

## CRITICAL THEORY OF QUALITY HIGHER EDUCATION : A REVIEW\*

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### ABSTRACT

*This paper seeks to review the background of the incremental alienation in the higher education sector, which has already made quality abysmally poor. Teaching and research, currently too mechanical have been focused in the paper with a critical reformist attitude compelling to point out drawbacks and suggest pedagogic ways and means of overcoming them. One of the major tasks identified is prevention of the social systemically built-in strategies of de-politicisation of knowledge. Socially integrated and issue-based, facilitating convergence of sciences, social sciences and humanities in teaching and research, are shown capable of re-politicising higher education.*

**Keywords:** quality, politics of knowledge, interdisciplinary teaching, convergence research, de-politicisation

### Introduction

In most Universities in the country teaching and research supervision are too official and mechanical to be of any academic quality. Teaching and learning, even research are alienating and debilitating to students, in which the overall institutional supervisory neglect has a major role that ultimately turns the whole enterprise a farce. Students learn under extra academic compulsions and their approach is largely examination centred, with the result that effective learning hardly takes place. Researchers produce theses without any theses in them, which in their turn surprisingly get admitted to the award of Ph.D. Research students owe their poor knowledge base, absence of genuine topics of interest, lack of aptitude, and methodological illiteracy to a great extent to the indifference of research supervisors and lack of institutional insistence upon quality assurance. It is lack of knowledgeable supervision that accounts for the researchers' slapdash and stale methodological initiation. No nation committed to people's welfare can afford to let this shameful plight to continue for long, since it adversely affects the democratic pressure for combining equity with national economic growth, which can be sustained

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and promoted only through socialisation of the critical dimension of deeper knowledge.

## **Context**

Many teachers and student-researchers in most Universities are too obsolete in their knowledge base to have the faculty to effectively participate in the production and transmission of new knowledge, the cardinal institutional function of the University. Curricular reforms have always been mechanical. It is a fact, that educational change has never been necessarily linear, uniform, measured and determined anywhere in the world (W.E. Doll, 1993). Universities' existence as a seat of hackneyed disciplinary knowledge of divergence, conventional, tacit and linear, facilitating teaching and research along beaten tracts, is the context of a self-critical re-thinking of quality for all of us. At the outset, we have to take a collective effort to create an inspiring academic culture in the institution, essential for teachers and researchers to access deeper knowledge and participate in its expansion and transmission. It is also to re-articulate the almost lost or forgotten fact that production and transmission of Quality Knowledge, essential for the development of students in particular and society in general, are the primary functions of any University.

## **What is Quality?**

We know quality is to be inextricable to teaching and research, and we take it for granted that all of us know what quality means. I think it extremely necessary to re-visit the implications of the word, which relate to various objects, even to the mutually antagonistic. 'Quality' in knowledge production and transmission according to the criteria of the reigning global economy, is centred on the professional nurturing of competencies necessary for techno-capitalist development. That is not what quality means according to the national development policy emphasising economic growth with equity. What the people conscious of social and environmental justice mean by quality is altogether different. In short 'quality' is subjective in terms of meanings, measures, parameters and objectives. It is a fact that the middle class youth would intend to acquire techno-economic professional competencies that the global industrial system demands. What should be the priority of a University and how do we teachers reach a consensus about quality teaching and research.

It may not be possible for a University to sustain a partisan position in the matter but no University can ignore its responsibility in mending the youth as good citizens. Therefore, I would argue that high ethical postulates should govern us in determining what 'quality' should mean in higher education, which accordingly would insist upon the social utility and environmental sustainability

central to the production and transmission of new knowledge. Whether or not all of you agree with it, for any University ‘quality’ in teaching means rendering deeper knowledge plausible in the lecture or practical or any other learning experience whatsoever. It is a systematic cognitive advancement from the factual, through conceptual and procedural to meta-learning (B.S. Bloom, et.al., 1956 and Anderson et.al, 2001). We call it serious learning that is systematic and self-conscious unlearning, i.e., being conscious about the prior notions replaced by learning.

Serious learning enables the learner to know the coming into being of the knowledge in the discipline concerned, i.e., technically the ontology of knowledge. It is awareness about the deep, theoretical, and scientific dimension of knowledge in the discipline concerned, i.e., technically the epistemology of the knowledge concerned. Such learning nurtures four general competencies: a) higher cognitive ability, sharper analytical faculty, better language power with thoroughness about the fundamentals of the discipline concerned, and, d) creativity or innovativeness. We recognise it quality learning. In short, quality in teaching and learning is what ensures the development of the above four competencies. Serious learning in any discipline is invariably subversive because it exposes the surface information shallow and shoddy as entirely different from the profoundly buried deeper truth. This is the beginning point of critical consciousness, the hallmark of an accomplished learner, who cannot but be a responsible citizen with concern for social and environmental justice.

