

Productive Work as Pedagogical Tool in School Education

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ABSTRACT

In the era of globalization, the educational needs are changing world wide. With special reference to developing countries, objectives and aim of education are more toward self-sustenance, happy and healthy living in safe and pollution-free environment. At the same time, it is without a doubt that materialism and technological advancements at some instances cause youth to be competitive among themselves which inevitably causes stress among school students. This is due to education system, curriculum load and competition for achieving excellence. With this view in mind, the National Council of Educational Research & Training (NCERT), New Delhi, an apex body for school education in the country, has suggested revolutionary changes in education as suggested in the it's the National Curriculum Framework (2005). Amongst them, one of the important changes suggested is the integration of work with academic subjects. Work-based education as pedagogical medium in school education is based on Gandhian philosophy. Designating Work Centered Education (WCE) to this concept, it is considered that integration of work in school curriculum, replace rote learning, develop generic competencies and develop values, respect for manual work and workers besides physical development of children. This paper deals with the concept of Work Centered Education (WCE), its operationalisation and its advantages in making school education children centered.

Keywords: Pedagogical tool, work centered education, school education

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INTRODUCTION

In education, 'learning-by-doing' is an established fact. In India, this concept was advocated by Mahatma Gandhi in his scheme 'Basic Education'. According to Gandhi, education should be integrated with work, which should actually be associated with

productive work. Every work or vocation is ingrained with certain scientific principles, social usefulness, ethics, personal, social and national values. Keeping this in mind, work is assigned as the central fundamental key position in school curriculum. Around the said concept, knowledge and concepts of science, mathematics, linguistics, management are inter-twined giving rise to the concept of work-centered education.

Mahatma Gandhi (1937) while addressing teachers in Wardha conference placed this powerful dimension of education by saying,

“The brain must be educated through the hand Those who do not train their hands, who go through the ordinary rut of education, lack music in their life”.

All their faculties are not trained. Mere book knowledge does not interest the child so as to hold his attention fully.

As an extrapolation of the above, productive work is considered an exclusive pedagogical tool for joyful learning and an easy way of understanding difficult concepts besides value development. National Council of Educational Research and Training (NCERT) India’s apex organization for school education has proposed to use this concept in school education system in the National Curriculum Framework 2005.

Work and Education i.e. integration of work in teaching-learning process leads to the Institutionalization of Work Centered Education (WCE) concept. This concept

assigns central place to ‘work’ which entails understanding of scientific and mathematical concepts, geographical, social and environmental issues and development of generic competencies. WCE provides opportunities to students to undertake productive work which not only unfold their potential, creativity and innovation but also show the gate of ‘world of work’ that exist around them.

In the last five to six decades in education, as in all walks of life, we have moved from cooperation to competition as a model for living. Despite several attempts at humanizing education, it is pushing children in a culture of ruthless competition through means fair or foul, through cramming or cheating, private tuitions and through influence. Violence and hostility are the hallmarks of day today living. Peace, harmony, contentment and sharing are little used words or values. Dignity of labour, hard work, punctuality and honesty are causalities. To some extent these ailments of the society may be handled by the integration of work in education, which creates scope to ensure that from toddlers to teenagers, our youngsters are well equipped to handle life as it exists today and give them space for forging a desired future.

PRACTICES IN RELATION TO WORK CENTERED EDUCATION

Case 1 & 2: WCE concept used by State Boards of Madhya Pradesh and Gujarat

In India the ‘Work Centered Education (WCE)’ concept has been used in the past by Govt. State Boards in formal system

viz., Gujarat State Board of Secondary Examination in Buniyadi Shallas during 1960's, Madhya Pradesh more than 1000 schools of 14 districts were covered under Hoshangabad Science Teaching Programme (HSTP) with the involvement of government system of the state from 1972 to 2000. In non-formal system, many Non-Government Organizations (NGOs), are still using work-based education programme in schools run by them specially to cater to the needs of the people of their respective localities.

