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BOOK REVIEW

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The Future of Higher Education: Through the Lens of the History and Philosophy of Science[#]

Dhruv Raina[*]

Respected Professor Varghese, colleagues and dear friends, it is indeed an honour to be invited to deliver the Maulana Azad Memorial Lecture. While it is easy to decipher the source of the honour, there is also a sense of humility prompted by a recollection of the many renowned scholars who have delivered the lecture before me and I am not sure that I could measure up to their standard. Several interdisciplinary fields have offered fruitful resources for examining higher education and its transformation. However, in examining this transformation in the world of higher education, the history and philosophy of science has had quite a marginal role to play. For more than half a century now, educationists have spoken of the importance of history and philosophy of science for science education, particularly at the secondary level, but more specifically for school science. The unfortunate part is that while papers have been written and programmes developed on this theme since the 1970s, research papers arguing for the salience of history and philosophy for science teaching seem to be coming in fifty years later. This clearly suggests that the progress along this axis of pedagogic improvisation and reform has been incremental and fraught with perhaps conceptual and other impediments.

But the history and philosophy of science is very rarely evoked in discussions of higher education except as an autonomous interdisciplinary field having little connection with didactics or even educational studies. This neglect has always bothered me although educationists and science teachers are well aware of the importance of what are referred to as "problems of teaching leading to scientific research" and that of developing instructional protocols for knowledge emerging at the frontiers of scientific research. Part of the problem arises from popular perceptions of the field as addressing the genesis of scientific ideas and their priority on the timeline of accomplishments, rather than addressing the dynamics of the growth of scientific ideas, the evolution of concepts, scientific institutions and disciplines, but more importantly excavating the relationship between the social and the scientific.

[#] Eleventh Maulana Azad Memorial Lecture, delivered through Online Mode on 11th November 2020 for NIEPA, New Delhi.

[*] History and Philosophy of Science and Education, Zakir Husain Centre for Educational Studies, School of Social Sciences, Jawaharlal Nehru University, New Delhi, Email: d-raina@yahoo.com

The interdisciplinary field of history and philosophy of science is hyperlinked with the sociology of scientific knowledge and science studies or STS.

In other words, one of the most important works on the transformation of the world of knowledge production, namely, The New Production of Knowledge, edited by Helga Nowotny and several others, and its sequel was produced by scholars situated within this dense network of interdisciplinary fields related to science studies. Furthermore, the fields of educational studies and educational sciences are quite oblivious of the theoretical concepts and frames that have come into the educational sciences from the history and philosophy of science and its cognates, but little discussed or reflected upon. For example, most recently, an important book discusses the adoption of actor network theory in educational studies, namely Tara Fenwick and Richard Edwards' Actor Network Theory in Education. Without canvassing for the importance of my parent discipline, I would in the time left to me draw upon some insights from the philosophy of science and its resonances with our contemporary concerns with the future of higher education. While recognising that the locus of higher education in the contemporary world is quite distributed, and as The New Production of Knowledge argues, the university is no longer the centre of knowledge production, and yet it is incontestable that it is still the most important centre for the production and reproduction of knowledge.

The multivolume studies of Rashdall, Ridder-Symoens and others have scrupulously chronicled the history of the university as one of the three important institutions of the early modern world. Over the centuries it has undergone transformations and radically metamorphosed itself as society has changed, presenting itself to us in different forms over the last three centuries: e.g. Newman's Oxford-type Liberal Arts College, the Humboldtian Modern Research University, the multiversity of the 1960s, and finally the commercialised universities of the globalised world. But while these forms appear in a chronological sequence, they coexist today comprising the ecology of higher education with a rich institutional and cognitive diversity. Thus the university has travelled over the centuries, metamorphosed and diversified, reflecting both its adaptability and resilience. By the end of the nineteenth century, the university had moved to the centre of the world of the production and reproduction of knowledge. So much so that, as Thomas Soderqvist once pointed out, 80 per cent of all knowledge was produced within the last hundred and fifty years.

Like all evolutionary structures, the university has often been shaped by changes occurring in the societies within which it was situated and nourished. Sometimes the rates of socio-political change and economic realities have outpaced institutional and cognitive reform and change within the university. In the literature on the history of the university, the disruption in the relation between society and university, or the ecology of higher education, is reflected in themes such as the crisis of the university, or its impending demise, or the irrelevance of the university. But these disruptions have been witnessed several times in the 800 year old history of the university as a corporate body. The problem erases itself, for we can identify at least four moments of crisis or the possible dissolution of the university, but the university has been resilient enough to prove the prophets of doom wrong and has bounced back to redefine and revision itself, through far reaching structural transformations and in the process preparing and ushering in the new society.

But in this account of the evolution of the university we need to recognise some important features in this narrative of unending change and innovation. Eric Ashby, in his

well-known classic Universities, British, Indian, African, pointed out while reflecting upon the travelling university, that there is an ontogeny of the university. On account of this ontogeny, universities at different stages in the timeline of the university can be linked to each other within the ecology of the university system whose extent today is global. The second feature relates to this ecology. The university has travelled and diversified, and yet there is a strong family resemblance between universities. By the last decades of the nineteenth century, in the universities distributed across Europe, Asia and Latin America, we witness that the structures of higher education coalesce into a connected global but not necessarily unitary system. This connectivity by the end of the twentieth century is reflected in the internationalistion of science and higher education, enhanced collaborative research and increased student and faculty mobility. As a result, the system of higher education and the university system form the nodes of an ecosystem.

Against this backdrop I would like to discuss the work of the late lamented Israeli historian and philosopher of science, Yehuda Elkana, and the evolution of his thinking on higher education and the university. While much of his thought evolved in the context of the university in the West, his later work is punctuated with references to universities in other parts of the world, particularly India and China. Inasmuch as I discuss higher education within the university, philosophically, I approach the university as a connected global ecosystem. While acknowledging the diversity between universities, the issues and concerns I shall discuss are shared by most universities within this global ecosystem. We can identify three phases in his career as an educationalist. In the first phase commencing in the 1880s, he was preoccupied with steering research agendas in the sciences and humanities. In the second phase, he was preoccupied with doctoral education and in the last he attempted to intervene in the reform of undergraduate education and Liberal Arts programmes. Elkana trained as a historian and philosopher of science but went on to spend the last four decades of his life first in helping conceptualise and establishing important institutions of research such as the Institute for Advanced Study in Berlin and the Max Planck Institute for the History of Science, Berlin, and then he finally retired as the founding CEO of the Central European University, Budapest. This list comprises just some of the institutions he was associated with. What I find fascinating about his writing from the 1980s onwards is the constant dialectic between his concerns in the philosophy of sciences and his writing on higher education and later on the University of the 21st century.

Those familiar with the history of the social studies of science from the 1960s onwards will be aware of two central issues that boggled historians and philosophers of the sciences. The first had to do with the critique of the European enlightenment project that informed much of the research of the time although this movement had been preceded by a long canonised work by the critical theorists Adorno and Horkheimer, entitled The Dialectic of Enlightenment. But the second concern was a more major one and was anchored within developments of a movement referred to as constructivism within the sociology of scientific knowledge. These movements challenged the objectivity and universality claims of scientific knowledge. This critique was rearticulated from other theoretical perspectives, namely, feminist philosophy of science and postcolonial theory of science. In addition, the standard conception of science was disputed on several other counts that I shall not take up here since they are not immediately salient to the matter to be discussed.

Elkana's philosophical orientation was deeply inspired by the thinking of the German neo-Kantian thinker Ernst Cassirer. Cassirer had embarked in the 1920s on a re-examination

of the Enlightenment's imaginary of knowledge, just in and around the time that Edmund Husserl and Martin Heidegger had embarked on a similar project. Inspired equally by the work of the philosopher of science, Imre Lakatos, Elkana considered developing a Cassirerean research programme for a post-World War II context. Elkana's reading of Cassirer may by some be considered idiosyncratic and we are unfortunate that he was not able to complete his long planned work that would have clarified the idiosyncracy.

In this reading, the pursuit of knowledge does not entail the search for transcendent, universal truth, but with knowledge that was socially or historically situated. The theory of knowledge he is proposing aims at contextualising knowledge in its historical emergence. Put differently, in a language that weaves the philosophy of science with the history of science, historical epistemology has a genealogy that extends from Bachelard and Canguilhem to Hacking, Daston and Rheinberger. Elkana attempts to develop his own approach as a Cassirerean historical epistemology.

The Cassirer we know is celebrated for his work on the enlightenment and who strayed towards a version of contextualism in the philosophy of symbolic forms. Elkana was one among many, as pointed out above, who worked towards developing the programme of a research institute, the Institute of Advanced Study on Berlin, and steered its research agenda. The goal was to prioritise the contextualisation of knowledge and the interaction between its several sub-constellations in the interests of a vigorous inter-disciplinarity. Elkana writes about this effort: "the road was bumpy and non-linear and certainly not fitting the way a rational reconstruction can be." A couple of years later he went on to co-found the reputed journal Science in Context. His writings of the time were collected and published in a volume in German, the title of which translates as *the Anthropology of Knowledge: The Development of Knowledge as the Epic Theatre of a Cunning Reason*. The culmination of this phase of his thinking was a programmatic note he co-authored with the sociologist Wolf Lepennies entitled "Historical Epistemology of Knowledge" for what became the Max Planck Institute for the History of Science, Berlin. Gradually, his interests evolved from research to undergraduate and doctoral education. The writings on the latter themes were directly linked to his interests and research in the history and philosophy of science, while simultaneously cognisant of the institutional transformations in the world of science and the larger socio-political changes occurring at a global level.

In 1981, Elkana published a paper entitled "A Programmatic Attempt at an Anthropology of Knowledge" and it is here that we encounter the first reckoning in his philosophical work with the issues that subsequently animated his intellectual effort. A careful reading suggests that he was in a way responding to the two foundational concerns tagged above and the consequences that followed from these premises or the critique of the same. The debates in the philosophy of science since the 1960s had compelled some philosophers of science to have another look at anthropology and psychology. Most of these endeavours shared certain presuppositions that Elkana identified as:

(i) a choice between realism and relativism is unavoidable;
(ii) that human universals, once found, can be abstracted from cultural noise;
(iii) that all reason is epistemic;
(iv) that, once sociological influences on history of ideas are admitted, we must give up the hope for a rational explanation of great historical changes.

Elkana rejects these presuppositions and poses a couple of counter-theses. The rest of his paper then turns to anthropology, psychology and history to argue these claims. These counter-these are:

(i-a) that realism and relativism are simultaneously followed by most people on most issues (two-tier thinking);
(ii-a) the quest for human universals outside a cultural context is meaningless;
(iii-a) that there exists at least one other kind of reason, namely, metic (cunning) reason;
(iv-a) that, once we realise that no sufficient and necessary conditions for historical change can be found, necessary conditions for change can be rationally analysed; for this it must be understood that all knowledge follows the rules of epic theatre and of dramatic theatre.

These indicate that the tools required for historically understanding Western and other cultures, and "the different stages, of cognitive, moral and emotional development" are those of translation. I might not agree with Elkana's arguments on all the issues he raises, but my intent here is to highlight his reasoning and arguments that have salience to contemporary debates on education. The second, as we shall see later, is that he distanced himself from any commitment to the ontological claims of post-modernism and defended what he would have called a Cassirerean contextualism. Without rejecting Enlightenment thought he responded sensitively to its critiques and went on to initiate steps towards thinking about a `new enlightenment.' He argues for his preference to the voting of the agora rather than any idea of Platonic objectivity. The truth of an assertion was contingent upon the question that was formulated, contra Plato who wished to decouple the question of truth from democratic truth making, thereby developing an episteme that reaches its apotheosis in Cartesian enlightenment as "dogmatic rationality."

How does knowledge figure, according to Elkana, in the Enlightenment? The Enlightenment remained the basic foundation for the knowledge making enterprise for three hundred years after which internal fissures that had been accumulating began to propagate. Instead of unthinking, how does one rethink the enlightenment. In order to do so, Elkana recommends that we re-visit the writings of Bacon (on text-books), Shakespeare, Francois Rabelais, Montaigne. This New Enlightenment is based on a laissez-faire scepticism rather than on Descartes' dogmatic scepticism. These ideas guided the pre-Cartesian world. The protocols of scientific investigation that emerged during the course of the scientific revolution were the outcome of a process of deliberation of thinkers weary of the religious wars of the sixteenth and seventeenth centuries.

Elkana needs to specify and detail what is meant by this new enlightenment, and this is something he elaborates upon over a large number of papers. The new enlightenment commences in the recognition that all knowledge is contextual and that the process of the production of knowledge involves amidst scientific work taking decisions that are political. In other words, the making of knowledge rather than driven by a truth seeking engine is context dependent and requires "embracing contradictions" and not just eliminating them. Embracing contradictions does not imply that contradictions are to be accepted but entails the recognition that the knowledge enterprise is cluttered with them and the Enlightenment strategy was to isolate ad eradicate that portion of the object being investigated harbouring the contradiction. This was as true of the classical natural and social sciences.

In order to establish many of his arguments, Elkana draws upon the history of the sciences and offers a new twist to some of the exemplars often evoked by philosophers of science to make other arguments. Thus in the history of classical physics the problem of the perihelion of mercury was known for a very long time. It was Einstein, according to Elkana, who showed that the problem was not one that deserved to be edged out of the research concerns of the discipline but was so central that its resolution required a new physics. The question that the historian and philosopher of science is left to ask and find a response to is who decides what is central and peripheral to the discipline. Evidently, this choice or decision is made by a group of scholars who take it upon themselves to investigate something that is hitherto considered peripheral. This is Elkana's exemplar from the history of physics to demonstrate the importance and significance of what he calls embracing contradictions. This approach in a matter of speaking is influenced by Dijksterhuis' idea that the history of science is the epistemological laboratory of science, and Elkana was convinced or sought to convince his readers that this social epistemology has a deep bearing upon graduate education in the sciences.

Let us run through the justification that Elkana offers for the need to incorporate a historical epistemology of the sciences into the science curriculum, keeping the core idea in the background that this would be the basis of the new enlightenment. Contrary to the consensual view of the science, it is pointed out that there is a great deal of controversy within the sciences. In order to appreciate the relevance of these controversies and why they are important for the evolution of the sciences, graduate students need an exposure to the basic epistemological concerns about what constitutes knowledge and knowing and the issues that continue to confront the sciences. This entails acquiring an appreciation of the organisation of knowledge, standards of validity, precision and rigour. Thus a proper appreciation of the sciences requires recognising the significance of the contradictions and inconsistencies within the sciences, and the function of the pedagogue is to highlight the regimes where favoured theories fail. This kind of approach as philosophy of science suggests catalyses thinking about alternate theories and ways of looking at problems, throwing open the possibility of questioning received theories that dominate the landscape of science at any one time. These arguments in part derive their philosophical premises in the works of Karl Popper and Paul Feyerabend and others. Elkana pushes this historical epistemology into the domain of science education. In other words the philosophical argument has precedents, but its reworking into the educational context is new.

But this exposure is not to be limited to the boundaries of received disciplines such as physics or chemistry around which undergraduate education is organised. This contexualism is to be extended as part of the course work in doctoral research programmes which means introducing the salient philosophical, sociological and methodological determinants and perspectives. This exercise is to be constantly refreshed during the course of a cohort's doctoral programme. This would help develop the metatheoretical skills of students thereby enriching their ability to critically and reflectively step back in order to contemplate alternatives to and weaknesses of the discipline or an emerging interdisciplinary field. To tie the argument up then this development must feedback into teaching. As part of doctoral mentoring along these lines, the peers and research leaders in a discipline need to emphasise the critical and pedagogical functions of critical work that extends far beyond that of research. Doctoral students need to be alerted to aspects of their future, for most will spend more time interacting with varied publics that includes industry,

policy and community settings, etc, rather than with their colleagues at the frontiers of science. Consequently, doctoral programmes need to equip students for such futures. In the light of the climate crisis and the pandemic, part of the doctoral students' socialisation would be to conceptualise scientific work for an intensely globalised world. For Elkana the objective of these aspects of doctoral mentoring, within the framework of the new enlightenment, is to produce a generation of responsible stewards of the disciplines.

The contextualisation of disciplines also helps overcome another issue that resides at the core of doctoral instruction in the academy and takes on the dimensions of a cultural and ideological divide. Doctoral programmes in the sciences and social sciences tend to asymmetrically undermine the latter with respect to the former and thereby create hierarchies. The sciences in this imaginary are characterised by more exact and robust problem definition and are so oriented that there is a greater commitment to consensus seeking, while the imaginary of the social sciences is indeed antithetical to this. The reality is that there is greater controversy in the sciences than the practitioners acknowledge or are aware off. Consequently, graduate students in the sciences are seduced by the imaginary into believing in "a dream world of putative consensus and shared premises," the social sciences, on the other hand, are immobilised by their interpretive flexibility and multiplicity of perspectives. While not disagreeing that the humanities are messy in that they are marked by turmoil and deal with complexity, Elkana would thus add that the natural sciences are no different. For even in the natural sciences there are no theories of everything, primarily because "theoretical structures are far from complete," their foundations are mired in presuppositions and contradictions and these presuppositions themselves constantly shift and are revised as the theories themselves evolve. In other words, in the humanities and social sciences "disagreements on basics is considered an intellectual desideratum," analogous differences in the sciences are never verbalised in the socialisation of doctoral students. The consensus about consensus has resulted in the marginalisation of the space for dialectical thinking. Though dialectical thinking fundamentally engages with contradictions, there is a concomitant recognition that different framings of questions yield different answers. Elkana points out that in the curricular world dialectical thinking is often dismissed as Marxist and its promise lost to the contemporary academy.

How does one explain this blanket acceptance of a culture of consensus? In The Essential Tension. Kuhn had argued that as a science becomes more mature or a theory gets increasingly formalised the polysemy surrounding the theory collapses and it becomes mono-paradigmatic ergo consensual. Once the idea of consensus is accepted it follows that the compulsions for conceptual change or scientific revolution are internally generated and hence there is no need to educate students otherwise. But scientists such as Weinberg disagree with Kuhn in so far as there is no science which in any stage of its development is mono-paradigmatic. Leaders of a scientific field are always articulating competing paradigms.

The whole field of the history of concepts and even the history of ideas would suggest that in practice the social sciences accept and welcome this feature as intrinsic to the pursuit, the natural sciences see this transience as a passing phenomenon on the highway to objective truth. The remedy does not reside in making changes to the content of the doctoral programme in the sciences but in focussing attention in addition to aspects that are ignored by the protocols internalised by science students. A survey among doctoral science students as to what constitutes knowledge would disclose how inadequate that conception is. How do

students learn to orient their research in a disciplinary or interdisciplinary format when confronted with competing paradigms and contradictions? Elkana believes that the processes of disciplinary specialisation has destroyed the skills of doctoral students to cope with this `messiness.'

Another exemplar that Elkana evokes is the different premises of the foundations of physics that separate the work of the theoretical condensed matter physicist Philip Anderson from that of the high energy physicist Steven Weinberg – both Nobel laureates. These foundational differences do not surface in the conflicting advice that is offered to review committees evaluating proposals to fund say the superconducting supercollider or in a several volume text book on physics that prepares a doctoral student irrespective of her/his specialisation. Weinberg and Anderson, and their students, would not disagree on the fundamentals of physics. But the two physicists and their associated networks would have different response, Elkana contends to the questions: (1) Are we approaching a final theory, (2) Do different levels of organisation of matter obey different sets of laws that are not necessarily reducible to one theory?

Clearly, we see very different conceptions of theory that separate the two communities. Elkana see this is an opportunity to bring in hermeneutics into the science disciplines. The point was driven home in the work of Patrick Heelan who pointed out that science too has its heremeneutic tasks. The ideology of science inculcated among scientists is founded on the ideal of scientific consensus formulated in terms of a neutral, value-free, context independent scholarly pursuit. But as discussed above, Elkana does not subscribe to this ideal of knowledge. At the same time, he is not an adherent of the strong programme of scientific knowledge, but to a weaker version of it. He argues that political context influenced the socially determined confines of the modern scientific movement without influencing the context of scientific theories.

Researchers within the history of sciences have long been exposed to the methodological imperatives of contextualism – at least for three decades. Writing in the early days of the ascent of contextualism, Elkana alerted his reader to a set of contexualist questions: (1) where does knowledge come from; (2) what problems to scientific communities and collectives decide are important; (3) what is the social context within which this knowledge is embedded? We do know that the nineteenth century was dominated by the rational, dogmatic, universalistic character of the enlightenment that came to be interrogated by the pragmatists such as James, Peirce, Dewey and finally Toulmin and Rorty. The enlightenment frame did recognise the importance of complexity, the actual science pursued was as if it didn't exist. Research was guided by the ideal of rational, universal, context-independent science that was devoid of contradictions.

