

A Twenty-First Century Prototype Research in Languages, Social Sciences and Progressive Sciences Empirical and Pedagogical Observations

Dr.C.B.Kamati

cbkamatix@gmail.com

Associate Professor

Department of History

KLE Society's Lingaraj College, (Autonomous), Belagavi
Karnataka State

Abstract

University Education is vital because it promotes truthfulness, honesty, mutual-trust, reason, and humanness. These desirable qualities of mind are inculcated through extending the horizon of Research and Teaching in Social Sciences, Languages, and Progressive Sciences. All outstanding accomplishments in those domains of knowledge were well-explored, and augmented during renaissance. It is generally acclaimed that the foundation of modern society was essentially laid down by Renaissance itself. Since then, the prevalence of the Age of Reason, (18th Century); and the occurrence of First, Second, Third, and Fourth Industrial Revolutions in succession (1760 AD to 2022 AD) have theoretical basis drawn richly from fundamental research in Social Sciences, Languages, and Progressive Sciences. The author of this research paper brings-forth the present state of research in Indian Universities based on select authentic sources.

Keyword: Empirical Study , Pedagogy, Social Sciences, Progressive Sciences, Extensive Research, Renaissance, HEIs'

Teaching, Research, and Extension Services are fundamental tasks of the University Education across India during 21st century. In addition to that, the promotion of knowledge, and enhancement of teaching aptitude are formally recognized as prime responsibilities of Higher Education Institutes. This was recognized by the statutes of the New Education Policy's Programme of Action-1986 through establishment of Academic Staff Colleges by invoking the appropriate clauses of the New Education Policy-1985. However, the global functional indices towards Ranking of the Higher Education Institutes'(HEI's), assessment, and accreditation institutions like NAAC, and NIRF reveal that none of those primordial tasks have not been accomplished satisfactorily during the post colonial period. By December 2021, 27.10 % of Indians have obtained Higher Education in India. Here, the anticipation of Indian Education Commission headed by Prof. Kothari is mention worthy: 'The destiny of India is now being shaped in her Classrooms. This we believe is no rhetoric. In a world based on science, and technology, it is education that determines the level of prosperity, welfare,

and security of the people. On the quality of our number of persons, coming out of our educational institutions, will depend our great success in the great exercise of our national reconstruction the principal objective of which is to raise the standard of living of our people in the context, it has become urgent.⁽¹⁾ If this optimism is considered as the basis for characterizing Higher Education in contemporary India, then, it is implied that still 72.90 % of India's population do not clearly contribute towards actualization of India's destiny, in terms of determined National Goals of Reconstruction, namely: (i) Self-sufficiency in Food; (ii) Economic Growth and Full Employment; (iii) Social and National Integration; (iv) Political Development; (v) Human Development; (vi) Creation of a Culture of Science, and Education; (vii) Orienting and Refreshing the manpower at periodical intervals; (viii) Equalisation of Educational Opportunities; and, (ix) Growth of Science and Technology.

Appraisal of the Objectives of the National Knowledge Commission

According to All India Survey of Higher Educational Institutes in India, there are 1070 Universities, 42,343 colleges, and 11,779 stand alone institutes making it one among the largest higher education sectors in the World, according to latest AISHE Report (All India Survey of Higher Education Report: 2019-20).⁽²⁾ The Higher Education percentage in China stands alone at 51%, whereas, it is 80 % in Europe, and much of North America. The Higher Education Sector of India is the third largest higher education sector of the world in terms of students, where as China and USA occupy second and third positions respectively. The Gross Enrolment Ratio (GER) of India in Higher Education sector is hardly 25.2 %. This malady of India could have been avoided, provided the following recommendations of the National Knowledge Commission would have been fulfilled, and actualised:

- Create atleast 1500 Universities to enable India perform better at globally competitive Gross Enrolment Ratio, and much wider contractual openness
- Establish Independent Regulatory Authority for Higher Education (IRAHE) to set right over-regulated, and under-governed Higher Education system
- Increase in public spending, and diversifying sources of financing which must necessarily come from both, public, and private sources, to atleast 6.5 % of GDP
- Concieve principles, norms, and parameters that govern the grants to be provided to support or supplement research in Higher Educational Institutions
- Provide common facilities, and programmes for a group of Universities, or for Universities in general, and maintain such institutions or provide for their maintenance by allocating, and disbursing grants
- Formulate statutes and establish National Commission of Higher Education and Research to cater to the governance of Institutions of Higher Education, and Research
- Equalise educational opportunities to maintain regional balances to provide educational opportunities in the rural and backward areas
- Promote social cohesiveness, and national integration through standard system of education across the country, and intensify efforts to develop education among the backward classes, and specially among the developed people

