Nation Building Through Skill Development

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EDITORIAL

"Skill is laying the foundation for a brighter India. As John Ruskin puts it, "Skill is the unified force of experience, intellect, and passion in their operation." "Nation Building" is a herculean task that involves the government of the land, private and public institutions, industries, organisations, and every citizen there, holding accountability of its development inch by inch.

India faces enormous problems in practically every aspect of national life as a young democratic nation with a multilingual, multicultural, and multiethnic population. Poverty, illiteracy, unequal and underdeveloped growth of diverse segments of the country, and insufficient infrastructure in educational and training institutions are all impeding the country's development. The insufficiently skilled workforce is unable to assume greater responsibilities in the development of a better nation. In India, there is now a scarcity of highly trained and skilled educators. Both in India and overseas, there is a considerable need for all levels of skilled labour, including semiskilled, skilled, highly skilled, and highly skilled with specialisation.

An estimated 65 percent of workers in India are aged 15 to 59, with an average age of 29 compared to China and other OECD countries. Approximately 335 million people are currently employed in the United States today. They are largely uneducated and have little or no experience. Approximately 59 million of the 70 million predicted to enter the market will be in the 15 to 30 age category. For the development of our country, reskilling, up-skilling, and conceiving and generating ways and means for national and international labour mobility, as well as mitigating the low contribution of women labour force, are all critical. Our youth will be more competent if we place a higher value on skill development.

To address all of the concerns of globalisation, knowledge explosion and distribution, and skill development competition, the Indian government has launched a number of initiatives, including Skill India, Digital India, Startup India, and Make in India. Many groups are attempting to improve people's skills. (a) Directorate General of Training (DGT), (b) National Skill Development Corporation (NSDC), (c) Indian Institute of Entrepreneurship (IIE), (d) National Skill Development Agency (NSDA), (e) National Skill Development Fund (NSDF), (f) National Institute of Entrepreneurship and Small Business Development, g) Skill Sector Councils, (h) ICT Academy, and respective State Skill Development Corporations. To impart and upgrade abilities, numerous organisations and universities offer a variety of certificate, diploma, and postgraduate diploma courses. TNOU also provides a variety of skill-based courses. The aspiration and ambition of the Indian Government is to make India the world's "Skill Capital."

We/the editors consider it a privilege to have compiled this book titled "Nation Building through Skill Development," which contains contributions on a wide range of subtopics on various elements of skill development explored by a diverse group of authors from around the world. Choosing the chapters was, indeed, a difficult task. Original papers with less than 10% plagiarism were chosen for publication. For the publication of this book, forty-one essays were chosen. We/the editors would want to express our gratitude to everyone who submitted a chapter. The contributions that were not included in this publication are in no way considered rejects.

We/the editors express our gratitude to Prof. Dr. K. Parthasarathy, Vice Chancellor, Tamil Nadu Open University, for entrusting us with this task. We/the editors would also want to express our gratitude to all those kind individuals who have worked tirelessly to bring this book in black and white.

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ABOUT THE BOOK

In India, skill-based education is defined as a vocational skill acquired through non-formal education short-term training or courses that leads to employment in the informal sector. When the Indian economy opened up to the rest of the world through liberalisation and globalisation, there was a significant demand for skilled graduates across a wide range of industries, resulting in a massive scramble for higher grades and degrees. Following the Internet and mobile revolution, job seekers in the formal sector saw new options to obtain critical skills through the Internet and internships before starting a full-time career. The use of formal education to achieve job-ready skills has been gradually decreasing.

The present pandemic has increased the usage of locally produced goods and raised awareness of the value of a skill-based society. With 75% of the people in working age, employment is a key worry in this young country. Students can gain assurance and benefit from systems like Recognition of Prior Learning (RPL), which allows for equal recognition of both informal and formal learning. Students are the country's human capital, and empowering them is critical for economic growth.

When it comes to improving productivity and economic growth in today's world of globalisation, skill building is the most important tool available to do so. As a country's economy and community expand, skills and knowledge development are critical. Skill building is a great tool for empowering individuals and enhancing their social acceptance. Youth expectations must be met through economic growth and job possibilities. For the economy's growth to accelerate, it's vital to expand output potential. In addition to expanding the number of training facilities, the task is to improve the quality of those facilities, which is a massive undertaking. India can then become a global sourcing hub for talented workers. To become a worldwide economic powerhouse is the goal of India's policymakers. In order to achieve this goal, it should provide its citizens with employable skills and information.

This book covers various important sub-themes of skill development for nation building such as, Challenges and Issues of Skill Development in India, Crucial Programmes needed on Skill Development, Eliminating Gap between Education and Employment, Emerging Trends in Skill Development, Enhancing Rural Employability Skills, Future and Prospects of Skill Development in India, Goal towards Skilling India, Importance of Skill Development in India, Improving Employability Skills among Youth, Inclusive and Sustainable Growth through Skill Development, Integration of Technical Vocational Education and Training (TVET) in Academic Education, Issues and Challenges in Skill Development and Training, Researches in Skill Development, Role of Community Colleges in developing Rural Employability Skills, Role of Higher Educational Institutions in Skill Development, Skill Development and Digital Learning, Skill Development through Open and Distance Learning, Skill Employment and Entrepreneurship, Skill Training Mechanism to Boost Employability Skills, Skills Development for Inclusive and Sustainable Growth, Status and prospects of TVET in India, TVET for Underemployed Urban Youth, Unemployment and Skill Shortage in India, Vertical Mobility and Skill Development, Women Empowerment through Skill Development and other major issues in Skill Development.

CHAPTER-1

Skills in Higher Education: A suggestive path

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Introduction

Education empowers people and serves as an important input for the growth of any nation, provided the education is targeted and planned to achieve the desired, well thought out, objectives. Properly planned higher educational system can increase nation's gross products, cultural richness, build positive attitude towards harnessing the dividends of technology and increase efficiency and effectiveness of the governance. It strengthens competencies and develops commitments. Compared to western economies, burdened by an ageing population, India has a unique advantage of being a young country. Around 65% of India's population today is less than 35 years old, yet India is not in a position to fully harvest the "demographic dividends", though having a huge population in the working age group of 20-35 years.

For harvesting better demographic dividends from the young population, it is imperative that they are provided quality education and proper avenues for their gainful employment are created. The absence of quality educational institutions has created a serious challenge of equity and access to quality education, this may have serious repercussions for the growth and development of the country. Higher Education sector in India witnessed a tremendous increase in the number of Universities/Colleges since 1947. The number of Universities has increased 35 times from 20 in 1950 to nearly 700 in 2017. The number of colleges has also registered increase of 75 times. With just 500 colleges in 1950 to around 38,000 as on today. The quantum growth in the Higher Education sector is spearheaded by Universities which are the highest seats of learning. Embedding skills in Higher education at undergraduate and Post Graduate levels will equip students with job skills. It can be done by providing a choice of add-on skill modules as well as changing curriculum of few subjects to include relevant skills. The subjects that can be added may be based on domain knowledge, soft skills, English speaking, digital literacy, financial literacy and employment readiness. Mix and match of 'study part time' and 'work part time' can also be worked out in some fields.

Problem

Higher education institutions must recognize that for many students the transition from education into employment is not a straightforward matter. It has been a problem for long. An increasing number of students today are ill-equipped for the job market. During the 1990s, this issue exacerbated because of the considerable increase in graduate numbers which has taken place within a relatively short period of time. Furthermore, the nature of graduate employment is changing; today it is only a minority of students who can hold any realistic expectation of employment in a position directly related to the discipline studied; this is particularly the case for those students whose focus remains within traditional academic disciplines. Research conducted on behalf of the Association of Graduate Employers noted in 1995 that unemployed graduates felt "short changed" by higher education institutions which had failed to note that the "rules of the game had changed" and consequently (despite fulfilling the traditional goal of a "good degree") had not provided them with the essential skills for employment.

Furthermore, it should also be recognized that even for those in work, the nature of employment is changing such that education (higher and otherwise) is the first step in a continuing program of lifelong learning - much of which will subsequently be conducted in a workplace setting.

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The ongoing spiel you hear from employers is that graduates lack the skills they need to succeed in the workplace. We need to ponder as to why graduates in recent years, who have required specialized knowledge in their fields, do not have the ability to apply their knowledge to find solutions of unexpected cases and unnatural situations? Some of them even fail to perform routine jobs that the employer expects from them.

Target Area and Beneficiaries

The employability of Indian youth has emerged as a major concern in recent years. Ironically, it is not just the illiterates and untrained that lack skills but it is also the school and college educated that consistently lie below the required standard skill sets of job market. It is with this background that the study focuses on:

a. analyzing the growth and changing structure of the Indian higher education system in the light of the education profile of the Indian jobseekers and labour market demands;

b. draw an employability index for India's high-growth sectors on the basis of existing skill gaps; and

c. suggests a broad pathway to plug in the gaps and missing links to increase employability of youth and meet the requirements of job market.

A greater demand for personnel for technical and professional services and a clear employability index for the same sectors have probably led to a skewed growth of the higher education sector. The challenge therefore, is to prepare our educated graduates from the general education streams for the emerging skill needs of employable youth.

The general trend in higher education is to move from general education to specializations within the same subject. Institutions of higher education, however, should immediately begin the process to redesign their curriculum and develop programmes with focused specification catering to the intended outcomes in terms of:

- the knowledge and understanding that a student will be expected to have on completion;
- key skills: communication, numerical, the use of information technology and learning how to learn, the student will acquire;
- cognitive skills, such as understanding of methodologies or ability in critical analysis the students will develop; and
- how the course will fulfill market requirements?

The Institutions of education should give an overtly vocational focus to all its academic programmes. In addition to being knowledgeable in the specific subject matter associated with a particular academic discipline or field of study, every student must be fully equipped, at graduation, with the skills necessary for the very important transition into the world of employment. To embed employability skills into each level of the undergraduate curriculum major emphasis shall be laid on the establishment and strategic embedding of links between the University and employers-both local and national. The programme must provide numerous channels and opportunity for the views of the employer partners to be fed into decision making processes. The partners strongly recommend that the students should develop their employability skills during the course of their studies in order to ease, as much as possible, the often difficult transition from student to employee. The development of practical mechanisms through which this decision might be implemented within the University faces many constraints including rigidness in the system, reluctance to accept new ideas, and financial restraint to implement new practical ideas for the benefit of the entire student population. It is, therefore, essential that ways and means to embed skills be created which shall not totally take over the basic educational objectives but enrich the existing programmes and disciplines to increase their acceptability across academia, industry and corporations.