In the sciences of complexity and the study of non-linear systems, there is a recognition of the cracks in the wall. The philosopher Justin Smith in his history of the dark side of reason points out that the history of rationality also comprises irrationality: "… exaltation of reason, and a desire to eradicate its opposite; the inevitable endurance of irrationality in human life, even, and perhaps especially — or at least especially troublingly—in the movements that set themselves up to eliminate irrationality; and, finally, the descent into irrational self-immolation of the very currents of thought and of social organisation that had set themselves up as bulwarks against irrationality." And so the task, according to Elkana, is to ensure that with this recognition rationality does not slide towards irrationality but is bolstered by the concept of reasonableness. In other words, our methods should embrace a

contextualist reckoning with the historical, social and political settings for the emergence of concepts and themes.

But it is not sufficient to recognise this at the frontiers of research. The point is to revise the curriculum of undergraduate education that is not based on the rationality of say game theory or rational choice theory. The task should be to enrich and tailor the curriculum by incorporating ways of dealing with complexity. This conception of the new enlightenment is just not to become the basis for reviving the curriculum of an undergraduate programme or that of any programme in the natural and social sciences and humanities but is to be extended to professional schools of medicine, engineering and law. Here too, Elkana picks up some exemplars from the contemporary world of professional education.

The first of these is Andras Sajo's *Constitutional Sentiments* (2010). The work points out how liberal constitutionalism in France and the United States was shaped as much by emotionally driven processes that reflected public sentiments as much as moral sentiment. The discussion of these exemplars is not prescriptive but educational in that they seek to establish how we potter around in the creation of new knowledge and the sources of the errors we commit. Similarly, the effort of Randolphe Nesse to develop a new field of knowledge called evolutionary medicine at the intersection of evolutionary biology and the medical science has now been incorporated into the teaching and research programmes of several medical schools in the USA. In fact, this is of particular relevance to our own times as we live through this pandemic. Evolutionary medicine has much to offer our understanding of infectious diseases wherein the object of investigation is the co-evolution of parasites and humans. The third example, discussed as illustrative of the need to reform the professional practice of medicine, is that of narrative medicine proposed by Jerome Bruner, where the hope is to integrate the narrative of the patient into diagnostic protocols. In other words the larger methodological consequence of the exemplar is the importance of narrative in rethinking enlightenment.

Towards the last years of his life Elkana began working on undergraduate education and developed an inventory of problems that were of salience to a new Liberal Arts curriculum that was to be integrated into three or four years of undergraduate studies, in addition to developing the basics of a discipline. At the end of four years the student should have acquired the ability to "understand the main problems of our age."
The list included:

1. Widespread poverty;
2. The spreading of infectious diseases like AIDS/HIV, malaria, tuberculosis: including the social, cultural and historical dimensions, way beyond the bio-medical aspect;
3. The global spread of religious fundamentalist movements;
4. The knowledge required to follow the discussions on global warming, the widely diverging assessments of the risks involved, and how the citizen must be prepared to undertake facing those risks;
5. The intellectual resources required to understand the broad spectrum of different regimes in the world, as many tip towards forms of authoritarianism;
6. An engagement with the diverse types of corruption in the world, and their relative destructive power, and to see where they constitute an integral part of a newly-emerging democracy;

7. The different dimensions of the digital revolution and how it will change daily life of all people;
8. What are the diverse legal aspects of a globalised world?

These concerns are global in scope and leave room for adaptation to local context. But any engagement with these problems would require an exposure to more than one discipline. The answer is not that of the NEP 2020, namely multi-disciplinarity. The preparation of an interdisciplinary undergraduate curriculum would require years of research, and a thorough exploration of the scope of interdisciplinary and trans-disciplinary knowledge. Developing a curriculum is not just an exercise in didactics, but thinking through the foundation of disciplines, and requires reimagining disciplines and the interactive boundaries between them. Elkana was prophetic in suggesting that inter-disciplinary knowledge combining bio-medical knowledge with that of socio-cultural and historical processes in the understanding of the spread of infectious diseases; or that contextually conceived cognitive psychology was the science of the future. The approaches to these inter-disciplinary fields were still what one could call works in progress and will take years to develop. Two tasks are imperative when undertaking such an enterprise – the development of the curriculum goes hand in hand with reimagining the structure and ideal of the university. In this talk I do not intend to address the structural and financial crisis of the university but these issues have been addressed in the work Elkana co-authored with Klopper and was published posthumously.

Conclusion

At the end of this exegesis I am sure you, as listeners, would expect me to comment on the policies and reports that have been the subject of much heated discussion over the last two years. Firstly, in these reports there seems to be a strident chorus on critical thinking and research methodology as the magic bullets that would improve the quality of research in our universities. But it is very soon evident that research methodology is really a euphemism for research methods and techniques. The intrinsic relationship, as Elkana has pointed, between the development of a critical faculty of judgement and research methods has been undermined by mono-paradigmatic doctoral instruction. How do critical thinking and research methods co-constitute research methodology is never elaborated upon. The second aspect is the NEP 2020's uncritical espousal of multi-disciplinary education at the college level. This is rather surprising at the beginning of the 21st century. I have argued elsewhere that the disciplines, multi-, inter- and trans-disciplinarity are different moments in the evolution of knowledge and are responses to the problem of overload and integration that the world of knowledge cyclically encounters as its frontiers advance. The problem with multi-disciplinarity is that while it juxtaposes disciplines and fosters wider understanding, the disciplines retain their identity. Since multi-disciplinarity involves an assemblage of disciplinary courses integration and interaction are lacking. The template of multi-disciplinarity is that of industrial production involving mechanical separation of functions and at the end of the course or project there is a retreat back into the disciplinary domains. The moment of multi-disciplinarity passed several decades ago. Research communities the world over have been busy forging inter and trans-disciplinary fields deeply informed by the concerns of complexity, non-linearity and the boundary-

crossing between disciplines. Restoring muti-disciplinarity is to ignore the nature of advance of the frontier of knowledge and is tantamount to pushing the envelope back.

From Elkana's writings, we learn that we cannot mandate inter-disciplinarity. The development of inter-disciplinarity requires a firm grounding on solid disciplinary platforms, a team of scientists and social scientists at the frontiers of their disciplines, university and college teachers spending time and researching the form and content of an undergraduate and graduate programme.

Finally, the general orientation of NEP 2020 is one of centralisation and homogenisation, rather than promoting diversity. This focus is a natural outcome of a mechanical overview of the system of higher education, rather than an ecological one characterised by diversity and diversity enhancing connections. The mechanical perspective is premised on the idea of an institutional separability that fails to recognise that higher education is characterised by functional differentiation and the connectivities of a changing society. Further, the introduction of the natural sciences to contextualist thought may provide the opportunity to bridge the gap between the sciences and social sciences, in addition to promoting many cultures of the sciences. But more than anything else, the NEP 2020 is silent about preparing generations of students for global citizenship – what cognitive and intellectual resources would be required for dealing with the impending calamities and the possibility of survival in the future. This is something we need to reflect on further.

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Impact of Educational Attainment of the Household Heads on Their Participation in the Right Based Workfare Programme with Self-Selection: A Micro Study on MGNREGA in Karnataka

Sanjiv Kumar*
S. Madheswaran#
B. P. Vani**

Abstract

MGNREGA is a rights-based universal workfare programme having complex accountability mechanisms like Social Audit, Ombudsman and Quality Monitoring for enforcement of rights and grievance redressal. Being a universal programme, there was no target group and the role of implementing machinery was passive and minimal in identifying the beneficiaries, who had to self-select themselves and obtain job card, indent work and negotiate asset and work, and wage in time. Poverty often co-exists with illiteracy and both were closely related. It is not known how illiterates respond to such information and a transaction-rich complex programme. Hence this study attempts to examine the responses of the illiterate heads of households to the rights-based complex design of MGNREGA to assess how far they have been successful and satisfied while participating in this development programme. The study further tries to explore the association between the educational attainment of the household heads and MGNREGA awareness, participation and satisfactory enforcement of their rights. The study also tries to explore how and why certain heads of households, though better endowed with education, had to participate in hard unskilled labour. Was it an elite participation or failure of education as a signal, or a case of labour market discrimination? The study tries to examine the causes, consequences, policy implications and ways forward through primary data and group discussions.

* Office of the Chief Electoral officer, Nirvachana Nilaya, Sheshadri Road, Bangalore-560 001

Centre for Economic Studies and Policy, Institute for Social and Economic Change, Nagarbhavi Post, Bangalore-560 072, Email: madhes.hina@gmail.com (*Corresponding Author*)

** Centre for Economic Studies and Policy, Institute for Social and Economic Change, Nagarbhavi Post, Bangalore-560 072

Introduction and Background

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is a workfare programme. All the world over, workfare programmes have been widely used as a poverty elimination tool wherein participants must work to obtain benefits. (Ravallion, 1991; Besley and Coate, 1992; Lipton and Ravallion, 1995; Mukherjee, 1997; Subbarao, 1997; Ravallion, 1998). They are often resorted to in crisis conditions, such as those resulting from agro-climatic or macro-economic shocks (Dreze and Sen, 1989; Ravallion, 1998). There were two ways in which a workfare programme might reduce poverty. The first was by providing wage employment for the poor households, and second was by creating assets of value to poor families (Ravallion, 1998). It is the most elementary poverty elimination tool suitable for those without any skill. This programme is supported by the NREG Act of 2005 (MORD, 2006). The Act gave right of guaranteed employment of 100 days to every desirous household in a year.

Various provisions of the Act confer rights and lay down mechanism to enforce those rights, making this programme complex when compared to its predecessors, i.e., JRY, NREP, EAS or RLEGP etc. The programme has no defined target groups, except earmarking one third of the resources for women. Devoid of target groups and being a rights based universal programme, its design envisages that any desiring adult member of households would be aware of his rights and self-select himself into the programme, make a demand for work, obtain acknowledgement, and get work and wage in time, and, in case of default and infringement of his right(s), approach Social Audit, Ombudsmen, Quality Monitors or other complicated grievance redressal mechanism. It is a programme rich in both information and transaction, and precision of knowledge is very important to enjoy the rights conferred by the benevolent Act.

The programme is primarily designed for the poor, who had limited alternatives in the labour market. Lack of targeting makes the programme implementation passive from the point of view of the official machinery. They are no longer accountable to identify any target household or to do their awareness raising. They need not mobilise and actively handhold them to access the programme. Comparative burden on the households increased to obtain awareness and organise, and to self-select themselves into the fold of the programme.

Poverty often co-exists with illiteracy and both are closely related. It is not known how illiterates respond to such information and a transaction-rich complex programme. Hence this micro-study attempts to examine the responses of the illiterate heads of households to the rights based complex design of the MGNREGA in order to assess how far they have been successful and satisfied participating in this development programme. The study further tries to explore the association between the educational attainment of the heads of these households and MGNREGA awareness, participation and satisfactory enforcement of their rights. Another aim of the study was to explore how and why certain heads of households, though better endowed with education, had to participate in hard unskilled labour. Was it an elite participation or failure of education as a signal, or a case of discrimination in the labour market etc? The study tries to examine the causes, consequences, policy implications and the possible ways forward through primary data and group discussions.

Brief Review of Literature

Poverty anywhere constitutes a danger to prosperity everywhere (ILO, Declaration of Philadelphia, 1944). Literacy constitutes a minimum proficiency in reading, writing and numeracy skills. Poverty and illiteracy are closely correlated. There was enormous economic and social cost of illiteracy to a household and the society. The illiterate persons are trapped in a cycle of poverty and limited opportunities for employment or income generation, and have higher chances of poor health, turning to crime and dependence on social welfare. (Lal, 2015). The consequences of illiteracy to individuals may be widespread, i.e., limited ability to obtain and understand essential information, unemployment, lower income, lower-quality job, reduced access to lifelong learning and professional development, precarious financial condition, little value given to education of children in the family leading to intergenerational transmission of illiteracy, and proneness to work place accidents. They lack hygiene and have poor nutrition with little ability to save themselves from various deceases. All this has a profound impact on society, as literacy is a competitive tool for the new knowledge economy, and illiteracy results in lower level of community involvement and civic participation, low productivity etc (Literacy Foundation, 2020). The Gram Sabhas' participation in MGNREGA and grassroots decision making was essentially community involvement and civic participation, which required information and a minimum level of awareness and education.

Literacy permeates all areas of life, fundamentally shaping how we learn, work and socialise. Literacy is essential to informed decision making, personal empowerment, and community engagement. A person who cannot read struggles to know their rights to vote, to find work, to pay bill and to secure housing. All told, this complex struggle spirals towards impacting future generations and our society (Gunn, 2020). Illiteracy was a barrier to the socio-economic development of households, and there was a profound influence of literacy levels on the socio-economic development of the household (Bakirdjian, 2013). Education is negatively linked with poverty status and higher levels of education will be more and more effective in poverty reduction (Awan, Malik, Sarwar and Waquas, 2011). These raise the question of poor illiterates who cannot read, struggle to know their rights, and may often fail to self-select themselves in MGNREGA programme.

Poverty may have many causes. But among the causes of global poverty, one factor which stands out was lack of education. Education is often referred to as the greatest equaliser as it opens the door to jobs, resources, and skills that a household required to survive and thrive. Access to quality primary education is a globally recognised solution to escape the vicious cycle of poverty; as education addresses ignorance, lack of decent work and income, vulnerability to pathogens, accidents, and exploitation, it and enhances skills, employment, choices, self-esteem, health, nutrition, hygiene, investment in assets, social security and the well-being of next generation, and fuels lifelong learning. Lack of education causes poverty and poverty causes lack of education for the next generation, hence they form an intergenerational vicious cycle and need utmost policy attention. If poverty and illiteracy were so intimately connected, it raises questions about the impact of the complex rights based design of MGNREGA and its consequences on awareness and equitable participation of the poor who were also illiterate.

Less well-educated people have higher unemployment rates than better educated people. A possible explanation of this finding is job competition: employers prefer higher

over lower educated employees. As a consequence, the lowest educated become unemployed, (Wolbers, 2000). Wolbers further concluded that unemployed individuals with qualifications have higher probabilities of regaining employment than the unemployed without qualifications. Higher education graduates earn twice as much as compulsory school leavers on average in Europe, and investment in education surpasses the interest rate of business capital in the majority of industrial societies. The higher the educational attainment, the lower is the risk of becoming unemployed, (Teichler, 2001). The relationships between education and employment are determined not only by the function of education to prepare learning for subsequent work tasks and other life spheres, but also by the fact that education selects in an educational meritocracy, the monitory resources and the social recognitions are largely determined by the individuals' level of educational attainment and their competencies fostered during the course of learning. (Teichler, 2015). If it was true that the lowest educated become unemployed, then we must explore whether they were accommodated within the MGNREGA fold as it was supposed to be an intervention in the labour market to cater to seasonal unemployment.

In general, people with a higher level of education have better job prospects, and the difference is particularly marked between those who have attained upper secondary education and those who have not. Also, tertiary graduates are more likely to be in work than non-graduates, and men generally have higher employment rate than women, (OECD, 2012). Education significantly increases re-employment rates of the unemployed and particularly large impacts are found in the 12 to 16 years of schooling (Riddell, 2011). Rahman (2006) found that the level of education is positively associated with the percentage of labour force in salaried employment, and it was imperative to take initiatives towards job creation and skill development of those who had education below the SSC level.

There are theoretical and empirical supports for the view that education is a job market signal (Topias, 2008). The signalling theory initially developed by Michel Spencer was based on observed knowledge gaps between organisations and prospective employees. The signalling theory said that employees send a signal about their ability level to the concerned employers by acquiring education credentials. The credential signal enable the employers to reliably distinguish low ability workers from high ability workers, (Spencer, 1973). The information value of the credential comes from the fact that the employer believes the credential is positively correlated with having the greater ability and difficulty for low ability employees to obtain. Thus the credential enables the employer to reliably distinguish low ability workers from high ability workers. There was a strong linkage between mother's education, household poverty, investment in children and overall well-being of the family in general; but the gender of household heads, education and household poverty had stronger relationship (Okojie, 2002). Lauder and Mayhew (2020) say that an instrumental view of education has become embedded in the Anglophone nations, and great emphasis has been placed on its role in ensuring the economic success of individuals and nations. An employer cannot observe potential workers' actual productivity, they instead use educational qualifications to predict productivity, make hiring decision, and set wages, based on the assumption that individuals who have more years of education are more productive (Page, 2010). Muja Ardita *et al* (2019) found that self-rated specific skills --- acquired either in education or on the job --- are more positively related to favourable labour market outcomes than self-rated generic skills, and only certain educational signals positively impact labour market integration, and the positive impact of self-rated specific skills and

signals varies between different labour market outcomes. These references to higher education and education as a signal in the labour market compel us to examine how and why certain heads of households, although better endowed with education, had to participate in hard unskilled labour.

Very few studies have tried to focus on educational attainment of the heads of the household and its impact on development participation. We are discussing here a few. Wambugu (2011) says that whether men's or women's access to informal and agricultural employment required relatively low level of education. In contrast, higher levels of education are the avenues to formal employment and higher annual earnings. Bilenkisi *et al* (2015) found that, in general, there was a negative association between the probability of a household being poor and the education level of the household heads. They further found that the poverty risk of those households whose heads graduated from a vocational or technical high school is less than those who graduated from high school. However, when they focussed only on female headed households, the situation was reverse. Wanka and Rena (2019) tried to investigate the impact of a household head's educational attainment level on the poverty status of the individual household in South Africa. They found that there was a strong tendency for lower educational attainment to be associated with a higher prevalence of household poverty.

We are unable to find any study on the impact of educational attainment of the heads of households on MGNREGA participation, but there were some which flag the awareness dimensions of the programme. Kumar *et al* (2020) found that there was little awareness about this rights based programme among the weakest stakeholders, particularly the poorest, weakest and the illiterate. They found information asymmetry, exclusion and inclusion errors and elite capture of MGNREGA. Gaiha *et al* (2011) found that the linkages between information, access and the delivery of the scheme were not straight forward. Raabe *et al* (2010) concluded in their study that MGNREGA required awareness building, mobilisation of people and capacity building for its better implementation. Kumar *et al* (2020) found that MGNREGA was a rights based programme with self-selection, and hence the prospective beneficiaries must know not only about their rights but also about how to enforce them. They further found that it was a transaction rich, multi cyclical engagement with self-selection, and hence the beneficiary must know the process and remedies beyond mere acquaintance. Hence IEC needs of MGNREGA workers required not just awareness building but formal capacity building --- comparable to how we train our implementing partners. These findings raise the pertinent question of how at present the illiterate workers were coping up with their information and awareness needs and accessing the programme as per their requirements.

In the light of the foregoing discussion, we have not come across any study on the impact of educational attainment of the heads of households in general and their illiteracy in particular on the MGNREGA and developmental participation. Hence we proceed with the study.

Methodology, Database and Tools for the Study

This study is part of a wider study which used both quantitative as well as qualitative data at both micro level and macro level. At the macro level, secondary data for the study were collected from the MGNREGS website, the state level MGNREGS Directorate,

District Programme Officers, Block Programme Officers and Gram Panchayat Officers. The micro level data were collected through primary surveys of 320 of the households who are beneficiaries of the MGNREGA and also some of those who are not beneficiaries (160 households). The implementing stakeholders and others were also interviewed through focussed group discussions. The household surveys were done in the four districts, viz. Mysore, Ramanagara, Raichur and Belgaum, in Karnataka State in the year 2018. This particular study restricted itself to the primary data only.

Sampling Design

In order to understand the worker's perspective on various aspects of MGNREGA in Karnataka, and with the purpose of ensuring adequate representation, the study followed a multistage sampling procedure. In the first stage, districts were chosen to represent the four administrative divisions in Karnataka. The choice of the districts was based on the past performance in MGNREGA work. The second stage of sampling involved the choice of taluks and two taluks were chosen from each district based on the past performance – one taluk showing good performance and the other one showing not-so-good performance; thus a total of 8 taluks were chosen. The third stage was the choice of Gram Panchayats (GPs) and two GPs were chosen randomly from each taluk, totalling 16 GPs. The final stage involved the selection of households. A stratified random procedure was applied to choose 20 beneficiaries and 10 non-beneficiaries from each GP. In total, 320 beneficiaries and 160 non-beneficiaries constituted our sample. Women and SC/ST workers were given due representation in these samples. Structured questionnaires were canvassed with the heads of those households in the year 2018. We have used the following categories of the heads of households, i.e., illiterate, primary, secondary, higher secondary (PUC) and college; and have used for brevity only illiterate, primary, secondary, higher secondary and college in the text, instead of fully illiterate heads of households, etc.

Discussion of Results

From the socio-economic characteristics of the households, it is evident that large proportions of non-beneficiary households were all the needier but, due to various reasons, did not participate in the programme. The non-beneficiary households had a larger proportion of illiterates and among the illiterates non-beneficiaries had much lesser assets and land holdings (see Table 1).