## **Quality Teaching**

Learning sciences, social sciences and humanities has become an alienating and deskilling exercise in the country, for the learner gets lost in the descriptive literature on one aspect or the other of the discipline of choice. Sources of knowledge and modes of knowing remain compartmentalized, stereotypical and rigid allowing the learner little or no flexibility in acquiring knowledge holistically i.e., without its being segregated into independent facets. This is all the more true of science and technology education, for its being almost entirely subsumed by technicality divesting the learner of the faculty to relate the knowledge/skill to human affairs and social processes. It is a set up tired of teaching and learning along beaten tracts lacking flexibility and choice, and distancing the youth from objective social reality, which curbs their creative intelligence.

Science and technology curricula require a total revamp incorporating critical insights of science studies involving philosophical understanding of the structure of scientific knowledge, the political economy of the rise of European science and technology, the social construction of the authority of science,

the hegemony of scientific knowledge over other forms of knowledge including the social wisdom etc. I believe that we need an alternative pedagogic strategy of holistic perspective to overcome the present day stalemate. We can call it Integrated Critical Pedagogy (ICP) with which I mean a new instruction culture inspired by non-conventional modes of knowledge transmission. Traits of this new pedagogy are: a) techniques of issue based and interactive learning, the learner centred curriculum design with flexibility and choice ensuring creative freedom, b) participatory knowledge production enabling the learner to be innovative. Moreover, disciplinary transcendence or convergence in learning, democratization of science, creation of participatory space for learning, and strengthening of critical self-reflexivity are other features of ICP. It provides creative space for issue based interactive learning among science and non-science learners through disciplinary convergence.<sup>1</sup> Harping on themes of convergence as objects of learning, i.e., themes upon which multiple disciplines and sub-disciplines stake their scholarly claim, ICP empowers disciplinary transcendence. For example, integrator topics like air, energy, water, climate, waste etc., can be chosen for issue based effective interactive learning, for any of these topics would necessitate convergence of multiple sciences and social sciences.

### **Quality Supervision of Research**

Our Universities have no clear vision about the nature of doctoral-level education, and this has its impact on supervision. They have not even identified as yet the types of competencies needed for research students, supposed to be bound by the responsibility of producing new knowledge. Doctoral competencies are different from general undergraduate/postgraduate-level competencies. Doctoral research is more flexible, almost entirely dependent on personal skills and attributes. Nevertheless, there should be certain broad universal normative by way of doctoral competencies institutionally ordained by every University, within which the researchers' skills and attributes become full blown.

Let us not forget the fact that problem driven research enabling innovativeness or creativity is the challenge of our times. Keeping that in mind we have to draw doctoral attributes and adopt it through the democratic bodies of the University. Based on them, it is urgent to do a serious re-articulation of the features and dynamic of our doctoral education and academic functions and responsibilities of research supervisors. Researchers should be told about them and they must be aware of the competencies that they are mandated to develop. Universities should evolve new institutionalised ways and means of imposing the mandates on the researcher as part of quality assurance. This is not to mean that Universities should view this as a problem

of management, which may end up with the promulgation of bureaucratic stipulations for monitoring the progress of research. There is no point in bureaucratising the roles and responsibilities of supervisors, candidates and institutions from managerial point of view. Nevertheless, Universities have to somehow reposition themselves with a strong determination in emphasising the foundational and critical role of supervision of research as part of assurance.

Today, in most Universities students are not able to learn much from their supervisors who discharge official responsibilities like signing periodic progress report, scholarship claim forms, extension requests, and finally the thesis. Baring a few exceptions, many of us are not able to develop in our research students' critical self-reflexivity or faculty to critically re-visit ways and means of research that the researcher pursues. Some of us are not able to do it because we have stopped acquiring new knowledge and pursuing our own research. A grossly neglected but very significant factor is the indispensability of periodic refresher workshops and seminars for research supervisors. One of the most crucial purposes of refreshing research supervisors is to update them in the science of production of knowledge, which alone can enable them to provide their students with core competencies. Although the UGC has nationally mandated course-work for Ph.D, the obsolescence and indifference of research supervisors have made it ineffective and susceptible to be easily contained by the old system. Unless frequent discussion of the researchers' learning experience and instructional support whereby they and their supervisors incessantly interact and learn from each other, supervision cannot help quality assurance.