Policy Initiatives for Skill Development

In order to enhance and/or improve the adequate and necessary skills, Indian Government took various steps to improve the skill training scenario in the country. In 2009, the government formulated the National Skill Development Policy that laid the framework for skill development, aimed at ensuring that individuals get improved access to skills and knowledge. The policy states the roles and responsibilities of stakeholders which include the government, industry, trade unions, local governments, civil societies and all skill providers. The policy also focuses on having target groups within the unorganized sector, literacy and life skills, recognition of prior learning and skill development for enhancing of employability. The policy also suggested the institutional framework in the form of: Prime Minister's National Council on Skill Development; National Skill Development Co-ordination Board (NSDCB); National Skill Development Corporation (NSDC); and National Council for Vocational Training (NCVT). The National Skills Qualifications Framework (NSQF), notified on 27 December 2013, is a competency based framework that organizes all qualifications according to a series of levels of knowledge, skill and aptitude. Under NSQF, the learner can acquire the certification for competency needed at any level through formal, non-formal or informal learning. The Government of India has come up with a National Policy on Skill Development and Entrepreneurship, 2015. The policy aims to provide a framework to all skill related activities carried out within the country, to align them to a common standard and link skill activities with demand centres. In addition to laying down the objectives and expected outcomes, it aims at identifying various institutional frameworks which can act as the vehicle to reach the expected outcomes.

The National Policy on Education (NPE) 2016, known as New Education policy envisaged, through its core objective, to provide information, knowledge, skills, and values to instill social attitudes which enable a student to become a good human being, a proud citizen and contributes to the development of the country. Besides imparting quality education, the policy seeks to emphasize the need to foster an interest in India's history, culture and traditions, a respect for all religions and acceptance for the diversity that exists in India. Through education, the policy tries to create an understanding of the need to promote social cohesion and national integration which are essential for the country's progress. In the new technology-driven environment an increasing number of students will become conversant with the tools of modern communication and technology. The policy recognizes immense opportunities for using ICT to promote education at every level. It also focuses on Education to harness the full potential of a young, vibrant population and equip it to contribute meaningfully to India's development.

Objectives

The objectives of the skilling progammes developed and offered by the Higher Education Institutions or integrating them with their current programmes shall:

- Create and sustain a strong domestic and international presence in the training and skill building space.
- Impact Self-Sufficiency and Economic Participation in local communities by ensuring sustainable employment.
- Ensure Skill Integration into mainstream curricula to implement the national policy by aligning with National Occupational Standards.
- Empower the trainer with appropriate skill sets and create effective training materials.

Model approach for Integrating Skills into Higher Education

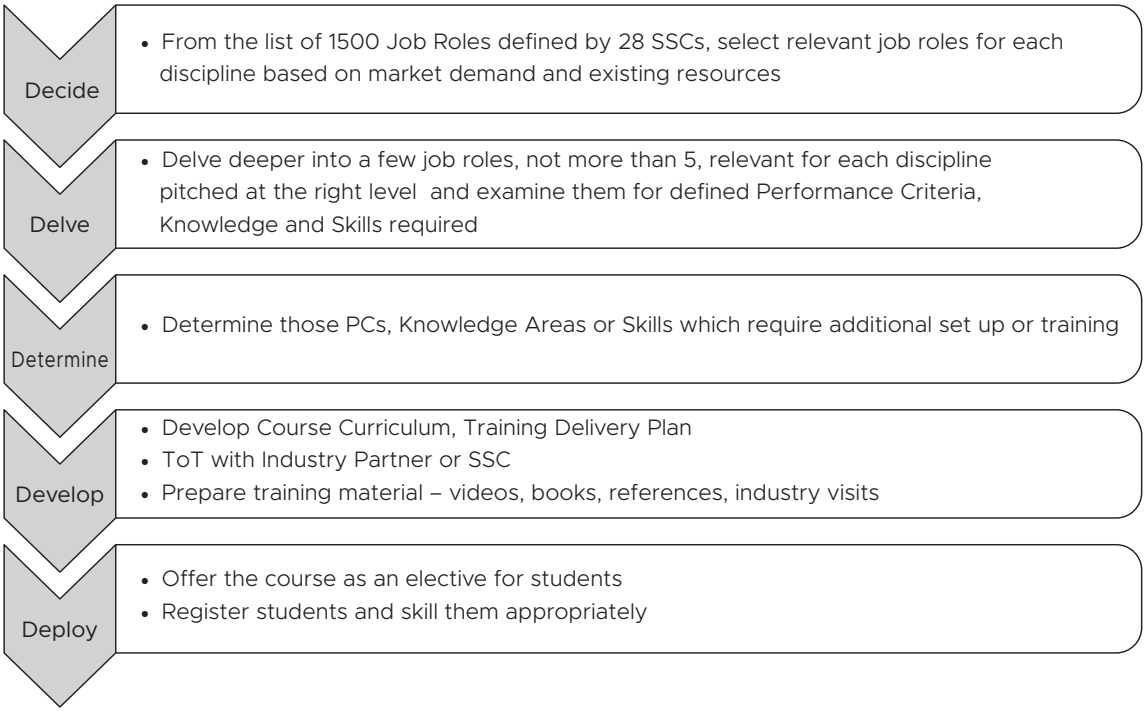
Inclusion of employability training at the tertiary level will be a continuous process as it has to be studied for viability and accordingly courses should be upgraded. We do demographic analysis and job mapping with the jobs available in that area, as most people don't want to migrate or travel. They want jobs in their vicinity.

Once the decision has been taken to embed the skills provision within the existing curriculum the process will be as follows:

- Information gathering - to determine what skilling provisions are already in place (although perhaps not formally recognized) and to identify the "gaps". The exercise will involve almost every member of the teaching staff.
- Once the information on the skilling provisions has been gathered and arrangements set in place to plug any skill gaps, there is a need to formally recognize, through validation, that the skills elements are present. After validation has taken place the module information should be provided to students to assist in their choice of selecting modules to study. Skills being offered along with normal courses shall be listed along with them in the application forms to facilitate their visibility and easy selection by the students. This is just one step in an improved flow of information to students about the importance of skills in the development of their future employment prospects.
- Skills development is also brought to the students' attention during lectures, seminars with respect to assignments. Whilst some lecturers have merely modified their assessments many are actively seeking to truly engage with skills in the way they teach. In all cases it is recognized as essential to not only explain to students the nature of the academic task but also place this into the context of why the task has to be completed and what skills are being developed.
- The skills initiative should become a central feature of the University's induction and initial training programmes for new academic staff and also within the on-going staff development activities for established staff.
- Employability skills are grouped under four main headings: (i) Information retrieval and handling, (ii) Communication and presentation, (iii) Planning and problem solving, and (iv) Social development and interaction.

Figure 1

5-D Approach towards integrating skills into Higher Education Curriculum



CEMCA has developed a Career Guide and Counseling Kit which consists of around 200 vocational courses data. There are organizations like Upskill which are working separately on Skill development and training. This data can be used for upgradation and aligning skills with employability. In this regard the 5-D approach (Figure1) is needed to be adapted to ingrate skills into higher education.

Skill Development Structure in Education

The skill development ecosystem in India is complex, large and diverse, providing varied levels of skills across an extremely heterogeneous population. Skill development in India can be broadly segmented into Education and Vocational Education. The broad framework of Skill Development in India is presented in Table 1 (Patel, 2018).

Table

India's Education and Skill Development Structure 1

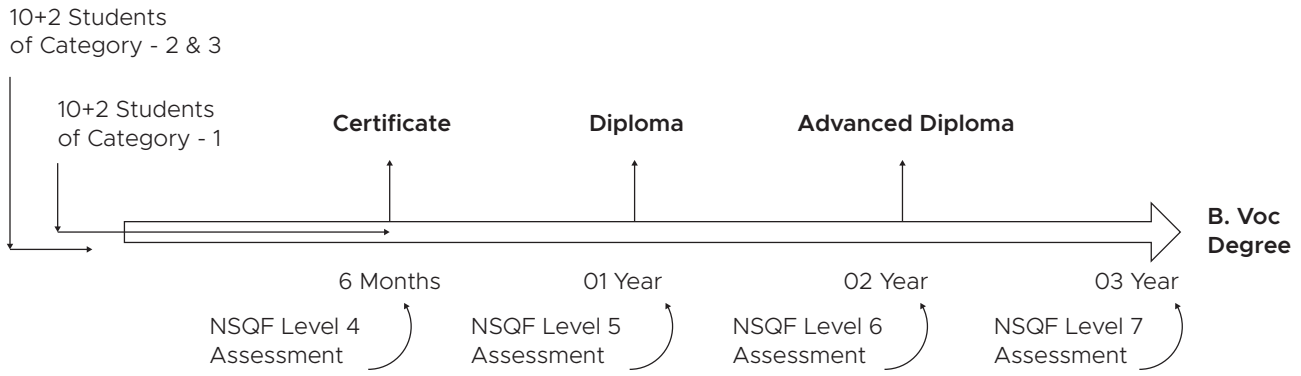
<table>
<tr><th>Age Group</th><th>Grade/Level</th><th>Academic</th><th>Technical</th><th>Vocational</th><th>Work Force</th></tr>
<tr><td>24-26</td><td rowspan="3">Higher Education</td><td>Research Programme</td><td rowspan="3">Engineering</td><td rowspan="3">Advanced Training Institutions Like CTIs</td><td>Scientist</td></tr>
<tr><td>22-23</td><td>PG Programme</td><td>Engineers</td></tr>
<tr><td>19-21</td><td>UG Programme</td><td rowspan="3">Technicians/ Craftsman</td></tr>
<tr><td>17-18</td><td>HSC</td><td>Higher Secondary</td><td>Polytechnics (Three year Diploma)</td><td>Craftsman DGET/ Apprenticeship Certificates</td></tr>
<tr><td>15-16</td><td>SSC</td><td>Secondary School</td><td>Vocational Stream</td><td></td></tr>
<tr><td>06-14</td><td>Primary/Elementary</td><td colspan="3">Elementary Education</td><td>Workers without specific skills</td></tr>
</table>

NSQF Levels as per UGC Guidelines

Following is the interpretation of the NSQF Levels and its equivalence with the conventional educational system, as per the UGC Guideline given for B.Voc.

Figure 1

Assessment of Skill Component under NSQF in Vocational Courses



The level also defines the level of responsibility that a person is expected to undertake when he/she gets certified at a certain level. The relevant ones are mentioned here:

- Level 2 – Works under close supervision
- Level 3 – Responsible for own work within defined limits
- Level 4 – Responsible for own work and learning
- Level 5 – Responsible for own work and learning and some responsibility for other's works and learning

Stream and Programme wise Skill Courses

In higher education system the trade based courses and industry required skill based courses can be integrated in the different stream. The Table 2 represents some examples in this regard.