- Improve the quality of books by attracting the best writing talent by liberalizing well the policy of
 - Incentives, and remuneration; steps be taken for the production of high quality textbooks at college,
 - and university level
- Refine the validity and authenticity of examinations , and make the evaluation process continuous, and assist the student improve his level of achievement, rather than certifying the quality of his/her performance at a given period of time
- Strengthen the ‘Centres for Advanced Study’ by providing adequate technical, and financial aid to make the country cope with the current standard levels of educational research in the advanced countries of the World
- Evolve a National Educational Tribunal with powers to adjudicate on disputes among all the stakeholders, within, and between institutions so as to reduce litigations involving Universities, and Higher Education Institutions
- Understand, and reevaluate our cultural heritage , and create a strong driving faith in the future towards which we aspire
- Develop scheme of University scholarship , and funds required for it be placed at the disposal of UGC; UGC in turn should make them available to Universities; and , in turn, Universities should allocate scholarship funds to affiliated colleges
- Introduce egalitarian element in higher education institutions based on the factorial analysis of social-economic equality, and gender and regional balance
- Set-up a National Loan Scholarship Board at the Union level to administer the sanctioning process of loans to the eligible and needy candidates

However, these goals have not been fully attained. Hence, ‘a well educated population equipped with relevant knowledge, attitudes, and skills is essential for economic and social development in the 21st century India.’⁽³⁾

A Few Select Instances of Scarcity of Manpower in Universities

Let us examine the problem of scarcity of eligible professorial staff in Indian Universities. A candidate comprising specialized typical research expertise with Doctoral and Post Doctoral Degrees in different academic disciplines is rarely available. The availability of such candidates in roster-based appointments is still critical, and unimaginable. The Universities across India, while publicizing the Recruitment Process seeking applications for Assistant Professors, Associate Professors and Professors in various subjects, mention the requisite area of expertise, for instance, Doctoral /Post Doctoral Degree in Philology, and Linguistics (English Language Literature); Abstract Econometrics (Economics); Astrophysics (Physics); Protein Chemistry (Chemistry); Historiography, New Archaeology, Epigraphy (History); Climatology and Cartography (Geography); Genetics (Biological Sciences); Cognitive Psychology (Psychology); Chhanda and Metrics (Indian Languages); Topology (Mathematics); and Applied Dialectics (Political Science). However, such exceptionally great expertise is hardly available.

Human Language being medium of communication, and manifestation of delicate feelings is an embodiment of complex morphological structure,”...a biologically endowed innate faculty within the human brain.”⁽⁵⁾ Beyond doubt, Linguistic Theory of Literary Criticism, a pure science of language needs to be taught by expert professors as who treat language as “...a cognitive system.”⁽⁶⁾ In Social Sciences, for instance, the discipline of History comprises scientific and interdisciplinary domains like Epigraphy, New Archaeology, and Historiography. They being “...formal, monumental and canonical”⁽⁷⁾ are based on competence in indology and oriental knowledge. In Economics, the core aspect being Econometrics is seldom pursued as an area of research. Each economic activity being quantifiable in qualitative and utilitarian terms, is much needed to “...create a diversified, efficient and competitive financial system to promote in turn the real sector economy.”⁽⁸⁾ Applied Econometrics can predict recessions, offer alternative approaches, redesign post reform monetary policies, and effect relevant structural changes in the backdrop of developments at the World level, and build the nation based on acute analysis of degree of monetization.

In Progressive Sciences, the country is lagging behind in terms of creation of expertise. “...Incessant growth in Sciences is essential for the application of many useful methods of analysis to obtain solutions to a wide range of practical problems.”⁽⁹⁾ In recent years, science and technology have been advancing at unbelievable velocity, and the development of new electronic devices has paced this advance in dramatic fashion. “As a consequence, we must not only teach basic facts and techniques that are useful today, but we must also give the fundamental concepts required to understand and tackle the problems of tomorrow.”⁽¹⁰⁾ “The invention of ‘audion’ or ‘triode’ in about 1905 AD by DeForest was the beginning of vast electronics industry we have today. Its ability to amplify, detect, and mix electrical signals has led to literally thousands of applications.”⁽¹¹⁾ The academic research and development laboratories in India have the daunting task of enlarging the frontiers of knowledge in pure and applied sciences and technology. Astrophysics is an area where critical manpower is not being produced in India’s Universities. Until today, astrophysicists are unable to understand how the process of formation of stars in galaxies first increased and then waned in the last few billion years or so. Why didn’t the galaxies form stars in one bright display and then plunge in to darkness? Why did the stars form in a regulated manner over a long stretch of time? The present work in India is confined either to further and applies pre-existing knowledge or else sheer pondering in pre-existing knowledge. Literally, no break-through is coming forth in Astrophysics. It is evident from the Research Abstracts comprising Doctoral and Post-Doctoral degrees awarded by the Indian Universities.