TABLE 1

Socio-Economic Characteristics of Sample Respondents

Socio-Economic Characteristics		*Beneficiaries*		*Non-Beneficiaries*	
		Illiterates	*Others*	*Illiterates*	*Others*
		%	*%*	*%*	*%*
Asset Category	Low asset households	31.1	25.8	56.6	36.7
	Medium asset households	54.7	52.5	39.6	51.1
	High asset households	14.2	21.7	3.8	12.2
	Total	100	100	100	100
Land holding category	Landless	44.3	27.8	56.6	44.4
	Marginal [<1 hectare]	30.2	42.9	28.3	42.2
	Small [1 to 2 hectares]	18.9	17.2	7.5	8.9
	Semi-medium [2 to 4 hectares]	6.6	12.1	7.5	4.4
	Total	100	100	100	100
Social category	SC	28.3	19.2	17	25.6
	ST	24.5	16.2	28.3	12.2
	OBC	30.2	48.5	24.5	37.8
	Others	17	16.2	30.2	24.4
	Total	100	100	100	100

Source: Authors' calculations based on primary data

Although there are not many variations across educational groups, the illiterates had the highest man days under MGNREGA. There was hardly any perceptible discrimination in MGNREGA and allocation to the households appears to be equitable and rationed. But in private, illiterates got much lesser work days than those with higher educational attainments. In group discussions it emerged that this can only be explained by their differential aspirations. Those heads having better education had higher (417 days) aspirations and they logged much higher private days of work compared to illiterates (180.8) who preferred to do much lesser (see Table 2).

TABLE 2

Average Number of Days Worked by a Household in Last 12 Months

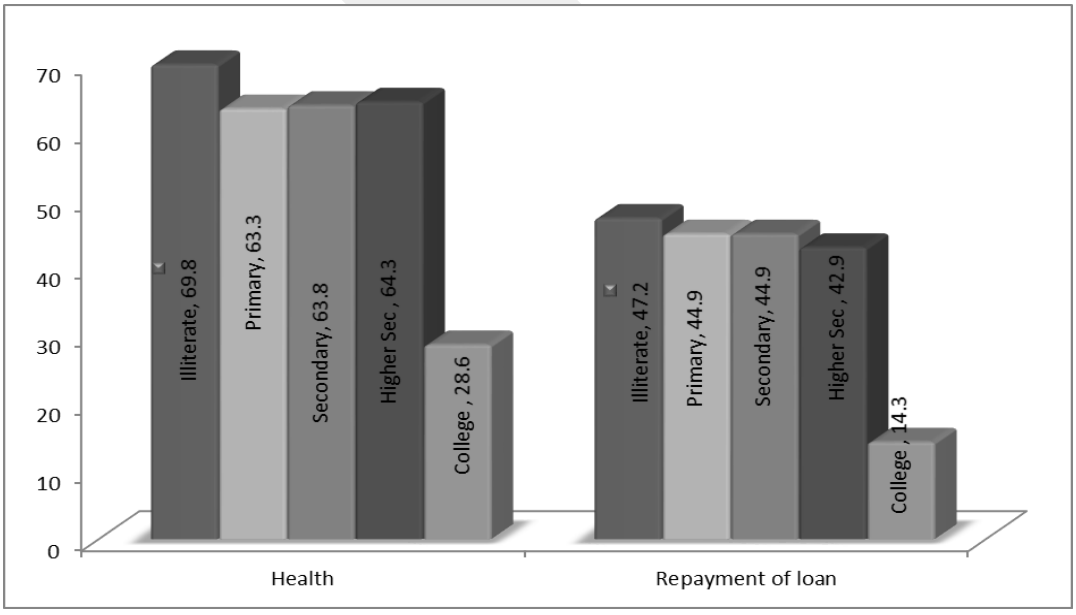
	Beneficiary		*Non Beneficiary*
	MGNREGA	*Private Work*	*Private Work*
Illiterate	57.6	203.7	129.9
Primary	51.4	186.8	128.7
Secondary	52.0	206.9	172.2
Higher Sec (puc)	56.5	230.0	171.7
College & Above	53.9	417.0	0.0
Total	54.4	209.3	149.8

Source: Authors' calculations based on primary data

Patterns of expenditure out of the wage income showed some of the vulnerability of the illiterate households, who appear to have more health and debt issues and the illiterates were spending more frequently on those two items (see Figure 1). These further showed the typical characteristics of the poverty stricken households who were vulnerable on health and financial inclusion. And these two together further added to their misery, as they reinforced the vicious cycle of poverty and illiteracy.

FIGURE 1

Expenditure on Health and Repayment of Loan



Source: Authors' calculations based on primary data

Participation in the resource rich networked organisations like trade unions, self-help groups (SHGs) and cooperative societies also shows a positive association with education --- the higher the educational attainment, the higher was the participation of a beneficiary household (see Table 3). But it was very different for the non-beneficiary households where no clear trends were observed, and their pronounced isolation and marginalisation was visible, which may be difficult to explain. These cannot be fully understood without knowing the socio-economic context of those non-beneficiary households. Their simultaneous exclusion from MGNREGA and those networks may have the same or similar reasons, and one cannot rule out the role of information asymmetry and lack of aspirations due to the educational attainments of the head of the household as plausible reasons.

TABLE 3

Percentage of Respondents Who were Members in Trade Unions, SHGs and Cooperative societies

Subject		*Illiterate*	*Primary*	*Secondary*	*Higher Secondary*	*College*	*Total*
Trade Union	Beneficiary	3.5	1.9	2.6	8.1	28.6	4
	Non-Beneficiary	0	0	3.4	18.2	0	2.4
SHGs	Beneficiary	50.4	32.7	50.9	45.9	71.4	47.5
	Non-Beneficiary	37.7	25	24.1	45.5	0	30.5
Cooperative Society	Beneficiary	12.4	1.9	17.5	13.5	57.1	13.6
	Non-Beneficiary	1.6	0	0	0	0	0.6

Source: Authors' calculations based on primary data

General awareness about this complex rights based programme was extremely poor in our sample households. Among the thirteen questions posed to the respondents, eight related to the rights and five related to the processes. Awareness was poor about both rights and processes. Hardly anyone knew that it was a rights based universal programme. Only 34.2 per cent of the respondents knew that they must get work within 15 days, but the illiterates (27.7 per cent) had the lowest awareness, indicating an association between the level of educational attainment and the awareness, i.e., the higher the educational attainment the higher was the awareness (see Table 4). With such low awareness, and sharp information asymmetry between the illiterates and others, the participation of beneficiaries was not one based on any clear and conscious plan and assertion of rights but on invitation by the authorities. Poor and particularly ignorant illiterates were at the receiving end and were easily eased out of the programme whenever there were resource issues or other contingencies; at the discretion of the authorities. Awareness about 'the right to 100 days of guaranteed employment' which was the soul of MGNREGA was equally poor. Only 27.7 per cent of the illiterates were aware, whereas about 75 per cent of the graduates were aware about it. This sharp information asymmetry, definitely, had an impact on the quality of

participation of the illiterate poor. Awareness on 'the unemployment allowance' was one of the lowest. Only 13.8 per cent of the illiterates knew about it, and one may easily understand their plight. These data clearly substantiated that illiterates were ignorant about their core rights under the programme and certainly would not be in a position to assert them and get 100 days of assured employment within 15 days of their request or, on default, press for unemployment allowance. Within this programme, there was no mechanism to focus on illiterates and raise their awareness in order to compensate for their ignorance to access the programme equitably. Illiterates also had least access to Gram Panchayats, the formal and authentic source of information on MGNREGA, whereas college graduates had higher access to these bodies. Lack of access to Gram Panchayats deprives the illiterates from accessing required information and impaired their equitable participation in the programme.

TABLE 4

Percentage of Respondents who were aware about the MGNREGA Processes, across Educational Categories

Particulars	*Illiterate*	*Primary*	*Secondary*	*Higher Secondary*	*College*	*Total*
Indent of work and issue of acknowledgement	34.0	36.4	42.4	46.7	100.0	39.8
Giving work within 15 days of indent	28.7	29.9	36.9	44.4	75.0	34.2
100 days of guaranteed employment in a year a household is entitled	27.7	37.7	44.3	55.6	75.0	38.9
Wage rate	48.4	79.2	64.6	75.6	75.0	62.6
Men and women paid same wage rates	37.1	45.5	39.2	35.6	62.5	39.6
Unemployment allowance if work is not allotted within 15 days of applying	13.8	15.6	17.7	31.1	12.5	17.2
If employment is not provided within five km, the workers are entitled to travel expenses up to 10% of the wage	11.3	16.9	17.7	31.1	25.0	16.8
One-third of the jobs under the MGNREGA scheme should be allotted for women	8.8	15.6	19.0	31.1	25.0	16.1
Timely payment of wages	33.3	29.9	41.1	55.6	75.0	38.5
Payments through bank	79.9	76.6	80.4	88.9	100.0	80.8
Interest for delayed payment	9.4	13.0	13.9	31.1	25.0	14.1
Benefit related to work place	18.9	22.1	29.7	35.6	50.0	25.5
Involvement of contractor	15.7	19.5	16.5	31.1	37.5	18.6

Source: Authors' calculations based on primary data

Table 5 shows that illiterate heads of households encountered some delays in getting their job cards, and there was a convincing cause for this information asymmetry and lack of knowledge of how to negotiate justice and assert their right with the official machinery. Households with better educational attainment encountered much lesser delays. There was a clear negative association between educational attainment and the delay. Illiterate households were lowest in getting 100 days of work and were also least satisfied with the programme. Finally, all these can be traced back to the lack of awareness and knowledge of rights and how to enforce them.

TABLE 5

Extent of Delay in Getting the Card (in %)

	Illiterate	*Primary*	*Secondary*	*Higher Sec*	*College*	*Total*
<15 days	72.0	80.4	73.7	78.8	100.0	75.8
16 to 30 days	18.7	13.0	16.2	15.2	0.0	15.8
31 to 60 days	5.3	2.2	9.1	6.1	0.0	6.2
> 61 days	4.0	4.3	1.0	0.0	0.0	2.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Authors' calculations based on primary data

Awareness about grassroots programme micro-planning was also lowest among the illiterate heads (17.1 per cent) and heads with primary education, and it was highest for the graduates (71.4 per cent), as we may see it from Table 6. Participation of respondents in Gram Sabhas, consequently, was on the same lines with high positive correlation with the educational attainment. Consequently, the better educated ones could participate in the decision making processes and easily get the benefits under the Act earmarked for themselves.

TABLE 6

Grassroots Participation in Gram Sabha (in %)

Subject	*Illiterate*	*Primary*	*Secondary*	*Higher Secondary*	*College*	*Total*
Heads who are aware of MGNREGA micro planning?	17.1	14.3	31.9	42.9	71.4	26.1
Respondents who said they participated in the Gram Sabha (MGNREGA)	36.8	38.8	46.2	54.3	85.7	43.6
Respondents who said the scheme are discussed in Gram Sabhas	54.8	57.1	68.2	65.7	100	62.3

Source: Authors' calculations based on primary data

Awareness about the accountability institutions like Social Audit (18.60 per cent) and Ombudsman (11.40 per cent) were also very poor across all the categories but those were lowest for the illiterates at 7.60 and 7.80 per cent respectively (Table 7), and, consequently, the participation of illiterates in those important grievance redressal organisations was extremely low. Our primary evidences clearly show that illiterates were ill equipped to understand the utility of Social Audit or Ombudsman and were, without adequate awareness, unable to take benefits of these innovative institutions. As these were much more complex processes, we find a stronger association between educational attainment and their awareness and participation in Social Audit and approach to Ombudsman for grievance redressal. Hence participation in these institutions shows a sharper exclusion of the illiterates.

TABLE 7

Awareness and Participation in Social Audit and Ombudsman System

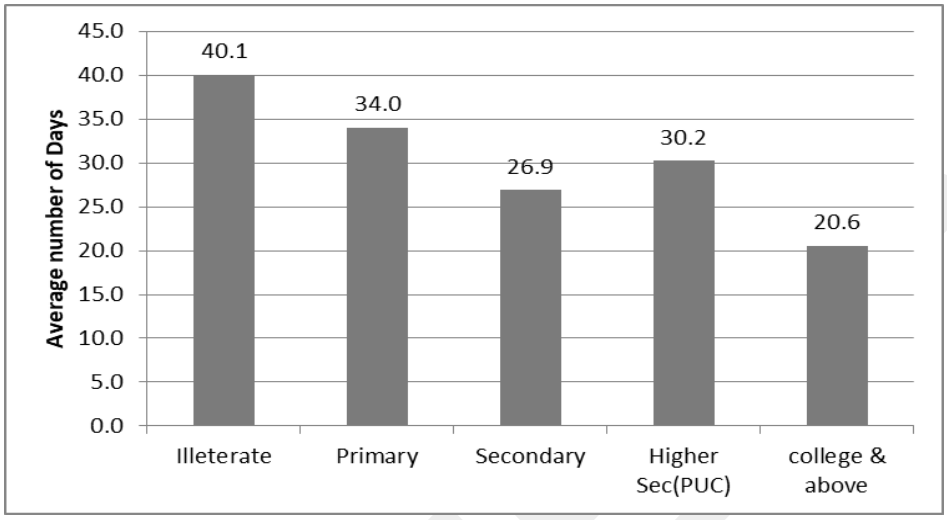
	% of households who have heard of Social Audit	*% of households who have participated in Social Audit*	*% of households who have heard of Ombudsman*	*% of households who have approached Ombudsman*	*% of respondents stating that Ombudsman system helped them or their friends (among those who approached)*
Illiterate	7.6	7.1	7.8	6.6	70
Primary	20.8	15.6	9.1	6.5	100
Secondary	21.7	18.8	12.3	9.8	60
Higher Sec	31.3	27.3	18.2	11.4	60
College	75	71.4	50	28.6	50
Total	**18.6**	**15.8**	**11.4**	**8.5**	**67.6**

Source: Authors' calculations based on primary data

Illiterates not only encounter delays in receiving job card, they also face delays in getting work and wage, indicating that they lacked tact and understanding to resolve their own simple day to day issues with the authorities. Illiterates were rarest who got sustainable productive assets. Individual assets show very high association with the educational attainment of the head of the households. Those with college education got the highest percentage (71.43 per cent) of assets and were also the most satisfied (100 per cent) with their assets. Conclusively, the educational attainment of the head of the households equipped them to negotiate a better deal for themselves and get themselves included in the beneficiaries' list, which illiterates were unable to accomplish in the absence of adequate education and awareness (see Figure 2 and Table 8).

FIGURE 2

Average Number of Days Taken to Receive the Wages



Source: Authors' calculations based on primary data

TABLE 8

Individual Work on Beneficiaries and Their Satisfaction Levels (in %)

Subjects	*Illiterate*	*Primary*	*Secondary*	*Higher Secondary*	*College*	*Total*
% of respondents who were satisfied with overall public assets created in the village	86.03	76.3	81.62	87.42	96.88	83.13
% of respondents who got individual work on their land	33.33	50	47.17	51.52	71.43	43.92
% of respondents who were satisfied with their individual work	62.67	86.67	87.36	78.57	100	78.84
Types of Work						
Bunding	17.8	39.3	25.5	21.1	0	24.2
Plantation	15.6	17.9	10.9	5.3	33.3	13.7
Farm Pond	26.7	14.3	30.9	42.1	33.3	28.1
Land Levelling	28.9	21.4	32.7	21.1	33.3	28.1
House Construction	4.4	0	0	0	0	1.3
Toilet	0	3.6	0	0	0	0.7
Bore well Recharge	6.7	3.6	0	10.5	0	3.9
Total	100	100	100	100	100	100

Source: Authors' calculations based on primary data

Discussions, General Conclusions, Policy Implications and Ways Forward

MGNREGA is a rights based universal programme requiring self-selection of beneficiaries. The poor generally suffer from information asymmetry as poverty often co-exists with illiteracy and lack of proper education. MGNREGA required its beneficiaries to know their rights, and how to enforce them through systems of Social Audit, Ombudsman etc. It was a multi-cyclical transaction rich programme. It was passive from the perspective of the implementing stakeholders as the poor were not its defined target groups. Hence this programme put disproportionate burdens on the poor who often may be illiterate to respond efficiently to the various statutory and procedural requirements on their own. We have attempted through our primary survey to understand their relative socio-economic context and comparative MGNREGA participatory responses.

From socio-economic characteristics of the households, it is evident that large proportions of non-beneficiary households were all the needier but, due to various reasons, did not participate in the programme. They had a larger proportion of illiterates and having lower educational attainments. They were also having much a lesser membership of resource rich networked organisations like trade unions, SHGs and cooperative societies. Overall, it appears that the non-beneficiary households had lesser awareness, lesser aspirations, lesser social capital and lesser inclination to participate in this complex rights based universal workfare programme.

Discussion of the results brought forth multiple evidence to show that households with illiterate heads had much lesser awareness about the MGNREGA rights and processes and had lowest access to the Gram Panchayats' formal source of information. They were also having the lowest levels of proportion awareness about the grassroots micro participatory planning, and their participation in Gram Sabhas was also the lowest. Evidence also showed that households with illiterate heads faced more delays and some other problems in obtaining job cards, work and payments in time, when compared to others. There was a strong association between the educational attainment of the household heads with their awareness, participation in Gam Sabha (GS), and access to GP etc. Low access to the Gram Panchayats caused lower awareness, and lower awareness caused lower participation in decision making forums like the GSs, which consequently caused lower access to the programme. Hence the illiterate heads of households with lower educational attainments faced more issues in obtaining job cards, work and wages in time. From the evidence it appears that illiterate heads were unable to negotiate with authorities and other implementing partners in order to get their card, work and wage in time and to enjoy the fruits of rights conferred by the Act. In general, awareness was low across groups, but it was by far the lowest among the illiterates.

When it came to approaching any accountability institutions like Social Audit or Ombudsman, the illiterate heads of households suffered the highest information asymmetry and, due to lack of information on rights and how to enforce them, they were unable to make use of such sophisticated institutional mechanisms. In general, though, awareness on Social Audit and Ombudsman was limited, and their use was rarer across educational groups. Overall, it appears that such sophisticated remedies are not suited yet to the beneficiaries who were illiterate, who required more focussed and comprehensive capacity building on

these initiatives to avail of those effective remedies. In general, illiterates also had the least access to individual sustainable assets under the programme. Heads of the households with better educational attainments understood better the importance of sustainable productive assets. The better educated ones -- with their better understanding and awareness, better networks, more access to Gram Panchayats and better participation in Gram Sabhas --- could lobby and obtain for themselves better shares of the assets, and were more satisfied with their individual as well as public assets created under the programme. Illiterates were less aware, having less participation in GSs and had less access to GPs, and were less networked and were therefore unable to get the benefits of assets proportionately. They were also least satisfied with both individual as well as the public assets.

The patterns of expenditure by the illiterates reinforced their health and debt vulnerability. Their membership of trade unions, SHGs and cooperative societies also indicated their lack of foresight about leveraging the potential of networks for their own welfare. Clearly, graduates were having better appreciation of the potential of trade unions, SHGs and cooperative societies, had joined these organisations in larger numbers and had used the potential of those organisations to access benefits.

Responses of the illiterate heads of households to the rights based complex design of MGNREGA was muted and subdued due to their lack of awareness; and access to Gram Panchayats, grassroots networks like SHGs or trade unions, and Gram Sabhas. There were equally sizeable numbers of illiterates outside the programme, and within the programme fold with deep dissatisfaction. In its sophisticated design and the rights enforcement mechanisms, the rights based universal workfare programme has not taken into account the inherent handicaps of the illiterates. As illiterates were not a target group, their awareness needs were not incorporated in the IEC strategy. Household heads who were illiterate were also landless with low assets and were definitely poorer. They also showed enhanced vulnerability to pathogens; they had lower nutrition, hygiene and financial access, and were more likely to be trapped in the vicious cycle of illiteracy – poverty and illiteracy for the next generation. Results show a strong positive relationship between educational levels of heads of households and their developmental participation and their success and satisfaction. The educational attainments of some of the households have made them better endowed and motivated to be part of various networked organisations, to access the Gram Panchayats and Gram Sabhas in order to get vital information, and to develop an awareness to negotiate better access to the wage employment and assets, and to wrest job cards, work and wage in time. Complacency, a lack of initiative and motivation was the hallmark of the illiterates, which hindered their MGNREGA participation and development. Policy tools like workfare programme were the most elementary poverty elimination tools, should have taken into account the needs of the illiterates, and should have incorporated its sophistication in its rights enforcement mechanisms. Concepts of rights and self-selection are less intelligible to them unless they were part of an organisation like the trade unions where they could have prolonged training and handholding. Mediation by the civil society organisations would also be helpful. This target group will require prolonged capacity building through an institution like the Board of Workers' Education under the Ministry of Labour.