Table 2

Stream and Programme wise Skill Courses

S.No.	Streams and Programme	Skill Courses
1	Mechanical	1. Basic automobile training on commercial vehicle aggregates - Ashok Leyland 2. Computerised Numerical Controller - Milling & Turning 3. Diesel Engine Operation & Maintenance - Forklift & BEML 4. TIG Welding 5. Two Wheeler Maintenance – Yamaha 6. Operation on Lathe and Milling Machining Conventional 7. RAC Installation & Maintenance
2	EE & EEE	1. Basic Electrical Maintenance 2. Operation and Maintenance of Electrical Systems 3. Automotive Electrician 4. Armature Winding 5. Home Appliance Technician

S.No.	Streams and Programme	Skill Courses
3	ECE	1. Fibre Optic Technician 2. MATLAB - Image Processing 3. Tower Technician 4. Embedded System 5. Fabrication of PCB and Circuit Prototyping 6. PLC
4	CSE	1. Android Application 2. Animation 3. Computer Networking 4. Web Designing & Photoshop
5	Civil	1. Senior Land Surveyor 2. Water Quality Analysis 3. Multi-storey Building Design using STAAD PRO 3. Site Supervision
6	General & Management	1. Marketing Management 2. Business Correspondent & Business Facilitator 3. Retail Management 4. Yoga & Wellness 5. Wellness & Sports Management 6. Disaster Management
7	History	1. History plus Art could lead to work in a gallery or auction or you might want to become an architect or architectural technician, specialising in projects involving listed buildings and heritage areas. 2. History plus subject in politics could lead into a whole range of career directions - local or national politics, charity work, the Foreign & Commonwealth Office, or the Civil Service, to name but a few. The Armed Forces are also delighted to get recruits with an interest in history; all regiments are proud of their own history! 3. History plus Media Studies could lead into print or broadcast journalism 4. History plus Craft skills could develop into a career in restoration work 5. History plus Leisure & Tourism could help find work in the heritage industry (Stately homes, theme parks, etc.) 6. History plus Drama/Theatre Studies could help find a role as a costumed guide or re-enactor. 7. History plus administration skills (e.g. Word Processing, Accountancy, Business Management) could lead to gaining experience in a variety of business careers then taking this, and your interest in history, into working for a heritage charity, or managing a historic property

Monitoring & Evaluation

It can be observed that the operational impact of the adoption of a curriculum which seeks to embed employability skills is felt by all those responsible for (or subject to) teaching, learning or assessment. Each of the key players - lecturer, student and examiner is obliged to act in a manner which may be somewhat different from that which was previously regarded as the norm. The interacting work of these three players is also seen to change as the employability skills are emphasized.

Preliminary observations indicate that:

- The lecturer is required to consider the mechanisms of curriculum delivery.
- Many of the employability skills have always been a part of student life and have traditionally formed a hidden curriculum alongside the subject based materials. The skills initiative would provide a shift towards greater openness and stimulate a desire to develop teaching programmes and utilize methods which overtly utilize the students' skills.
- The students, in turn, become more aware of their role as learners rather than mere sinks for the information provided by the lecturer. Students take more responsibility for their personal learning and must maintain records of their activities as learners. The mere promulgation of the skills programme has helped to make students more conscious of the need to ensure that their personal experience of the University takes account of their intended future progression into employment. Overall, the recognition of skills contributes noticeably to the students' maturing process.
- Assessment in the context of the skills initiative brings a requirement to balance consideration of the expectations of the academic discipline with judgements made about the achievement of the employability skills. Care is needed with respect to the messages which are passed to the students about what is being assessed. The skills descriptions used by academic staff address this type of issue but there is a continuing need to ensure that students are aware of the need for appropriate balance and of the desired learning outcomes. Project assessments can be given importance.

Challenges

- The Qualification Packs defined for a given job role are sometimes too vague or generic
- Teachers / Trainers have limited or no industry exposure
- SSC – Industry linkage is still not established well
- SSCs do not have the expertise to guide us in implementing the skill course
- Fee for every SSC activity – Affiliation, QP NOS Alignment, ToT, Assessment is exorbitant
- Industry participation in Skilling is still very low

Outcomes

- To a great extent we will have graduates who are ready for job Market. The employment figures will improve. Hence crime rates will come down.
- Companies or employers do not have to spend much time on training the new recruits. Hence productivity and economy will improve.
- Students will be more focused and interested in studies. Student and teacher interactions will improve.

Conclusion

The adoption and integration of a robust skilling programmes with the existing conventional programmes will help India or any young country in the region harvest youth dividends for growth and development of the country. As A P J Abdul Kalam, the former President of India said that the challenge is to train ordinary Indian students, the skilling programmes will help meet this challenge effectively, provided the educational institutions show determination to work in tandem with the industry, develop quality courses and offer them to a vast majority of students using all types of conventional and modern means. It is also essential to facilitate proper employment of students by developing links with possible employers and organize placement drives. A sustained effort will help the country become a developed country sooner than later.

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CHAPTER-2

Developing Rural Skills for a Decentralized Renewable Energy

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Introduction

Decentralized energy is not yet a widely understood term, but broadly refers to energy that is generated off the main grid, including micro-renewables. It can refer to energy from waste plants, combined heat and power, as well as geothermal, biomass or solar energy (Tipper, 2013).

A shift from 'dirtier' fossil fuels such as coal (which emits on average 900g CO2/kWh), to lower emission fuels, such as natural gas (which emits about 400 g CO2/kWh) or renewables, can also help to reduce power plant emissions (Grantham Institute, 2014). Energy technology developments as well as energy and climate policies lead to a global shift towards low carbon electricity generation. Currently, electricity generation contributes about 83 percent of global greenhouse gas emissions owing to the major reliance on coal-fired power (IEA, 2013).

With a high density of population, the enormous land requirement of the renewable energy sector (about 2,00,000 ha) may aggravate the precarious situation in Indian villages, which are sustaining over 700 million people, mostly engaged in low income generating agriculture practices. In this scenario, making land owning farmers as equity partners in renewable projects would enable equitable development of the society by way of providing additional source of income to the local community (Thapar et al. 2017). This calls for decentralized and decarbonized renewable energy at the grassroots, particularly in places where there is no grid connectivity. Till date, only 69 percent of rural homes have electricity.

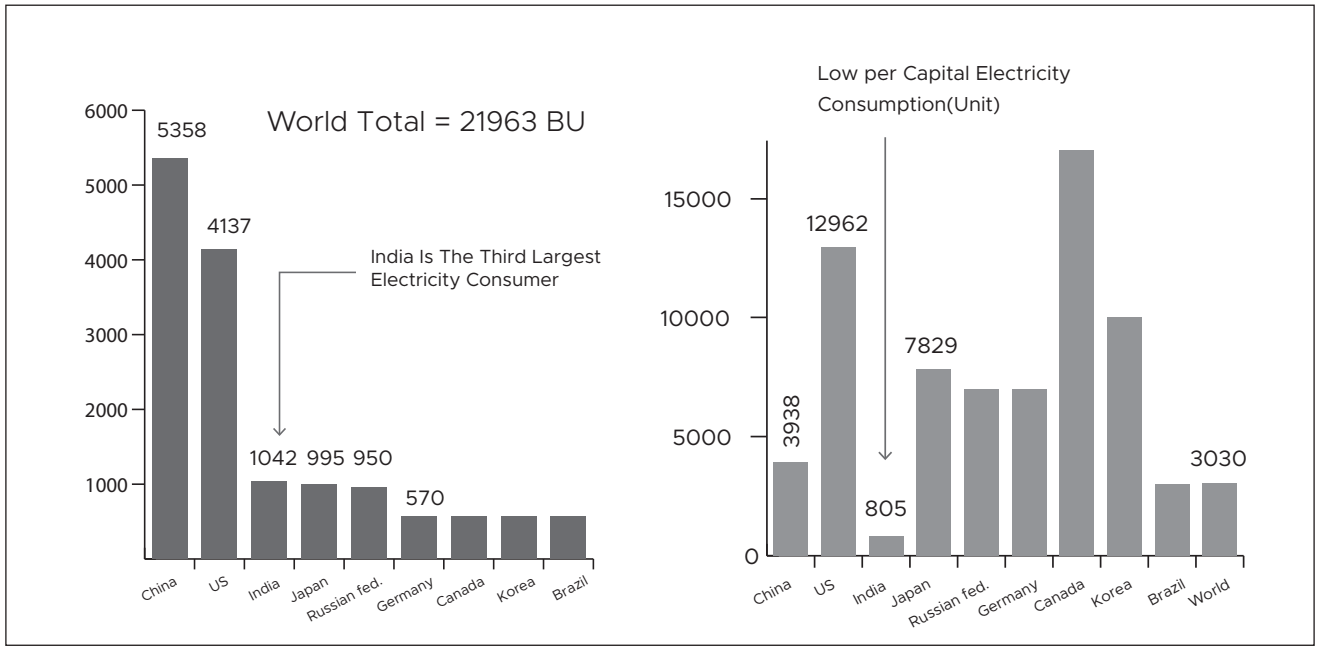
Electricity consumption shares

Let us first look at the electricity consumption shares of global primary energy. As seen in Figure 1, India has the lowest per capita electricity consumption among the 10 countries listed, though it is the third largest electricity consumer in the world. India ranks 137 of 210 countries in access to electricity. Nearly 96 percent of villages in India are electrified but only 69 percent of homes have electricity. New Delhi's per capita consumption is 43.2 kWh while Bihar has the least at 3.5 kWh. More than 200 million people live in rural areas of India without any access to grid-connected power.

The huge cost is involved in installing and servicing of power transmission lines, besides transmission and distribution (T&D) losses (23% to 50%) and poor power reliability. The world is, however, moving away from fossil fuels. Three-quarters of India's energy demand is met by fossil fuels. The share of fossil fuel-based power generation capacity is likely to fall from 69 percent. By 2030, India aims to increase by 40 percent, the country's cumulative installed capacity from non-fossil fuel sources– up from the current 30 percent – to meet its commitment to reduce emissions under the Paris climate agreement of 2015 (reducing emission intensity by 33 to 35 percent by 2030 from the 2005 level).

Figure 1

Electricity consumption the world over



A survey of rooftop solar companies as well as qualitative interviews with women currently employed in the sector sought to identify opportunities for better gender balance at work, as well as barriers to achieve it. Women currently account for only 11% of the workforce in the companies surveyed. Participation of women is particularly low in roles involving frequent travel and a required onsite presence at project sites (Eco-Business, 2014).

Significant development outcomes can be gained from a gender-mainstreamed approach to planning and implementing energy sector projects. The benefits can be considered in two categories: (1) Benefits for women as consumers or users of such energy solutions; and (2) Benefits for women and as part of the production of such energy solutions.