## **Quality Research**

Quality research is an extension of effective learning in which the ultimate thrust is inevitably on meta-cognition at the instance of disciplinary convergence. Nevertheless, before heading for convergence learning, researchers should be well grounded in their own disciplines or sub-disciplines. At the outset, it necessitates sound knowledge base and involved familiarity of issues and debates in the knowledge area of the researcher's specialisation. It means close familiarity with the state of art or cutting edge research in the area of knowledge concerned. Moreover, a researcher should be extremely fascinated by an intimate object of analysis or a problem of inquiry making sustained intellectual engagement effortless. For any researcher to be up-to-date in the discipline concerned, the primary requirement is a good grip over the empirically given knowledge. Discipline based empirical learning launches researchers into the domain of deeper knowledge, which is a major transition from the factual understanding through conceptual and procedural to meta-

cognition or theorisation. Research supervisors have a very crucial role to play in this transition, in the absence of which the researchers get retarded amidst shallow empiricism, precluding production of new knowledge.

On top of all, a researcher should be initiated in the universally accepted methodological fundamentals well enough to practise them as the basics of the science of knowledge production. This hardly happens in most Universities where students graduating in sciences are not initiated in the philosophy of science and students graduating in social sciences as well as humanities are not initiated in social theory. Many researchers do not have even a tenuous understanding of how *a-priori* reasoning is different from *a-posteriori* reasoning or how deduction is related and differentiated from induction. Many do not know what a hypothesis is and not to talk about the meanings of heuristics, hermeneutics, ontology and epistemology. Research students and their supervisors have to re-position themselves with a strong determination to understand and practise methodology as science of knowledge production, which refers to a comprehensive understanding of fundamentals about what knowledge means, how it gets produced authentic and why it undergoes revision or rejection. Every researcher should know the universally accepted minimum procedures for ensuring logical link between premises and conclusions. Science of knowledge production is foundational knowledge about knowledge itself. It is philosophy of knowledge or what is known as epistemology that enables the producer of knowledge to be wary of fallacies at the level of causal reasoning and theoretical generalisation. It is extremely important that researchers are initiated in the craft of acquiring knowledge in the process of its coming into being, for that alone will enable them to participate in the production of knowledge. A researcher should feel the intellectual need for re-searching that emanates only out of cognitive encounters with the process of knowledge production.

### **a) Empirical Grip**

Every researcher has to acquire sufficient empirical grip at the outset. It is necessary to explore everything quantifiable about the empirical data. Quantification gives a feeling of thoroughness. Statistical quantification is very useful. However, checking averages and frequencies or even coefficients alone will not do for the production of deeper knowledge. Researchers have to come to terms with the fact that many aspects of society are abstract and metaphorical, hardly amenable to quantification. Moreover, quantification hardly exhausts alternative derivation possibilities of the same data. The exercise makes no sense if research questions are not inspired by critical social reality. Higher level quantification through sophisticated techniques is fine for achieving precision in answers, but often statisticians ignorant of social

theory waste their time answering precisely the wrongly framed questions.

### **b) Primacy of Theory**

Most of our researchers think quantification a substitute for theorization and that it makes their study scientific. Heuristics or the study of data and hermeneutics or the study of interpretation, are the two eyes of research methodology. Both are theoretical. Theory is essential not only for interpretation but also for recognising the data. For analysing and sorting out indicators, correlating them, deriving inferences and constituting the evidence, the researcher has to be theoretically knowledgeable. The evidence is not out there for anybody to go and pick, for it is conceptually identified and theoretically constituted. There are theories about classifying the data and determining their veracity, just as there are theories providing frameworks of comprehension and interpretation. One should know the basis of scaling and sampling besides the limitations of questionnaire based data generation. However, most of our researchers, particularly those in social sciences and humanities, have been distancing themselves from theorisation. They get lost in descriptive literature on one aspect or the other of the society in time and space. Key books and guides remain authentic for most of the college students and teachers of social sciences, in spite of the availability of a commendable body of authentic works. This accounts for the researchers' poor knowledge base and shallow output.

Social sciences represent a form of knowledge noted for its hermeneutic strength, in the pedagogy of which conceptual clarity is of utmost importance. It is essential to emphasise interconnectedness of social aspects in a holistic perspective, a process precluded in the absence of theorisation. There is a general distaste for theory, explicit in Ph.D dissertations of most Universities, which suffer from oversimplification. Consequent on the distancing of theory from research, the conventional method of conceiving the social, economic, political, cultural, religious etc., as independent facets, continues to haunt. Researchers in Social Sciences and Humanities cannot make a choice between the empirical and theoretical. In fact, such a choice does not exist, for their subject matter is inaccessible without a theory, a distinct fact that no researcher can afford to ignore. Social theory is an ever-growing domain that helps us unravel processes and interconnections below the surface reality of social life. It is the wisdom accrued through sustained attempts at exploring the deeper meanings of explicit features and practices of the society. By resorting to various analytical strategies it helps us understand the link between the surface reality of social practices and their submerged referential. Theory makes the unseen visible and the inaudible heard. It is true that societal studies in general cannot end up formulating all inclusive theorisation in the form of

equations and formulas. This does not preclude the possibility of constituting explanations based on deeper causation.