The situation of a large proportion of illiterate heads among both the beneficiary as well as non-beneficiary households is an extremely worrying condition, showing the failure of the adult education programme which overtime shows signs of fatigue and oblivion. It indicates that the proportion of illiterates may have gone down among the total population, but their

proportion among the heads of the households were still substantial and required immediate policy attention, as it had very serious intergenerational poverty implication. Such daunting proportions required focussed adult literacy programme for them with inputs and strategies on developmental convergence. Gender dimension of illiteracy was also important to be considered while formulating policy. Introduction of the new national programme '*Padhna Likhna Abhiyan*' is a good development, but allocations of finance do not appear to be commensurate with the daunting task at hand. It is a fact that the proportion of illiterates was higher among the women, but it is heartening that below 35 years there were no women illiterates, and they were higher in proportion between the age group of 35 to 60 years, but were lower than males in the above 60 and below 35 age groups. It may be worthwhile to add literacy centres to MGNREGA worksites, give one fourth of the work time for convergence with literacy programmes, and give one fourth concession in work turnout to the illiterates for a period that be sufficient to attain the basics of reading, writing and numeracy skills.

In our sampled beneficiary households, 2.3 and 11.5 per cent, respectively, of the household heads were college graduates and higher secondary educated who, in spite of their better educational attainments, had to participate in hard manual labour with limited wage compensations. It partly indicated their lack of marketable skills, which today's education system often fails to impart. But the evidence shows that they suffered from multiple disabilities as they hailed from deprived social groups and had had less landed and other assets. Hence it may be less indicative of a case of elite capture; rather it seems to demonstrate the failure of higher education as a signal or some market discrimination. These are the groups who needed the programme of skill development to take off their career to a higher trajectory with better incomes and a higher standard of life. From our sampled data, it is very clear that these two groups were taking maximum benefits of both the wage employment and the asset creation programmes at present; as they have considerably higher awareness, higher aspirations and motivation; and higher access to networks, Gram Panchayats and Gram Sabhas etc. Overall, they were the groups most satisfied with the programme. For them, effective convergence between MGNREGA and National Rural Livelihood Mission was essential to augment their skills and to provide them an opportunity for enhancing their productivity.

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E-Repositories Facilitate Learning: A Quick Glance at Their Potentials

D. S. Thakur*

Abstract

India is in the process of transformation from an information to a knowledge society with a large number of academic and research organisations currently engaged in acquiring, creating, preserving, processing and applying information to yield a valuable knowledge corpus to help posterity make its best use not only as documentation but also to enrich and transform institutions of higher learning to be at par with the great centres of educational excellence globally. The focus of this paper is to analyse the role of automation in the use of information technology, education and research to facilitate the emergence and development of a knowledge society. With an unprecedented expansion in the number of universities and research institutions awarding doctorates and making articles, books, news, etc. available in terms of Electronic Theses and Dissertations (ETDs) developed around the world over the years to work out how free flow of information could empower and uplift the masses to meaningfully participate in a knowledge society that forms the underlying design of this piece of research, a kind of window with an open access in tune with the contemporary and fast emerging digital universe to usher in much too smart a way and view of life.

* National Institute of Educational Planning and Administration (NIEPA), 17-B, Sri Aurobindo Marg, New Delhi – 110016. Email: dsthakur@niepa.ac.in, dsthakur@hotmail.com

Introduction

India is one of the fast developing South Asian knowledge societies in the process of transformation from an information society to a knowledge society, with a large number of academic and research institutions engaged in acquiring, creating, processing, applying and preserving information in order to facilitate the process of generating a learning society. Being one of the fast developing South Asian knowledge societies, India is in the process of transformation towards being a knowledge society with a large number of institutions engaged in generating valuable knowledge not only to compete with the comity of nations, but also, in turn, to build a learning society with pro-active participation of all its members to learn and develop in their own way as their fundamental right. Various organisations currently stand to gain from joining the Electronic Theses and Dissertations (ETDs) repositories with an open access to every scholar, researcher and student free of cost, albeit their quality and reputation. ETD, initiated in the early 1990s by the Virginia Tech, has witnessed, since then, a number of educational institutions world-wide, following suit with knowledge repositories like the Networked Digital Library of Theses and Dissertations (NDLTD); American Doctoral Dissertations, 1933-1955; Open Access Theses & Dissertations (OATD); United States Theses and Dissertations; ProQuest Dissertations and Theses (USA); DART-Europe E-theses Portal (European universities); DiVa Portal (49 universities and research institutions); Ethos (UK universities); France – Theses.fr; Trove (National Library of Australia); Shodhganga: A Reservoir of Indian Theses; South Africa ETD Portal; and Theses Canada; among others to encourage the concept of ETD repositories to gain and enrich their knowledge base vis-a-vis their academic and research requirements.

The purpose of this innovative research input is to analyse the role of information, knowledge and education in the development of a learning society. While being one of the fast developing South Asian countries, India is also on the path of transformation towards becoming a knowledge based learning society with a galaxy of premier institutions engaged in generating a valuable vista of knowledge to compete with the comity of nations, and, in turn, to usher in a new era of pro-active participation of each of its members to learn and develop in their own right as worthy citizens. An unprecedented expansion in the number of universities and research institutions, doctorates awarded, articles, books, news, etc. now available, in abundance globally, besides E-Theses and Dissertations (ETDs), over the years, used as secondary data, does provide a cue as to how free flow of information and knowledge could empower and uplift the masses in a knowledge society. This really forms the underlying design of this piece of paper, a kind of window with an open access in tune with the contemporary and fast emerging digital universe in a much more smart way and a fresh view of life.

Challenges and Issues at Stake: Access and Impact

The main challenge is how to bring the vast, ever-increasing vital information contained in unpublished research projects and reports, patents, standards and other policy documents under the ETD repositories for global use, particularly, in developing countries; and address issues like access and impact of ETDs on the corpus of knowledge of academic and research organisations that do not embrace wide publicity, remain isolated in their pigeon holes, and simply limited in circulation due to various constraints.

Impact of Knowledge Inputs

Knowledge Promotes Sustainable Development

"Knowledge Society, Education and Aid" (Tilak, 2002) are closely addressed in the emerging knowledge societies. Owning a strong education system with an equally robust research and development mechanism can help achieve an overall sustainable socio-economic progress albeit an over-riding belief that knowledge means development – production, distribution, dissemination and utilization of knowledge – to that end. "Social and economic progress is achieved principally through the advancement and application of knowledge" (World Bank, 2002: 6).

Knowledge Boosts Quality of Life

Knowledge Society as a human structured organisation, developed by intellectuals, boosts the quality of life and the support systems (Afgan and Carvalho, 2010); education being one of its essential pillars to help human structure distribute and disseminate knowledge across all its viable dimensions in the traditional as well as contemporary contexts namely storage, retrieval and reuse for inclusive growth of a 'quality of life support system,' with adequate checks and balances within a set of ethical human values and ecology considerations intact in every respect.

Advent of knowledge society in India will change the fate and shine of the lives of marginalised and underprivileged population (SinghaRoy, 2014), with digitisation of information and world wide web (www) facilitating the application of knowledge to achieve socio-economic growth with knowledge becoming a key resource of economic prosperity, quality and safety, promote business, generate wealth, increase productivity and profit to keep pace with the process of globalisation. Innovations in ICT, computer, internet, mobile and telecommunication satellite phone, radio and television technologies, new communication platforms such as 2G, 3G, 4G, new social media such as Facebook, twitter, blogs, e-mail, skype, etc. which entail distinct and unprecedented development potentials to augment a new era of e-commerce and economy to move towards a networked smart society, with a much broader communication-cum-educational base.

Excellence Initiative

'Excellence initiatives'—to refurbish the quality and standards of higher education entailing university rankings on world-class parameters evolved by three prominent international ranking systems, namely: (i) Academic Ranking of World Universities (ARWU) of the Shanghai Jiao Tong University (since 2003); (ii) Quacquarelli Symonds (QS) World University Rankings; and (iii) the Times Higher Education (THE) World University Rankings (2004)—seem to have taken off over the recent past. Others in this race include: Ranking Web or Webometrics Ranking of World Universities developed by the Cybermetrics Lab (Spanish National Research Council, since 2004); the US News and World Report (USNWR, since 1983); and European Union's U-Multi-rank, apart from more than 40 countries having their own university ranking systems at regional level such as the Asian rankings of universities. Establishment of commercial universities, erosion in quality and growth of

markets in higher education, etc. have increasingly boosted the ranking industry, here and there, to attain world-class status via nurturing the existing universities; establishing new ones; merging well-established universities to infuse top-class elements over a reasonable period of time (Tilak, 2016).

Ranking Dynamics

Higher education in a dynamic environment needs significant changes in terms of globalization of education, ICT input in the delivery mechanism of quality educational content seeks to muster and monitor standards befitting the vision of every institution being unique on its own distinct merits within the framework of norms and standards visualised nationally as well as globally. National Assessment and Accreditation Council (NAAC), an autonomous body established by UGC under Section 12 (ccc) of Act, September 1994, with a mandate to assess and accredit higher education institutions in the country, has been in action over the years to uphold and maintain their quality and standards, making it mandatory for all universities and higher learning institutions to maintain quality assurance to be assessed in terms of performance related to educational processes and outcomes, infrastructure, curriculum, learning resources, teaching-learning evaluation, faculty, research, organisation, governance, financial well-being and student services (http://www.naac.gov.in/).

National Quality Renaissance Initiative (NQRI) by Quality Council of India (QCI) aims at creating opportunities for: (i) Awareness building, popularisation and promotion of quality assurance mentoring higher education institutions; (ii) Building collegium of assessors; and (iii) Quality sustenance and enhancement, with the express cooperation of State Quality Assurance Cells supported from preparatory grants under Rashtriya Ucchtar Shiksha Abhiyan (RUSA) (MHRD Annual Report, 2016: 12). The NAAC has taken up accreditation of secondary teacher education institutions (TEIs) and QCI elementary and diploma level TEIs. Every year e-monitoring of these institutions will be done and accreditation of each institution every five years (MHRD Annual Report, 2016: 72).

The National Institutional Ranking Framework (NIRF) launched by the Ministry of Human Resource Development on 29 September 2015, outlines the methodology and five-fold broad parameters, to rank the universities and research institutions across the country, covering—"Teaching, Learning and Resources"; "Research and Professional Practice"; "Graduation Outcomes"; "Outreach and Inclusivity"; and "Perception" (https://nirfindia.org/About).

World Bank Initiative

The World Bank's role, as an epistemic actor, is growing in the global educational governance (Zapp, 2017). Being one of the largest funding institutions in the world covering all areas of education from early childhood care to tertiary education, to lifelong learning, to research, development and dissemination of knowledge to all stakeholders' benefits worldwide, the World Bank is the "most influential Global knowledge producer"; "Globe's most significant think tank"; and "Open Knowledge Repository (OKR)" to promote world-class ideas, and, in turn, to serve as a clearinghouse of all that matters in education, globally, in the form of books, journals, articles, conference proceedings, reports, databases, etc.

Since 1947, the World Bank has launched more than 10,000 projects in education with an estimated cost of about $69 billion and during 1998-2013 alone, it has actively participated in the reform of education systems in 110 countries. In 2014, it approved Third Elementary Education Project in India amounting to $1 billion to be implemented over three years which is, in World Bank's own history, one of the largest education projects in the world, serving the needs of 200 million children and 4.5 million teachers. Currently, it is working on 152 projects in 2271 locations across the country, of which 44 have an explicit educational component (Zapp, 2017).

Lab. Libraries

Predatory Literature Takes a Quantum Jump

India is said to be the biggest market among the contributors of predatory literature (Seethapathy, Santhosh Kumar and Hareesha, 2016) with about 51% of such publications contributed by colleges affiliated to universities as well as autonomous colleges (both Government and private): private universities/institutes, state and central universities contributing 18%, 15% and 3% publications respectively in their predatory journals; and national institutes; companies and industries contributing 11% and 2% respectively. Academic Performance Indicators (API) for appointment, career advancement scheme (CAS) for university and college teachers, etc. seem to have increased pace of publications at institutional as well as individual levels; institutes such as ICAR, CSIR, NIT, IIT, ICMR and other national institutes contributing 17%, 15%, 11%, 9%, 6% and 42% respectively; individual authors contributing 45% faculty/scientists/professors; 32% PhD candidates and 23% post-doctoral/young scientists; and Discipline-wise 37% belonging to life sciences; 25% to medicine; 13% to engineering; 10% to physics, chemistry and astronomy; and 15% to other disciplines publishing predatory journals, that do impact growth in research-based articles to quite an extent.

Sharing Innovative Inputs

The exponential growth of literature (published and unpublished), both print and online, has enhanced the role and importance of libraries in acquiring, processing, organising and communicating relevant, accurate and precise information to researchers to further innovate their work and create new knowledge. "In the modern world, no research and productivity in any discipline can be executed successfully without adequate information and knowledge being made available to the scientists and technologists" (Thakur, 2006: 17). Developments in ICT in the last two decades and their penetration into the documentation field have skilfully facilitated the access to knowledge resources. Most of the unpublished manuscripts, research reports and other published literature are now available online to one and all, in more and more academic and research institutions. 'Knowledge is power and it grows when shared, transferred, managed skilfully, harnessed and used to benefit the society' (Thakur, 2006: 460).

Digital Libraries' Initiative Takes on

To utilise the knowledge generated and disseminated by higher education and research, it becomes crucial to connect them with a high-speed broadband network so as "to share the existing content, coursework, expertise, ideas, innovations, equipment and facilities available in the limited number of centres of excellence, with a wider group of institutions, educators and students" (National Knowledge Commission, 2009: 33). In a knowledge society, connectivity of data and knowledge resources of institutions helps improve access, quality and quantity of research and development, besides application of knowledge used for well-being of the common people across the nation. Quality and reputation of higher education institutions with open access to scholarly works determine the status of the university: "in the past a university's quality was linked to its library, in the future a university's quality will be linked to its digital library of theses and dissertations, which are easily available over the Internet" (Moxley, 2001: 61).

Salvaging Untapped Shelved Resources

Piles of unpublished knowledge lodged in university libraries and various other institutions across the countries, weighing millions of tonnes the world over, demand its retrieval in order to upload and update the corpus of knowledge to promote human cause towards sustainable development. Setting up of ETD repositories may help do it, both in developing as well as developed countries, despite their being overloaded with lots of printed literature already available and in the pipeline. The need, therefore, is to make room for depositories and other open educational resources (OERs) by salvaging the dead stock of untapped unpublished heaps of knowledge stacked in dark rooms here and there across the nations. Maybe it delivers a few gems of wisdom to compensate!

Overcoming Bottlenecks

Access to and use of theses and dissertations had remained restricted in various libraries and research institutions for quite a long time— here as well as abroad. In India most of the libraries and degree granting institutions are reluctant to allow scholars to access and use the earlier awarded theses to address and adore their chosen research topics for study, fearing free flow of evils like plagiarism, academic dishonesty, copyright violation, intellectual property rights (IPR), etc. among the scholars. Kept as confidential and classified documents, access to them is, by and large, not welcome. On the other hand, in the Western world, these are considered to be a part of library resources with open access as the doctoral theses are funded by public money. These are offered to the scholars for consultation and use on request for further innovations and research (Lahiri-Dutt, 2013).

Electronic Theses and Dissertations have Come to Stay

Electronic Theses and Dissertations in Developed Countries

Efforts have been made by developed countries such as the USA, the UK, Germany, Australia, etc. to digitise valuable unpublished information yielding vital sources of

knowledge in order to help multi-disciplinary research in a cost-effective and time-efficient mode as a foot-hold to further knowledge (Vijayakumar and Vijayakumar, 2007). In "A Review of Emerging ETD Initiatives, Challenges and Future Developments," Cayabyab (2015), examining the goals of developing an ETD, found it to be a valuable source of information and knowledge for further research and innovations in developing countries like the Philippines, with the express additional purpose of guarding against demeaning factors like plagiarism, dishonestly using information unethically, intellectual property concerns and quality dimensions of a work.

ETDs have widened their exposure and usefulness to research community globally with increasing readership and embracing electronic publishing (Ramirez et al, 2013). In the view of faculty advisors of social sciences, arts and humanities as well as journal editors' and university press directors' open access of ETDs would diminish the future publishing opportunities; encourage research scholars to join the ETD repositories and make ETDs openly accessible for knowledge use and dissemination; 82.8% of journal editors welcomed an openly accessible ETD for submission to their journal whereas 53.7% of university press directors indicated that their enterprises will consider an openly accessible ETD for later publishing (Ramirez et al, 2013). Currently, there are 5600 repositories registered world-wide on Directory of Open Access Repositories (Open DOAR) as on 5 January 2021 and active on Internet benefit millions of students and scholars. In Open DOAR, 903 (16.1%) shares of repositories were those of the United States, followed by 683 (12.2%) of Japan, 310 (5.5%) of the United Kingdom, 275 (4.9%) of Germany, 170 (3%) of Spain, 156 (2.8%) of Peru, 151 (2.7%) of Brazil, 151 (2.7%) of France, 141 (2.5%) of Italy, 98 (1.7%) of India and 1010 (18%) of other countries. Thus India's contribution was of 98 (1.7%) shares only as compared to 3 per cent in 2013 (Open DOAR, January 2021). In a knowledge society, free flow of information, openness in dialogue, debate and freedom of expression are very vital to exchange, share and use knowledge for innovations; while a highly educated workforce is key to the successful business growth in a global competitive market.

Shodhganga: The Indian Think Tank

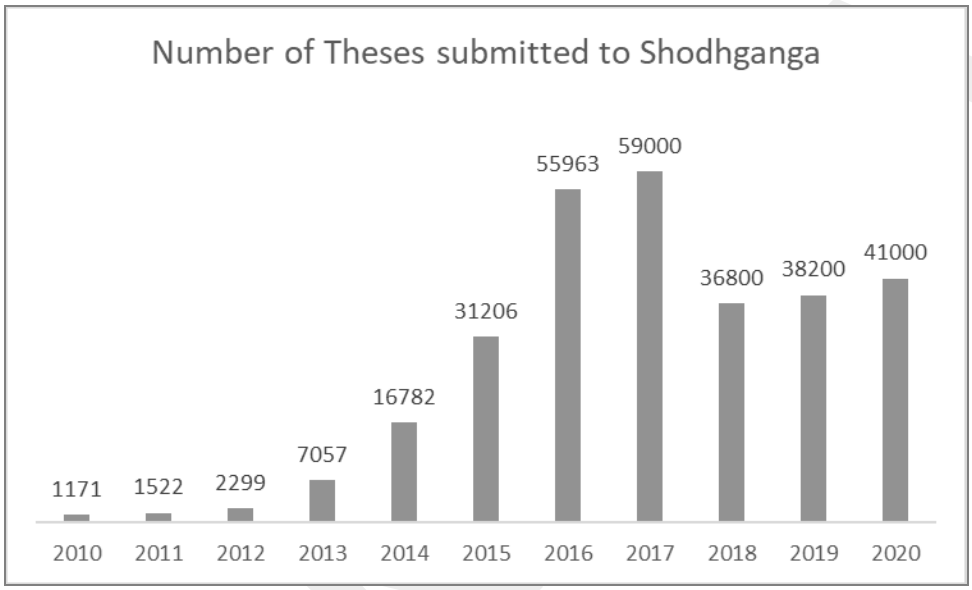
The University Grants Commission (UGC) has made it mandatory for research scholars and universities to deposit a soft copy of their doctorate thesis to Shodhganga, a database of repository of ETDs in India, vide its Notification (Minimum Standards and Procedure for Award of MPhil/PhD Degree, Regulation, 2009), wherein the responsibility of maintaining the digital ETD repository is assigned to the INFLIBNET Centre, that would provide a platform for research scholars to consult these theses and dissertations; and conduct "User Awareness Programmes on Shodhganga" every year. The UGC Regulation makes it obligatory: "following the successful completion of the evaluation process and announcements of the award of MPhil/PhD, the University shall submit a soft copy of the MPhil/PhD thesis to the UGC within a period of thirty days, for hosting the same in INFLIBNET, accessible to all Institutions/Universities" (UGC Regulation, 2009: 4054).

Starting digitisation of doctoral works in 2010 with 1171 theses, it has digitised and uploaded 2,91,000 theses as on December 2020 on Shodhganga. In the year 2017, 59,000 theses were submitted in Shodhganga, preceded by 55,963 in 2016, 31,206 in 2015 and 16,782 in 2014. In the beginning, digitisation of ETDs was slow. Only 4992 theses were digitised and uploaded in Shodhganga during three years (2010-2012) and 7,057 in the

single year 2013. It is interesting to note that after 2017 the number of uploaded theses in Shodhganga declined to 36,800 in 2018 but has been increasing since then.