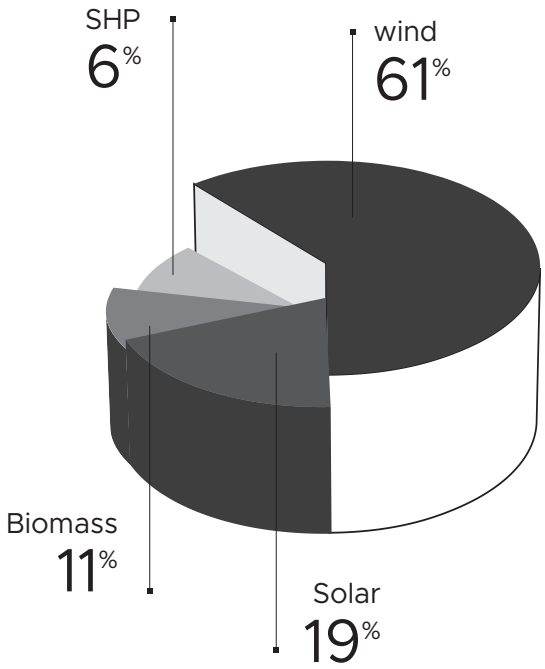
India aims to grow its renewable energy capacity to 175GW by 2022compared to the current 37GW. Tamil Nadu is the only state in India where one-third of the installed power comes from renewable sources. The present installed capacity of 17,868.37 mostly consists of coal (35%), hydro (12%) and renewable energy (42%). Tamil Nadu has high wind potential due to the tunneling effect during southwest monsoon. The wind installed capacity of the state is 7,134, which is 40% of the country's total wind energy. India has the fifth largest amount of installed wind power capacity with 27 GW (62.7%) and solar 7.5 GW (15.7%). The Jawaharlal Nehru National Solar Mission aims at 100 GW of solar installation by 2022.

Renewable energy

Indian renewable power sector has a total installed capacity of 46.4 GW.

Figure 2

Share of diverse renewable energy in India



Total installed capacity-46.4 GW%

Wind 28.3
Solar 8.7
Biomass 5.0
SHP 4.4
Total 46.4

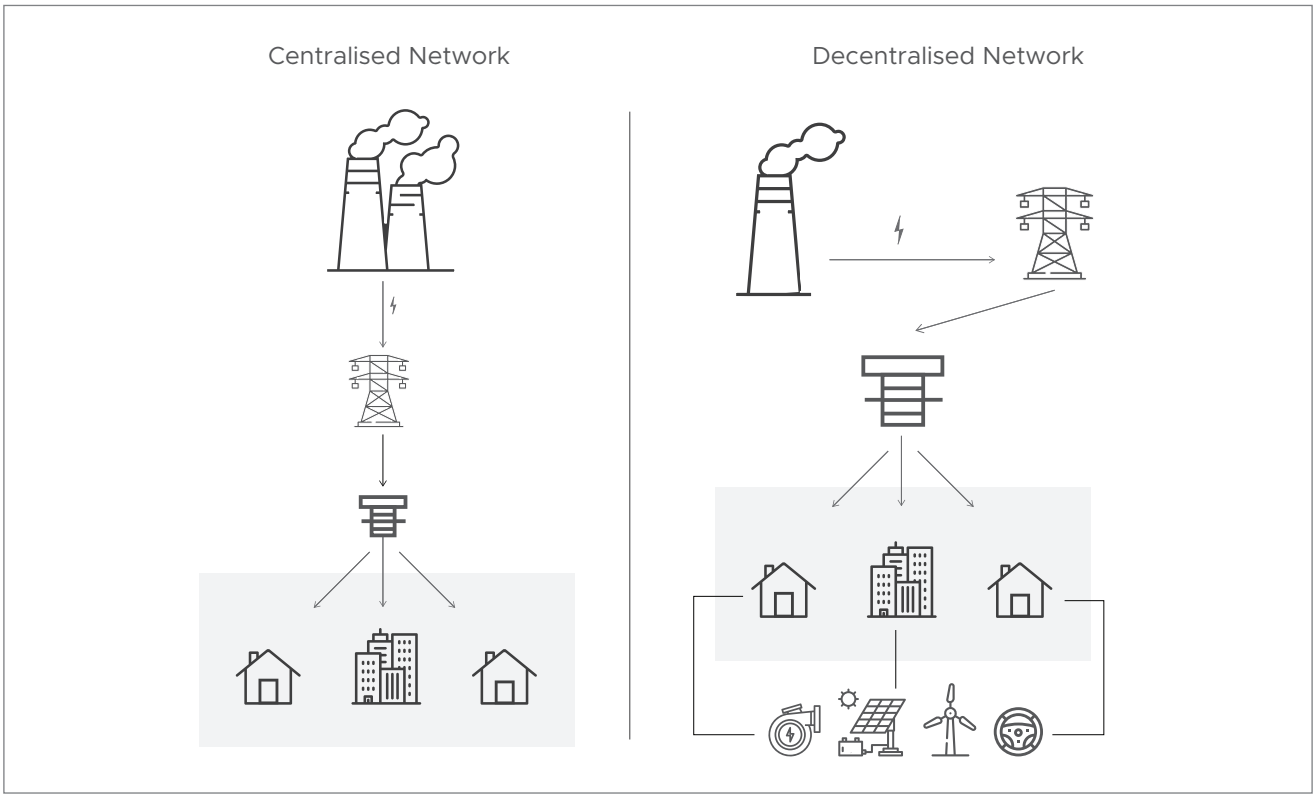
The illustration below shows the difference between centralized to decentralized energy supply, with solar and wind energy added to the decentralized network.

Solar energy is widely got by one of the three ways: solar photovoltaic (PV), concentrated solar thermal (CST), and concentrated PV (CPV). PV technology converts sunlight directly into electricity. CST uses reflectors or lenses to focus sunlight from a large area onto a small receiver that absorbs the solar radiation and heats up a fluid (water or oil). CPV is a hybrid technology with the PV cells built into collectors that use reflectors and lenses to concentrate the light onto the PV cell. Pay-as-you-go solar power in villages, solar-powered laptops in remote areas and low-cost solar panels on the roof of huts have been tried out in different parts of the world.

There are incentives for large-scale solar energy (if not for decentralized solar power) such as excise duty exemption, concessional customs duty (CCD) & special additional duty (SAD) exemption on specified parts and components, feed-in tariff by State regulators, and income tax holiday for 10 years.To facilitate the interstate transmission of wind power, tariff policy provides for waiving the ISTS network charges and losses for wind and solar power. But then, the mindset of the decision-makers is still not in favour of renewables, the welfare provisions in law are not properly implemented.

Figure 3

Centralised versus decentralized energy



Wind energy

Standard commercial wind energy units are 'Danish design' with capacities of up to 3 (largest units up to 8) and capacity factors up to 30-40% at good sites. Indian windmills are of low cost. Wind energy is well suited to decentralized power, limited by variable wind resource requiring back-up and/or storage. India's wind capacity is projected to increase by 90 GW by 2040 (IEA, 2017).

Some other issues with regard to wind energy are: need for proper maintenance; at times, subsidies for wind power are withdrawn; there is problem of overproduction at some points of time; and the issue of investing in new technology when the existing technology which produces lesser electricity becomes obsolete. Introducing new designs of windmill blades and motors are a must. However, once a system is put in place, replacing it with a better system before enough power has been generated is not feasible.

Solar energy

India receives 300 days of sun per year. In September 2014, Delhi instituted net metering, allowing individuals to sell solar electricity to the grid. Rooftop solar at kW scales is combined with grid supply. Some states have followed in its footsteps.

In July 2016, for the first time, Tamil Nadu was unable to use all the solar power it generated. The curtailment rate for wind power is between 33% and 50%. India has to speed up the construction of an inter-state green energy corridor. The amount of solar and wind power on the grid is projected to quadruple by 2022. Solar and wind power are not as easy to control as traditional fossil fuel plants, so power grids need to become flexible enough to handle last-minute changes in power generation. But once an off-grid solution is in place, grid supply is often provided making off-grid to fold up. This also calls for developing local skills to instal and maintain decentralized solar power in rural areas.

Rooftop solar creates about 25 jobs per megawatt (MW) installed across the value chain in India, which is 7 to 20 times more than that of utility solar or onshore wind technologies. Of the 25 jobs, about two-thirds, or 16 jobs, are quality jobs that require high- or mid-level skills. The number of quality jobs created rooftop solar is eight times higher than that of utility solar.

Case study of barefoot solar mamas

The Orissa Tribal Women's Barefoot Solar Engineers' Association works to educate and spread solar use in the region through uneducated women, wherein the women undertake the maintenance of solar panels. Homeowners in Bangladesh are installing solar PV systems at the rate of two per minute. Solar lanterns improve lives in underdeveloped areas. Clean (improved) cook-stoves use 50% less fuel and reduce toxic emissions up to 80%.

The Barefoot College, set up four decades ago to give vocational training to women from less privileged backgrounds, has trained over 15,000 women till date, through training in solar energy applications which is a relatively new initiative. It could be illiterate and semi-illiterate women, coming from the poorest rural villages, whose adaptive intelligence makes them ideal to spearhead the upcoming global technology surge. These women, who are called as 'Solar Mamas', are taught the skills for making solar panels, lights and photovoltaic circuits during a special six-month course. Interestingly, the trainers of these 'Solar Mamas' themselves are modestly educated women from the villages.

Tilonia, a small village in Ajmer district of Rajasthan, is one such example helping light up the lives of people in remote, backward areas across the world. The Barefoot College in this village teaches women from underdeveloped regions to assemble solar-powered equipment. A batch of trainees may be a group of 45 women from 10 different countries. Training from the Barefoot College will not only light up villages but also give strength to rural women.

NawNwin Nay, a 52-year-old grandmother from Myanmar, has proved that age is no bar for learning. There is a major scarcity of electricity in her village. Life is difficult, especially for children who cannot study after dusk. People have to depend on kerosene, but its availability and price is an issue. Initially, they faced a lot of problems during the training in India because of language, food and culture, but slowly managed.

Ilivani from Fiji said the Winston cyclone devastated the country and life in her village became miserable, with no roads and electricity and rising kerosene prices. The mother-of-five got an opportunity when she was selected to attend the training in India. These technical skills were new to her. Dealing with diode, resistance, IC, condenser was difficult initially. Language was a barrier; teachers spoke in Hindi. So, they communicated through signs. Now, she had made lots of friends from across the world. She could earn her livelihood by selling solar lights, batteries, roasters etc., in Lautoka, the second largest city of Fiji.

Of the 45 new Solar Mamas, 10 are from war-torn Afghanistan and eight of them lost their husbands in Taliban attacks. Said Shashie Ahmedi from Gazni: "Our children have seen so much violence, pain and suffering. We are taking a gift from India for their future."