Diminished Fundamental Research: A Worrisome Factor

As mentioned earlier, diminishing research in fundamental areas like Linguistics, Econometrics and Astrophysics would have undesirable impact upon a country which is independent just 75 years ago. As men with expertise retire off in each University and Research Laboratory, those men themselves are worried at the core for not having demonstrably created substitutes to further and enlarge the task at hand. It should be remembered that the evolution and reputation of Principles of Management and Information

Technology, the fundamental research in the fore-mentioned areas has contributed significantly. It should also be remembered that both ‘Principles of Management’ and ‘Information Technology’ are the shallowest offshoots of the fundamental research. T.S.Eliot has rightly observed, ‘Where is knowledge, we have lost it in information’. Information tells how to go about. Knowledge reveals what is the reason for an occurrence. Hence information is none else than one among the several by products of knowledge. If knowledge generation is the key role of each university, the generated knowledge should also be of relevance to the growth of mankind.

The focus of each University of India is to have well qualified and knowledgeable researchers as members of teaching faculty. As Universities in India proliferate, there is a race for obtaining expertise as faculty by each University. The University Boards of Appointment (BoA), apart from considering routine statutory norms in appointments, ought to consider rare expertise demonstrated at the Doctoral level by the candidate, and also his/her competence to produce better scholastic and quality Ph.Ds’ in core areas. This certainly reinvests faith in meritocracy and put the Fundamental Research on progressive track again. The UGC Regulations-2010 governing Recruitment and Promotion norms should have a closer look at this insightful aspect that can reenergize the whole University Education. Such meritorious students while guiding Ph.D. students shall devote themselves singularly to the core areas’ like Linguistics, Architecture and Historiography, Econometrics and Astrophysics both by will and mandate. Such faculty shall have to admit Ph.D.students on the basis of either personal verification of academic credentials of the candidate or consider Junior Research Fellowship (JRF) as mandatory norm apart from the University regulations. The Vice Chancellor himself/herself shall chair the Supreme Research Committee of the University to keep track of the resultant out-come of the envisaged fundamental research. If this process is effectively observed, the Vice Chancellor really does play ‘True Man Power Building Role’ based on “...the rational, independent and impartial investigation of the documents of the past.”⁽¹²⁾

Why Fundamental Research ? : A Few Instances

Normally, there is unanimity in opinion that fundamental research means research process and out-put which is original and has utilitarian value based on “...logic and epistemology of the pure science or philosophy.”⁽¹³⁾ Why I should consider research in Linguistics as fundamental? “Linguistics is the scientific study of Language.”⁽¹⁴⁾ Language is a purely human and non-instinctive method of communicating ideas, emotions and desires by means of voluntarily produced symbols.”⁽¹⁵⁾ It contains phonetics, phonology, morphology, syntax, semantics, language acquisition, psycho-linguistics, language disorders and sociolinguistics.” Since language is implicated in so much of our lives, there is clearly a large and open ended number of quite desperate activities to which applied linguistics is relevant.”⁽¹⁶⁾ Linguistics precisely addresses most imperative and contentious areas of contemporary language. It evolves the principles of literary stylistics as an endeavour to mediate between linguistic description and literary criticism.”⁽¹⁷⁾ As we have observed both language in general, and particular languages can be studied from different points of view. Therefore the field of linguistics as a whole can be divided into several sub-fields according to the point of view that is adopted or the special emphasis that is given to one set of phenomena, rather than another.”⁽¹⁸⁾

Architecture and Historiography needs attention from researchers. The Architecture of India is rich, diverse and abundant. The evolution, growth and maturity of India’s Architecture has contributed significantly to the genesis of Civil Engineering. The glossary found in oriental architectural literature and the components evident in concretised India’s Architecture

are almost synonym to the structural components of Contemporary Civil Engineering. An example in this regard” *lalatabimba* refers to lintel” ⁽¹⁹⁾ and “*pronaos* is porch.”⁽²⁰⁾ The scholars who studied India’s Architecture have found about one lakh jargons. They are either conceptually evolved or imbibed from cultural experiences by Indian Architects. This highly productive area of knowledge, where upon Civil Engineering and Tourism Industry have built pedestals, hardly considered as an area of fundamental research. There are still several areas in Architecture of India, where-in research is either inadequate or very haphazard. The Wooden Architecture of India in the extreme North and Deep South is a case in point.