GRAPH 1

Year-wise Growth of Digital Theses Submitted at Shodhganga (As on 31.12.2020)



Year-wise Theses submitted to Shodhganga

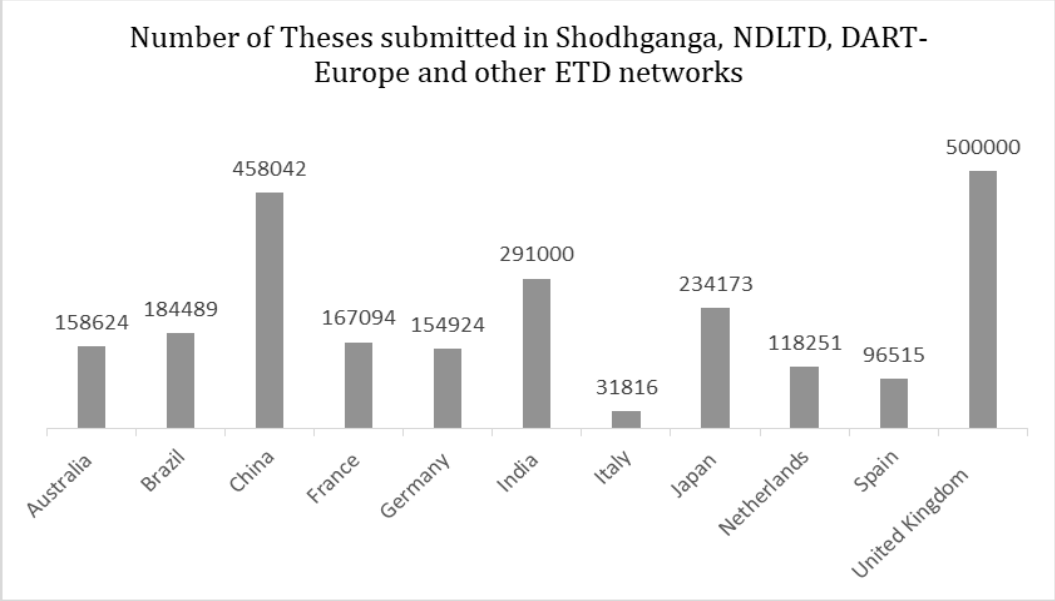
Source: https://shodhganga.inflibnet.ac.in/

Networked Digital Library of Electronic Theses and Dissertations: The Global Think Tank

The Networked Digital Library of Theses and Dissertations (NDLTD), an international organisation established in 1996, to promote adoption, adaptation, dissemination and preservation of e-theses and dissertations (ETDs) world-wide, provides useful and innovative resource inputs, standards and technology to encourage and support institutes of higher education and the teaching-learning community in order to benefit from the digital world of libraries and repositories, participate in NDLTD activities and share knowledge at global scale. It has 61,59,352 ETDs in NDLTD [http://search.ndltd.org/] and 10,81,796 in Digital Access to Research Theses (DART-Europe) ETD repositories of 570 universities of 29 European countries [https://www.dart-europe.org/basic-search.php] (as on 4 July 2021), libraries and working together as library consortia with United Kingdom at top with contribution of 5,00,000 ETDs, followed by China 4,58,042 and India 2,91,000 ETDs respectively. France, Germany, Netherlands, Spain and Italy have 1,67,094, 1,54,924, 1,18,251, 96,515 and 31,816 ETDs in DART-Europe, while Japan, Brazil and Australia have 2,34,173, 1,84,489 and 1,58,624 ETDs respectively.

GRAPH 2

Country-wise Growth of Networked Digital Library of ETDs (As on July 2021)



Source: NDLTD, DART-Europe and other ETD Networks
http://www.ndltd.org/, https://www.dart-europe.org/basic-search.php

Degree Granting Institutions Initiative

UNESCO's Clarion Call

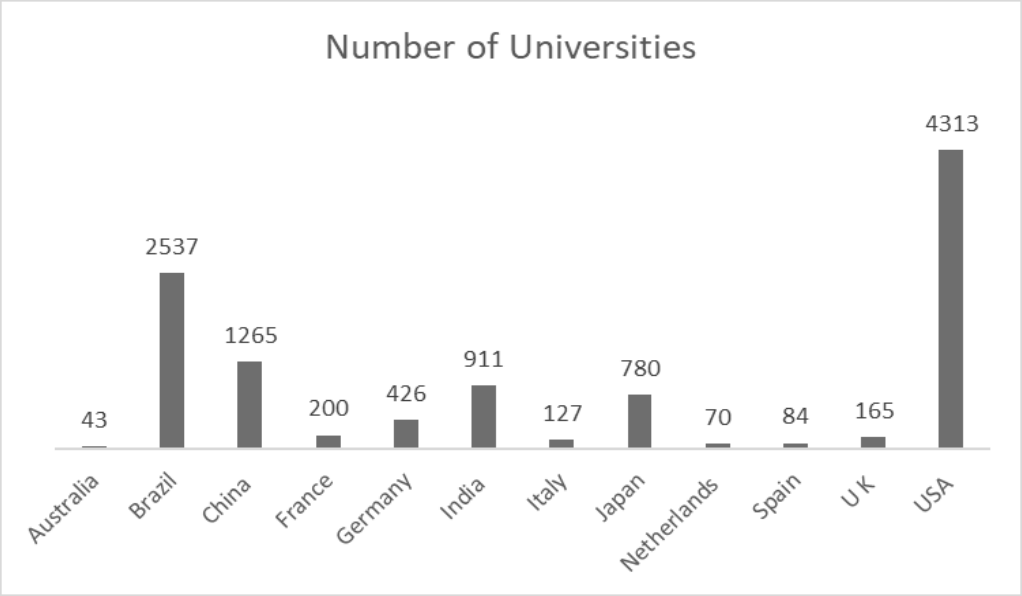
Universities are primarily known as centres of excellence in education and research that add to the corpus of knowledge as well as innovations to impact the socio-economic life of the people enjoying the benefits of higher education in particular and the living standards of the masses in general. This takes place through the creation of awareness about their right to education and right to healthy living, among other fundamental rights in a knowledge society. "Research is an integral part of the higher education process that has at its heart the creation and dissemination of new as well as existing knowledge" (McMahon, 2009: 256). The affordable quality education to people is a dream of the global knowledge society that can be achieved only if all countries, developed as well as developing, spend a substantial share of their GDP on education. "Education must teach learners how to cope with the challenges of the twenty-first century by encouraging, in particular, the development of creativity, the values of good citizenship and democracy, and the skills necessary for everyday and professional life" (UNESCO, 2005: 192).

With world-wide mobility of students for professional education, the growth of degree granting universities/institutions also increased: In 2017-18, USA had 4,313 degree granting institutions including 1,626 public institutions, 1,689 private non-profit institutions, and

998 private for-profit institutions; that is, 2,828 providing 4-year degree at bachelor or higher level; and 1,485 only 2-year associate degree as their highest award. In 2016-17, associate degrees were awarded by 2,701 institutions, bachelor's degrees by 2,445 institutions, master's degrees by 1,924 institutions, and doctor's degrees by 1,016 institutions (Snyder, de Brey, and Dillow, 2019). Brazil had 2,537 universities and China, at third position, had 1,265 universities (Textor, 2020).

GRAPH 3

Degree Granting Universities/Institutions in Different Countries



Source: Different sources of Web and Digest of Education Statistics 2019, US Department of Education, National Centre for Education Statistics.

World-wide Students' Mobility

Despite the massive expansion of post-secondary education and an unprecedented rise in enrolments (200 million students) in more than 22,000 universities world-wide, only a little seems to have been done to produce quality education and quality research; much though, most of the universities now claim to have engaged themselves in it (Altbach, 2017: 6). Moving towards a knowledge-based society has its key in economic progress and growth that requires a well-trained workforce, a well-established R&D infrastructure; heavy investment in upgrading and expanding higher education; and collaboration with foreign universities to encourage students to study abroad as witnessed in various countries. The Brazilian government, for example, launched its Scientific Mobility Programme, known as "Science without Borders" in July 2011, to enable its 75,000 students to study in foreign countries to enhance their work skills (Science & Engineering Indicators 2016). Similarly, Saudi Arabia has invested considerably in a scholarship programme,

launched in 2005, to support more than 1,00,000 Saudi students to study abroad for professional training throughout the world at an estimated cost of at least $5 billion since the inception of the programme (Knickmeyer, 2012). The Chinese government also established its China Scholarship Council 2015, a non-profit institution affiliated with the Ministry of Education to provide financial assistance to Chinese citizens to study abroad and foreign citizens to study in China to mutually enhance opportunities for educational and cultural exchanges; economic and trade cooperation; and scientific and technological development between China and other countries.

PhDs Awarded to Foreign Students in the USA

Science and Engineering

Between 1991 and 2011, U.S. universities conferred 2,35,582 doctorates in Science and Engineering (SE) on foreign recipients, both permanent and temporary residents. Students of the top ten countries' (China, India, South Korea, Taiwan, Canada, Turkey, Thailand, Germany, Japan and Mexico) earned 1,60,082 (68.0%) of these countries while the remaining 75,500 (32.0%) students belonged to other countries. Four Asian countries (China, India, South Korea, and Taiwan) earned much more than half of the US SE doctoral degrees (1,30,525 out of 2,35,582) awarded to foreign students. In terms of their distribution, Chinese students earned 63,341 (26.9%); Indian students 27,787 (11.8%); South Korea scholars 22,400 (9.5%); Taiwan's 16,997 (7.2%); while others shared only marginally, with Canada 7,511 (3.2%); Turkey 6,138 (2.6%); Thailand 4,232 (1.8%); Germany 3,985 (1.7%); Japan 3,974 (1.7%) and Mexico 3,717 (1.6%). Over the last two decades, Chinese students have earned more than twice the number of SE doctorates and Indian students nearly thrice, despite some fluctuations, here and there (Science and Engineering Indicators, 2014: 2/34). Indian scholars still remain much too far behind China in this field.

Other Disciplines

The US granted 1,81,352 doctorates in 2016-17, preceded by 1,78,134 in 2015-16, in all disciplines. In terms of other parameters, the distribution, especially in these two years (2015-16), was found to be as below. Females earned Doctor's degree 52.7: 53.3 per cent indicating not much of a difference; and discipline-wise, 77,700 in the fields of health related professions and programs; 35,100 in legal profession; 12,700 in education; 10,400 in engineering; 8,100 in biological and biomedical sciences; 6,700 in psychology, and 6,000 in physical sciences and science technologies, etc. in 2016-17 (Snyder, de Brey, and Dillow, 2019:211).

Degree Awarding Institutions in India

The Scenario as in 2019

In 1950, India had had only 20 universities, about 500 colleges, 2.1 lakh students (with just a few girls) and a faculty of about 15,000 only. During the last seven decades, the

country had, in 2018-19, as many as 911 universities (51 Central Universities, 397 State Universities, 334 State Private Universities, 126 Deemed to be Universities, 3 Institutions established through State Legislation Act) along with 41,935 colleges, with a phenomenal growth in enrolment of 373.99 lakh students in regular and distance education programmes including 181.90 lakh (48.64%) women students. Girls' enrolment nearly caught up with that of boys; the gross enrolment ratio (GER) in higher education is 26.3% and the teaching faculty numbered 14.16 lakh in 2018-19. Gross the enrolment ratio (GER) has increased from 24.3 in 2014-15 to 26.3 in 2018-19 (UGC Annual Report 2018-19).

Scenario in Global Perspective

In terms of student numbers in higher education, India stands the third largest in the world—after China and the United States—and the fourth among various countries in terms of the number of universities (See the graph 3). Countries having smaller proportion of universities but excellent world ranking include Germany with 426 universities and the UK with 165 degree awarding institutions. Besides universities like Oxford, one of the oldest in the English-speaking world, established in 1096, and Cambridge, founded in 1209, the UK has 165 autonomous institutions with degree awarding powers. Significant expansion of institutions in the UK occurred in 1992 and in between 2001 and 2013 (Stern, 2014). France has 200 universities, followed by Italy with 127 universities catering to academic, technical and professional degree programmes in all disciplines. Spain had 84 universities, both public and private. The Netherlands has 70 universities including research and applied sciences, followed by Australia with 43 universities—40 Australian universities, two international universities and one private specialty university.

PhDs Awarded in Indian Universities

Between 2008-09 and 2017-18, Indian universities (see Table 1) awarded as many as 2,37,534 doctoral degrees in 10 broad areas under the disciplines: arts, sciences and other professional programmes. The distribution was as below: 29.93% degrees in science; 27.32% in arts; 13.66% in engineering or technology; 8.20% in commerce/management; 6.79% in agriculture; 3.80% in medicine; 3.77% in education; 1.09% in law, 1.01% in veterinary science and 4.44% in others. The same period saw a continuous rise in the award of doctoral degrees in professional courses, viz. two times rise in the agriculture from 3.26% to 6.79%; about more than one and half times in engineering or technology from 9.04% to 13.66%; besides commerce/management from 7.26% to 8.20% and medicine from 2.85% to 3.80%. These held an eminent attraction for scholars as they held out brighter chances of job prospects in comparison to the traditional areas.

TABLE 1

Faculty-wise Number of Doctorate Degrees (Ph.D.) Awarded by Indian Universities during 2008-09 to 2017-18

Faculty	*2008-09*	*2009-10*	*2010-11*	*2011-12*	*2012-13*	*2013-14*	*2014-15*	*2015-16*	*2016-17*	*2017-18*	*Total*
Arts	4370 (31.74)	4862 (33.58)	4998 (31.06)	6155 (30.99)	6298 (31.06)	7480 (32.74)	6890 (25.21)	6711 (24.25)	8337 (24.24)	8785 (21.53)	64886 (27.32)
Science	4786 (34.76)	4619 (31.91)	5271 (32.75)	6334 (31.89)	6641 (32.75)	7018 (30.71)	7617 (27.87)	8334 (30.12)	9559 (27.79)	10908 (26.73)	71087 (29.93)
Commerce/ Management	999 (7.26)	980 (6.77)	1259 (7.82)	1743 (8.78)	1585 (7.82)	2098 (9.18)	2305 (8.43)	1943 (7.02)	2971 (8.64)	3606 (8.84)	19489 (8.20)
Education	509 (3.70)	588 (4.06)	645 (4.01)	717 (3.61)	813 (4.01)	825 (3.61)	763 (2.79)	876 (3.17)	996 (2.90)	2223 (5.45)	8955 (3.77)
Engineering/ Technology	1245 (9.04)	1449 (10.01)	1682 (10.45)	2173 (10.94)	2119 (10.45)	2533 (11.09)	4340 (15.88)	4772 (17.25)	4931 (14.33)	7196 (17.63)	32440 (13.66)
Medicine	392 (2.85)	386 (2.67)	601 (3.73)	638 (3.21)	756 (3.73)	819 (3.58)	1395 (5.10)	1021 (3.69)	1422 (4.13)	1606 (3.94)	9036 (3.80)
Agriculture	449 (3.26)	652 (4.50)	586 (3.64)	677 (3.41)	738 (3.64)	871 (3.81)	1690 (6.18)	1350 (4.88)	4426 (12.87)	4692 (11.50)	16131 (6.79)
Veterinary Science	241 (1.75)	162 (1.12)	162 (1.01)	189 (0.95)	204 (1.01)	241 (1.05)	204 (0.75)	283 (1.02)	298 (0.87)	406 (0.99)	2390 (1.01)
Law	220 (1.60)	146 (1.01)	223 (1.39)	239 (1.20)	282 (1.39)	227 (0.99)	254 (0.93)	290 (1.05)	326 (0.95)	375 (0.92)	2582 (1.09)
Others	557 (4.05)	633 (4.37)	666 (4.14)	996 (5.01)	839 (4.14)	737 (3.23)	1869 (6.84)	2091 (7.56)	1134 (3.30)	1016 (2.49)	10538 (4.44)
Total	**13768 (100.0)**	**14477 (100.0)**	**16093 (100.0)**	**19861 (100.0)**	**20275 (100.0)**	**22849 (100.0)**	**27327 (100.0)**	**27671 (100.0)**	**34400 (100.0)**	**40813 (100.0)**	**237534 (100.0)**

Arts: Area Studies, Culture Studies, Defence Studies, Foreign Language, Gandhian Studies, Indian Language, Linguistic, Oriental Science, Religious Studies, Social Science, Women Studies
Education: Disability Studies, Education
Others: Fine Arts, Journalism, Library Science, Music, Physical Education, Social Work
Science: Fisheries Science, Home Science, IT & Computer, Marine Science.
Source: UGC Annual Report 2010-11 to 2018-19. [https://www.ugc.ac.in/page/Annual-Report.aspx]

Research and Development Inputs

"In any country, a well-educated class in society serves as one of the primary engines of growth in economic and other societal respects" (Deshpande, 2006: 3933). The institutions of higher education are expected to produce top-class scientists, engineers, doctors, technologists and management experts to engage in research and innovative works in their desired and destined areas. India has a chain of such specialized research institutes though limited in number, yet contributing a great deal to R&D in diverse fields. In a knowledge-based society, primary objective of the nation is to provide for a meaningful top-class education, right from elementary level to nurture talent inherent in every individual to face life creatively and constructively against all odds and challenges and to catch every opportunity to innovate and renew the process of change, transformation and development through "scholarly pursuits." As research and development (R&D) are closely interlinked, as the means to pursue and promote global knowledge and technical knowhow in every aspect of human endeavour, countries are investing more and more in R&D for and dissemination of their tangible outcomes for sustainable life support.

The World of Journals

Journals are the main source of dissemination of research findings and scientific innovations, and are being published by universities, scientific societies, and various publishers world-wide. There are now more than 1,50,000 scientific journals published in different countries globally (see Table 2), of which only 64,000 "claim to be peer reviewed" journals (Altbach, 2017: 6).

TABLE 2

Country-wise Outcome of Scientific Articles during 2005-2014

Country	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*Publications per million inhabitants*
Australia	24755 (3.23)	27049 (3.35)	28649 (3.41)	30922 (3.48)	33284 (3.58)	35228 (3.65)	38505 (3.76)	39899 (3.86)	44926 (3.99)	46639 (3.98)	1974
Brazil	17106 (2.23)	19102 (2.37)	23621 (2.81)	28244 (3.18)	30248 (3.26)	31449 (3.26)	34006 (3.32)	34165 (3.31)	37041 (3.29)	37228 (3.17)	184
China	66151 (8.64)	79740 (9.88)	89068 (10.59)	102368 (11.51)	118749 (12.78)	131028 (13.59)	153446 (14.99)	170189 (16.47)	205268 (18.23)	256834 (21.90)	184
France	52476 (6.86)	54516 (6.75)	55254 (6.57)	59304 (6.67)	60893 (6.55)	61626 (6.39)	63418 (6.19)	62371 (6.04)	66057 (5.87)	65086 (5.55)	1007
Germany	73573 (9.61)	75191 (9.31)	76754 (9.12)	79402 (8.93)	82452 (8.87)	85095 (8.83)	88836 (8.68)	88322 (8.55)	92975 (8.26)	91631 (7.81)	1109
India	24703 (3.23)	27785 (3.44)	32610 (3.88)	37228 (4.19)	38967 (4.19)	41983 (4.35)	45961 (4.49)	46106 (4.46)	50691 (4.50)	53733 (4.58)	42
Italy	40111 (5.24)	42396 (5.25)	44810 (5.33)	47139 (5.30)	49302 (5.31)	50069 (5.19)	52290 (5.11)	52679 (5.10)	57943 (5.15)	57472 (4.90)	941
Japan	76950 (10.05)	77083 (9.55)	75801 (9.01)	76244 (8.57)	75606 (8.14)	74203 (7.70)	75924 (7.42)	72769 (7.04)	75870 (6.74)	73128 (6.24)	576
Netherlands	22225 (2.90)	22971 (2.85)	23505 (2.79)	24646 (2.77)	26500 (2.85)	28148 (2.92)	29396 (2.87)	30018 (2.91)	32172 (2.86)	31823 (2.71)	1894
Spain	29667 (3.88)	32130 (3.98)	34558 (4.11)	37078 (4.17)	39735 (4.28)	41828 (4.34)	45318 (4.43)	46435 (4.49)	49435 (4.39)	49247 (4.20)	1046
UK	70201 (9.17)	73377 (9.09)	75763 (9.01)	77116 (8.67)	78867 (8.49)	81553 (8.46)	84360 (8.24)	83405 (8.07)	89429 (7.94)	87948 (7.50)	1385
USA	267521 (34.95)	275884 (34.18)	280806 (33.38)	289769 (32.58)	294630 (31.71)	301826 (31.31)	312374 (30.51)	306688 (29.69)	324047 (28.78)	321846 (27.45)	998
Total	**765439 (100.0)**	**807224 (100.0)**	**841199 (100.0)**	**889460 (100.0)**	**929233 (100.0)**	**964036 (100.0)**	**1023834 (100.0)**	**1033046 (100.0)**	**1125854 (100.0)**	**1172615 (100.0)**	

Source: UNESCO Science Report towards 2030.