There are 35 'master trainers', underprivileged local women who empowered themselves by learning the skills and are now sharing their knowledge with the world at the Barefoot College. Leela Devi, 45, from Kishangarh, has studied only till Class 3. In 2003, she took the training and became a teacher. They teach foreigners with the help of sign language and gestures. Sometimes, they teach them simple Hindi words so that they understand.

Bhagwant Nandan, HoD, Solar Department, at the Barefoot College, said this training helped provide light to 84,000 houses in 1,293 villages, benefitting about 7 lakh people. About 7.86 crore litre kerosene was also saved in the process.

Hybrid power systems

Hybrid power systems involving wind and solar energy are being experimented particularly in the Himalayan region. Because the peak operating times for wind and solar systems occur at different times of the day and year, hybrid systems are more likely to produce power when it is needed. Wind speeds are low in the summer when the sun shines brightest and longest. The wind is strong in the winter when less sunlight is available. Many hybrid systems are standalone systems, which operate off-grid. Such hybrid systems roughly cost Rs. 2.25 lakh each producing 1kWh.

A solar PV wind hybrid energy system reduces the dependence on one single source and has increased the reliability even where there is grid connectivity. In rural areas where electricity requirement is low, this energy could be used to store electricity in batteries, which can serve as a backup for conventional power or even when the grid is down during a natural disaster.

Renewable energy issues

Rural electrification is a vital programme for improving the socio-economic conditions of the rural areas of a country. It supports economic development, promotes livelihood security by providing electricity as an input for productive uses in agriculture and rural industries, and helps to improve the quality of life (Nouni et al., 2008). Despite several initiatives in this direction there are hitches in getting through grid connectivity. This is where decentralized renewable energy schemes step in with the backing of government and non-governmental organizations, though surmounting several problems.

Overlapping schemes is a problem area. The Remote Village Electrification Programme (RVEP) under the Ministry of New and Renewable Energy (MNRE) and the Decentralized Distributed Generation (DDG) under the Ministry of Power (MoP) are similar in objectives. An integrated policy framework is needed. Further, there is lack of interest to support such initiatives by other Ministries.

Integration with grid comes more often than not when a decentralized renewable energy scheme is in place. Decentralized renewable energy should not be given up once grid connectivity is in place. Building with the aim of grid-integration or integration-ready systems strongly increases the viability of a decentralized renewable energy system, especially for locations where the grid already runs.

Systems allow the operator to feed excess or surplus energy units back to the grid. While some renewable energy progressive states have made positive steps to promote grid integration of decentralized renewable energy systems, there are still concerns with the policies, such as prohibition on islanding (feeding into the grid when it is not live), feed-in tariffs (or net-metering), and stability of grid (such as instability issues in grid).Integration of renewable energy with grid should focus on helping access to electricity to remote areas rather than cities.

Land procurement has been identified as a key issue by renewable energy project developers in India. Making local community as partners in a renewable energy project shall help in expediting project implementation, besides providing them with an additional source of income and reducing the cost of energy generation (Thapar et al., 2017).

A case study of Tamil Nadu

Tamil Nadu is an energy dependent state. Agriculture, industry, and social life are energy based. As much as 55 percent of population lives in towns and cities. The state's power grid's demand is the largest among southern states. Tamil Nadu's generation of energy share is hydro 2,307, thermal 4,660, gas 516, totaling 7,483. Share from central generating station is 5,757 and from atomic stations 1,490.

The source of energy in Tamil Nadu is as follows: Own generation 37 percent, central general share 34 percent and private purchase 29 percent. The state's energy resources are lignite coal 75 percent national reserve, Neyveli station 26 mt/year, and natural gas exploration at Cauvery and Vaigai delta is 844 MW.

In renewable energy resource, Tamil Nadu is one among the first seven states in wind and solar power resource. State wind capacity is 7,300MW,solar1,140MW, co-generation 440MW, and bio mass 11MW.State load demand factor energy needs and load varies between 1 to 1.5 times which reaches its peak in the summer. Renewable energy generation happens during southwest monsoon as nearly 3,800MW wind energy is harvested and 5MW to 1,010MW of solar energy is harvested per year.

Transmission in the state suffers severely because of national grid congestion and state transmission is nearly at the brim. With national grid congestion, marketing system is a failure central policy cares generators alone. National policy is unfriendly to distribution companies also to consumer send costs isolating poor from electricity.

Mega solar plants are impossible to grid accommodation, and it is contrary to the natural advantage with solar power. Distributed solar generation, standalone, and micro grid may be wise. Micro grid with solar in rural areas with storage may be good both technically and financially. Copying a model of a developed country has no meaning keep generation growth constant parallel to population growth energy demands related to utilization – not related to generation addition alone. This will save national resources for generations to come or at least save the earth regulatory exercise.

Challenges ahead

There have been some experiments among rural people, particularly women, to install or maintain decentralized renewable energy supply. Such initiatives have to be scaled up for better reach of energy at the grassroots. Though off-grid projects using renewable energy technologies are being set up in Indian villages to serve the energy poor on community ownership basis, they have limitation in terms of long-term sustenance (Patil, 2013). Availability, affordability, efficiency, and (environmental) acceptability are the key issues. There is resistance from local communities due to issues in land acquisition, public participation and distribution of benefits when it comes to wind and solar energy. Locals should be equity partners. Insufficient opportunities for public deliberations particularly of women pose a hurdle. Global subsidies for carbon-based energy are 25 times larger than global subsidies for renewables. For renewable energy, incentives based mechanism like feed-in tariff is better than capital subsidies. There is a need to shift from consumption-led development to sustainability and equity. Technical and management ability for operation and maintenance of decentralized renewable energy systems should be taken care of. This calls for local capacity building in the renewable energy sector in rural areas.

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CHAPTER-3

Skill Development in India: Challenges and Practices

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Introduction

"Today, the world and India need a skilled workforce. If we have to promote the development of our country then our mission has to be 'Skill Development' and 'Skilled India" (Modi, 2014). Skill development is the acquisition of work-related skills or competencies through vocational education and training. Such vocational education and training is essentially to be imparted from school education onwards in order to promote entrepreneurial skill development which will fetch breadwinning in life of individuals. Employability is a great challenge in our education system because of several reasons like huge population, comparatively less number of educational institutions, inadequate infrastructure, non-availability of skilled trainers etc. Though India has strong policies and planning to promote education, vocational training and life-long learning, the implementation is not that much speedy and vigorous. Let us find in this write-up the reality, challenges and practices of skill development in education system in India.

Importance of Skill Development

The following points highlight the importance of skill development during formal education:

- For job creation. As more than 60% of the population is in young age in India require employability. Only 10% of the fresh graduates are employable and 90% lack skills required for jobs.
- For value addition to life; to work and earn for survival.
- Theory knowledge doesn't guarantee skill, but only practical knowledge can give a real exposure.
- To increase 'think and act' capability of students.
- Skill development programs bridge the gap between our formal education system and current industry requirements.

Status of Unemployment in India

The present statistics reported, as follows, by specific bodies/organizations give us the status of unemployment in India.

- Report – 'Unemployment Rate in India' said that the number of employed individuals came down from 407.9 million in 2017 to 397 million in 2018. Unemployment was witnessed more in the rural areas, which accounted for 84 % of all the jobs lost i.e., 9.1 million. Most of those who lost their jobs were uneducated-wage labourers, agricultural labourers and small traders, and those who were mostly below 40 years of age or above 59 years (DowntoEarth, 2019).
- According to Skill India Report 2019, the overall employability percentage is raised 47.38% from 33.95% in 2019 (AICTE, 2019).
- According to the International Labour Organisation (ILO), India again see its unemployment rate at 3.5% in 2018 and 2019, the same which was seen in 2017 and 2016 (Economic Times, 2018).
- According to the latest data, there will be 18.9 million jobless people in India in 2019 (Khabarlahariya, 2019).
- India's Unemployment Rate dropped to 2.55% in Dec 2018, from the previously reported number of 2.56% in Dec 2017.
- India's Population reached 1,332.00 million people in Mar 2019. The country's Labour Force Participation Rate dropped to 51.93% in Dec 2018.

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- According to Centre for Monitoring Indian Economy (CMIE), the unemployment rate rose to 7.2% in February 2019, the worst in 28 months. Meanwhile, the labour force is down 25.7 million since September 2016 and the number of employed persons has declined by 18.3 million in the same period (Akshaya, 2019).
- As per the study of All India Professional Congress, 25% of engineering graduates are unemployed; 66% got only non-engineering jobs (esp. in recent years); 58% is not feeling they are earning enough and only 50% are passing the course (Abraham, 2019).
- According to a recently conducted survey, nearly 80% of engineering graduates in India are not employable. Most of them are forced to take up jobs in non-engineering fields or remain unemployed (Edwisor, 2018).

Present Lacunae in Education in India (Roshni, 2016)

The following statements screen the present missing aspects with regard to skill development in our education system in India:

1. **Syllabus not updated regularly:** Despite exponential changes in science and technology round the world, the syllabus is hardly ever updated.
2. **Lack of quality teachers**: There are 39931 colleges (in 2018) in India granting degrees. There are not enough quality teachers for all of these educational institutes.
3. **Lack of innovation and research:** Students must be given the space and scope to think and innovate, to question and come up with solutions.
4. **Faulty education system:** Improper implementation of Semester systems, CBCS and process of continuous evaluation is not fulfilling their desired learning outcomes.
5. **Lack of skill-based education:** Students need to have hands-on training on the basis of the problems they are likely to encounter in the real world.
6. **The IT 'employability':** The IT sector carries out the highest number of recruitments from the pool of engineers, only 18.43% engineers are skilled enough to work there, while, for IT product roles, the numbers are as low as 3.21%.
7. **Disregard of essential soft skills:** Soft skills have become very important in the present job industry, but they are routinely ignored in educational institutes.

Challenges in Skill Development in India

Some of the main challenges in skill development in our country are given as follows:

- Severe scarcity of trainers. For instance, corresponding to the current seating capacity of about 1.7 million trainees at ITIs, there is a need of almost 85,000 trainers (considering 20:1 student/faculty ratio).
- Non-employability due to little or no job skills.
- Inadequate training infrastructures, inappropriate mix of skills and education, outdated curricula, limited industry interfaces, limited standards, etc.
- Formal education system with limited vocational training.
- A disconnect between the formal education system and work requirements, compounding the challenges related to the skill gap.
- Owing to high capital requirements and low return on investments, skill development is often looked at as a non-scalable model and remains underinvested.
- **Literacy levels in India are extremely low:** As per 12th plan document 55% of workforce has education only up to primary level. In school 19.8% dropping out after class V, additional 16.5% dropping out after class VIII and further 11.1% dropping out after class X.
- **Formally skilled workforce is less than 3% of total workforce:** As per the latest survey by the Labour Bureau for 2013-14, only 6.8% of persons aged 15 years and above were

receiving vocational training, of which only 2.8% was through formal channels while 4% was through the informal system. In contrast, skilled workforce in other countries is much higher –Korea (96%), Germany (75%), Japan (80%) and UK (68%) (Konrad Adenauer Stiftung & FICCI, 2015).