Reconstruction of History has always been at the centre of historical thinking. The science of writing history is referred to as ‘Historiography’. “It comprises the study of the development of man’s sense for the past.”⁽²¹⁾ “...While History proper is the historian’s reconstruction of the past, ‘historiography’, says Aurther Marwick, is really the history of historical thought-it is not only the theory or practice of history.”⁽²²⁾ In the first half of the nineteenth century, after the very emergence of the Science of Humanities (Wissenschaft), accuracy was thought essential to the determination of facts wholly based on “the identification and authentication of primary sources.”⁽²³⁾ Research, according to von Below, was the motor of historiographical change:”Every where our work proceeds as follows: We begin our research with particular concept ions, revise the latter according to the results obtained, then approach the issues anew with the findings we arrive at in order once again to approach a revision of our ideas on the basis of new research work. This is how our work advances.” ⁽²⁴⁾ The most recent school Structural Historiography theories the structural processes of evolution and change. It explicates the”...meaning of actions of people rooted in one time and place, to persons in another.”⁽²⁵⁾ Historiography being a sensitive and challenging area of research, deserves priority attention in Universities.

Econometrics is the most scientific way of presenting economic activities in the light of well developed economic thought. It is “an instrument for understanding and explanation of observable facts and relation ships.”⁽²⁶⁾ Econometrics functions upon the conception of “... economic universe and their interconnectedness with the unadorned rigour of elementary differential equations.”⁽²⁷⁾ The very mathematical illustration of the mode of action of a definite act of causes may be complete in itself, and strictly accurate within its clearly defined limits,” it is otherwise with any attempt to grasp the whole of a complex problem of real life, or even a considerable part of it, in a series of equations. For many important influences, especially with the manifold influences of the element of time do not lend themselves easily to mathematical equations; they must either be omitted entirely altogether or clipped and pruned till they resemble conventional birds and animals of decorative art.”⁽²⁸⁾ In Econometrics, the “...propositions are presented in a setting which emphasizes both their implications and-what is just as important-their limitations; and the whole is built-up in such a way that at each successive point in the argument the attention is always focused upon the new elements in the problem, the rest having been satisfactorily disposed off at an earlier stage.” ⁽²⁹⁾ Economic theory is meant to be about the real world. We seek, by the use of theory, to explain, understand and predict phenomena in the real world, and our theory must therefore be related to, and tested by empirical observations of the world around us.”...The student of economic theory needs to ask at every stage what are the relevant magnitudes and quantities in the real world.” ⁽³⁰⁾

In the ancient past, Indian men of science classified the skies in to “... zodiacal constellations; they calculated with remarkable accuracy the diameter of the Moon, the

eclipses of the Moon, and the Sun, the position of the Poles, and the position and motion of the major stars.”⁽³¹⁾ “The earliest astronomical treatises, the Siddhantas’ were none else than science.”⁽³²⁾ Astrophysics is the scientific study of physical and chemical structure of the space. The space around the Earth comprises fascinating spatial bodies floating along the infinite horizon of the cosmos. Although India’s contribution to Astrophysics is remarkable, the West is far more progressive. The Hubble Space Telescope, a joint venture between National Aeronautics and Space Agency (NASA) and European Space Agency (ESA) has literally exposed the wonders of the universe. Having travelled about three billion miles ever since its launch in 1990, the Hubble Space Telescope has so far made 1.2 million observations. It has placed our world in to a context of hundred billion stars in hundred billion galaxies. The Hubble has determined the rate at which our universe has been expanding. The James Webb Telescope is a huge leap forward in Astrophysics. The utility of space technology in manifold ways by the developed and developing countries has practically transformed the lives of the people in true sense of the term. As rightly observed earlier, India’s Astrophysics needs to have a great leap forward by means of first order University research, almost equivalent to or even better than those of the National Physical Laboratories. Our Universities have the potential to supplement the knowledge base and consequentially propel the national agenda of the Premier Research Laboratories of the country.

