Colonial Framework of Industrial Education and Contemporary Vocational Education in India

Manmeet Randhawa*

Abstract

The history of vocational education in India did not evolve in a linear process, its historical accounts consist of the interaction between various structured and geographically distributed social entities, which mutually shaped the occidental actions and attitudes to negotiate with specificities of the Orient. The vocational education envisaged during colonial India as industrial education varied from general education at large, and technical education in particular. The primary intention of industrial education was to convert the lowest craftsmen into rational and scientific workmen based on the assumed efficiency of the latter over the former. It extensively shaped the domestic industry through colonial industrial experiments of instituting workshops, institutes, and industrial schools with improved looms and techniques established in different regions of colonial India. It is within this historical context this paper would theoretically situate the dialogue between the traditional skills and modern techniques that organised, and shaped the actions of the colonial state and agencies to transmit, and circulate modern technical knowledge to the domestic craftsmen. Subsequently, relating contemporarily to the problems and suggestions laid down by educationist and National Education Policy (NEP) 2020 for vocational education towards decolonising vocational education by adequately integrating it into mainstream education, across education institutions, in a phased manner to overcome the social status hierarchy associated with vocational education.

Junior Project Fellow, Department of Teacher Education, NCERT.

Introduction

Before the expansion of practical western knowledge, general education was among the subject of importance to the British in India, which primarily focused on serving administrative purposes. Initially, Wood Despatch of 1854 highlighted the successful attempts of general education, it also shared the eagerness to impart training to the natives in profitable professions. Increase in trade and influx of European goods into the Indian market, and the gradual decline of domestic items was one among many factors that generated the need for the British to pay attention towards human capital of the colony and align it with technological advancements of Europe.

Along with the dissemination of general education among Indian masses, Wood's Despatch in 1854 expressed the necessity of scientific and European knowledge through imparting practical instruction to the natives.

'This knowledge will teach the natives of India the marvellous results of the employment of labour and capital, rouse them to emulate us in the development of the vast resources of their country, guide them in their efforts, and gradually, but certainly, confer upon them all the advantages which accompany the healthy increase of wealth and commerce; and, at the same time, secure to us a larger and more certain supply of many articles necessary for our manufactures and extensively consumed by all classes of our population, as well as an almost inexhaustible demand for the produce of British labour.'

—Wood's Despatch, 1854

Rationale of the Study

With the advancing ideals of local to global, India has gradually begun to reconstruct the significance of the Indian artisanship in the country through the reconceptualisation of vocational education in the twenty-first century. However, in re-envisioning vocational education, this paper attempts to provide a broad historical review of its evolution that began during the late nineteenth and early twentieth centuries as industrial education—especially in weaving as a vocation within underlying political and economic intentions of the British rule. It would enable the educator to learn about the historical processes that can guide towards decolonising Indian vocational education from its colonial roots while simultaneously adopting endeavours that can encourage domestic industrial knowledge as well.

Colonial Framework of Industrial Education

The Report of the Education Commission in 1883 remained silent over the future course of industrial education in India but highlighted that general education has been successful in enabling the native to enter into professions such as law, however, it has failed

to impart any special knowledge. Special knowledge was not defined until the mid-nineteenth century in England. The foundation of technical instructions was laid in 1854 to extend the practical knowledge of principles of art and design among the British manufacturing classes but India remained a distinguished case from Britain. In India, especially in Bengal, the British observed that literary class outruns the demand for literary knowledge because there were few intakes or pursuant of industrial enterprises and technical training due to strict discontentment among certain classes of people to undertake different pursuits other than in what they are born. To shift focus from general to practical, in 1886 a bifurcation between the literary and practical training until the age of 8 or 9 was proposed, to formulate the upper classes of High school into two divisions. One would lead to an entrance exam, and the other to more practical character intending for industrial and commercial purposes, catering to those pupils after the age of 14 years who may not want to pursue literary education and are rather inclined to more practical knowledge of technical, industrial and commercial pursuits (extracts from papers relating to technical education in India, 1886–1904). Later, it was recommended that instead of waiting for pupils to attain 14 years of age to realise their interest, it would be better to demarcate the secondary instruction into two distinct forms of education because postponing beyond high school might delay in rendering its advantages. By the year 1884–85 the numbers of industrial schools were established, amounting to 6, 7 and 5 in Madras, Bombay and Bengal, respectively. It was expected that providing literary as well as practical education would encourage cultural diversity in Indian society. In Europe, during the seventeenth and eighteenth centuries, the artisans and labourers were not taught to read, write, and figure. It was assumed that apprenticeship remained the sole requirement for the workman. However, with extensive commercial activity and constant use of money, the importance of reading for political and social life grew. It gradually generated the demand to learn the three R's throughout the labouring class (Mead, 1909–11). Similarly, Indian Industrial Commission 1916–18 also suggested extending primary education to the labouring class, not merely because it was necessary but for employers who tend to prefer both skilled and unskilled labour with minimum primary education to keep the pupils in the mills as intelligent and efficient workers, instead of leading them to desired clerical appointments. While paving the way for industrial education in India, the British were keen to review the conditions of the labour in different parts of the