- **Inadequate training capacities:** The number of people enters the work force is 26 million. With average labour participation rate of 90% for male and 30% for female, at least 16.16 million will enter the workforce and would need to acquire skills. However, current annual skilling capacity, including training for the farm sector, in India is estimated at only 7 million. As against the enrolment of 23.76 million students in higher education, the skill training capacities in ITIs is mere 1.69 million. Training partners of NSDC have collectively trained 3.4 million youths in 2015-16.
- **Unemployment amongst higher educated is also high:** The Labour Bureau's survey report for 2013-14 reveals that the proportion of unemployment in labour force with higher education levels is also high. Almost 9% of the graduates and post graduates labour force is currently unemployed as against less than 1% in case of illiterates and semi-literate labour force. Amongst the formally trained labour force, the unemployment rate is above 10% for several trades and is significantly high in case of 'engineering trades other than civil and computer trades' (25.2%) and 'textile related work' (16.7%). Amongst the informally trained workforce, the %age of unemployed is mostly low (below 5%) for most of the trades except for certain trades like fitter (10.7%) and 'engineering trades other than civil and computer trades' (12.2%).
- **Employability levels are very low:** National Employability Report 2014 shows that out of 6 lakh engineers that graduate annually, only 18.43% are employable for the Software Engineer-IT. For core jobs in mechanical, electronics/electrical and civil engineering, only a mere 7.49% are employable (News18, 2016). Poor employability is due to inadequate preparation in the domain area, i.e. the ability to apply basic principles of computer engineering or mechanical engineering to real world problems.

Committees and Commissions on Vocational Education since Independence (Patil & Dewasthalee, 2017)

Vocational education is one of the major objectives of educational reforms in India. All the Committees and Commissions constituted for bringing out educational reforms have been emphasizing the importance of vocational education since independence.

1) University Education Commission, 1948-49
2) Secondary Education Commission, 1952-53
3) Science Policy Resolution, 1958
4) National Committee on Women Education, 1959
5) Kothari Commission, 1964-66.
6) Central Advisory Board of Education, 1967
7) National Policy on Education, 1968
8) Report of the Committeon10+2+3 Educational Structure, 1973
9) Higher Sec Education and its Vocationalization Report of curriculum Committee, 1976
10) Report of the working group on vocationalisation (Subanayagam Report), 1978
11) Vocationalization of Higher Sec Education and plus 2 Committee (Adiseshiah Report), 1978
12) National Curriculum in Primary and Secondary Education-A framework, Dec. 1978
13) Working Group on Vocationalization of Education (Kulandiswamy group), 1985
14) National Policy on Education and the Programme of Action on Vocational Education, 1986

15) Report of the CABE Committee on policy, Jan.1992

16) National Policy on Education, 1986, Revised policy Formulation, May 1992

17) National Policy on Skill Development, 2009

18) National Policy on Skill Development and Entrepreneurship, 2015

19) Draft National Education Policy, 2019

We look at what Kothari Commission (1964-66) says on vocational education, "we visualize the future trend of school education to be towards a fruitful mingling of general and vocational education containing some elements of prevocational, technical education and vocational education, in its turn, having all elements of general education."

Policy Framework

The separate policy frameworks relating to skill development have been brought out periodically as follows:

- **The Apprenticeship Act of 1961:** Apprenticeship programmes in India are governed by The Apprentice Act of 1961 and the Apprenticeship Rules of 1992. Objectives are: to ensure trainees get optimum access to real work environment and on-the-job training; and to ensure that employers get skilled work force having adequate exposure to real work environment. About 254 groups of industries are covered under the Act and about 27,000 establishments engage apprentices. However, there has not been much success in implementation of this Act (Konrad Adenauer Stiftung & FICCI, 2015).
- **The National Policy on Skill Development, 2009:** The National Policy on Skill Development was first formulated in 2009 to create a skills ecosystem in India. It acts as a guide to formulate strategies by addressing the different challenges in skill development. The objective is to empower the workforce with the required skills, knowledge and qualifications to make the Indian workforce globally competitive.
- **The National Skills Qualification Framework (NSQF), 2013:** The NSQF is a competency-based framework that organizes all qualifications according to a series of levels of knowledge, skills and aptitude. Under NSQF, the learner can acquire the certification for competency needed at any level through formal, non-formal or informal learning. The NSQF is anchored at the National Skill Development Agency (NSDA) and is being implemented through the National Skills Qualifications Committee (NSQC) which comprises of all key stakeholders (MSD&E, n.d.).
- **The National Policy on Skill Development and Entrepreneurship, 2015:** The policy aims to provide an umbrella framework to all skill related activities carried out within the country, to align them to common standards and link skill activities with demand centres. In addition to laying down the objectives and expected outcomes, it aims at identifying various institutional frameworks which can act as the vehicle to reach the expected outcomes. The new skills policy also provides details on how skill development efforts across the country can be aligned within the existing institutional arrangements.
- **Draft National Education Policy, 2019:** As per Draft NEP 2019, objective of Vocational Education is to integrate vocational education into all educational institutions – schools, colleges and universities. Provide access to vocational education to at least 50% of all learners by 2025.

Nodal Bodies for Skill Development in India

The following ministries take the leading role in promoting skill development through various sectors in India:

- Ministry of Skill Development and Entrepreneurship: The creation of the first-ever separate Ministry of Skill Development and Entrepreneurship was announced by Prime Minister Shri Narendra Modi in June 2014. It is conceived to encompass all other ministries to work in a unified way, set common standards, as well as

coordinate and streamline the functioning of different organisations working for skill development. The Ministry is entrusted to make broad policies for all other ministries' skill development initiatives and National Skill Development Corporation (NSDC).

- Ministry of Human Resource and Development: MHRD governs the polytechnic institutions offering diploma level courses under various disciplines such as engineering and technology, pharmacy, architecture, applied arts and crafts and hotel management. MHRD is also involved in the scheme of Apprenticeship Training. Apart from this, MHRD has also introduced vocational education from class IX onwards, and provides financial assistance for engaging with industry/SSCs for assessment, certification and training.

There are 21 Ministries under the central government who are also working for the purpose of skill development.

International Context: Best Practices

The countries viz., Germany, Australia and China conceived the best models for skill development through educational practices which are outlined as follows:

1. **Germany:** Follows a dual-system of vocational education and training (VET). The training is conducted in two places of learning: in the enterprise and in the vocational school. The company provides practical training, and vocational school supplements this on-the-job-learning with theoretical instruction and basic economical background.

2. **Australia:** Vocational Education and Training is an integral part of the overall education system. After X grade, Students can choose to enter vocational training or enter higher education, which is provided by Universities and Technical Education Institutions. Apprenticeships and traineeships are available to everyone as no formal entry qualification is required.

3. **China:** China's Skill Development model has enabled transforming many of its high schools into skill-training centers, and successfully promoted internships for the vocationally-trained. Around one third of young people in China today enter vocational upper secondary schools. The formal school based vocational education emphases on theory based training; while vocational training focuses on post-school, pre-employment, and on-the-job practical training, as well as training and re-training for those out-of-school or out of work.

After analyzing the best practices of other countries in the world, India need to implement indigenous well-designed skill development strategies in education system as envisaged in various educational policies in India.

Conclusion

A new report by Centre for Monitoring of Indian Economy 2018 says, the number of people unemployed in India increased by nearly 11 million. As per the skill gap study conducted by the National Skill Development Cooperation over 2010 -2014, there is an additional net requirement of 109.73 million skilled human resources by 2022 across twenty four key sectors. NASSCOM says 6 million people are required in cyber-security alone by 2022. India's labour market projects that 86% of total employment is in the informal sector, including self-employment. Thus, this shows that jobs are plenty, but we have a huge shortage of skilled manpower. The Indian government has recently made drastic changes in its policy and institutional setups for promoting skills development. Let's hope for the best to make all human beings as human resources through skill development at all levels of education.

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CHAPTER-4

A Study on Efficacy and Challenges of Internship Programme in Teacher Education

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Introduction

Teachers are not born but they can be made by teacher education. In the recent years all over India there has been a drastic change in teacher education course. Practicum approach adopted in the modern teacher education course is to place a student teacher in a classroom situation under the supervision of a qualified teacher. The concept of Internship introduced in the two year teacher education program throughout the country is quite challenging one for all the teacher education institutions. The aim of internship program is to incorporate teaching skills among the student teachers. Internship program is an effective way to give training to the student-teachers about real world of work. It give them an opportunity to integrate theory and practice, plan and deliver lesson properly, critically analyze their own and peers teaching style and improve them in the light of feedback given by supervisors. Through this program they understand the role and responsibilities of professional teachers. Teacher education is divided into pre-service teacher education programme and in-service teacher education programme. Internship is an important component of pre-service teacher education programme to provide field experience to the trainees. It provides not only practice teaching but opportunities to participate in activities of the school like a regular teacher. Internship programme has the components such as (i) Visits to Innovative Centres of Pedagogy and Learning, (ii) Action research, (iii) Developing Unit Plans in advance than teaching, (iv) Creating and maintaining resources for teaching-learning in the internship schools, and (v) Co-curricular activities. In teacher education internship has three stages:

1. **Pre-internship** activities include selecting school for the internship, making groups of trainees, arrange time table, write unit plan, planning of activities, etc.
2. **Internship** is a field experience for trainees, which includes practice teaching and all activities of the school.
3. **Post-internship** activities cover final report of internship and evaluation.

Significance of the Study

We know that if internship programme is done with complete involvement of trainees, it may be useful in evaluating teacher's ability. It supports socialization within the profession, stimulates development of teaching-learning concepts, provides a protected field of experimentation, allows insight into new perspectives and enhances motivation to continue learning and reflecting. Internship would help trainees to choose, design, organize and conduct meaningful classroom activities, critically reflect upon their own practices through observations, record keeping and analysis and develop strategies for evaluating students' learning for feedback into curriculum and pedagogic practice. If we think about the situation of our teacher education colleges, certain questions arise in our mind. Does our internship programme include such types of components? Do our trainees involve in all activities of the schools? Do teacher educators evaluate internship programme in well manner? To get answers of these questions, this study was carried out.

Operational Definitions

- **Teacher Educators** are those who are qualified with the degree of Masters of Education engaged in training the students who have joined the B.Ed. colleges with the aim of becoming a teacher.
- **Pre–service Teachers** are those students of B.Ed. colleges who have joined the institution to be trained to become a successful teacher in future.
- **Internship Programme:** Student teachers stay for full day in the schools during the working hours and participate in the school processes is called internship programme.

