EMERGING TRENDS IN TVET CURRICULUM DEVELOPMENT WITH FOCUS ON RURAL DEVELOPMENT

Dr. T. N. MAULIK

Abstract :

In a formal sector of Education, TVET curriculum development mostly concentrates on the 'content' in a fixed time frame at a given place. On the other hand, in an informal sector, with not-so-stringent time constraint, the process is mainly concerned with the needs of the target groups and corresponding abilities of the education providers. So far, many tools have been developed for the above identification through Techno-Socio-Economic Survey and Planning. But since the success rate of such effort is still rather low, modification of the tools remains an open area of research and debate. In this paper, a few emerging and measurable parameters and factors, which may help in planning and development of curriculum in an informal sector, in general, and rural sector, in particular, are discussed and these are (i) HDI (ii) Quality, Marketability and Distribution (iii) Information Explosion and Media (iv) Conflicting Environment (v) Wants of life (vi) Structuring Skills through Advanced Technology (vii) Global interaction and participation etc.

1. INTRODUCTION

UNDP 1994 Human Development report states "To address the growing challenge of human security a new development paradigm is needed that puts the people at the centre of development, regards economic growth as a means and not an end, protects life opportunities of future generations and respects the natural systems on which all life depends". The dream will come true only if the quality of life of the vast rural and economically backward masses can be improved. The question of lowering poverty level, satisfying the minimum basic needs, reducing unemployment and under employment, creating new productive jobs, developing income generation skill and purchasing power of the rural and backward people are the core issues that concern all.

Obviously, to achieve the target even partially, a programme of action is necessary. Certainly curriculum development activities in such a PoA take the central stage. But this development ac-

Principal, Technical Teachers' Training Institute Eastern Region, INDIA.

tivity is one of the most difficult tasks, particularly in a rural sector. In the following sequel, an attempt will be made to discuss some of those key issues in that perspective.

2. DEVELOPMENT OF CURRICULUM : A COMPLEX MOSAIC

The connotation of the Latin word "curriculum" (a course, race < curare, to run) has different dimension in different countries, in different languages, amongst different groups of people. While to English speaking people it generally means "a series of studies required for graduation", Russia, Germany, France use it in a little different manner, e.g.,

Soderzhanic obrazovaniya (content of education)

Lehr plan (lecture plan)

Programme scholaire (concept of syllabus)

etc.

Hundreds of paper have been written on the definition of curriculum so far (Lewy, A, 1991). Connelly (1972), illustrating differences, emphasizes this point by listing nine definitions of the term "curriculum" and indicates that they only constitute a sample of the many definitions of the term appearing in the educational literature. Goodlad (1979) defines it as schedule of work i.e., course of study and curriculum paraxelogy i.e., curriculum building activity. Leithwood (1981), on the other hand, states "Curricula refer to instructionally related educational philosophy, values, objectives, organizational structure, materials, teaching strategies, student experiences, assessment and learning outcomes.

Again, Zais (1976) makes a distinction between curriculum design or construction from curriculum development. Following Tyler (1991), a few basic questions may be raised such as :

- What should the students/trainees be helped to learn,
- What learning experiences can be provided to enable the students/ trainee to learn,
- How can these learning experiences be organized to maximize their cumulative effect,
- How and through what mode the curriculum be continuously monitored, evaluated and upgraded,
- What will be the state of output after going through the curriculum and how can it be optimized with respect to the set of objectives,
- Who are the authorities for developing a curricula etc. ?

The legal responsibility of the last question, stated above, lies with the policy makers of Education for any Government of a Nation. Normally, the process includes the choices of :

- Standing Committee
- Expert Committee
- Advisory Committee etc.,

constituted normally by the government, and they would see the development of curriculum from the angle of any one of the following groups :

(i) Epistemological (iv) Ethical
(ii) Ideological (v) Political
(iii) Aesthetical (vi) Historical,

(Beyer, 1991)

or

(i) Cognitive
(ii) Affective
(iii) Psychomotor

or

(i) Knowledge, skill and affect
(ii) Knowing that and
(iv) Being able to, [Bloom, 1956],

and the entire issue becomes a SEA of problems.

To add more complications, in this age of Liberalisation (i.e., more fierce competition), Globalisation (i.e., more Darwinian selection process of the survival of the fittest), the process of curriculum development is no longer exactly at the hands of a single nation any more. This is precisely true for Education, in general , and more specifically for Technical, Vocational, Educational and Training Curriculum.