USA and China Produce around Half the Global Wealth of Scientific Articles

In 2014, the USA published maximum number of scientific articles (27.45%), followed by China (21.90%); Germany (7.81%); United Kingdom (7.50%); and Japan (6.24%), while France (5.55%), Italy (4.90%), India (4.58%), Spain (4.20%), Australia (3.98%) and the Netherlands (2.71%). Thus the USA and China, combined, published almost half of the scientific articles (49.35%) produced in the world in 2014.

Advanced Countries Fall Short

But a constant fall in the publication of scientific articles has been visible in developed countries like the USA from 34.95% to 27.45%; United Kingdom from 9.17% to 7.50%; Japan from 10.05% to 6.24%; Germany from 9.61% to 7.81%; and France from 6.86% to 5.55% during 2005-2014, except 2007-2008 indicating slight increase from 6.57% to 6.67%. Similarly, Italy and the Netherlands show a rise and fall at times in the number of articles published.

Countries Making Positive Growth

The pace of growth in the publication of scientific articles has been visible in the case of China from 8.64% to 21.90%, India from 3.23% to 4.58% from 2005 to 2014 respectively; Brazil from 2.23% to 3.32% during 2005 to 2011; Australia and Spain from 3.23% to 3.99% in 2005-2013; and 3.88% to 4.49% in 2005-2012 respectively.

Per People Publications

Australia published 1,974 publications per million inhabitants followed by the Netherlands 1,894 and the UK 1,385 in 2014; Germany, Spain and France followed with 1,109, 1,046 and 1,007 publications respectively; China and Brazil 184 each; the USA, Italy, Japan and India 998; 941; 576; and 42 publications respectively per million inhabitants. Curiously, India's contribution of scientific articles per million inhabitants has been extremely low, standing last among the comity of nations in this regard. According to Shen and Bjork (2015), 35% of Indian publications were published in predatory journals. All countries' publications per million inhabitants increased, except Japan where per million inhabitants' publications marginally decreased from 599 in 2008 to 576 in 2014.

The World of Books

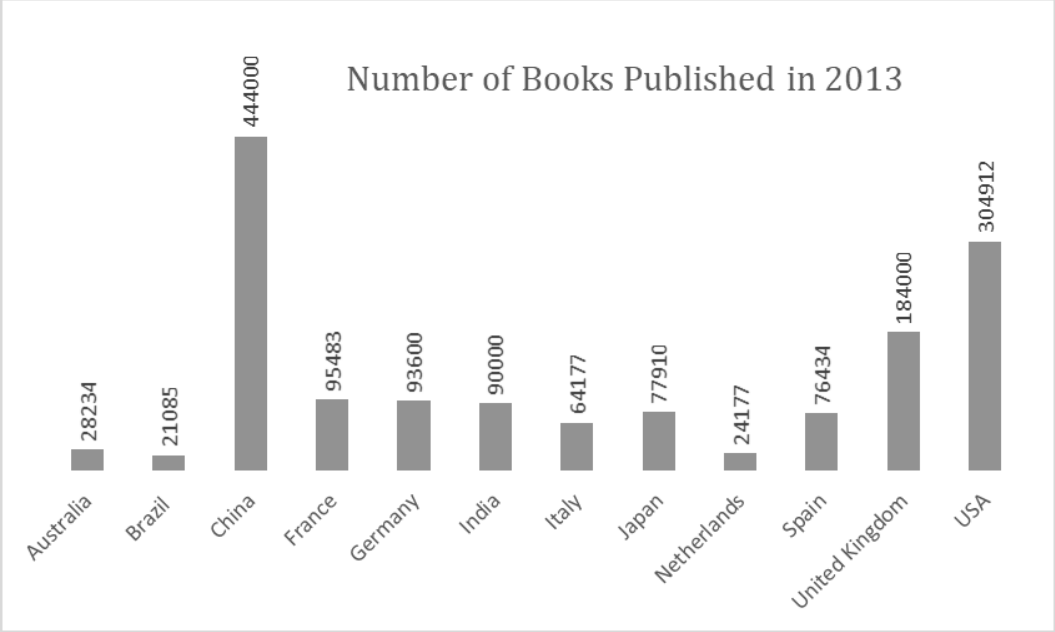
Books have been the best source of knowledge, education, entertainment and research, and with the emergence of ICT, publishing world has been looking forward to a phenomenal change towards e-publishing and e-learning during the last two decades. India claims to have become the third largest publishing nation in the world, after the USA and UK, with over 19,000 publishers. More than half of them are engaged in publishing books in English; 12,400 have ISBN numbers and about 40 per cent of their books are academic, 30 per cent publish for children and 30 per cent are trade books (NCAER, 2014: 21). They produced 90,000 books in 2013 alone, in English (24%), Hindi (26%) and other languages (50%). China was the world's largest book market with publication of 4,44,000 titles, followed by

the USA 3,04,912, the UK 1,84,000, France 95,483 and Germany 93,600 books during 2013. However, in terms of absolute number of books produced, India stands 6th in the global ranking order. Japan, Spain and Italy remained far behind India, with their 77,910, 76,434 and 64,177 published books respectively; followed by Australia, the Netherlands and Brazil with their 28,234, 24,177 and 21,085 published books respectively in 2013 (IPA Annual Report 2013-14).

With digitisation and expansion of electronic media as a driving force in publishing industry, globally, new players seem to have taken on the publishing world—Google, Apple, Amazon, etc., with their e-publishing and their continually enriching e-resources. Global expansion of publishing with digital products and their distribution in the diverse geographic situations have widened the scope of access to knowledge and enhanced R&D in all spheres (IPA Annual Report 2013-14). This is a welcome move towards mass education, making quick and smart room for augmenting an ever-learning knowledge-based society.

GRAPH 4

Country-wise Books Published during 2013



Source: IPA Annual Report October 2013

Knowledge Society in the Making

Increasing Number of Internet Users

Global Scenario

Development of ICT has made possible high speed networks to share knowledge produced by developed countries across the globe as witnessed in the number of Internet users growing fast, rising from just around 3 per cent of the world population in 1995 to more than 11 per cent in 2003 – or over 600 million people (UNESCO, 2005). At the beginning of 2014, just 35% of the world had access to internet; this figure increased to 42% in January 2015. With half a billion new users getting connected to the web in 2014, this was an increase of 20%, and the total number of web surfers rose to 3 billion worldwide in 2015. In Western Europe and the US, more than 80% of the population has access to the Internet, but in East Asia, South America and Eastern Europe, connectivity is just between 50% and 60%; and in South Asia is only 19% connectivity (Banks, 2015).

Indian Estimates

Internet users in India were estimated around 481 million as on December 2017, with an overall 35 per cent Internet penetration; and that Internet users in India will reach about 500 million by June 2018. It is showing growth of 11.34% over December 2016 figures. Out of an estimated 455 million urban population of India, 295 million (65%) were already using the internet, as compared to an estimated 918 million rural population with 186 million (20%) using the internet. Internet is used mainly for online communications (email, etc., 86%), entertainment (85%), social networking (70%), online finance and transactions (44%) and online services (35%) in urban India as compared to entertainment (58%), online communications (56%), social networking (49%), online services (35%) and online finance and transactions (16%) in rural India. Availability and affordability of smart phones, strong IT infrastructure for good connectivity, expansion and exposure of e-governance, digital India and all these services in local languages for easy communication have enhanced the use and effectiveness of Internet among rural and urban people (IAMAI, 2017).

Social Media

Social media has become the most popular network among the masses for digital communication. It is a global phenomenon where people are now more active to use internet with available devices to connect with social networks like Facebook, YouTube, WhatsApp, etc. Facebook is the most popular social network in the world. Most popular devices to access social media are mobile, tablet after laptop and PC. Indians use their mobile phones most for social communication and entertainment. The average mobile internet user in India spends almost 70 per cent of the time on Apps like Facebook, and WhatsApp, and music and entertainment Apps as compared to 50 per cent of the time people in the US spend on the mobile phone (Omidyar Network) (*The Times of India*, 19 December 2017).

Out of 7.75 billion total population, more than 4.54 billion (59%) people around the world use the Internet, i.e., with global penetration of Internet 59 per cent; more than 3.80

billion users (49%) are active in social media; 3.75 billion (99%) social users access social media via mobile; 5.19 billion (67%) are unique mobile users of the total population as on January 2020 (Kemp, 2020).

Reading Books and Participation in Cultural Activities

Europe

In 2012 – 13, the most popular and common cultural activity in Europe, has been, among others, reading books (European Commission, 2013: 7) – 68 per cent of respondents said that they had read at least one book during the 12 months surveyed; about 72 per cent of respondents had watched or listened to a cultural programme on TV or on the radio, i.e., the most common form of participation in a cultural activity. While 52 per cent of the respondents had been to the cinema, an equal share visited a historical monument or site at least once in the last 12 months. Visiting a public library was seventh on the list, while only 31 per cent of respondents did it once or more during the 12 months surveyed; indicating a decrease of 4 per cent since 2007.

India

People's active participation in a vast variety of fairs, festivals and cultural feats has been an integral part of Indian psyche. This is not only for entertainment but more so for an inclusive development of society as a whole; and to promote love for books and reading habits. In particular, innumerable apex level institutions and organisations like the National Book Trust (NBT), print as well as electronic media houses, specialised language institutes, a huge network of libraries, etc. are carrying out long-term campaigns to boost the habit of reading books and other literary pieces in quite a big way, to make a positive impact on building an ever-growing learning society.

Open Access Connectivity

From Agrarian to Technological Era

"During the last century the world has undergone a change from an agricultural society, where manual labour was the critical factor, to an industrial society, where the management of technology, capital and labour provided the competitive advantage. Then the information era was born in the last decade, where connectivity and software products are driving the economy of a few nations" (Kalam, 2002: 43). This has helped make room for a freer flow of information and technology for the potential community of learners, technologists and researchers to help move towards harnessing knowledge society with an open access to content, courseware, software, etc. and to stimulate the creation of a host of agencies like MIT Open Course Ware (OCW); National Programme on Technology Enhanced Learning (NPTEL), SWAYAM (Study Webs of Active Learning for Young Aspiring Minds), Massive Open Online Courses (MOOCs), Open Educational Resources (OER) including National Digital Library of India (NDLI), Directory of Open Access Journals (DOAJ) and Directory of

Open Access Books (DOAB); Open Source Software (OSS) like Koha, DSpace and EPrints; Electronic Theses and Dissertations (ETDs) like NDLTD, Shodhganga; Open Knowledge and Open Access Repositories (OAR) like the World Bank Open Knowledge Repository (OKR), etc. The UNESCO, Common Wealth of Learning and similar other international institutions also have witnessed great potentials of e-technology to help quality education at low-cost, which is indispensable for a smart learning society in the making.

SWAYAM, the Indian Model

MOOC (Massive Open Online Course), first appearing in 2008, gained instant worldwide popularity, with *New York Times* glorifying '2013' as the Year of MOOC. The Government of India followed suit with its indigenous MOOC, called SWAYAM (Study Webs of Active Learning for Young Aspiring Minds), so as to provide the best—quality educational resources and services to youth engaged in school as well as higher education including various professional courses to honour the spirit of Educational Policy, viz., access, equity and quality with online courses specially prepared by over 1,000 select faculty and teachers from across the country launched so far on this platform as "one-stop web" of learning from school level (IX Class) to post-graduation level.

The courses hosted comprise four quadrants:—(i) video lectures; (ii) downloadable/ printable reading material; (iii) self-assessment tests through tests and quizzes; and (iv) an online discussion forum for clearing the doubts; to be monitored on quality parameters by nine National Coordinators drawn from premier institutions like the All India Council for Technical Education (AICTE) for self-paced and international courses; National Programme on Technology Enhanced Learning (NPTEL) for engineering; University Grants Commission (UGC) for post-graduation education; Consortium for Educational Communication (CEC) for undergraduate education; National Council of Educational Research and Training (NCERT) and National Institute of Open Schooling (NIOS) for school education; Indira Gandhi National Open University (IGNOU) for out-of-school students; and Indian Institute of Management Bangalore (IIMB) for management studies and National Institute of Technical Teachers Training and Research (NITTTR) for Teacher Training programme.

SWAYAM, a collaborative initiative of Ministry of Human Resource Development (MHRD) and All India Council for Technical Education (AICTE), harnessed by Microsoft addresses quality education at all levels—school, under-graduate, post-graduate, engineering, law and other professional courses - launched on 32 Direct-To-Home (DTH) educational TV channels, called SWAYAM Prabha, 24x7, developed under SWAYAM MOOCs' (https://swayam.gov.in/), bringing best teaching-learning resources to all, bridging the digital divide of students away from mainstream of the knowledge economy. This indigenous IT platform claims to fully meet the Knowledge Commission's focus on five of the key aspects of knowledge: India should strengthen its education system, particularly higher education system and research to compete globally and become a knowledge hub for "enhancing access to knowledge; re-invigorating institutions where knowledge concepts are imparted; creating a world-class environment for creation of knowledge; promoting applications of knowledge for sustained and inclusive growth; and using knowledge applications in efficient delivery of public services" (National Knowledge Commission, 2009: 3).

E-Repositories Evince Their Potentials to Build a Learning World

ETD repositories in various countries across the world, with their pooled knowledge across the board, seem to have successfully taken bold digital initiatives; so have other countries such as India, France and Japan by adopting digital initiatives to promote people's access to knowledge sources as a means to obviate massive illiteracy across various areas and disciplines of human concern. Such open access storehouses would be welcome in developing and underdeveloped countries, in particular, their imminent need to catch up the slogan of globalisation of knowledge and e-learning to acknowledge the dream of realising the cherished goal of making the world as a global village in its true sense, with free flow of the accumulated knowledge to everyone, anywhere and at any time. In that ETDs: prima facie possess commendable potentials towards building a knowledge society; providing valuable knowledge sources that could play a significant role in sustainable development of society, while revolution in ICT, open access initiatives and open educational resources would make it possible to manage, disseminate and share the pool of world knowledge equitably. "Knowledge is not a free good. It takes effort to develop it, to transfer it, and to absorb it. Much of the available knowledge is technical and cannot be absorbed without specific and extensive training" (Griliches, 2000: 88). Development of digital repositories would not only shrink the geographical boundaries; but also bridge the digital divide; avoid the duplication of research efforts; save time, money and space constraints to access and use these store-houses on the platter, to lay down, in turn, the foundation of a global knowledge society, backed up by application of tangible knowledge in every sphere of life—social, economic, political, health, education, etc.—transforming common people's life around the globe.

Conclusion

Opening more and more degree granting institutions does not, however, necessarily mean quality education and tangible research. The scenario differs from country to country. The UK, Australia and other European countries have comparatively less number of universities than those in the USA, China, Japan; and India; in particular, that seems to outsmart in tertiary education with an eye on laying the foundations of a global knowledge society, making available a pool of e-repositories such as Shodhganga, NDLTD, OER, MOOCs, SWAYAM, etc. to boost pro-active learning encompassing the whole gamut of human endeavours to seek knowledge as a lifelong process. In this age of cyber technology and digital repositories available around the corner, free flow of information in every aspect of human life is tantamount to add up to the originality of purpose of research in building a new *weltenschauung* to facilitate the upcoming of a lifelong value-enriched learning society. Expansion in the number of universities and research institutions awarding doctorates, publishing articles, books, managing and digitising electronic theses and dissertations, etc. are helpful to contribute greatly for empower and uplift the masses particularly those who are away from the access to mainstream of knowledge economy. Access to OER has given enormous opportunities to access knowledge freely and its impact can be seen during the disaster period. Pandemic period has enhanced the access to open educational resources such as NDLI, Shodhganga, NDLTD, etc. to meet the academic and research pursuits.

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'Leadership for Learning' in Developing Countries: An Analysis of the Context Characteristics and School Conditions That Influence Leadership Practices of School Principals in India

Subitha G.V.*

Abstract

There is an emergent national thrust on school leadership in India because of the evident link between school leadership practices and improvements in students' learning. Yet, there is a lack of indigenous studies in the domain, which makes it difficult to understand the phenomenon and the related factors. Empirical studies have substantiated that leadership practices differ between nations, implying that the context and the school conditions underpinning education account for differences in leadership characteristics of school principals across regions. The present study attempts to generate a deeper understanding of how contexts and school conditions, specific to developing countries, influence school leadership characteristics by investigating the leadership practices, roles, responsibilities and belief system of selected school principals in five states of India.

* National Centre for School Leadership (NCSL), National Institute of Educational Planning and Administration (NIEPA), New Delhi, Email: subithagvmenon@gmail.com

Introduction

India, a developing country, has around 1.5 million schools and more than 250 million enrolments, and it is home to one of the largest and most complex education systems. India has made great strides in education and development since independence, with access and enrolment of children reaching near universal levels at the primary stage (NUEPA, 2014; Twelfth Five Year Plan, 2013:47). Yet, as Alcott and Rose (2017) have observed about developing countries, an increase in enrolment does not guarantee learning. The learning levels of children in schools in India are on a decline (World Development Report, 2018; ASER, 2017), its prime reason being attributed to classroom pedagogies that do not adhere to the National Curriculum Framework-2005 (Navani, 2017) and non-adoption of child-centric curriculum (Twelfth Five Year Plan, 2013). Parallel to these national level developments, the role of the school heads in transforming schools and improving student learning has been gaining global attention and has been acknowledged and recognised (Hallinger, 2010; Robinson, Hohepa & Lloyd, 2008), following which, preparation and development of school leaders in India has gained momentum primarily on account of the perceived links between school leadership and improvements in students' learning outcomes. This is evident in the emphasis placed on school leadership development by planning and policy documents such as NCSL-NIEPA (2014), the Twelfth Five Year Plan (2013:50), and more recently the National Education Policy- 2020 (p22).

Historically, national policies on education have consciously documented the role of school heads in school transformation. The National Policy on Education (NPE, 1986) while envisaging the need for greater autonomy within schools, assigned a bigger role to school heads by identifying them as key agents for improving the quality of education. The National Curriculum Framework for Teacher Education (NCFTE-2009) outlined the role of school heads in improving student learning through efficient teacher professional development strategies. Unfortunately, in India, the heightened policy thrust on school leadership has not been backed by indigenous research studies in the field. Indigenous research studies on school leadership and its impact on school transformation and student learning is limited (Saravanabhavan, Pushpanadham & Saravanabhavan, 2016; Saini & Goswami, 2019) which has made it difficult to define or understand the phenomenon and the factors associated with it. Indigenous studies on school leadership are warranted because school leadership as a phenomenon is influenced by the national, cultural, social and organisational context (Hallinger, 2011; Oplatka, 2004). Global literature on school leadership has pointed out that most of the literature on school leadership is heavily influenced by Anglo-American paradigms (Oplatka, 2004) and has reiterated the need for generation of indigenous models of leadership and management (Akkary, 2014; Truong & Hallinger, 2017).

In the Indian context, indigenous study on school leadership is justified also on account of the contrasting research evidence (for example Govinda, 2002; UNESCO/UNICEF, 2012; UNESCO, 2016) that have pointed out large gaps in policy and actual ground realities with respect to the positional status, roles and responsibilities, degree of autonomy and administrative support provided to the school heads. An attempt to understand the reasons for the gap in policy rhetoric and practice would demand an examination of the factors (organisational, cultural, and social) as well as an exploration of the school specific academic structures and processes that enable/hinder school leadership practices in India. The present study, therefore, is an attempt to contribute to development of indigenous and

functional models of school leadership specific to India and that is applicable to developing countries. The study also endeavours to enable policy makers to devise appropriate need based strategies and guidelines for supporting the school heads in their efforts to improve schools. The following section provides a review of literature on school leadership that have been generated globally and also within the Indian context.

Review of Literature

Leadership for School Effectiveness

Research on school leadership has acknowledged two main models of school leadership: transformational leadership and instructional leadership. Transformational leadership has been linked with vision; setting directions; restructuring and realigning the organisation; developing staff and curriculum; and involvement with the external community (Leithwood & Jantzi, 2005). Instructional leadership highlights that the leader's prime focus is their responsibility towards promoting learning outcomes in students through emphasising on teaching and learning process such as establishing clear-cut educational goals, planning the curriculum and evaluating the teachers and teaching (Robinson *et al*, 2008). Effective transformational leadership align with pedagogical/instructional leadership, to provide what Hallinger (2010), refers to as 'leading for learning.'