Lack of theoretical perspective is a defect common to researches in all faculties. Even science and technology research is in a similar state too, despite its inherently radical feature as the universally dominant form of knowledge. Science happens to be learnt without imbibing the scientific temper and taught without insights about science policy, for in both the processes noted for alienating institutional practices of teaching and evaluation, the radical aspect of the knowledge form gets contained and its authenticity and authority cultivated. Technology is imparted as a mere skill. Students of science and technology seldom learn the history and philosophy of their knowledge domain. With the result, they fail to understand the relation of their knowledge to politics. In the modernist tradition of philosophy of education, politics of knowledge is discussed against the mutuality between the form of state power and character of epistemology (Gordon, *etal.*, 2002; E. Rada, 2012).<sup>2</sup> It is no wonder that India has the largest number of irrational and apolitical scientists and technologists. In short, the overall pedagogic strategy, learning mode and evaluation method followed in institutions of higher education prove to be most effective means of de-politicisation. It is high time we re-articulated the higher education curricula on the basis of a thorough revamping with the rigour of a movement, the basic principles and strategies of which have been eminently conceived long ago (W. Turner, 1949) and insightfully updated in the recent years (A.V. Kelly, 1986; 2008). Although these pertain to school curriculum, the fundamentals largely remain the same in the case of college/ University level curricula. This is what even some of the recent specialised studies in higher education curricula would have us believe (W.E. Doll, 1993; B.R, Beatty, 2009).

### **Cutting Edge Research**

Cutting edge research is interdisciplinary today. Over the past few decades several non-conventional areas of knowledge cutting across physical, natural and social sciences have come out as a result of researches beyond disciplinary boundaries, letting disciplines draw closer to one another. This convergence is neither to confront disciplines nor to bring them together. As rightly observed by Roland Barthes, 'Interdisciplinary work, so much discussed these days, is not about confronting already constituted disciplines none of which, in fact, is willing itself to let itself go. To do something interdisciplinary it is not enough to choose a subject (a theme) and gather around it two or three sciences. Interdisciplinary consists in creating a new object that belongs to no one' (R. Barthes, 1977, pp. 155-164). Interdisciplinary research and teaching is inherently inclined to extension of



knowledge for social development. It is a fact that interdisciplinary knowledge production is path-breaking, far reaching and non-linear in its effects compared to what its counterpart does within the confines of the discipline. Knowledge generated beyond disciplines and across their interfaces is strikingly fresh, regenerative and converging. Convergence, however fast the process may be, is yet to articulate at sufficient extent its sources of infrastructural growth, institutions of transaction, and channels of communication appropriate to meet the needs of the academia. Many scholars are producing eminently non-conventional knowledge in the interface of conventional disciplines, which is seldom promoted in departments of disciplinary identity for obvious reasons. Convergence cuts across not only disciplinary barriers but also faculty differentiation between the natural and social sciences. A research supervisor has to be knowledgeable about the convergence research practices of emerging importance and ready to inspire the students to take on in their studies in the perspective of integration.

However, our University System, structured by Departments of disciplinary identity and insularity bereft of flexibility and choice, is tired of teaching and researching along beaten tracts, often distanced from reality about human affairs and social processes, and hence largely non-productive. Disciplinary curricula and academic programmes of Universities impede problem oriented research and they lack innovative dynamic. It is necessary to facilitate convergence of sciences to carry forward problem solving researches. An institution of teaching and research that can address the problems of high pressure on natural resources, demand for ecological services, questions of sustainable land use etc., by extending institutional support for sustainable development, i.e., an institution that can get scientific results translated into socially useful and ecologically justified products and patents, is the need of the hour.<sup>3</sup> Convergence research can play a very vital role in the production of new knowledge meeting the contemporary needs. It can dissolve the hiatus between specialised knowledge and people's needs.

Convergence research is at once a methodological alternative too, for it represents a new methodology inspired by an unprecedented urge to experiment with non-conventional modes of knowledge production. Characteristic traits of the new methodology are techniques of social interaction, people's participation and collective setting of the research agenda, which urge scientists to break the stalemate in knowledge production and enable the people to receive the benefit of innovations. It is facilitating interaction among scientists and non-science researchers, to establish effective learning communities through trans-disciplinary methodology. It addresses the need for using deeper knowledge for resolving social developmental problems through democratisation of sciences enabling adherence to such

values as people centeredness, empowerment orientation, inclusiveness, and sustainability. It is seeking to facilitate: a) production of scientific knowledge of convergence, b) its technological application for better productivity and resource sustainability, and c) social extension for the benefit of ultimate users.