country especially in Bengal, Bombay and Madras. It submitted its report on the industrial conditions of the country emphasising an exclusive need of industrial education for the labouring class aligned with what was envisioned in Britain during the mid-nineteenth century. It was based on twofold objectives: (i) to improve the knowledge, technique and methods of those already concerned and, (ii) to enable the persons trained to find a career in their industry, trade or business or qualify them to secure employment (Industrial School Committee, 1935).

The colonial initiative primarily aimed to improve the varied aspects of practical learning pertaining to art design, craft, apprenticeship, practical knowledge, technical training, instruction and commercial pursuits along with the application of the scientific methods for channelising the basis of industrial production out of the existing forms of raw material in India.

Technical education is preparation of a man to take part in producing efficiently some special article of commercial demand. It is the cultivation of intelligence, ingenuity, taste, observation and manipulative skill of those employed in industrial production so that they are able to produce efficiently.

—Extracts from Papers
Relating to Technical
Education in India
1886–1904

However, industrial production and commercial demand did push towards industrial education but it was also ill-conceived by the British that hereditary aptitude could hardly meet those demands.

This must be ascribed to the fact that, in the absence of a proper system of industrial education and a considered policy of encouragement to industries, hereditary predisposition and the influence of surroundings have been left to produce their inevitable effect.

—Indian Industrial
Commission, 1918–19

It was largely pre-supposed by the British state that masses would require governmental apparatus to institute rational actions for reaping economic benefits out of the resources available to them, which natives have not yet realised or rather, are ignorant of. The sooner it was observed, the more it perpetuated governmentality among native labouring masses, especially the weavers, by the exercise of political power through the modern industrial economy. Bombay, Madras and Bengal became the epitome of an active Government that was now in control of governing things which had nothing to do with territory, it was concerned with the relation of men with things such as wealth, resources, means of subsistence and other things like customs, habits, way of thinking and so on, or so to say management became the primary function of the colonial Government. The theory of the art of Government

during the late sixteenth century was linked with the emergence of governmental apparatus; which was essentially associated with the knowledge of the state based on rational principles (Foucault and Hurley, 2002). The rational modern economy that the British state intended to pursue during the late nineteenth century shifted from labour-intensive traditional industrial activities to robust capital-intensive technologies that could drive modern industrial growth in India. It was proposed that the method of teaching industrial and commercial education shall be to an extent distinct from technical education. The former shall be imparted through apprenticeship undertaken either by government or private firms in commercial sense and would require to learn sufficient english for two hours apart from the vernacular language so as to understand the instructions given in the drawings of designs and the rest of the time would be devoted to learning handicrafts (Calcutta University Commission, 1919). It classified the industrial education into two classes of learning; the former would utilise the handicraft knowledge along with a sufficient amount of English as an education imparted to the boys whereas, the latter would learn the technical knowledge which may not require an expertise in handicrafts but possessing a good wide working knowledge of general engineering who would be called as technical men (Calcutta University Commission, 1919). The latter was considered superior to the former as it was to be acquired till the age of 14 years through teaching of General Science, Mathematics and Drawing, and if found suitable in aptitude during later years, learned pupils could be integrated within the department as assistants (Calcutta University Commission, 1919). The aim was to create highly skilled technicians from the lowest of craftsmen, however, the integration was not designed for the former apprenticeship. To encourage such aspirations, they proposed to offer special foreign scholarships to mature youth to acquire the final polish and keep the practical training aspect initially for the middle-class youth to produce principal necessities of life by teaching them at school and college. The *Journal of Indian Industries and Labour* in 1922 stated that non-literary forms of technical and industrial education would consist of civil engineering, surveying, chemical engineering, mining, weaving, commercial, and art. After engineering, weaving was considered essential because the British were aware of the superior quality that Indian cotton offered through its domestic spinning wheel and handloom, compared to those manufactured in Lancashire during the middle of the eighteenth century, making the Manchester and Blackburn weavers import the Indian yarns in large quantities for their use in factories (Extracts from Papers Relating to Technical Education in