FORMAL AND INFORMAL SECTORS

Even then, designing, developing and processing of curriculum in a formal sector of education, which works under a fixed time and syllabus frame is still much more easy than in an informal sector, because in a formal sector, one may concentrate more on the contents of the syllabus rather than student/trainee or teacher/trainer profiles. By this, it is meant that if the "content" is good and there is a "demand" for it in the market (agreeably these are more pertinent for developed rather than developing countries), then the students/trainees i.e.., clients will be automatically drawn to those curricula, and Education providers can then select both students/trainees and teachers/trainers through well conceived screening process and expert committees. On the other hand, in an informal sector, profile of the clients and providers are of primary concern rather than the contents which are definitely dependent on the first two choices.

In formal sector, to provide for equity in education, for all sectors irrespective not only of caste, and religion and economic base but also of different learning styles and level of competencies, the current trend of curriculum of today has a general shift from :

- Syllabus bound frame to flexi-study
- Single point to multi-point entry system
- Teacher centred to student centred learning
- Expository to enquiry and experiential learning
- Cognitive to competency based learning
- Single medium to multi-media system of instruction
- Non referenced to criteria referenced evaluation system
- Conventional distance mode to satellite based mode.

While also in the informal sectors, depending on the facilities available, many of these trends can be incorporated in the curriculum, there are inherent problems in the rural sector (especially in developing countries like Indian sub-continent) viz.,

- Caste divide
- Religions dogma and taboo
- Cultural barrier

- Community conflicts
- Low level of scientific and technological consciousness
- Feudal remnants and vested interests.

All the above factors influence a kind of conservatism, in the rural sector, which fight any attempt for change and result in maintaining a status-quo. On the other hand, curriculum as a vehicle of change tries to weaken the status-quo interest of different sectors which, in turn, normally fight back to impede the change most of the time, though myopically. The Community Polytechnic Scheme was conceived in view of the uneven development that occurred between the urban and rural sector.

4. CHARACTERISTICS OF FORMAL AND INFORMAL SECTORS

There are other relevant factors as detailed below which are pointers for focussing the basic difference in the approach to be adopted in any curriculum paraxelogy.

5. COMMUNITY POLYTECHNIC SCHEME : POSSIBILITIES IN A BOUNDLESS TERRITORY

In 1978, the Ministry of Human Resource Development (MHRD), Govt. of India introduced a Community Polytechnic Scheme specifying six major activity areas, viz.,

- Socio-economic survey & planning
- manpower development
- Transfer of technology
- Technical services
- Dissemination of information.

In the Curriculum development for technologies relevant to rural development and control, the following guidelines are also specified.

- Identification and definition of the significance or need development for the overall curriculum goal,
- Outlining the parameters and Benchmarking of the same,

CHARACTERISTICS	FORMAL	INFORMAL
Structure	Rigidly structure	Not structured
Duration	Time constraint	No time constraint
Curricula	Standardised/Prescribed	Task - Based
Certification	Required	Not always required
Venue	Institution based	On site - on the job
Target Audience	Organised	Not organised
Orientation	Primarily job analysis approach	Primarily need based approach
Process of development	Relatively rigid	More flexible

- Collection and Assessment of a community related data,
- Re-examination, Re-definition of the problem if needed,
- Determination of the 'potential' curriculum contents,
- Identification of the relevant constraints using previously collected data and determination of the 'usable' and actual contents,
- Specification of the learning outcomes,
- Development and updating of the goals and objectives,
- Preparation of the curriculum framework document with 90% skill and 10% knowledge component etc.

Strategies for implementation of the Community Polytechnic Scheme contain :

- Economic component : Core of implementation of any scheme
- Spatial component : Physical resources / infrastructure / resource person and the nature of the human settlement
- Social component : Community / District / State / National / Support, Institutional participation
- Administrative component : Available nature of the set up of the administration which will conceive, implement, monitor, evaluate and control the scheme including planning for logistics, identification, selection, procurement.

The growth of the CP system is quite impressive. Starting with only 35 in 1978, it has grown to 374 Community Polytechnics in the last 18 years. Some of these are running more than 20 extension centres. Corresponding figures in the Eastern Region of India are 1 and 71 only.

However, given need of the country, the system of CPs is still very much inadequate and many other programmes like TRYSEM, PMRY, JRY, IRDP, NREP etc., are running concurrently by the NGOs, Universities, Engineering, Colleges, Polytechnics, ITIs and JTS etc., as mentioned above. The basic idea is to make mostly unskilled rural youth, both men and women, to be more skilled so that they can take up self employment in broad fields of agriculture, technical and allied fields.

6. TAGORE AND HIS UNFULFILLED DREAMS

Much more before the activities mentioned above in this regard, Noble Laureate poet Rabindra Nath Tagore founded Vishva Bharati - a twin campus of Shantiniketan and Shriniketan with the moto "where the world makes it home in a single nest" in 1921. While at Shantiniketan, formal courses were offered, at Shriniketan major concern was for Rural Reconstruction. Shriniketan was formally inaugurated on 6th February, 1922 with Leanord Elemhirst as its first Director. Tagore based his mission on four principles :

- self interest
- self respect
- self reliance
- joy of work

A set of uncontestable principles !