Objectives of the Study

The objective of the present study is to study the opinions of teacher educators and pre-service teachers with respect to following components of internship programme.

- Evaluation of student performance
- Practice teaching
- Participating in school activities
- Observing lessons of the peers
- Conducting action research
- Organizing co-curricular activities in the school
- Visits to Innovative Centres of Pedagogy and Learning.
- Maintaining the dairy
- Writing a report of the internship

Methods and Procedures

The descriptive survey method was used to study the Opinion of Teacher Educators and Pre-service Teachers of teacher education colleges affiliated with Karnatak University Dharwad about internship programme. In the current study the population represents the teacher educators and pre-service teachers (2017-19) of teacher education colleges of Karnatak University Dharwad. For the current study five teacher education colleges were randomly selected and from each college five teacher educators and twenty pre-service teachers were selected using random sampling technique. Sample has twenty five teacher educators and hundred pre-service teachers. For data collection researcher has used self made questionnaire on internship programme for teacher educators and pre-service teachers.

Findings

- Internship provides an opportunity to critically reflect and improve on lesson practice.
- Trainees maintain a diary during the internship so they have day-vise record of all the activities carried out during the internship.
- Lack of support in terms of materials and equipments in the schools.
- Some colleges visited to BRC CRC DIET and Special schools also they came to know that the functions of the institutions.
- Trainees are administering a unit test by using blue print; they know the actual process of evaluation.
- Trainees took guidance from teachers and principals of the schools about CRC, time table and different types of registers.
- In Karnatak University affiliated teacher education colleges pre-service teachers took 24(12+12) classes during internship & got marks for each class out of less than two marks only. So they were not serious about their classes during internship.
- Trainees did not meet teachers to learn class room management techniques.
- Most of the time the teaching of trainees was not observed during the internship.
- Principals did not involve in trainees examination and evaluation work during internship. Trainees did not develop rapport between school principal and teachers.

- Trainees did not write lesson plans & make teaching aids in advance& did not get approval from teacher educators.
- In some schools principals and teachers suggested their topics to trainees for teaching so they could not follow their lesson plans during internship.
- Trainees did not observe classes of school teachers, because some school teachers were not give permission and there is no mark of observation.
- Trainees did not conduct remedial classes in school during internship.
- During internship trainees observed classes of their peer. They did not discuss about the strengths &weaknesses of a class room & the teacher.
- Trainees cannot judge the competence of a teacher just by observing a lesson.
- Trainees did not conduct action research in school during internship.
- Trainees did not conduct remedial classes in school during internship.
- Trainees submitted their report to their coordinator after internship but did not present it in assembly.

Educational Implications

- Trainees have to maintain diary, it will enable them to take stock of the situation and plan future course of actions.
- Trainees should take remedial teaching, conduct test and analyze the result and give suggestions for improving performance of the students. Thus they can understand the actual process of evaluation & learn how to evaluate the students in the school.
- We should give real experience of different works as examinations, evaluations, event management...etc. to pre-service teachers. This experience leads them to be better organizer once they become full-time teachers.
- It is necessary to see that the teaching of trainees must be observed at least by one of the teaching staff of the school.
- Trainees should complete practice teaching within the prescribed duration & write lesson plan, prepare teaching aid in advance & get approval from method master. They should check students' lesson plan properly.
- Trainees should conduct different activities in the school so they can understand about the process & difficulties involved in organizing the activities.
- To give practical experience of conducting action research to trainees, action research must be a part of the internship programme. So trainees can identify a problem & find solution to the problem through action research.
- Internship is very long process with many activities; it has 3 stages, so we should consider all 3 stages for evaluation. We should include practice teaching, observation record, evaluation record, preparation & presentation of teaching aids, record of participation in school activities & presentation of internship report for evaluation.
- For improvement in internship programme in future, post-internship is very important. In presence of all trainees and teacher educators a group leader should present a brief report of internship and all members should discus on various aspects of internship.

Conclusion

Internship program also give them opportunity to understand different aspects of school program and improve their skills and abilities in teaching profession. An effective and improved internship program is required in developing student-teachers personalities as true professionals in the field of education. So we should make it more fruitful by our serious efforts. It should not for just completion of teacher education programme but it must be for making successful and effective teacher. We have to adopt certain strategy for quality improvement in internship programme.

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CHAPTER-5

A Study on Safety and Security Measures of Women Employees in IT Sector, Chennai

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Introduction

Health and Safety initiatives are part of a strategic approach to HRM. No longer just a "thing" that companies have to comply with, health and safety is being used as part of a company's overall strategy for talent retention, overall objectives, and loss-time prevention. Consider the benefits of loss-time prevention: the most obvious benefit is to the bottom line. Healthy employees are productive employees, and productive employees have very positive effects on the company's bottom line. When employees start to feel that their work is unsafe or that their employer does not care about their health or well-being, productivity may start to slip. Witnessing injuries or having to cover jobs while other workers are out injured can also impact productivity; as well as morale and retention.

Investment in health and safety programs, including disability management, proactive health and wellness programs, preventative measures, and a sound on-boarding and Health Safety and Security measures, produces quantifiable bottom-line returns. By using health and safety to prevent loss-times injuries and keep productivity at a premium, companies are using health and safety programs to help achieve overall goals and objectives.

Industry Profile

The software industry started in the early 1960s, almost immediately after computers ('mainframes') was first sold in a more or less standardized way. Universities and businesses began to use these computers and to seek out programs to do certain computing tasks. Many of these programs were written in-house by full-time staff programmers. Some were distributed freely between users of a particular machine for no charge. But others were done on a commercial basis, and the very first standalone software firms started in the United States in 1959-1960. Pretty soon, the computer-makers started bundling operating systems software and programming environments with their machines. IBM, which delivered most of the computers at the time, became a household name in corporate businesses worldwide.

When Digital Equipment Corporation brought a relatively low-priced micro-computer to market, it brought computing within reach of many more companies and universities worldwide, and it spawned great innovation in terms of new, powerful programming languages and methodologies. New software was built for micro-computers, and others, including IBM, followed DECs example quickly, resulting in the IBM AS400 amongst others.

Need for the Study

- We can identify several positive results that accrue from a well-designed safety and security measures of women employees in it sector. Safety and security measures efforts are consistent with and a natural extension of human resource planning.
- An analysis safety and security measures is an essential requirement to the design of effective safety and security measures. The purpose of safety and security measures analysis is to determine whether there is a gap between what is required for effective performance and present level of performance.
- Safety and security measures also develop the employee friendly work environment with high learning curve and leadership mentoring.
- Safety and security measures are conducted to determine whether resources required are available or not. It helps to plan the budget of the company, areas where Safety and security measures is required, and also highlights the occasions where Safety and security measures might not be appropriate but requires alternate action.
- The need for Safety and security measures mainly to retain and promote employee who are strategic to the company's success. It leads to a strong sense of direction coupled with responsibility boosts motivational level and hence performance.
- The objective of this assessment is not that of selecting future promotes, but rather to help employees to improve their skills to achieve their performance.

Review of Literature

Punekar, Deodhar and Sankaran (2004) in their book, "Labour Welfare, Trade Unionism and Industrial Relations" stated that labour welfare is anything done for the comfort and improvement, intellectual and social-well being of the employees over and above the wages paid which is not a necessity of the industry. Shashi & Joshi (2005) in their book, "Human Resource Management" discussed "labour welfare" in detail. The book covers all the aspects of labour welfare such as types of labour welfare, statutory provisions concerning welfare, approaches to welfare and also the significance of labour welfare. Mamoria et al.,(2005) in their book "Dynamics of Industrial Relations" discussed the welfare facilities provided by various organisations such as cotton mills in Mumbai, Jute mills, steel plants, mines, plantations, railways, postal &telegraphs, ports and dockyards. They also discussed the employee welfare measures undertaken by the Government from the First Five Year Plan to Eighth Five Year Plan period. Singh (2005) in his book, "Industrial Relations: Emerging Paradigms "stated that social security is an attack on five giants such as wants, disease, ignorance, squalor and idleness. According to him, social security is not a burden but a kind of wise investment that offers good social dividends in the long run.

Venkata Ratnam (2006) in his book, "Industrial Relations" discussed the provisions made for social security in the constitution of India, labour legislations, collective agreements and voluntary arrangements for the organised sector. He also discussed the key issues in social security in the context of the emerging socio-economic environment. Micheal Armstrong (2006) in his book, "A Hand Book of Human Resource Management" discussed the various welfare services provided to employees in detail. He stated that the provision of welfare services in terms of individual services, group services and employment assistance programs help in improving the identification of employees with the companies in which they are employed. Malik (2007) in his book discussed the various welfare measures to be provided to workers and employees under various Acts Viz., Mines Act, 1952,Factories Act, 1948, Environment (Protection) Act, 1986 etc. Aquinas (2007) in the book, "Human Resource Management" explained the intra-mural and extra-mural welfare benefits provided to employees. He stated that some welfare benefits are provided as per legislation while some other welfare benefits are provided voluntarily by management or as a result of bi-partite settlements between the Management and Trade Unions.

Snell and Bohlander (2007) in their book, "Human Resource Management" throw light on the various benefits especially social security benefits such as provident fund, gratuity, pension and insurance cover provided to employees.

Dessler and Varkkey (2009) in their book, "Human Resource Management" discussed the benefits and services provided to employees in India. They also discussed the benefits to be provided as per Central or State Law besides the discretionary benefits provided by employers. Ivancevich (2010) in his book, "Human Resource Management" stated that an employer has no choice about offering mandated benefits programs and cannot change them in any way without getting involved in the political process to change the existing laws. According to him, the three mandated programmes are unemployment insurance, social security and workers compensation. Aswathappa (2010) in his book, "Human Resource Management" discussed the various types of benefits and services provided to employees in terms of payment for time not worked, insurance benefits, compensation benefits, pension plans etc. He also discussed the ways to administer the benefits and services in a better way.

Primary Objective

- To study the Safety and security measures of the women employees in order to increase the number of competent person and retain them in the organization.

Secondary Objectives:

- To bridge the gap between the actual and expected performance and behavior.
- To attain the level of performance this leads to the fulfillment of objectives.
- To increase the level of motivation among the employees in the organization.
- To develop their skills in interpersonal group communication.
- To develop potential knowledge and skills of the trainees to carry out defined tasks and responsibility.