Case 3: Adharshila Learning Centre

The children of the Adharshila School at Village Saakad, near Sendhwa, District Badwani, Madhya Pradesh, learn from being actively engaged in community life (cooking, cleaning, campus maintenance, etc.) at the school and, interacting with the village people. The children prepared a 'Book of Famine' (*Akaal ki Kitaab*) named 'Rookhi-Sookhi' in the year of famine in the area by interviewing village elders and recording the local history of famine. This enabled the children to bring out the local scientific knowledge relating to crops, water sources, flora and fauna and environment (NFG, 2007 – Position Paper on Work and Education). The school won first prize in the state in National Children Science Congress on Science project for understanding malnutrition. Children study mathematics by taking real measurements of length, area, volume, accounts, etc. during productive work undertaken by them.

Case 4 :Walmikinagar

Walmikinagar (in Patan Taluka, District Satara, Maharashtra, India) is a cluster of 10 to 12 hamlets at the top of the plateau in remote Sahyadri Hills. In 1997, it was planned to establish a school from Classes V to X. The people from the surrounding villages viz. Udhawane, Karale, Tamine, Paneri, Ruvale and others organised a meeting at a hill top. The women passed a resolution to start a school with people's support. The local farmers and shepherds (including women) became its 'Honorable Teachers'. As a non-literate farmer entered the school, the first time, everyone mocked at him saying, "What can this person teach us when he does not know how to write or read even his own name?" Later, he was introduced as a person who can draw parallel lines along the length of a one hectare plot with the help of his bullocks. The farmer began by talking about the bullock cart parts and their functions and then moved on to seasons, vegetation and soils. He taught 150 new words regarding farming and bullock cart and referred to 14 principles of physics. Each principle was accompanied by a practical demonstration. At the end of the session, the teachers agreed that now they understood real physics.

Case 5: Vigyan Ashram

Institutionalization of concept of WCE in school system is well undertaken by Vigyan Ashram, Pabal, Pune, Maharashtra since 1969. There is a programme of education 'Introduction to Basic Technology', under

this various productive works are used in the curricula of 8th, 9th and 10th standards. Teaching of science, mathematics, geography and environmental sciences is being undertaken in different classes using different productive work/ activities as pedagogical medium. This programme is designed as pre-vocational programme implemented by Maharashtra State Government. This programme is running in 92 schools in Maharashtra and 5 schools in Karnataka states in collaboration with Vigyan Ashram. Few productive works undertaken class-wise are mentioned below:

- i. 8th Standard – Water testing, welding and making a sitting stool of iron, making wooden shoes stand, domestic wiring, and plant grafting, seed processing, animal care, etc. in agriculture
- ii. 9th Standard – Water conservation (contour mapping to locate water shed area), Ferro-cement work – making soak pit for sanitation and safety tank for toilet wastes, use of biogas plant, Blood group and hemoglobin testing, and in agriculture use of drip and sprinkler irrigation implements, animal care and production (one day old chick to adult selling size), etc.
- iii. 10th Standard – Repair and maintenance of electrical motors, Domestic wiring, Repair and maintenance of domestic appliances, Pest control, Handicapped people – care; innovative design of toilets and clutches.

Case 6: Shishuvan

As part of the Khadi (it is a type of cloth prepared by hand weaving using *Charkha*, a device used for spinning and weaving) curriculum, students at Shishuvan, Mumbai learn how to use the *takli* to make thread, in standard IV. They gradually learn *charkha* operation by standard VII. Those who become proficient, start working on the loom by standard IX. Others who were not so proficient, move from the *charkha* to paper recycling. They recycle all the newspapers and waste papers in the school by shredding it and making into hand-made paper which is used for invitations to the school's annual day and other events. Some of the paper is used to make paper handbags for giving to visitors, guests or/and seminar speakers. The vision driving this is to inculcate a love of working with the hands to produce something of value. When children make something on their own, they feel a sense of creation and of having contributed to the school.

WORK CENTERED EDUCATION (WCE): THE CONCEPT

'Education' in a very simple meaning, is the 'understanding of life, materials and livelihood'. In furtherance to this understanding, it may be mentioned that various subjects i.e. science, social science, languages, mathematics, geography, etc. are actually interwoven, and be taught in an integrated way around some concrete experience that a child has, and not in isolation or as abstract thing. Looked in this way, one can develop all this in relation

to our day-to-day life. In this approach the 'work' occupies central position, as every productive work has elements of science, maths, language, social aspects, geographical dimensions, etc.