Leadership for Learning

Leadership for learning describes approaches that school leaders employ to achieve important school outcomes, with a particular focus on student learning (Day, Sammons, Leithwood, Hopkins, Harris, Gu, Q & Brown, 2010; Robinson *et al*, 2008). A synthesis of the conceptualisations proposed by leadership researchers (e.g. Bossert, Dwyer, Rowan, &Lee, 1982; Hallinger, 2011; Leithwood *et al*, 2010; Mulford & Silins, 2009; Murphy, 2005) highlights three important assumptions about leadership for learning. First, it indicates that leadership is enacted within an organizational and environmental context, which includes the community, the institutional system and the social culture. Second, the application of leadership is moderated by the personal characteristics of the leaders, which includes their beliefs, values, and experience as sources of variation in leadership practices. Third, leadership does not directly impact student learning, but the impact is mediated by school level processes and conditions (includes vision and goals; academic structures and processes and people) and that school leadership influences and is influenced by these school level conditions.

Context and Leadership

School context represents an important factor in understanding both leadership and student learning results (Bossert *et al*, 1982; Opdenakker & Van Damme, 2007). Effective leadership was found to be dependent upon features of the context or situation in which the leader worked which includes staff characteristics, hierarchy, availability of resources, and power relationships etc. Bossert *et al* (1982) made a distinction between 'person specific context' and 'widely shared context.' Person specific context referred to the knowledge,

skills, attitude and experience that the leader brought into the job. Widely shared contexts refer to the broader organisational and environmental setting within which the school and the principal are located (Clarke & O'Donoghue, 2017; Schwarz & Brauckmann, 2015). Widely shared contexts also included the *institutional contexts* which comprise the school districts educational system along with its aims, structures, initiatives and norms (Truong, Hallinger & Sanga, 2016). It determines the amount of time school principals spent on their jobs (Lee & Hallinger, 2012) and shapes the amount of time school principals allocated to instructional leadership, administration and community interaction. The degree of systems centralisation also evolved as an important factor in influencing the task environment of the principals (Truong *et al*, 2016) and determined their role in functions such as in hiring the teaching staff (Hallinger & Truong, 2014). The definition of 'widely shared context' had been expanded to include the '*community context'* where socio-economic status (SES) of the children's parents and the latter's involvement (Hallinger & Leithwood, 1996); the location of schools, whether urban or rural (Hallinger& Liu, 2016; Zhang & Pang, 2016); differences in achievement of students and the allocation of physical and financial resources and human resources (Othman & Mujis, 2013) influenced leadership behaviour. Research studies (Dimmock & Walker, 2000; Hallinger & Leithwood, 1996) incorporated '*national culture'* as an exogenous context variable influencing school leadership, and highlighted that there is a difference in the manner school leaders carried out their role across different countries and emphasised that socio-cultural contexts of schools shape school leadership and influence school heads' values sets and norms of behaviour (Hallinger, 2018), with some of these studies referring to concept on 'power distance' (Hofstede, 1980; Truong *et al* 2016). Cross-national studies on educational leadership have resulted in a series of publications originating outside of Anglo-American societies, thereby recognising the differences in the role of school leaders in developing countries (e.g. Bellibas *et al*, 2016; Mertkan *et al*, 2017; Oplatka, 2004; Truong *et al*, 2016; Yalcın et al, 2016).

School Leadership in Indian Context: A Review of the Profile, Roles and Responsibilities of School Heads

The expanding school system in India, characterised by increasing enrolment and mass education, has increased the complexity of school management processes. Akin to this situation, educational policies in India have vested considerable powers on school heads so that they are able to run the school effectively. The Education Commission (1964-66), recommended devolution of authority to schools to make the system more dynamic and envisioned wider power and freedom to school heads. NPE (1986) envisioned decentralisation of education administration and creation of a spirit of autonomy for educational institutions with greater role assigned to the institutional heads. It further outlined the role of school heads in institutional planning and management and in micro level planning; and also in teacher evaluation through interventions in the areas of research and innovation, attention to teaching, regularity and degree of social service activities. Acknowledging the position of school heads in school development, NPE (1986:188), asserted that due care need to be taken in selection of the school heads, with fixed term of appointments and minimum transfer so as to enable them to exercise leadership role and contribute to the development of the institution. The National Curriculum Framework for

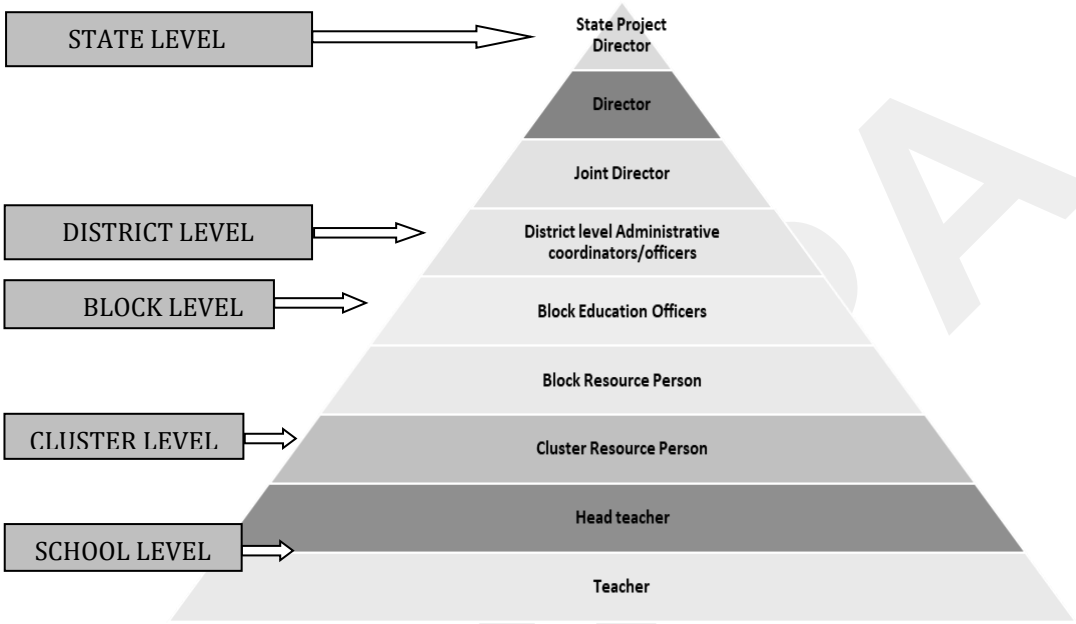
Teacher Education (NCFTE-2009:72), highlighted the role of school heads in developing their schools as resource centres for neighbouring schools as well as in improving the professional development of teachers.

At the grassroots level, the characteristics of school heads, their recruitment, training, roles and responsibilities are still confined to traditional practices (Saravanabhavan *et al*, 2016). In the Indian educational context, the posts of school heads are located at three levels --- primary, upper primary/middle and secondary, though there is no uniformity in this regard (Govinda, 2002). In a typical government school, the availability of a designated post of the school head depends on the total enrolment and number of teachers in each school. RTE-2009 has mandated that in government schools, (6th-8th class) where admission of students is more than 100, there has to be a post of a full time head teacher. Small primary schools with less than four teachers are not likely to have the post of a school head, in which case, the senior-most teacher performs the functions (Govinda, 2002). In most states, the senior teacher gets promoted as a head teacher on seniority basis, though the situation is slightly different in states (for example in states such as Karnataka, West Bengal and Delhi, at the secondary level, specified percentages of school heads are recruited directly after a competitive selection process).

Indigenous research on school leadership has highlighted the influence of leadership behaviour in improving school climate (Sharma, 1982; Chakraborti, 1990) and in improving teacher morale (Jayajothi, 1992). Brinkmann (2016:153) highlighted the role of school heads in influencing teaching learning process and emphasised that teachers need the support of school heads to implement learner centred education in classrooms. Tyagi (2010) emphasised the role of school heads in the supervision of teachers for improving teaching learning process and argued for the need for academic support for the school heads to enhance their capacities for contributing to teacher professional development. Sharma (2001) highlighted the role of school heads in bringing about inclusive climate in schools and emphasised the need to provide administrative and academic support the school heads through in-service training, fostering stakeholder participation, and supply of resources and funds. Diwan (2015:200) in a study of status of small schools in rural India, highlighted the role of school heads in improving small schools and stressed on the need to redefine the roles and responsibilities of head teachers to address the issue of autonomy, accountability and decision making in small schools. Research literature reveals that roles and responsibilities of school heads in India are confined mostly to managerial and administrative tasks; have little authority and play a limited role in improving the students' learning (UNESCO/UNICEF, 2012). Most of the time, the school heads lack the knowledge and skill or incentives required improve schools (Govinda, 2002; Paivandi, 2012; UNESCO, 2016). Though the rhetoric of decentralisation and community empowerment considers the role of the school heads as critical, the ground reality is that school heads have to function in a centralised administrative system; they occupy the lowest rung in the official hierarchy and command practically no authority even within school (Govinda, 2002). Figure 1 illustrates the position of school heads in the official hierarchy of education system in India.

FIGURE 1

Position of School Heads in the Official Hierarchy of Education System in India

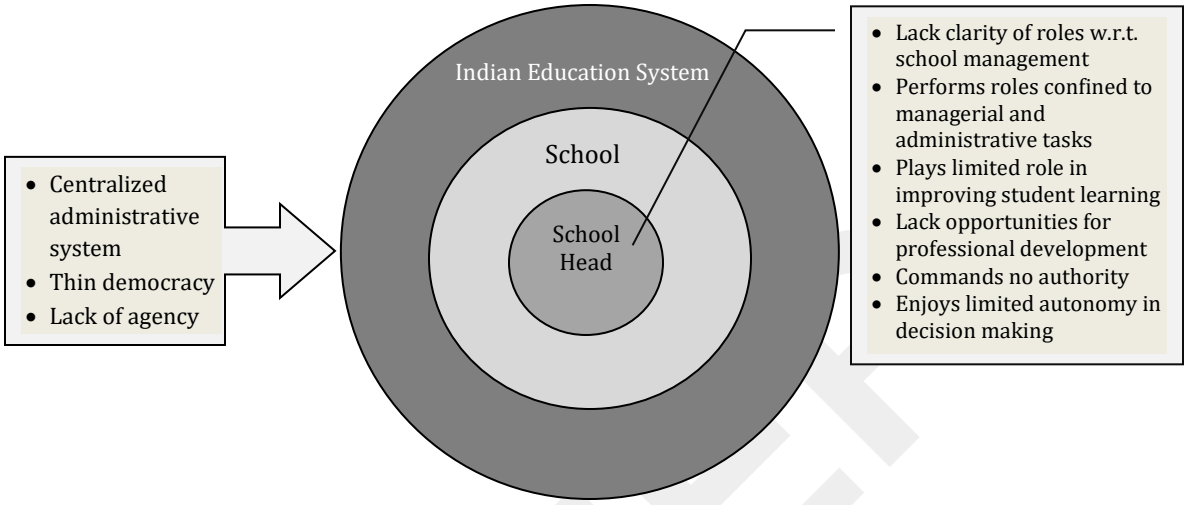


Analysing the centralised education system in India, Vasavi (2015) remarked that the system is marked by a culture of 'thin democracy,' 'lack of agency' and a 'contradictory bureaucratic apparatus'. Kumar (1991) observed that school heads are 'meek dictators' and assumed a servile role in the power play enacted during the inspectorial and administrative reviews by the officers from the state education departments. Commenting on the system level support offered to school heads in India, Batra (2011) concluded that the system does not provide professional support to the school heads and emphasised that, in most schools, basic notions of educational leadership are non-existent. Govinda (2002) revealed that the role of the school head is undefined in terms of internal management of the school, personnel management and academic management, and that school head expect that they would receive instructions from higher authorities with regard to their functional responsibilities.

The conclusions of the research literature on the roles and responsibilities of school heads in India are summed up in the figure below. Figure 2 illustrates the profile of school heads in India.

FIGURE 2

Profile of School Heads in India



Focus of the Study

Literature on school leadership in India reveals that school heads play a significant role in improving school climate, improve teacher professional development and creating an inclusive teaching learning atmosphere in schools. At the same time, research literature projects a gap in policy and practice with regard to the status, position and working conditions of school heads indicating that the position is marked by a lack of autonomy and agency, and constrained by a centralised bureaucratic education system. The study attempts to gain a deeper understanding on what are the constraining/enabling factors (national, socio-cultural and organisational context) that influences school leadership and what are the school level processes and conditions that influences the impact of leadership on student learning. The present study is based on three assumptions --- that leadership is enacted within an organisational and environmental context, which includes the community, the institutional system and the social culture (Hallinger, 2011; Leithwood et al,2010); the application of leadership is moderated by the personal characteristics of the leaders, which includes their beliefs, values, and experience; leadership does not directly impact student learning, but the impact is mediated by school level processes and conditions (Leithwood et al, 2010); and that school leadership influences and is influenced by these school level conditions (Hallinger and Heck, 2011). The role of the principal as an educational leader is co-shaped by the internal and external factors associated with the school, in which they function. School leadership, therefore, needs to be understood as an organisational function that is applied and generated within the specific and unique social context of the country (Clarke & O'Donoghue, 2017; Hammad & Hallinger, 2017; Mertkan et al, 2017; Oplatka, 2004). An analysis of literature on school leadership across national-cultural boundaries has

revealed that most of the literature on educational leadership and management is particularly related to the social and organisational structure of education systems in the western countries and is heavily influenced by Anglo-American paradigms (Oplatka, 2004). Western theories of leadership have only a limited scope or may even be dysfunctional when applied uncritically to developing countries (Al-Dabbagh & Assaad, 2010; Oplatka, 2004).Studies of school leadership in developing countries are warranted for the reason that it will aid to "re-explore and challenge the epistemology and methodology of existing theories and concepts in educational leadership and administration, as well as provide policy-makers with greater insight into principalship in developing countries in terms of cultural and social influences upon principalship" (Oplatka, 2004: 429). India, being a developing country, and also enormously diverse in terms of its geography and socio-political spaces, a study on school leadership in the Indian context may provide the much needed indigenous constructs on school leadership at the micro level, address policy concerns regarding gaps in policy and practices, and at the macro level, aid to contribute to development of leadership frameworks in the context of developing countries.

Two research questions guide the study:

a. What are the contextual factors (national-cultural, institutional and the community context) that influences the school principals' roles, beliefs and practices in their attempt to improve schools and student learning?
b. What are the school level conditions and processes that influence school principals' leadership practices in their attempt to improve schools and student learning?

Methodology

The sample for the study consisted of school principals of the government and government aided secondary schools who participated in the School Leadership and Management programme organised by the National Centre for School Leadership, at the National Institute of Educational Planning and Administration (NIEPA), New Delhi, India. The school heads who participated in the capacity building programme belonged to five states of India (Jammu-Kashmir, Uttar Pradesh, Rajasthan, Punjab and Uttarakhand) and participated in the training programme by virtue of being nominated by their respective state education departments. In the first round, data were collected through an open-ended questionnaire. The questionnaire focussed on the following indicators: core principles that guide a school head's daily work in school; school context; teachers, parents, community; school administration; and contextual challenges. The administration of questionnaire was followed by Focus Group Discussions. Phone-in interviews with the school heads were conducted over the next couple of months. Data received through interviews, questionnaires and group discussions were subjected to a content analysis, on which basis the following themes emerged: (a) administrative and managerial role of school heads (b) absence of instructional leadership roles (c) facilitating instructional leadership roles but on a lower degree of responsibility (d) "Spare the rod and spoil the child": beliefs of school heads.

Findings

Administrative and Managerial Role of School Heads

Interviews with the school heads revealed they performed more of managerial, administrative and maintenance functions, with less emphasis on instructional tasks. Prior to a school opening for the day, the school heads have to ensure that the classrooms and toilets are cleaned by support staff. In the absence of a support staff, the school head has to do some of these chores themselves. During the day, the school principals have to handle various administrative jobs that include overseeing the Mid-Day Meals (MDM), supervision of teachers, checking teachers' diaries, meeting the parents, and submitting school related data to the respective state education departments. School heads, especially those located in remote schools, have to spend time arranging for basic resources such as clean drinking water as well as other infrastructural provisions such as classrooms, libraries, labs, computers and internet facilities. School heads explain that in such situations they have to play the role of fundraisers and approach the concerned School Management Committee (SMC) and Parent Teacher Association (PTA) for mobilising funds.

Absence of Instructional Leadership

Interviews with school heads from the five states of India revealed that schools heads face a number of barriers in performing instructional leadership roles[1] in their schools. The barriers to instructional leadership include poor motivation of teachers, poor quality of in-service training programmes for teachers, teacher apathy, teacher vacancy, shortage of trained teachers, lack of parental support, lack of community support and lack of academic support from state and district level administrative officials.

School heads claimed that most teachers in the system are de-motivated and therefore do not support them in their role as instructional leaders. Teachers are not interested in self-growth nor do they feel the need to avail opportunities for professional development. Teachers, especially the younger ones, are de-motivated because they take up the teacher's job as their last option. Teachers are also de-motivated because the state level education department does not provide them with any kind of incentives for good quality work. The low motivation of teachers impacts the degree of support they provide to school heads to improve the teaching learning processes in the schools.

School principals explain that teacher training programmes, such as in-service training for teachers provided by the State or District Education Departments, do not contribute much to improve the teachers' motivation and their classroom practices. They pointed out

[1] Instructional leadership roles, as mentioned in western literature on school leadership, refer to framing and communicating the schools' goals, supervising and evaluating instruction, coordinating the curriculum, and monitoring the students' progress, protecting instructional time, promoting professional development, maintaining high visibility, providing incentives for teachers, developing high expectations and standards, and providing incentives for learning (Hallinger & Murphy, 1985; Hallinger, 2001).

that in-service training programmes are transacted through the lecture mode and are mostly subject based. Teachers find it difficult to apply the training in the actual classroom situations. Teachers are not motivated to attend in-service teacher training programmes. Some of them reach the venue of the training programmes late, while others record their presence in the attendance registers and go back home without attending the sessions. Factors such as lack of motivation, lack of incentives and lack of professional support in teaching practices compels teachers to resort to traditional teaching methods in classrooms. Teachers believe that if children are able to score good marks in exams through traditional teaching methods, what the need is to implement child centric pedagogies in classrooms. School heads claim that one significant reason for teachers resorting to traditional teaching methods is the pressure from the Inspectors from the Education Department for showing outcomes in terms of achievement scores of students. The teachers do not want to risk trying out innovative teaching methods in classrooms for fear that it would lead to poor performance among students in the examinations.

School heads explain that they do not get support from teachers when they aim to cater to the learning needs of marginalised children. According to the school heads, teachers have an indifferent attitude towards the learning of children from the lower socio-economic strata and the marginalised communities. The apathy on the part of the teachers acts as a strong barrier to leadership practices such as establishing an inclusive and congenial learning atmosphere in schools. Describing one such situation, one principal from a Government Intermediate College in Uttar Pradesh, says *"My school serves a community where parents of most children work in stone quarries. The children accompany their parents to work in the stone quarries and they rarely attend the school. The teachers are indifferent to these children's learning needs and do not take any initiatives to encourage them to attend the school."*

Most schools in the five states, especially those located in remote locations, are conspicuously marked by vacant positions of school teachers. This leads the school authorities to appoint untrained teachers in schools which in turn impact the school's academic capacity and instructional role of school heads. According to a Headmaster of a government secondary school in a remote school in Rajasthan, the School Management Committee appointed four para-teachers on account of vacancy of subject teachers in his schools, the school head says, "*The para-teachers lack knowledge of pedagogy, lack training and do not qualify as experienced teachers. They cannot be involved in classroom teaching processes. I give them only mechanical jobs such as calculating scores in children's answer sheets, taking care of the school infrastructural arrangements etc.* The *decision to appoint these teachers is usually done by the higher authorities. Sometimes these decisions are politically motivated. I was not consulted in their appointments.*"

Parental apathy towards children's education also acts as barriers to leadership practices of school principals. School heads do not get support from parents in their initiatives to improve the learning levels of children. School heads claim that most parents are daily wage workers, illiterate, and lack an understanding of the purpose of education. They rarely attend the parent-teacher meetings, leaving very few options for the school heads and teachers to discuss their wards' education.

Community indifference towards government schools also influences the school heads' instructional and leadership roles. Most parents prefer to enrol their children in private schools rather than government schools. This has led to mass exodus of children from

government schools to private schools, leading to low enrolment of children in government schools. School heads explain that government schools have become the schools preferred by families with low income and are accessed mostly by the marginalised and economically disadvantaged families. Educated parents, seeking functional schools and English medium education, enrol their children in private schools. Teachers with their limited training in pedagogy are unable to cater to the learning needs of the marginalised children.

Lack of support from the administrative system also hinders support to instructional leadership roles played by school heads. School heads disclose that they do not receive much support from the district or cluster level officers of the Education Department in order to sort out the issues regarding teacher evaluation and student learning. They point out that the district and block level administrators rarely visit their schools. On days when they do conduct an inspection, the emphasis is more on determining whether the schools are following the rules and mandates as prescribed by the State Education Department and not in terms of guiding the teachers on improving teaching and learning processes in schools.