Universities are under unprecedented pressure to turn research students into quality knowledge producers. Now research requires tightening the programme of imparting training in the latest procedures and techniques of investigation to make sure that it invariably takes the researchers to produce new knowledge and integrate it with the previous knowledge through a corrective exercise. Research students learn how to practise them only by undergoing a rigorous methodological training under their supervisors. Supervisors have to systematically monitor and evaluate their students' learning outcome, knowledge base improvement, analytical competency development, communicative efficiency growth, and rise in the level of theoretical comprehension. It has become necessary to monitor the researcher's competency development in the production of new knowledge.

### **Epistemological Positioning**

There exists no option for any researcher today to decide as to whether or not s/he should involve in the modern/postmodern debate. Every student has to acquire at least a tenuous understanding of the meaning and implications of the modern and the postmodern. It is almost indispensable for her/him to gain some competency in epistemological positioning of oneself, which means positioning of oneself in the context of the science of knowledge as debated between the modern and the postmodern. Let me very briefly discuss the issue here. Modern is synonymous with Science and Science with Physics, and Physics with Newton's *Principia*. Newton's *Principia* represents fundamental knowledge about the knowable in the universe, and fundamental knowledge as knowledge about the underlying principles or laws behind the natural phenomena. Knowledge of fundamental principles/foundational laws is the ultimate knowledge and science. Science thus became logo-centric knowledge of authority, authenticity, openness, transparency, finality, certainty and universal credibility. Fundamental knowledge is teleological, all encompassing, unified and hence grand-theoretical. It is this accomplished knowledge of Renaissance versatility that the Modern embodies.

Limitations of modernity are the same as what post-Einsteinian science has identified and put forward as the limitations of Newtonian – Einsteinian science, as explicit in the epistemological shift of Science to New Science, which began with Max Plank, whose Quantum physics shattered certainty and predictability of science by proving that both 'position' and 'velocity' cannot be measured at the same time with same accuracy. Heisenberg's

Principle of Uncertainty turning scientific knowledge into ‘no theory of certainty’ exposed a major limitation of scientific knowledge and thereby deprived the knowledge in ‘Modernity’ of its foundation. Bohr’s ‘Principle of Complementarities’ and Godel’s thesis of ‘Undecidability’ turning scientific knowledge further uncertain and tentative, have made the stability claim of the knowledge under ‘Modernity’ a myth. Feynman acknowledging imprecision as an inevitable aspect of scientific communication disproved the belief of societies in ‘Modernity’ that language can be rational and transparent representing a firm and objective connection between the objects of perception and language of communication. With Heisenberg, Bohr, Godel and Feynman showing scientific knowledge has limitations such as ‘uncertainty,’ ‘imprecision’ and ‘unknowability’, the claim of knowledge in societies of ‘Modernity’ to be free of limitations has become false.

Heisenberg confirming that the action of measuring affects the accuracy of the measurement and Schrodinger concluding that object-subject split a figment of imagination, made the objectivity claim of knowledge in ‘Modernity’ unfounded. In short, Post-Einsteinian science depriving scientific knowledge of its finality, certainty, precision, linearity, objectivity and stability made claims of knowledge in ‘Modernity’ hollow. Obviously under the intellectual influence of New Science and epistemological insights of constructivism, production of knowledge beyond modernism encountered limitations of grand theorisation, totalisation, logo-centrism, linearity, finality, certainty, objectivity and stability based on context-free laws of universality. This awareness of limitations turning to an intellectual predicament in knowledge production is called post-modern condition. Postmodernism is, therefore, the critique of grand narratives, totalisation, logo-centrism, linearity, finality, certainty, objectivity and stability. It is the awareness that grand narratives serve to mask the contradictions and instabilities that are inherent in scientific knowledge production based on context-free laws of universality. Postmodernism, in rejecting grand narratives, favours “mini-narratives” that explain small practices, context-specific particulars, or local events, rather than large-scale universal or global concepts. Post-modern ‘mini-narratives’ are always situational, provisional, contingent, and temporary, making no claim to universality, truth, reason, or stability. In Postmodernism, there are only signifiers without the signified, surfaces without depth and copies without the original. What one experiences is the disappearance of the idea of the stable or permanent reality. Knowledge is tentative and incomplete. It is functional, produced not just to know, but to use. Language is a game and communication a trial.