India 1886–1904). Besides British industrial experiments in colonial India, the Indian industrial activists from the 1870s onwards began to view public commitment to crafts in India as a larger concern of industrial strength and a key component in modern nation-building (McGowan, 2009). These views were disseminated through journals like the *Buddhi Prakash* suggesting several ways the Government could aid in offering more technical education and create employment for the poor as assistance which was vital since Indians "still do not have enough strength to improve on our Labouring Class" (The Journal of Indian Industries and Labour, 1921).

Transition to Industrial Schools

Western India became the initial observatory of the institutional effort to modernise labour skills. The Bombay School of Industry, was founded by the private initiative of Dr. George Buist in the early 1850s to promote the spread of mechanical improvements, and extension and improvement of mechanical skills, throughout India (McGowan, 2009). In terms of instruction, most industrial schools offered a mixture of classroom and workshop training, emphasising the latter to provide hands-on, practical instruction and to keep boys in manual rather than clerical trades (Report of First Industrial Conference, 1905). The motive of the industrial schools was to educate the workers to improve their working capacity. John Wallace argued that one may acquire knowledge of Science through reading and writing but one cannot learn a technique without its application, so any illiterate man also learns a technique by becoming an expert through habitual practice of it, which no reading or writing can teach. However, the technical schools and industrial schools remained literally in nature. One of the drawbacks of the educational department under British India was that it intended to improve the technique of the people through literary channels of scientific training imparted by scientific men who may not have the technical knowledge that a foreman may have, they were not trained teachers but knew how work had to be executed (Report of the Industrial Commission, 1904).

Wallace opposed the belief that these trained teachers of scientific and technical schools may not consider that sound training in handicrafts can be given to a man who may not be able to read and write but technical education in India has to have a specific objective, which is to improve the efficiency of native craftsmen so that he can work better and get a better return for his labour (Report of the Industrial Commission, 1904). He suggested that it would then require to become aware of the defects of the craftsman, the knowledge required for his needs that can be assimilated enough within resource and time at the disposal of the instruction to teach how to use the tools efficiently, and

making him realise what he can do himself if he produces it on a machine of precision. Wallace criticised the literary nature of the industrial educational institution because most of the superintendents of the weaving schools lacked the technical knowledge of weaving, therefore, they were entirely dependent on the head *mistris* as most of the teachers of these weaving schools did not belong to the weaving castes and were deficient in practical weaving (Rai, 2015). The literary nature of the industrial school was persistent because it had a considerable proportion of the students from non-weaving castes, especially the 'middle class' who required elementary instruction in weaving the coarse cloth (Rai, 2015).

Also, institutional pedagogy largely failed to encourage industrial habits and commercial enterprise among the students of the weaving class. These industrial institutes were largely successful in attracting the non-weaver class but did not meet the demand for technical education across the country, they rather focused more on the improvement of the handloom industry but weaving castes were not adequately accommodated in these institutes. It was apprehended by reformers such as T. K. Gajjar, founder of the *Kala Bhavan* in Baroda noted that "to rescue our small industries and make them with the help of modern science a source of prosperity to our country". It created a complex, and dynamic relation between the human capital and new technologies which essentially required skilled workers for its implementation. Apart from Western India, Northern India observed the active role of the missionaries like the Salvation Army that established weaving school in Ludhiana (McGowan, 2009) and sericulture school in Shimla (Sharma, 1987). It was suggested that industrial schools would endeavour to train instructors who would subsequently be employed in promoting improved methods and appliances to artisan working in their own houses or in small workshops (Badenoch, 1917). However, the pedagogical programme of such schools was to systematise the traditional knowledge system (Raina and Habib, 2004) while retaining its traditional structure through employing teachers of the craft *bazar mistri* to teach children as young as five or six years of age. No fee was charged for such instruction, especially from the sons of artisans but others were charged minimally because it was supposed to be the lowest rung of the technical education ladder.