In India, the education policy envisioned to introduce work in all the stages of school education. Right from primary stage to upper primary stage as Socially Useful Productive Work (SUPW)/ Work Experience, at secondary level pre-vocational education and separate vocational stream at senior secondary stage of education. In relation to 'work experience' at primary stage, National Policy on Education (NPE) 1986 of Govt. of India states "one of the aims of education at this stage should be to develop awareness in the child about the world of work through participation in productive work. The development of desirable attitudes, values and habits to work, such as appreciation of manual work and regard for manual workers, cooperativeness and team work, regularity, punctuality, discipline, honesty, creativity, persistence, etc. can be achieved through well organised, self-expressive service and production oriented activities".

For upper primary stage, the NPE (1986) mentioned that "at this stage children are sufficiently mature to carry out strenuous work with higher skills which may require closer coordination of hand and brain'. They should be encouraged to participate more intensively in production processes by undertaking well-designated projects in selected areas of human need which will mark the beginning of pre-vocational orientation to the work experience programme. The children should also be

able to relate their knowledge of facts and the scientific principles involved in various types of work".

Accordingly, systemic reforms to institutionalize 'Work Centered Education' remain the urgent need for today's scenario of technology in every walk of life. With special mention of science teaching, difficult concepts can be understood by children while undertaking some kind of productive work. Activities or experiments may not and can not take the place of productive work due to limited scope for comprehension, understanding and application. On contrary to this, productive work can enable children to comprehend the scientific concepts and their applicability.

An attempt has been made to explain the concept of WCE by using 'Nursery Raising' as example of productive work in Fig.1.

INSTITUTIONALIZATION OF WCE: A PERSPECTIVE

These days common problem of students is that of rote learning. In the context of science teaching and understanding of difficult concepts, children need special provisions for experimentation/ demonstration, otherwise children tend to memorize principles and formulae without comprehending their meaning and hence have difficulty in interpreting them and applying them in practical situations. By undertaking productive work, wherein related scientific principles are applied in our day to day life, it will be easier for children to understand scientific principles and their applications.

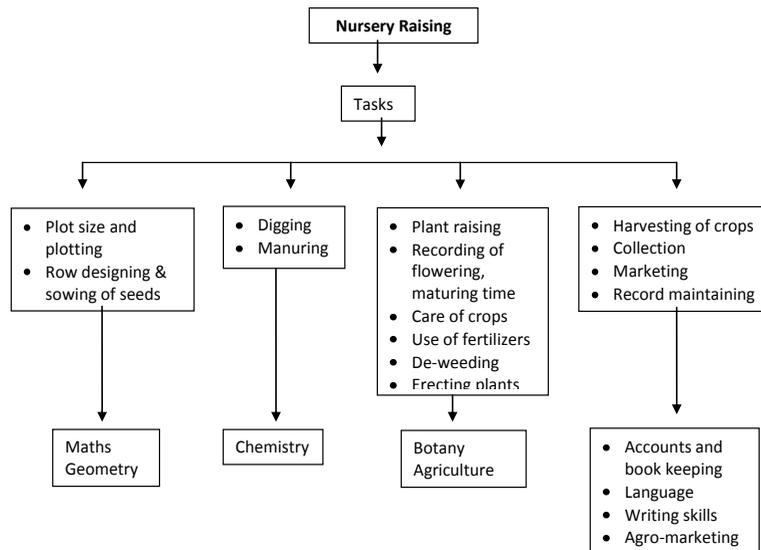


Fig.1: Example of Nursery Raising

Thus, the institutionalization of WCE in school system will:

- replace rote learning by experiential learning
- make learning an enjoyable learning experience
- provide opportunity for enhancing creativity and innovation
- facilitate employment
- help in inculcating values and work ethics
- replace prescriptive learning
- develop in children respect for manual workers
- developing generic competencies

Normally children who come out of schools will have to make choices and select vocational courses or different occupations, once they choose to enter the world of work.