Postmodernism is concerned about questions of the organization of knowledge rather than about its finality or completeness. In Postmodern

societies Knowledge is produced, arranged, stored, distributed and consumed with a revolutionary difference in technologies and modes. In Postmodern societies, knowledge, not recognizable and storable by a computer i.e., not suitable to be digitalised ceases to be knowledge. Postmodernism's core is a reflexive particular self that is aware of the tentativeness, the slipperiness, the ambiguity and the complex interrelations of texts and meanings. Postmodernism is marked by a rejection of totalizing, essentialist, foundationalist concepts. Postmodernism sees 'reality' as being much more fragmented, diverse, tenuous and culture-specific. Postmodernism pays greater attention to specific histories, to the details and local contextualisation of concrete instances. Postmodernism puts greater emphasis on the body, the actual insertion of the human into the texture of time and history. Postmodernism pays greater attention to the specifics of cultural working, to the arenas of discourse and cultural practice. Postmodernism pays greater attention to the role of language and textuality in our construction of reality and identity, i.e., knowledge production

Lyotard in his *Postmodern Condition* (1984) says that the important question for postmodern societies is, who decides what knowledge is, and who knows what needs to be decided. Such decisions about knowledge does not involve the old modern/humanist qualifications, to assess knowledge as truth (its technical quality), or as goodness or justice (its ethical quality) or as beauty (its aesthetic quality). Lyotard argues, knowledge follows the paradigm of a language game, as laid out by Wittgenstein. By discarding 'grand narratives' (like the liberation of the entire working class) and focusing on specific local goals (such as cleaning up a water-body in your residential area), postmodernist politics offers a way to theorize local situations as fluid and unpredictable, though influenced by global trends. Hence the motto for post-modern politics might well be 'think globally, act locally' and stop worrying about grand schemes or master plans.

### **Critical Consciousness**

Intimate learning is essential for the learner to access deeper levels of knowledge, acquire its subversive potential, be clear about its relation to social/national development and, grow critical. Critical consciousness is an indispensable aspect of faculty that a researcher should develop for enabling serious and involved research leading to the production of new knowledge. Critical thinking enables the learners in reformulating established formulations afresh and for researchers such reformulations make their theses. A supervisor of researcher who knows the politics of his specialization lets his students turn critically conscious about social reality and be committed to social justice. This should be of top priority in University teaching and research, for that

alone can ensure the making of good citizens capable of public policy debates and collective operation seeking social transformation. Critical consciousness triggers rigorous research and production of strikingly new knowledge distinct for intellectual depth.

A researcher should have critical consciousness rooted in ethics. Critical consciousness may vary between the liberal pragmatic and the radical critical theoretical type (M. Horton, 2003, S.D. Brookfield, 2005). Scholars differentiate critical consciousness as psychological, dialectical, scientific, and social theoretical (S.D. Brookfield, 2011, pp.110-16). Value postulates are integral to social researches heading for the production of deeper knowledge that is inherently subversive and critical, for it unveils the hidden contradictions and unethical practices in human affairs and social processes (P. Freire, 2005). A researcher with poor knowledge base is not only shallow but also unethical, though inadvertently. Deeper knowledge produced across disciplines is innately linked to questions of social equity and environmental sustainability, and hence critical of capitalism from the point of view of its recklessly extravagant exploitation of natural and human resources. In fact there is no dearth of knowledge about the urgency of linking up education with ecological needs. Ideas of Marx, Gandhi, Latour (B. Latour and C. Poter, 2004) and many others have warned that in our rush to separate human from nonhuman, interests from nature, and politics from ecology, we might destroy the foundation of democracy. That Nature to them is neither to be conquered nor protected was the idea used for exposing the myth of anthropocentrism.

Scientists, social scientists, linguists, artists, literary critics and creative writers alike articulate protests against the dehumanizing and anti-environmental aspects of capitalism.<sup>4</sup> This is made possible by the politics of knowledge. It is essential for researchers in sciences, social sciences and humanities to know the critique of globalisation process to be insightful in their research. Whatever is their topic of research, they should know, at least tenuously, the critical wisdom on globalisation and its consequences, which they have to learn from the commendable line of intellectuals, ever since the enunciation of Marx's critique of political economy and thesis on capitalism, such as Andre Gunther Frank (1966), Walter Rodney (2011), Samir Amin (1976), Immanuel Wallerstein (1989) and many others.

## **Challenges of Knowledge Economy**

Peter F. Drucker (2011) who popularised the expression 'Knowledge Economy' had not thought about the far reaching implications of it under advanced capitalism. People take it an economy that uses knowledge to produce wealth, especially in terms of computer software and telecommunications. It is IT economy for most of us. Actually it is much more

than that as the economy based on the transaction of New Knowledge both as capital and highly priced commodity, amazingly decisive in the global market. In it economic success is based upon the capacity to command intangible assets such as creativity and innovativeness, which lead to production of new knowledge. It is a system of production and circulation of intellectual capital enabling heavy returns that constitute four-fifth of the global total.