Facilitating Instructional Leadership but to a Lesser Degree of Involvement

Despite the compelling contextual constraints, school heads, nevertheless, attempt to practise instructional leadership, though to a lesser degree of involvement. When asked about their academic goals, most school heads revealed that their goal was to ensure that all children should pass their exams and improve their performance scores. In order to achieve this goal, the school heads state that they, along with the teachers, conduct remedial teaching for the low achieving students. Most school heads believe that education is the right of every child. In order to ensure that all children have access to education, school heads maintain Village Education Registers. They visit the homes of absentee children to convince the parents to send the children back to school. School heads take responsibility for the professional development of the teachers by encouraging teachers, especially the new recruits, to create 'maths corners' and 'science corners' and to read subject based literature so as to gain content expertise. They guide teachers towards improving their lesson plans and on certain occasions, prepare the lesson plans themselves on behalf of the teachers. Most school heads claim that they supervise the classes of at least two teachers every day.

School heads strongly feel that the support of the community is very much essential for initiating and sustaining school development. One school principal from a government school in Uttar Pradesh says: *"As a school principal, I have to gain the support of the community in order to manage my school efficiently. I have to convince the community that my school is indeed catering to the learning needs of the children. I have hence initiated morning assemblies with prayer songs and national songs, designed identity cards for each child and commenced activities such as poem recital, quiz, debates, etc. Children enjoy coming to school as they feel special about themselves. The community trusts my school now and the student enrolment rate has increased."*

The "Spare the Rod and Spoil the Child" Belief of School Heads

The school context plays a significant role by influencing the beliefs and values of the school heads. School heads reveal that the school conditions and the way the teachers acted and responded impacted their leadership practices when they joined a new school as school

principals. Two school heads from Rajasthan revealed that soon after they had taken charge as principals in their schools, they had to face a non-committal and non-cooperative set of teachers. They, therefore, had to put on an assertive, authoritative and stern behaviour in order to change the mind set of their teachers and to facilitate change in their schools. School heads revealed that they had to impose authority on the teachers in order to get work done. School heads also disclosed that they had started out in their profession by being lenient towards their teachers but soon realised that leniency is equated with submissiveness. They explicitly say that one has to be a taskmaster in order to manage the school efficiently. Here are a few samples of what they said during the interview:

> *"I want to stop giving undue affection to my subordinate staff. You know..... 'Spare the rod and spoil the child.' I therefore act as Inspector and my colleagues are always ready to obey my orders."*
>
> *"I do not confront my staff when they make mistakes. I give scope for the persons to reflect on their mistake. I follow 'silent leadership.' But my staff considers this as a weakness and take undue advantage."*
>
> *"Teachers don't change with love"*

Discussion

Three main findings of the study direct the discussion: firstly, the roles of the school head that are mostly administrative and managerial by nature; secondly, the limited instructional leadership roles played by the school heads; and thirdly the authoritarian style of leadership adopted by the school principals to lead school change. The study investigates the influence of the national, socio-cultural and organisational contexts on these three leadership characteristics displayed by the school heads. The study also investigates the school level conditions and process that enables or constrains leadership roles enacted by the school heads. For the purpose of discussion, 'context' has been categorised into 'national-cultural context,' 'institutional/educational context' and 'community context.'

The National-Cultural Context and Its Influence on School Leadership

Empirical studies reveal that principalship differs from nation to nation in terms of characteristics such as value sets and norms (Hammad & Hallinger, 2017; Oplatka, 2004). The present study reveals that there is a relatively high degree of authoritarian leadership style displayed by the school principals. This characteristic of the principals is in marked contrast to the participative democratic styles of leadership adopted by the school principals in the developed/western world (Oplatka, 2004). School heads in the Indian context believe that adopting an authoritarian style of leadership would generate order and command respect from teachers. This particular belief of school heads is to be analysed from the point of view of functioning within a centralised administrative system, wherein the school heads perceive authoritarianism as the only tool that can be used against the teachers for facilitating the smooth running the school. According to Hallinger (2016) and Oplatka, (2004), adopting an authoritarian style of leadership supports the cultural scripts of 'large power distance values' (Hofstede,1980) where less powerful members expect and accept the

fact that power is distributed unequally, and where teachers are expected to show respect for assertive and strong principals (Oplatka, 2004:438). The school principals, by following an authoritarian leadership style, have conformed to the prevailing national-cultural values and norms of high PDI (Power Distance Index) believing that this leadership style would enable them to gain respect of teachers and manage the school efficiently.

The Institutional Context and Its Influence on School Leadership

The institutional context, which includes the state/district/block level administrative system of the country, shapes the role definition and behaviour of the school principals (Lee & Hallinger, 2012). System centralisation is one such factor within the institutional context that shapes the task environment of principals (Truong *et al*, 2016). Oplatka (2004) points out that the impact of centralisation, in the context of developing countries, is reflected in the minor importance attached to the position of the school head and a narrow definition of the role. The study's findings reveal that system centralisation has led to a constricted role definition of school heads wherein the school heads tend to perceive themselves more as administrators rather than instructional leaders. The United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2016) describes this model of leadership as 'formal managerial' where school heads have little or no freedom in staff recruitment and teacher capacity development, and most of their time is spent in performing the routine jobs.

Community Context and Influence on School Leadership

The influence of community contexts on school leadership emerges out of characteristics like the socio-economic status of the parents and their involvement in school processes, geographic location of the schools --- whether urban or rural (Hallinger, 2018), differences in achievement of students (Hallinger & Liu, 2016) and the allocation of physical and financial resources and human resources (Othman & Mujis, 2013). The school principals in the present study mostly served low SES schools where the parents were mostly daily wage workers, illiterate and rarely participated in the school's academic processes. These factors hindered the efforts of the school principals in their attempt to seek parents' participation and support in improving student learning. Most school heads served schools that were at a disadvantage in terms of the availability of material and human resources. They also faced other challenges including vacant teacher posts, poor quality of teacher recruits and low teacher motivation. School heads in these remote schools, therefore, spend most of their time performing managerial and administrative tasks while trying to arrange for the basic needs of the school. In situations such as these, the school heads play the role of a fund raiser. They seek the help of the SMC to mobilise funds in order to improve the school's infrastructure. This particular role of Indian school heads as fund raisers is in consonance with the roles played by principals in other developing countries like South Africa (Legotlo & van der Westhuizen, 1996) and principals in South and West Asia (UNESCO, 2016).

School level conditions and processes, such as vision, academic structures and people's capacity, also influence school leadership as discussed in the following paragraphs.

Most school heads, in the study, functioned with the common vision of improving the performance of children with the view that every child has the right to quality education.

The vision inspired school heads roles and responsibilities by ensuring that students attend the school regularly, syllabus is completed in time, lesson plans are updated and teachers are supervised during their classroom teaching transactions. School heads played the role of mentors to the younger teachers and also ensured school community partnership through regular parent-teacher meetings. The study reveals that academic conditions such as lack of motivation among the teachers, lack of incentives for good work and lack of a supportive administrative system retards the degree of teachers' support to school heads and impacts the schools' learning culture. School heads reveal that teachers application of innovative pedagogies in classroom are constrained by what Wolhuter *et al* (2016:5) refers to as 'principle of performativity'-wherein teachers are held accountable for the performance of children by the administrative system. In the given circumstances, where the educational system provides meagre support for an improvement in the teacher quality, the school heads improve the teachers' capacity by playing the role of mentors to their teachers and by assisting them in writing lesson plans, ensuring classroom observations and providing feedback on how to improve their subject knowledge and classroom teaching.

Table1 illustrates the context (national-cultural, institutional and community) and the school conditions that influence school leadership practices of school principals in five states of India.

TABLE 1

The Contextual Factors and School Conditions That Influence Leadership Practices of School Principals in five states of India

Context	*Factors*	*Influence on Leadership Practices*
National-cultural context	Large Power distance values	Display of authoritarianism among school heads
Institutional/ educational context	System centralization leading to narrow definition of the role; low positional status; lack of autonomy	Narrow definition of school heads' roles, confining to administrative duties
Community context	Geographical location; parents support in child's learning; supply of resources; availability of qualified teachers	Reduced support to school heads for performing instructional leadership roles; play role of fund raiser
School Conditions	*Factors*	*Influence on Leadership Practices*
Vision	Improving students' performance	Attention to student's learning and vision for inclusive education
Academic structures	De-motivated teachers; lack of academic support from the state/district educational system	Less support for performing instructional leadership roles
People capacity	Lack of need based professional development programmes for teachers	Lack of support in performing instructional leadership roles; Role of mentors to teachers to improve their academic capacity

Policy Implications and Conclusion

The study seeks to contribute to the much needed multifaceted conceptualisation of school leadership while providing the policy makers with deeper insights into the contextual challenges with respect to school leadership development in India. The study emphasises that school leadership in Indian context is influenced by the national-cultural, institutional and the community context, specific to the developing countries, and that school heads are subjected to contextual challenges and situations that are markedly different from those that school heads in Anglo-American contexts may be subjected to. The finding reveals that though national policies on education have conferred upon the school heads a high status and highlighted their role in school development and teacher development, school heads in India continue to perform managerial and administrative roles and struggle to assert their relevance in a centralised education system marked by less administrative and academic support. In such a complex situation there is paramount need for visualising the pathways and policy priorities for improving the school leadership in India. The following paragraphs outline suggestions for improving school leadership in India:

a. State education departments need to formulate recruitment and school leadership development pathways. The education department have to ensure high quality recruits through quality recruitment procedures. Recruitment of school heads has to be followed by induction training programmes for school heads before their appointment in schools. The induction training programmes need to be context specific so as to enable the school heads to function adequately in schools situated in challenging contexts.

b. State and districts level education departments must provide school leadership capacity building programmes that focuses on leadership for learning and is grounded in practice in areas such as teacher supervision, teacher professional development, building learning networks in schools, etc.

c. The education system must ensure infrastructural arrangement in schools through adequate funding. They must ensure that teacher vacancies in schools are filled, while taking care of the recruitment of qualified and trained teachers in all schools and specifically in remote schools.

d. The education system needs to ensure accountability of school heads so as to improve their positional status and play a more significant role in school improvement and student learning.

These policy suggestions, if implemented, may ensure school leadership development in India to a considerable extent and augment their role in school development and student learning.

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Book Reviews

HALL, Budd and TANDON, Rajesh (Eds.) (2021): ***Socially Responsible Higher Education: International Perspectives on Knowledge Diversity***, Leiden: Koninklijke Brill NV, pp. 305, ISBN 978-90-04-43575-9 (Paperback).

Higher education has higher social responsibility, as the knowledge which is used at all levels of education and in all the fields is produced at the level of higher education. With the level of education, therefore, the degree of social responsibility of the educational institutions correspondingly increases. The stake for an individual or society is, therefore, higher at the level of higher education than at the lower levels. But the history of the growth of higher education in India, and in developing countries in general, indicates that most of the higher education institutions (HEIs) or universities which were established during the colonial period, were implanted from outside rather than formed on the basis of home grown ideas and needs. The growth of higher education institutions in the post-Independence period suffers from this colonial legacy. This dysfunctional nature of the HEIs is reflected in terms of poor educational outcomes, rising unemployment among the educated, economic underdevelopment, social turmoil, etc. Certainly, therefore, need has been felt for the HEIs to develop strong linkages with economy, society and the nation. This has been echoed in numerous national and international conferences as well as various commission reports. Highlighting this, the World Conference on Higher Education (2009) laid emphasis on the social responsibility dimension of higher education: "*….Faced with the complexity of current and emerging global challenges, higher education has the social responsibility to advance our understanding of multifaceted issues which social, economic, scientific and cultural dimensions and our responsibility to respond to them*." Similarly, Global University Network for Innovation (GUNi) Report (2014) also pointed out "the need to reconsider the social relevance of universities in the light of the encounter of the local with the global, regarding priorities, demands, impacts and knowledge needs in the context of globalisation." The University Social Responsibility (USR) has thus emerged as an important area of academic interest in higher education.

The volume titled *Socially Responsible Higher Education: International Perspectives on Knowledge Diversity*, edited by Budd Hall and Rajesh Tandon, is a collection of articles dealing with the concept, practices and issues related to social responsibility of higher education institutions located in different countries in the world. The volume is divided into four sections which together comprise twenty-two chapters. The Introduction and Conclusion provide a useful synthesis of the multiple and multidimensional discourses and research findings presented in the chapters and thrash the major themes and issues out. The main issues in the current discourse on social responsibility in higher education include: recognition of diversities of the knowledge systems and epistemologies; coherence and integration of teaching, research and engagement missions; contextually responsive, locally

rooted, policy based and linguistically plural; socially inclusive, seeking diversity among students; pluriversality replacing universality; transcending rankings; and reclaiming the purpose of higher education as a public good, etc. Dealing with social responsibility within a knowledge democracy framework, the volume has thus highlighted four important strategic interventions or paths as section headings: a) the university as a civic space for learning, b) development of a decolonised and local curriculum in higher education institutions, c) engaged teaching and action, and d) research geared to knowledge and society.

An invoking of social responsibility in the HEIs calls for opening the window of opportunities for civic engagement with the community settings where they are located. Moreira *et al*, in their paper on "University and the Tensions of Inclusion as Part of the Ethics of Social Responsibility," address the issues of Equity and Inclusion as the agendas of Social Responsibility in three Latin American countries, namely Argentina, Brazil and Uruguay. To them, despite different enrolment scenarios in the three countries, the universities face the challenges of formulation and implementation of ethical and sustainable policies for impacting equitable development. Padayachee *et al*, in their paper, compare the African philosophy of *Ubantu* with the Gandhian educational ideas of learning, with examples from the South African context. To them, Gandhi's three key elements of education – "head, heart and hand" – work in parallel with the *Ubantu's* emphasis on coherence between people, nature and human solidarity. In another context, while analysing the relationship between the Nepali society and the colonial system of higher education, Regmi advocates "life world approach" by recommending that "the social responsibility of the Nepali higher education system must value local rural agricultural 'tacit' knowledge."

University, as a site of learning, provides a neutral forum for generating public discourse on important matters affecting the society. Highlighting the practice of civic engagement in a university setup in South Africa, namely the University of Cape Town, Moolman and McMillan advocate for a more critical engagement from a decolonial angle and for shaping the processes of knowledge co-creation in which social justice is needed to inform the teaching and learning practices in higher education. Social responsibility, from this perspective, includes the development of an understanding of the locations of privileges. The remaining two papers of this section take a critical look upon the ranking of higher education institutions. An article on "Why are Our Rankings so White?", secured through a Twitter handle by an anonymous scholar, challenges the practices of higher education institutional rankings. The article echoes the points raised by Moolman and McMillan --- that the ranking practices of HEIs are dominated by the white Eurocentric knowledge systems. Delving deeper into the issues, Piron *et al* build on similar arguments and point out that the ranking criteria and matrices of higher education institutions have been designed to privilege the English Language, global North and market- oriented journals over those published in other major world languages. But creating the principles of knowledge democracy on the basis of social responsibility requires a more equitable platform for knowledge sharing.

The curriculum in higher education is an important arena where social responsibility matters arise. The articles under Section II --- titled "Curricula: Decolonised and Local" --- present varied examples of the curricular experiences from different parts of the world (Morales and Motta in Columbia; Anlela J Stojanovic in Montenegro; Nahirna and Mykhailyshyn in Ukrain; Belkhiria *et al* in Qatar; and Krawchenko in Kyrgyzstan)

These articles deal with the offers of different types of courses, teaching-learning designs, forms of students' engagement beyond the classroom, and the role of community in curricular design and teaching. The themes and issues discussed in these articles range from the hidden curricula in the campuses and community involvement in classroom to switching from English to local language as the medium of instruction and local specific knowledge. Highlighting the need to contextualise the curriculum, the editors reinforce the point by putting forward a remark that a university located in a mountainous region would be teaching geography and hydrology differently from the one located near the ocean.

Teacher is an important agent of change in the education system. For the social responsibility of a university to be effective, teachers' proactive civic engagement is critical. Teaching, research and extension services are the main functions of a university. The effectiveness of pedagogy of university level education is based on the integration of the three main functions. The students learn better if they are able to contribute meaningfully to the society. The faculty members perform better if they integrate scientific enquiry with teaching in the real world. The papers under the section "Engaged Teaching and Action" present interesting cases of the integrated perspective of teaching-learning in higher education in terms of coherence between teaching, research and extension services. Kumari and Sharma, in their case study of National Law University in India, and Lazarte *et al*, in their study of the teaching of law in Peru, provide examples of how students and faculty are engaged in providing legal aid and public interest research on locally relevant issues. To them, development of understanding of the legal requirements in a social setup means paying due attention to the perspectives of all the stakeholders.

This requires students and faculty to engage with the community in a sustainable manner. Service learning is a crucial element of the pedagogy at higher education level. Maulen from Chile illustrates how teachers facilitating their students to become socially engaged helps their students learn better. He points out that University Social Responsibility (USR) differs from the Corporate Social Responsibility (CSR) which emphasises the welfare, charity-based approach in the form of helping the needy. The USR, on the other hand, has pedagogic value and lays stress on the effectiveness of teaching and learning. In their study of a leading public health higher education institution in France, Baures and Lo Porto-Lefe'Bure have demonstrated how teachers' engagement with research and teaching follows the principles of social responsibility and sustainable development.

The last section of the book is titled "New Understanding of Knowledge, Humanity and the Earth." It deals with the ecology of knowledge imbued with pluriversalism, knowledge democracy and holistic learning. The papers in this section, while presenting different models practising social responsibility in higher education institutions, highlight the need to go beyond the university boundaries to gain contextual knowledge and allow the local community to play an active role in the knowledge co-creation. Two interesting models/experiments --- *Visva-Bharati Shantiniketan* (established by the Nobel Laureate Rabindra Nath Tagore) in India (presented by Sarita Anand) and *University of Sians* in Malaysia, based on the Malaysian philosophy of *Sejahtera* (presented by Mustapha *et al*) --- demonstrate the efficacy of this type of pedagogy. These examples go in line with the pedagogy of the oppressed as was advocated by Paulo Freire. Drawing examples from the Canadian universities, Catherine Deri's paper explains and illustrates how USR practised by higher education institutions help them in dealing with student radicalisation. She calls upon

higher education institutions to take into consideration the social responsibility measures to counter violent extremism. Further, while explaining the case of inclusion of refugees in higher education as an indicator of social responsibility in Germany, Jana Berg points out the significance of the context from which this comes from. Farnell and Culum Ilic present a European framework for community engagement in the form of a project called "Towards a European Framework for Community Engagement (TEFCE);" it consists of a 'toolbox' promoting community engagement in higher education institutions in four different European countries. In the Latin American context (Argentina), Sebastian Fuentes illustrates the construction of ethical and pedagogical positions in students involved in extension activities. According to him, the territorialisation of a university is a political and pedagogic process whereby changing a society means changing its universities and viewing its communities as teachers. Drawing examples from Africa, Latina, America and Europe, Piron *et al* explain the universities-community engagement in the broader continental contexts, reinforcing the principle that knowledge democracy is possible only within a polycentric system with due focus on local values and priorities.

This collection of papers thus provides a spectrum of ideas and cases as examples drawn from different parts of the world. It demonstrates the accumulated learnings of a group of researchers in this area for over a period of 40 years. The volume draws upon various contemporary theories of knowledge democracy that emphasise the co-creation of knowledge, highlighting the need to liberate knowledge creation from the monopoly of universities. The contributions of the volume go well with the current UN initiative of "*Futures of Education: Learning to Become*" which calls for reimagining how knowledge and learning can shape the futures of humanity in the rapidly changing contexts for the common good of humanity. The volume lays stress not only on generating new forms of knowledge but also on granting due status to and activating the indigenous knowledge systems. On the whole, the volume under review makes an interesting reading comprising valuable research-based writings, reflecting the significance of social responsibility in higher education. The book has appeared at a time when, in this period of Covid pandemic, higher education institutions throughout the world are engaged in finding out the most effective solution to this life-threatening disease. The need to reposition the higher education institutions with regard to social responsibility has been increasingly felt in the aftermath of Covid-19. In fact, this period of pandemic, characterised by a traumatic uncertainty, calls for a paradigm shift in knowledge production and its use, thereby propelling the HEIs to place research and innovation as their priority agenda at the top. Though this volume does not include any example of the practices of University Social Responsibility in the USA and the UK, the selection of higher education institutions as cases presents rich experiences of knowledge diversity and university-community engagement, and is fairly global in spread as well as *pluriversal* (a term frequently used in the volume) in character. The paperback edition of the volume is sure to prove very useful and handy to the students, teachers and policy makers engaged in the field of higher education.

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National Institute of Educational Planning and Administration
17-B, Sri Aurobindo Marg, New Delhi - 110016

Avinash Kumar Singh
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