The Report on Industrial Education in 1911 laid emphasis on not admitting pupils below 10 years of age and those who have completed primary-level general education. The modern apprentice system envisaged under the British in India was founded on a rather general belief, especially among their technical officials, that Indians cherished theoretical and formal knowledge over practically

targeted knowledge (Pfister, 2012) but it was mostly true for middle and elite classes. The Report on Punjab Schools (1903) observed that there were numerous artisans in Delhi, Amritsar and Ludhiana but number of them sending their sons to industrial schools was insignificant whereas, higher castes in poor circumstances fairly attended the same. The education department was concerned with preparing the curriculum of the industrial school that was intended to provide general education with manual work so as to assure the artisan families that it would not withdraw their children from their hereditary occupation yet one of the schools in Kalabagh had only 6 sons of tailors out of 60 boys (The Report on Progress of Education of Punjab, 1916–17). Abdul Latifi while commenting on Punjab industries stated that most important remedy for the dearth of unskilled labour is to spread industrial education along with general education by introducing manual training in curriculum till primary schools, and the framework of the technical and industrial schools was formulated under the Report on Industrial Education in 1911 that proposed to impart primary education to children especially those from artisan class. Up to the age of 12, they would be prepared for industrial calling, work of trade or industry through manual training which can continue till 14 years of age or till elementary education (Latif, 1911). But it was in 1915 that the Standing Committee on Industrial and Technical Education proposed to establish higher and middle industrial schools. The committee shared their doubts on whether literary subjects can be taught along with the workshop or craft school in the country because it was believed that much of general education may drift the artisan classes away from the school, and put the workshops under an expert industrial instructor for the demonstration of improved tools and methods (Badenoch, 1917). This definite demarcation between general education and practical education was unique to industrial schools as opposed to technical schools but both were kept strictly limited to scientific or technical courses while ensuring that students have properly acquired general education before entering industrial schools.

The report on the Industrial School Committee (1935), advised relatively similar to what was propounded in the Report on Industrial Education in 1911 and reiterated by the Calcutta University Commission report, (1917–19), impart two distinct natures of education, one for the artisan class and the other to those middle-class young men who possessed a certain amount of general education. The primary purpose of such distinctive education especially for the latter was to ascertain their aptitude and bias towards industrial careers. Gradually, the spread of scientific knowledge became the basis of industrial schools for state agencies

to realise that scientific and technical education is preconditioned for industrial growth (Raina and Habib, 2004).

However, Punjab observed a rather distinct character of industrial school programme which was envisaged as comparatively simpler one, initially there was no reliance on new and improved methods or production of more technical skilled artisan, its main intention was to get artisan children into school, and course can be modified according to the suitability of their circumstance (Badenoch. 1917). However, in due course of time, the Report of the Committee on Industrial Education in the Punjab, 1911–12 observed the persistent demand for teaching new and improved methods, and appliances of industries led to the need to construct adequate arrangements for efficient instruction in crafts.

The colonial agenda which elaborated and constructed the education system by assimilating technology at the local levels, gradually manifested the scientific and technical education through localised encounters with the new knowledge, and existing ways of knowing and acting in surroundings (Gunergun and Raina, 2011). But some of the experiments through industrial schools as well as cooperatives in Punjab were not successful due to reasons cited by Abdul Latifi; (i) the aim of the trade workshop was to make profit and training of apprentice became secondary, (ii) pupils did not receive any sale value for their work, and (iii) the industrial schools controlled by local bodies did not appear to give artisan any better training than obtained in their father's cottages, (iv) excessive division of labor provided no stimulus for pupils to produce good work, they were now not concerned with the production of whole article which thwarted their development of independent capacity to produce whole article by himself, (v) headmasters had no industrial training, they were more suitable for literary subjects, (vi) pupil good in handiwork may be kept back due to lack of reading skills because general education was prerequisite to industrial instruction, (vii) lack of efficient teachers and method to supervise, and impart practical training to pupils and, (viii) too much time was devoted to model drawing left pupils disinterested.