In such cases, these children have a great difficulty in making any selection regarding the trades to choose or profession to join. Some exposure to different productive works at an early stage during their schooling will give them some idea of various trades and occupations, and help them in making choices based on their interest, experience and exposure. Thus, institutionalization of WCE includes, forming the base for occupational choice, and the bedrock for Vocational Education and Training (VET).

Teaching beyond Classroom: Work Benches

Teaching of different subjects includes teaching science especially at lower stages of education need special teaching methodology. 'Work' as pedagogical tool helps in the construction of knowledge and use of education in day-to-day life. Productive work is actually teaching-

learning in ‘beyond classroom situation’. This situation may be workshop located in school or real job situation as **work benches**. The school would have to be duly empowered to carve out ‘**work benches**’ in the neighborhood, where the students could get to learn through work at the real job/ vocation related shop/ workshop/ agriculture farm/ dairy or poultry or fish farm as the case may be. Thus, using this methodology for demonstration and teaching will be beneficial in: (a) less or no capital investment in the school; (b) exposure to work situation enabling dealing with day to day problems, latest technology and trade tips; and (c) making learning contextual, and (d) acquiring practical knowledge and skills.

Examples of productive work

The productive work may be chosen on the basis of stage of education and age of children. Following productive works are suggested which may be chosen for different classes:

Group I

Food Processing – Processing of Vegetables and Fruits, Bakery

Group II

Agriculture – Horticulture, Crop Production, Nursery Raising, Agricultural and animal farm practices – dairy, poultry, fisheries, etc.

Group III

Technology – Repair and Maintenance of Domestic Appliances, Metal Sheet Work,

Carpentry, Furniture Making and Designing, Electrical Fittings, Renewable Energy Sources (Solar and Wind Energy)

Group IV

Arts and Crafts/ others – Clay Work, Making of Toys, Painting, Traditional Crafts, Photography, Videography, etc. and Care of old aged people

Change in Time-table

Work Centered Education will not run in the boundaries of rigid time table. The work undertaken will have to be completed in the stipulated time ensuring skill development in children and desired learning outcome in consonance of contents/ concepts of different subjects . Time table may be prepared on weekly basis and group teaching methodology may be beneficial and result oriented.

Group Teaching

Teaching in ‘beyond class room’ situation undertaken at the workshop will require science, maths, language, geography, social science teaching by subject teachers together with field expert, depending upon the subjects and contents to be taught by the productive work undertaken .

Development of Scientific Temper

Students engaged in productive work will be exposed to different aspects of operations and processes involved in the given productive work. The ‘Do’s’ and ‘Don’t’ besides why, what, how? of the productive work will develop inquisitiveness leading

to the development of scientific temper in students which is one of the essential objectives of education in modern society.

Developing Generic Competencies and Values

Any productive work related to providing services or production of goods involves a team of workers, and their devotion for quality of products and services. Productive work thus, enable the development of values such as team work, punctuality, honesty, sincerity, workmanship and generic competencies such as critical thinking, mathematical and linguistic abilities, work ethics, social skills, communication skills, inquisitiveness, entrepreneurial skills, etc.

In the present scenario of globalization, liberalization and privatization development of generic competencies is essential. According to NFG Position Paper (2005), generic competencies can be categorized into three groups:

- i. Basic; creativity, inquisitiveness, mathematical abilities, motivation and comprehension for work including systematic applications.
- ii. Interpersonal competencies; communication skills, social skills, attitude to work etc. and
- iii. Systemic competencies; taking initiative, leadership qualities, sincerity etc.

CONCLUSION

It is proposed that education system in developing countries, if restructured to

institutionalize WCE, will enable children to equip themselves with generic competencies required for the present market demand. Secondly, use of productive work will help in learning and understanding difficult concepts/principles thus, education will become enjoyable. Children coming from the families having traditional occupations will also be happily sent to schools by their parents in order to learn more about their parental occupations. Idea of work-bench to teach and train in practical aspects of a productive work will enable local community to participate in educational programmes at school level. This may also help in enhancing enrolment in schools and reducing drop-out rates, with special reference to marginalized sections of people.

In conclusion, it may also be mentioned that to implement WCE programme, and run it successfully, there will be need of a policy for systemic reforms including common school system and teacher preparation for pre-service and in-service teachers.

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