Vishva Bharati is still inculcating the Tagore's idea of rural development through its Shriniketan based Institutions like Palli Sanghtan Bibhag (Institute Rural Reconstruction), Palli Shiksha Bhavana (Institute of Agriculture) with Rathindra Krishi Vigyan Kendra (Farm Science Centre).

The clear objectives of Tagore for helping the rural masses were :

- Creating an interest in people to participate in their own development.
- Helping the people to develop their own resources.
- Developing leaders from the community to guide the people in their developmental process.

However, most of Tagore's dreams did not come true. The widely different growth rate of Shantiniketan compared to Shriniketan is possibly a pointer. It is, indeed, a dichotomous situation as a result of which in India, where there are 80% villagers, such excellent set of objective did not find root.

The Community Polytechnic Scheme also suffers from similar maladies to a large extent. However, the neohomogenisation processes of information dissemination through different modes of mass media (including computers) has opened up enormous potential for the curriculum framers to change the much published transfer of technology in the rural base falls much below the expectation. Also, hygiene and health, education, use of alternative sources of energy, social forestry for ecological balance etc., are yet to take a firm root in villages. The moot calls may be attributed to the lack of emphasis on the four cardinal principles enunciated by Tagore.

7. EMERGING TRENDS IN DEVELOPING A CURRICULUM

Now what a curriculum does when a person / trainee goes through it. Basically it adds value to his/her individual performance. According to Ishikawa, individual performance depends upon four factors viz., Knowledge, Skill, Attitude and Environment. We have mentioned elsewhere (Maulik, 1995) that 'wants of life' of an individual, which may be thought of as a part of the attitude (but possibly more easily measurable) is also a very important factor, so far as the need survey of a community and particularly of a rural sector is concerned.

There are three approaches for development of curriculum in formal sector. Namely these are :

- Individual needs approach
- Subject specialisation approach
- Social demand and job analysis approach.

These conventional approaches which are applicable in organised sector would no longer suffice in rural setting due to its diverse socio-economic and cultural background. The traditional method of socio-economic survey and planning in formulating curriculum needs to be re-examined in the light of probable role shift in the rural develop-

ment. Instead of surveys as a means of formulating list of functional skill, a holistic approach comprising conceptualisation and creative searching method would have to be employed. However, there are other few emerging factors which demand our attention and these are discussed below very briefly.

8. HDI FACTOR

The longevity for health and hygiene, year of schooling for literacy, income per capita for the utility or welfare generating capacity could give a kind of measure which was not thought of in earlier days for developing a curricula given for a particular place and at a particular time. Tagore's idea of "self-interest" of rural people would be a more pertinent factor for conducting a need a survey study. Neuble's (1992 a,b) argument that the vocational education, on-the-job trainee and non-traditional modes of acquiring education should be reckoned as separate entities in HDI was not without merit. Thus, to develop a curriculum for a rural sector, measurable parameters like longevity, attainment, access to resources etc., need very much careful consideration for acceptability of the curricula.

9. QUALITY, MARKETABILITY AND DISTRIBUTION

In view of the overall awareness of the Quality in an activity - either in Training or in production or in any related activities - quality assurance becomes an essential ingredient. The word quality is no longer a subjective or a relative word but, in modern parlance, is a measurable quantity and depends on :

- Usefulness i.e., customer need and satisfaction
- Easy availability
- Low cost
- Durability
- Finishing i.e., good, attractive and having aesthetic appearance.

Besides, 'service' is also now reckoned as a 'product' with a clearer definition of client - vendor and their mutual relationship. Quality aspect determination has become a key word and curriculum activity cannot be exception. Marketability, on the other hand is an entity which depends on the market which changes very quickly with the change of technology. While for straight jacketed curriculum and with fixed time frame of a formal sector, any innovative change takes a much longer time, for an informal sector, this is the life force and a quick responsive change brings the reward hands down. But for any such change, quality in every aspect has to be totally ensured.

10. INFORMATION EXPLOSION AND MEDIA FACTOR

Much have been discussed regarding information explosion, access to information and transmission of information. The flow of information from one remote corner of the earth to other corner through overzealous and competitive media is at present almost immediate.

For example, to facilitate development and training in rural areas, the Indian Space Research Organisation is starting the Jhabua Development Communication Project in Jhabua District of Madhya Pradesh. The project is a fore-

runner to GRAM SAT - a satellite which will slowly cater to the needs of the rural population - and will broadcast programmes for rural development and education through 150 receiving terminals at districts and 12 talk back terminals. Help of INSAT - 2C will be directly used.