These instances are certainly no utopian imaginations. Fundamental research in such areas is quite attainable as India’s Universities have abundant infrastructure and intellectual professorial staff. The fundamental areas of research may be identified in each discipline and referred to as ‘Core Areas of Research.’ This is much indispensable to distinguish the areas of research as useful and wanton. The envisaged mission can only be justifiably attained by formally constituted Teaching and Research Universities, as they devote their time and energy entirely to the cause

References

- [1] All India Survey of Higher Education Report: 2019-20, Ministry of Human Resource Development, Government of India, Introduction, New Delhi, 2020
- [2] Education and National Development: Report of the Education Commission, 1964-66, Ministry of Education, Government of India, New Delhi, 1966, p.24
- [3] Indian Planning Commission, 12th Five Year Plan, Government of India, New Delhi, 2017, p.47
- [4] B.Ghuman, professor, Punjab University, Chandigarh in Sistila Rama Devi edited University News, A Weekly Journal of Higher Education, Association of Indian Universities Academic Performance Indicators for University and College Teachers: Disconnect between Philosophy and Outcome, Vol.53, No.14, April 06-12, 2015, p.3
- [5] Noam Chomsky in Andrew Radford, Martin Atkinson, Davis Britain, Harold Clashen, Andrew Spencer
 a. authored ‘Linguistics: An Introduction’ Cambridge University Press, Madrid, 1999, p.8
- [6] Ibid, p.1
- [7] Soundara Rajan K.V.: Indian Temple Styles – The Personality of Hindu Architecture, Munshi Ram Manoharlal, New Delhi, 1972, p.5
- [8] Y.V.Reddy in Dimensions of Financial Development, Market Reforms, and Integration: The Indian Experience in S.S.Tarapore edited MacroEconomics and Monetary Policy, Oxford University Press, p.290, New Delhi, 1998
- [9] Pipes and Harvill: Applied Mathematics for Engineers and Physicists, McGraw Hill Book Company, Toronto, 1958, p.1
- [10] Desoer and Kuh: Basic Circuit Theory, McGraw Hill International Book Company, Tokyo, Preface, 1983,

- [11] P.V.Lane K.Branson: Introduction to Electronics, Prentice Hall of India Private Ltd., New Delhi, 1981, p.6
- [12] Alun Maslow: Deconstructing History, Rutledge, First Indian Reprint Reprint, New Delhi, NewDelhi, 2008, p.22
- [13] In a broader sense, philosophy refers to the study of the theory and abstractions to the preclusion of their practical applications.
- [14] John Lyons: Language and Linguistics- An Introduction, Cambridge University Press, Cape Town, 1981, p.1
- [15] Sapir E.: Language, Harcourt Brace, New York, 1921, p.8
- [16] Guy Cook: Applied Linguistics, Oxford University Press, New Delhi, 2014, p.7
- [17] Widdowson H.G.: Stylistics and Teaching of Literature, Longman, Toronto, Introduction, 1975
- [18] John Lyons: Language and Linguistics- An Introduction, Cambridge University Press, Cape Town, 1981, p.34
- [19] K.V.SoundaraRajan: Indian Temple Styles, Minshi Ram Manohar Lal, New Delhi, 1972, p.91
- [20] Ibid.p.3
- [21] Butterfield, 'Historiography' in Dictionary of History of Ideas, Vol.2, Charles Scribner's Son Publishers, New York, 1973, p.464
- [22] Aurthor Marwick: What History Is and Why It Is Important, Buckinghamshire University Press, 1970, p.14
- [23] Harrison, Jones and Lambert: 'Methodology-Scientific History and the Problem of Objectivity' in Lambart and Schofield (Eds.) 'Making History: An Introduction to the History and Practices of a Discipline', Routledge, London, 2004, p.26
- [24] G.von Below: 'Über historische Peridisierungen, mit besonderem Bick auf die Grenze zwischen Mittelalter and Neuzeit', Archiv fur Politik and Geschichte, 1925, Vol.4, pp.1-29, 170-214, quotation p.22
- [25] Bernard S.Cohan: History and Anthropology-The State of Play, Comparative Studies in Society and History, Oxford University Press, Delhi, 1980, Vol.22
- [26] Lord Robbins: The Evolution of Modern Economic Theory and Other Papers on History of Economic Thought, MacMillan, Culcutta, 1970, p.12
- [27] Ibid.p.24
- [28] Alferd Marshall: Principles of Economics, 8th Edition, Canbridge, 1920, p.845
- [29] Lord Robbins: The Evolution of Modern Economic Theory and Other Papers on History of Economic Thought, MacMillan, Culcutta, 1970, p. 214
- [30] Richard G.Lipsey: An Introduction to Positive Economics, Weidenfeld and Nicolson, Beccles, 1970, p.xiv
- [31] Barnett L.D.: The Heart of India, London, p.188, 1924
- [32] Sarton Geo: Introduction to the History of Science, Vol.I, Baltimore, 1930, p.378