financing of higher education.

This part of the book also investigates how the very public nature of higher education institutions (HEIs) are compromised due to changing financing mechanisms. How are households responding to the shifted burden of financing on them? How are the students and teachers coping with the rising crisis due to marketization of higher education? What are the alternatives available with stakeholders of higher education to maintain their public nature in these unavoidable circumstances due to new economic rationalities? All these

questions are critically addressed in the second part of the book. Overall, this part, along with the Part I, provides a comprehensive and nuanced view to readers about policies, programmes, governance, management, vision, character and nature of higher education in India. This section primarily transacts that financing is the probably most important aspect in deciding the fate and future of higher education in India.

Amartya Sen defines capability as the ability to do and to be. To develop the capabilities of individuals is the most important prerogative of education. Is higher education creating similar opportunities for all? Is the future of higher education genuinely directed towards capability enhancement of its stakeholders? What should be the right approach in governance, policy making and management of higher education to create higher education as an inclusive setup? Section three of this book dwells on the aforementioned questions about the future of higher education from capabilities approach. Capabilities approach advocates an inclusive framework of higher education in which the voices of every individual irrespective of his/her class, caste, gender, ethnicity, disability should be given equal importance so that capabilities of each individual may be improved without any discrimination. In this section the authors are making the case of capability development of students, teachers and other stakeholders through contextualised, flexible, facilitating and enabling policy interventions.

Prof. Sudhanshu Bhushan, in his paper "Higher Education Policy: Accountabilities versus Capabilities," supports the capabilities approach to policy making for higher education, He reveals that the so-called rational decision making approach to policy is responsible for bureaucratisation of higher education through the cascading effect of complex rules and regulations. This section of the book comprehensively supports the capabilities approach to policy as a useful approach for the good future of higher education in India. Chapters in this section not only support the capabilities approach as an idea but also provide a comprehensive framework to develop capability development of teachers and students through various provisions such as faculty development programmes, multicultural curriculum, language sensitivity, teacher-student relationship, institutional autonomy etc.

Part III ("Capabilities and Others") is the final part of the book. This section of the book primarily aims to construct the philosophical foundation of higher education by directing the vision of higher education towards development of human capabilities. Almost all chapters in this section are devoted to addressing the need of inclusivity, accessibility, equal opportunity in higher education. The authors included in the section elucidate that higher education in the country is becoming discriminatory to disadvantaged sections of the society due to excessive privatisation and marketisation of higher education and there is a dire need of reorienting higher education towards capacity building of every individual without any discrimination.

The book amounts to an immense contribution to discourses on higher education in India. All chapters are written meticulously with in-depth research and substantiated arguments. Various policies and programmes of higher education are critically analysed in the book. A thorough reading of the book compels us to think beyond the conventional understanding about the structure and nature of higher education. As a reader one can find the concerned authors fearlessly deconstructing the hidden agenda behind some policy orientations such as new managerial system, concept of conditional autonomy, rational approach in policy making, etc. But it is also to be noted that the book, while touching many

issues related to higher education, falls short in exploring some important issues such as the impact of shadow education on higher education, issue of over-regulation, subaltern discourse, politicisation of higher education, etc. The empirical studies are limited to a few chapters only.

Overall, the book generates a thought-provoking and reformative discourse in higher education with a farsighted and futuristic vision about higher education. It develops theoretical insights into the key issues related to higher education in India. The book generates critical, deep and progressive ideas about higher education. The ideas emerging from the book are very useful for administrators, policymakers, researchers, educational planners, teachers, students and other stakeholders of higher education to develop a critical understanding of the future of higher education in the country.

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