Immediate questions relate quality of education and it is of crucial significance as to be sure whether or not a student has graduated with competencies essential to be a professional in the knowledge economy. Quality in tertiary education has become a catchword in the national development strategy under the obvious constraints of knowledge economy. Expressions such as 'world-class quality' and professional excellence' have become common in the context of higher education. A large number of private Universities have come up claiming 'world-class quality and excellence' as their distinct institutional attribute. It is part of the rhetoric of trade-tricks for these institutions that are engaged in competitive commercialisation of knowledge with little or no resources for quality assurance. They have good infrastructure in most cases, but lack academic resources for quality assurance. All Universities in the country, irrespective of the sector difference between the public and private, are under pressure to render quality higher education apposite to cater to the professional requirements of the knowledge economy.

Critical consciousness engendered by quality higher education is necessary to understand the implications of knowledge economy that is triggered by the capitalist globalisation. Michael Perelman has given an analytical account of how corporate houses confiscate creativity by trading in intellectual property rights (M. Perelman, 2004). The issue has been extensively discussed by Louis Suarez-Villa, who has subsequently expanded the features and dynamic of techno-capitalism in the context of exploitation of innovativeness or creativity (L. Suarez-villa, 2000). He goes into the political economy of techno-capitalism in a subsequent book. Due to a heavy dependence on creativity or innovativeness in technology and science as both commodity and capital, it is known as techno-capitalism today, spawning new forms of corporate power and organization of major implications for the twenty-first century. Corporate Houses have erected a system of intellectual property rights to confiscate creativity, with profound impacts on the economy, science, technology and culture (L. Suarez-villa, 2009). Nobody can exaggerate the decisive role of research in the economy that counts GDP today in terms of gross technology product (GTP) or gross science product (GSP). It has opened up an era of intellectual assets or intangible assets. Critical faculty helps us understand that the growing global importance of intangibles like new knowledge and technological innovativeness is widening

the inequalities between nations at the vanguard of techno-capitalism and those that are not. It is aggravating brain-drain between nations. Replacing the old military-industrial complex techno-military-corporate complex is growing dominant (L. Suarez-villa, 2012). A new corporatism becoming ever more intrusive and rapacious through its control over technology and innovation, anticipating several major social, economic and political consequences in a Country like India. It is pushing Universities into a major predicament with their poor quality higher education. They cannot get away from the national urgency about ensuring the production of new knowledge for enhancing intangible assets to make gains out of the techno-capitalist global knowledge economy. At the same time they cannot choose to refrain from generating critical knowledge providing insights into the grave social and environmental consequences of the economy. Either way, quality and excellence in the production and transmission of knowledge become their top-most priority.

### **Alarming National Truth**

World Bank says that India has many of the key ingredients such as: A mass of skilled, English-speaking knowledge-workers, especially in sciences. It has a well-functioning democracy. Its domestic market is one of the largest in the world (World Bank Report, 2001). It has a large and impressive Diaspora, creating valuable knowledge linkages and networks. The list goes on by adding other features like macroeconomic stability, a dynamic private sector, institutions of a free market economy, a well-developed financial sector, and a broad and diversified science and technology infrastructure, a developed ICT sector, prospering IT, status of a global provider of software services etc. World Bank informs that building on these strengths, India can harness the benefits of the knowledge revolution to improve its economic performance and boost the welfare of its people. All this is about certain misleading surface features with which the neoliberal economic policy fabricates its rhetoric. But truth below the surface is extremely alarming.

India, a multilingual country with English as the official medium of instruction at the tertiary level, has a poor GER of 14.4%, about 70% of the rural undergraduate students unable to understand English, about 40% of the postgraduate students unable to use English for higher cognition, about 60% of the youth between 22 and 35 with innovative faculty and creativity belong to the villages where education is imparted in the Indian language. Knowledge base of the Indian languages with respect to advanced sciences and areas of emerging importance is abysmally poor. About 80 % of the total population do not have any participation in the production of Knowledge because of historically and culturally contingent limitations such as class, gender and caste discrimination. On top of all, the higher education system in the country is far

away from the track toward quality and excellence, with all the state Universities enmeshed by party-political intrigues and central Universities nowhere near the world standard.

Politicians and bureaucrats in India think higher education, a sector of expenditure rather than investment. The nation is not able to set apart for higher education even 3% of the GDP for dearth of money. At the same time several actors in the Government go recklessly extravagant and there is no financial discipline in the working of the Government. Naturally, production of new knowledge, which is highly sophisticated and enormously expensive, is extremely rare in any of the fields of modern sciences. Even traditional Indian knowledge systems are new meadows only for foreigners who take patents in them. Indians, uninitiated in traditional knowledge language of their country, draw blank about its scientific dimensions. Corporate Houses are seeking to enhance monopolistic control through Patents and IPR over the country's traditional knowledge as a major source of production of new knowledge.