The Government investment in industry was also not directly supported and those that were made were directed towards infrastructural investments, advanced for short-term revenue, rather than long-term developmental purposes (Inkster, 1991). Apart from the Wood's Despatch (1854), the Hunter Commission and the Hartog Committee also remarked on similar needs along with the Sargent Commission that suggested the introduction of two forms of education—academic and technical. But the deficit amount of investments

reflected the lack of consideration by the British to observe whether the capital and skill intensities, scale of production and the environmental requisites of technologies might or might not be appropriate or adaptable to the economic environment of the receiver nation (Inskter, 1991).

Issues related to Vocational Education in Independent India

Within the context of the Indian agrarian economy in independent India, education and especially vocational education, was viewed as the solution to the educational and employment problems in the developing economies. However, Blaug (1973) argued that vocationalisation may not be a remedy for educated unemployment which is arising out of general consensus for certain academic streams to receive higher wages than vocational streams, and the supply creates its own demand may not always work. The National Education Policy 2020 observes that 12th Five Year Plan (2012–2017) estimated only minute percentage of the Indian workforce in the age group of 19–24 (less than 5 per cent) received formal vocational education whereas, in countries such as the USA the number is 52 per cent, in Germany 75 per cent, and South Korea it is as high as 96 per cent (National Education Policy, 2020). The scantiness of the vocational opportunities is an outcome of the relegation of vocational education (VE) which the Government of India also observes as being rated lower than pre-professional and general education despite its favourability as a concept among economic planners, in the scale of prevalent values. It is further feared that if the process of branching off is determined by relative academic merit of students, with those with lower order of attainment being sent to the vocational stream, the dichotomy between knowledge and skill, representing higher and lower order of activities, will be perpetuated (Government of India, 1985) Apart from considering it among not so propitious profession, Tilak (1987) raises other concern related to VE programmes such as—they are costly and the meagre, dwindling educational budgets in several developing countries do not allow provision of sufficient resources for VE, and after all, poor and inadequate investments cannot produce higher returns. Lesser investments and more optimism for the labour market would not generate employment opportunities on its own.

Way Forward: Decolonising the Vocational Education under NEP 2020

After independence, the model of growth and development was adopted by the first National Policy on Education (NEP) in 1968 which laid emphasis on maintaining the balance between the output of educational institutions, and employment opportunities through imparting education related to agriculture,

technical and industrial fields of knowledge. But later with the NEP in 1986 the focus shifted to ensuring proper coordination and management of VE at post-primary, post-secondary and post-higher secondary stages. At the Primary stage of education from Grade I to V an element of Socially Useful Productive Work (SUPW) and Work Experience (WE) was formulated as an integral part of the school learning. After the implementation of NEP 1986, the world as a whole, and India in particular, adopted the remarkable shift in the economic order towards a neo-liberal era of free market, a gradual attention began to emerge towards realising the significance of vocational skill, and training in the country to cater to the growing demands of the global economy and world order.

Despite the growth of the market, National Educational Policy 2020 raises the prolonged concern that continuing meagre levels of formal VE in India is undermining the potential of our workforce to obtain the desired skills and knowledge of the twenty-first century. The policy also remains cautious of the associated relegation of VE as inferior to mainstream education, and proposes to encourage the integration of vocational knowledge into mainstream school education at early ages in middle and secondary school, so that quality vocational education can be integrated smoothly into higher education. The policy is implying that the current purpose of imparting VE is an attempt towards decolonising VE by ensuring that every child learns at least one vocation and is exposed to several more which can restore the dignity of labour, and the importance of various indigenous skills and knowledge, developing vocational capacities with the development of 'academic', and other capacities by introducing vocational learning in all secondary schools.

The essential aspect of VE which NEP 2020 has exclusively put forth is to recognise the prior vocational learning, ascertaining it through The National Skills Qualifications Framework would ensure the reintegration of the dropout pupils into the education system and aligning it with their practical experience. Apart from its inclusivity at policy level, it is also argued that vocational training can be imparted through employment basis, so that the skills needed can be inculcated into trainees for process to be more efficient, it may not be provided within the formal schooling yet can hold similar value through adopting suggestions such as: (i) preparing the economy to provide an adequate allocation for vocational education, (ii) vocational school teachers ought to be well-trained teachers as well as have industrial experience, (iii) the equipment of the vocational schools should be well updated and advanced, (iv) it would require the establishment of a connection between vocational education and higher education, and whether vocational education is

provided within the formal system of education or on-the-job, it needs to be planned carefully (Tilak, 1988).