A strong media having capabilities and power of quick dissemination of information is another factor to be used effectively. An information that an innovative tiles called 'Vegetable tiles' which reduce the cost of housing construction have been developed at Cote d' Ivoire in Africa may trigger successful projects in remote villages of India or elsewhere in a no - loss - of - time at present.

11. WANTS OF LIFE FACTOR

This new trend lies in the identification of what is really wanted through development scheme like TVET curricula. At present it is only asking for 90% skill and 10% knowledge or formulation like that and targets for upgradation of an Individual's performance which depend, on his/her knowledge, skill, attitude, environment and also wants of life mentioned earlier. It is a fact that by lowering wants of life, one can fight the evil parts of market forces, which have otherwise many good values on one hand, and on the other can upgrade the quality of life. Wants of life also sharpens the difference in the concepts between Human Resource Development and Human Development (Maulik, 1995).

Again, roots of the component - 'wants of life' lie deeply in the principles of self respect, self reliance and joy of work conceived by Tagore. With the help of electronic media communication it is now possible to reach an individual for his/her personalised education, where an individual can learn at his/her own pace either for vocation, self employment or for life actualisation. The guiding force here is also again his/her 'wants of life'.

12. CONFLICTING ENVIRONMENT FACTOR

Environment which is no longer infinite entity is again a deep concern for any curriculum development work, particularly in rural sector. After the 1972 Stockholm Conference, a awareness for protecting the environment has dawned all over the world. This new concern has not only shaken a number basic assumption in development, planning and current modes of human living but also initiated various conflicting situation among the different social groups throughout the world. This new situation, in the context of environment, may be classified into three types emanated from three different hypotheses (Maulik, 1996).

In the first hypothesis, the development is directly equalised with productivity (GDP) and the natural resources are considered to be unlimited. Nature is taken for granted. This leads to conflicting situation. Arsenic contamination due to heavy and passionate use of ground water through deep tubewells for greater productivity, destruction of soil for rehabilitation of people, near - dead condition of rivers due to over use and waste dumping of toxic acid etc., may be cited as examples.

The second hypothesis associated

with the ideas that any increase in productivity is affected at the cost of environment. From this point of view the industrial boom formerly appreciated as Messiah of prosperity - is now seen as 'Terminator' and closures of the 'Killer' industries are done through court decrees bringing in worst suffering on the lives of thousands of industrial workers. In 1994, a study by the 'Hindu News Magazine divided the people onto three groups : Ecosystem People, Ecological Refugees and Biosphere people, and the last group exploit the natural resources for their own benefits without giving much attention for replenishment or restoration of resources. Thus, conflicts of interest between environmental protection and development programmes are inevitable.

The third hypothesis is the concept of sustainable development which through recycling of waste and resource recovery replenish and restore the nature. Thus, sustainable development through utilisation of natural resources for present necessities without hampering the need of the future is becoming a trend for all curriculum development processes, particularly at a rural setting.

13. STRUCTURING SKILL THROUGH ADVANCED TECHNOLOGY FACTOR

Through new curricula, the emerging technologies will have to be acquired, diffused, adopted and improved. For that, the following capabilities are required :

- Adoptive i.e., operative
- Adaptive i.e., technical
- Acquisitive i.e., tactical
- Innovative i.e., strategic.

As a matter of fact, in recent times one does not depend on the basic or instinctive skill only. By application of technology, skills of an individual can be structured in different grades. A person having an innovative vision but not with good drawing skills in earlier days could possibly never dream of becoming a city planner or an architect. But through the advent of CAD and various computer facilities, he/she may now become a celebrity in his/her chosen profession. TVET curricula now demands such identification and innovation, particularly in the matter of identifying skills. Rural setting cannot be a deterrent factor; rather it seems that the task is more challenging.

14. GLOBAL INTERACTION AND PARTICIPATION FACTOR

The other healthy emerging trend in the development of curriculum is the participation of people all over the world, cutting across the national and political barriers, in the context of liberalisation and globalisation for common causes of upgrading the quality of life of common people, who are at the heart of all activities.

Scientific data are piling up for global climatic change for a more warmer state. Whether the affluent North or the development South has been responsible of, who pays for a cooler future, could be a matter of high debate and deliberation, but the observation of N. Sundararam, Secretary of the IPCC, "one cannot look upon climate change as a purely research issue. Nor can one look it at as a purely public policy issue. Ev-

ery nation has a major stake in climate change, even as a matter of survival, as in the care of small islands nations.

Hence public policy and scientific endeavor in collecting, analysing and sharing the data must go hand in hand continuously" [Kalshiani - 1996]. The same is true for changes and development of curricula activities at present for any nation.

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