India is long way off from the emerging sciences and technologies of the 21<sup>st</sup> century. Advanced software and molecular processors in computing and communications are among various new technologies that are going to be symbolic of the 21st century, in much the same way as aviation and mass production were of the 20th century. Suarez-Villa points out nanotechnology, biotechnology and its various related fields such as synthetic bioengineering, bioinformatics, biopharmacology, biomedicine, genetic engineering, agrobiotechnology, and branches of biomimetics like robotics are emerging areas of importance. The III world in general and Indian in particular, far behind in the discovery and invention sciences concerned, can only subsidise Techno-capitalism through the purchase of high-tech electronic goods, hard and soft, rather than gaining profit by selling new knowledge, creativity and innovativeness.

Now transnational exploitation of intellectual assets under Techno-capitalism is far more extensive than what it had been about raw materials under industrial Capitalism. Governments in the III world are mere agencies for diverting national revenue for supporting the aggressive expansion of Techno-capitalism under the guise of development. The ultimate political consequence shall be re-appearance of an imperial state but masked by democracy.

### **Built-in Strategy of Containment**

Social theory informs us that education is an instrument of the socio-economic system. It is an instrument controlled by the techno-capitalist global knowledge economy and naturally its primary function would be



democratisation of conformity, rather than critical thought. Advancement of deeper knowledge, of course, would enhance critical consciousness and enable collective action for social emancipation, but the critical edge would be lost in the process of higher education under the inescapable influence of the socio-economic system. Educational process would involve a series of de-politicisation practices that would disallow dissemination of the critical dimension of knowledge. Poor quality higher education with alienated teaching, learning and research rampant in the country is not altogether accidental, since they are indispensable for the reproduction of the contradictory socio-economic system. That education is a catalyst of social change is, therefore, a myth.

Mechanical ways, means, relations and strategies of teaching and evaluation in colleges and Universities continue to deprive knowledge of its politics, i.e., its socio-critical dimension. Higher educational institutions imbued with built-in mechanisms for depoliticizing the transmission of deeper knowledge have the consequence of turning the youth into apathetic beings. In fact, there is nothing weird about this depoliticizing aspect since education, one of the most powerful social institutions normally ensures conformity rather than critical thought, for reasons of political economy. It is technically known as *autopoiesis* or the process of the socio-economic reproduction by turning even antithetical elements into self-referential components (L. Luhmann, 1990; I. Livingston, 2006). Every educational institution is a formally constituted space for the reproduction of the relations of techno-capitalism. In short, theoretically it is truth that educational institutions shall service primarily what the socio-economic system requires (P. Bourdieu and J.C. Passeron, 2000). Nevertheless, there is no need for being pessimistic about all this, because what we find theoretically unlikely is found politically feasible. Let the enlightened in the higher education institutions join hands to empower the ordinary people with the knowledge they need, for they alone can ensure quality in teaching, learning and research through collective operation.

### NOTES

- <sup>1</sup> The conceptual meanings and implications of the terms 'continuity', 'sequence', and 'integration', have been discussed in detail by Ralph W. Tylor. Though done in the context of school syllabus, Tylor's enunciation of fundamentals is equally or more relevant to higher education too.
- <sup>2</sup> In the modernist tradition of philosophy of education, politics of knowledge is discussed against the mutuality between the form of state power and character of epistemology. P. Gordon et.al discuss the continuous development of educational thought over three millennia. A.V. Kelly does

it more analytically. Long before, there appeared an altogether different theorization of knowledge by M. Foucault. Following this alternative perception, in the postmodern context, who decides what knowledge to be taught is the question fundamental to politics of knowledge because the production and distribution of knowledge have a crucial role in the maintenance of the social power relations. This question is addressed significantly by W.E. Doll and E. Rata. Nevertheless, it is the bearing of contradictory social power relations on knowledge and the inherently subversive critical potential of deeper knowledge that I have taken fundamental about the politics of knowledge.

- <sup>3</sup> Studies in the limits to the capitalist paradigm of growth and development are quite well known. *Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, and William W. Behrens III have published warnings against the non-sustainability of development way back in 1972, which have been revised and updated in 1992. J.M. Diamond has subsequently discussed the issue in a slightly different way.*
- <sup>4</sup> Studies in human geography by Henri Lefebvre and David Harvey constitute classic examples. They provide a theoretical analysis of urbanisation and the techno-capitalist spatialisation.

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