Conclusion

The colonial endeavour and experiments through industrial education instituted the foundation of vocational education in India, however, their intention was limited to the extent of exercising their modern rational authority to transform domestic skills and techniques into a modern mechanical workforce. The NEP 1968 also focused on bridging the gap between employment opportunities and education which was later reiterated by NEP 1986 proposing that work experience can allow the dropouts at post-primary and post-secondary to choose an occupation by the increasingly large number of school-leavers. However, the idea of the dignity of labour and negation of the social hierarchy of work is primarily put forth by the NEP in 2020 which intends to move beyond the inclusion of mere work experience towards integrating Wit with other academic disciplines of knowledge. It essentially begins to decolonise the mind, work, and knowledge through realising the potential of Indian arts and artisanship of the 5th largest emerging economy in the world.

References

Badenoch, A. C. 1917. *Punjab Industries. 1911–1917.* India: Superintendent, Government Printing, Punjab.

Blaug, M. 1973. *Education and the Employment Problem in Developing Countries.* International Labor Office, Geneva.

Günergun, F. and D. Raina. 2011. *Science Between Europe and Asia: Historical Studies on the Transmission Adoption and Adaptation of Knowledge.* Springer Verlag, New York.

Foucault, M., D. James and Robert Hurley. 2002. *The Essential Works of Michel Foucault 1954–1984.* Power. Penguin Books, London.

Government of India. 1985. *Challenge of Education. A Policy Perspective.* New Delhi.

Pfister, G. 2012. Swiss-Style Apprenticeship in an Indian Context. *Economic and Political Weekly.* 47. (26/27). 27–32.

Inkster, I. 1991. Science, Technology and Imperialism. *Science and Technology in History. Themes in Comparative History.* Palgrave, London.

Latifi, A. 1911. *The Industrial Punjab: A Survey of Facts, Conditions and Possibilities.* Punjab Green and Co, Longmans.

McGowan, A. 2009. *Crafting the Nation in Colonial India.* 1st ed. Palgrave Macmillan, New York.

Mead, G. 1909. Industrial Training. In the Elementary School Teacher. University of Chicago: Chicago.

Rai, S. K. 2015. Ways to Modernisation and Adaptation: The State, Weaving Training Schools and Handloom Weavers in Early Twentieth Century United Provinces, India. *Indian Historical Review*. 42(2). 261–287.

Raina, D. and I. Habib. 2004. *Domesticating Modern Science: A Social History of Science and Culture in Colonial India*. Tulika Books, Delhi.

Roy, Tirthankar. 2007. Out of Tradition: Master Artisans and Economic Change in Colonial India. *The Journal of Asian Studies*. 66(4). 963–91.

Sadler, M. E. 1919. *Calcutta University Commission, 1917–19; Report: With Evidence*. Superintendent Government Printing, India.

Sharma, S. Chander. 1987. *Punjab, The Crucial Decade.* Nirmal Publishers and Distributors. Punjab.

Extracts from Papers Relating to Technical Education in India. 1886–1904. Superintendent Government Printing, 1906. Calcutta.

Holland, T. H. 1918. *Indian Industrial Commission, 1916–1918: Report*. Superintendent Government (Print). India.

Government of India. 1968. *National Policy on Education 1968*. Ministry of Human Resource Development (MHRD).

———. 1986. *National Policy on Education 1986*.

———. 2020. *National Education Policy 2020*.

Report. 1921. *Journal of Indian Industries and Labour*. Part I. Superintendent, Government (Print), Calcutta:.

Tilak, J.B.G. 1987. *Economics of Vocationalization: A Review of Evidence.* National Institute of Educational Planning and Administration, New Delhi.

The Despatch of 1854 on General Education in India. 1880. General Council on Education in India., United Kingdom.

The Report on the Industrial School Committee 1935. Allahabad Superintendent Print and Stationary.

The Report on First Industrial Conferece. 1905. The Indian Press, Allahabad.

The Report on Progress of Education of Punjab. 1916–17. Government Press, Punjab.

The Report on Indian Industrial Commission. 1916–1918. Superintendent Government Print.