To assists in removing mental blocks, dispelling those doubts or misconceptions that may be preventing a participant from realizing the full range of his potential

Methodology

Research in common practice refers to a search for knowledge .one can also define research as a scientific and systematic search for pertinent information on a specific topic. In fact, research is an art of scientific investigation. Research is an original contribution to the existing stock of knowledge making for its advancement. Research is the process of systematic and in depth study or search for any particular topic, subject or area of investigation, backed by collection, compilation, presentation and interpretation of relevant details or data. Methodology as the name suggests methods through which the problem or situation is tackled. It involves a lot of factors like research design, sample size, segment, techniques of sampling, tools used etc all these factors put together brings out a clear and accurate result. Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically.

Research Design: A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. The type of research design to be adapted in the study was descriptive research.

Descriptive Research Design: It is also termed as Ex-post facto research. This type of a research includes surveys and fact-finding inquiries of different kind. The major purpose of descriptive research is descriptive of the state of affairs, as it exists at present. Moreover in this type of research, the investigator does not have control on the influence of secondary variables; he can report what has happened or what is happening. This design is one that describes something such as demographic, psychographic, socio-graphic

characteristics of employees. The descriptive study is typically concerned with determining frequency with which something occurs or how two variables vary together.

Sources of Information: The two main sources of data for the present study have been primary data and secondary data.

1. Primary data consists of original information collected for specific purpose. The primary data for this research study was collected through a direct survey with the executives guided by a structured questionnaire.

2. Secondary data consists of information that already exist, which has been sourced from various authentic and reliable sources like books, newspapers, trade journals and white papers, industry portals, government agencies, trade associations, monitoring industry news and developments.

Sampling Plan

- **Population:** Population is the universe that can be defined as the complete set of items included in any particular situation.

- **Sampling Unit:** This answer is to be surveyed. The researcher must define target population that will be sampled; once this is determined a sampling frame is developed so that everyone in the target population has an equal chance of being selected.

- **Sample Design:** A sample design is a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt in selecting items for the sample. It also lays down the number of items to be included in the sample i.e., the sample size.

- **Sampling Frame:** The sampling frame of the study is the executives of IT sector.

- **Sample:** Sample denotes only a part of the universe, which is studied and conclusions are drawn on this basis for the entire universe.

- **Sample Size:** An important decision that has to be taken in adopting the sampling techniques is about the size of the sample. Size of the sample means the number of sampling units selected from the population for investigation. It answers "How many people should be surveyed".

Sample size is the number of items to be selected from the universe to constitute a sample. The Sample size of the study is calculated through the pilot study. The pilot study is conducted for 20 executives in sample area. The sample size is calculated from the formula

$$N = \frac{Z^2(pq)}{E^2}$$

$$= \frac{(1.92)^2(0.9)(0.1)}{(0.05)^2}$$

$$N = 138$$

So the sample size is taken as 120 approximately.

Sampling Technique

Non Probability Sampling: The sampling technique adopted is non-probability sampling. It is that sampling procedure which does not afford any basis for estimating the probability that each item in the population has of being included in the sample. It is also known by different names such as deliberate sampling, purposive sampling and judgement sampling .In this type of sampling, items for the sample are selected deliberately by the researcher; his choice concerning the items remains supreme. The judgement of the organizers of the study plays an important part in this sampling design.

Data Collection Procedure: Primary data was collected using questionnaire. The survey was done with researcher meeting the respondents in their respective places, the respondent reference to each question was carefully noted in questionnaire. Their perception and suggestion were carefully observed and registered.

Data Collection Method

Survey: Survey is a fact-finding study. It is a method of research involving collection of data directly from a population or a sample thereof at a particular time.

Personal Interview: Under this method of collecting data, the investigator personally comes in contact with the persons from whom the information is to be obtained. Here the questions relating to the enquiry are asked and the desired information's are collected.

Analysis and Interpretation: After collecting research data, it is necessary to analyze and interpret them. The purpose of analysis is to build up a sort of empirical model where relationships are carefully brought out so that some meaningful inferences can be drawn. Data has to be analyzed with reference to the objectives of the study. The following statistical tools are used to analyze data: Percentage analysis method, Interval estimation method, Chi – square test analysis, Pearson's correlation test, Weighted arithmetic mean, and ANOVA.

Limitations

It is not possible to conduct the perfect study because every study has its own limitations. Limitations of the study allow us to know, to what extent the findings can be generalized. In our study some of the limitations are:

- The study is limited to some particular unit of IT sector.
- It is difficult to know whether the respondents' opinion is exactly genuine as people perception may change from time to time.
- Since the study was during the time period of three month, the findings may remain true for a certain period, after which it may not be applicable.
- Time was the main constrain. The research has to be completed within the stipulated time limit.
- Some information cannot be accessed due to its confidential nature.
- The employees are replied in a random number.

Findings

- The experience of the respondents majority of the respondents belongs to the 5–10 years of experience
- From the present study it is inferred that majority of the respondents are manager and assistant manager in the organization.
- All the respondents agreed that job satisfaction is necessary for an employee.
- Majority of the respondent ranked that clear objective as the first important factor followed by work environment, compensation and fringe benefits to motivate the employee performance.
- Majority of the respondent says that the medical facility provided by the organization is very good.
- Most of the respondents say that the seating arrangements provided by the organization are good. We identify that most of the respondent says that job security given by the management is satisfied.

Suggestions

To permit effective examination of the relationship between health and employment and work-related factors among older workers it is necessary to create new, longitudinal data sets containing detailed information on workers' employment histories and the specific demands of the job, as well as objective information on the health and safety risks to workers in the job. Such data sets do not currently exist because they are costly to create.

An ideal longitudinal data set would contain baseline information on the health status and previous work histories of a representative sample of older Americans, with overrepresentation of minority and other high-risk groups. The survey that collects these data would periodically gather from respondents and their employers' data that provide researchers with consistent, reliable, and continuous information on respondents' employment and earnings, the risk factors associated with employment, including work organization and job demands on physical and mental capacity, and exposure to risk factors such as harmful chemicals. These data are needed to follow work and retirement patterns in aging cohorts of workers and to assess the effects of work on health. These data are also needed to assess the effects of health, workplace health risks, family obligations, and other causal factors on employment in later life. The old Retirement History Survey and newer Health and Retirement Study, as well as other longitudinal surveys now available, do not contain reliable or continuous information on the risk factors to which workers are exposed in their jobs.

Creating an ideal data set would be very costly, but it may represent the only strategy likely to produce sufficient data to elucidate completely the relationship between workplace risk factors and workers' health and employment patterns in later life. A more limited and less expensive alternative is to modify existing longitudinal and no longitudinal surveys so they contain crucial information about workplace health risks. Another alternative is to collect information on a convenience sample for which longitudinal record gathering is less costly in contrast to a nationally representative, random sample with periodic in-person or telephone survey updates. The size of the government workforce would also permit targeted sampling for better assessment of demographic subgroups. It would likely, however, exclude the possibility of assessing a full range of occupations.

Conclusion

In recent years, the important and role of Health Safety and Security measures has increased manifold. More and more use of Health Safety and Security measures is being made by all sections of the organization .These Health Safety and Security measures has become a part of human resource development. Health Safety and Security measures are one of the main activities which change the future of the Organization. Health Safety and Security measures have become essential part not only to increase the productivity but also to motivate and inspire workers. It increases the skills of the persons at all levels of the organization. Human resources are the life blood of any organization .This can be achieved through well provided ambiance.

The Health Safety and Security measures will increases the performance of the members in the organization. It also increases the human relation skills. It also helps to stimulate creative thinking.

Health Safety and Security measures play a vital role in the organization performance. The Health Safety and Security measures provided by IT industry are satisfactory but still it should keep on providing the Health Safety and Security measures to the executives who will generate interest and create innovative ideas to take part in the Health Safety and Security measures and in improving their knowledge & skills along with their personality development. The Health Safety and Security measures should be frequently ensured so as to improve efficiency of executives in the organization. Health Safety and Security measures leads to increase in morale among executives, better human relations, reduced supervisions, increased organizational viability and resilience, advancement in technology.

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CHAPTER-6

Artificial Intelligence - Build our Learning Skills

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Introduction

The phrase Artificial Intelligence; which was coined by John McCarthy three decades ago, evades a concise and formal definition to date (Aggarwal & Vishal, 2010). One representative definition is pivoted around the comparison of intelligence of computing machines with human beings. Another definition is concerned with the performance of machines which 'historically have been judged to lie within the domain of intelligence'. A better definition of artificial intelligence, therefore, calls for formalization of the term intelligence'.

Problem

Definitions of Artificial Intelligence

- **Nilsson (1971)-**'The goal of work in artificial intelligence is to build machines that perform tasks normally requiring human intelligence'.
- **Slagle (1971)-**'Research scientists in artificial intelligence try to get machines to exhibit behavior that we call intelligent behavior when we observe it in human beings.'

Applications of Artificial Intelligence

Artificial Intelligence in the form of expert systems and neural networks has applications in every field of human endeavor. They combine precision and computational power with pure logic, to solve problems and reduce error in operation. Already, robot expert systems are taking over many jobs in industries that are dangerous for or beyond human ability. Some of the applications divided by domains are as follows:

- **Heavy Industries and Space:** Robotics and cybernetics have cybernetics have taken a leap combined with artificially intelligent expert systems. An entire manufacturing process is now totally automated, controlled and maintained by a computer system in car manufacture, machine tool production, computer chip production and almost every high-tech process.
- **Computer Science:** Researchers in quest of artificial Intelligence have symbolic programming, intelligent storage management systems and many more such tools.
- **Aviation:** Airline use expert system plants to monitor atmospheric conditions and system status. The plan can be put on auto pilot once a course is set for the destination.
- **Weather Forecast:** Neural networks are used for predicting weather conditions. Previous data is fed to a neural network which learns the pattern and uses that knowledge to predict weather patterns.
- **Swarm Intelligence:** This is an approach to, as well as application of artificial Intelligence similar to a neural network.
- **Education:** AI is used in education to increase the quality of education. AI can be use in teaching – learning process. It can be used to develop intelligent computer programmes but can instruct students in an intelligent way.

Scope of Artificial Intelligence

Artificial Intelligence (AI) is a branch of Computer Science which tries to give "Intelligence to machines". But the concept of Intelligence itself is debatable, and making these machines without life "Intelligent" is something near to impossible. Artificial Intelligence aims at producing intelligent behavior from machines.

1. **Artificial Intelligence and Intelligent Behavior:** Artificial Intelligence (AI) is concerned with two basic ideas. First, it involves studying the processes of humans; second, it deals with representing those processes via machines.

2. **Artificial Intelligence and Education:** 'Constructionism' is a theory of learning and a strategy for education. Constructionism is based on two different senses of Construction. It is based on the idea people learn by actively on structuring new knowledge, not by having information. "Poured'' into their heads. Moreover, constructionism asserts that people learn with particular effectiveness.

3. **Computer Science, Psychology and Education:** Many of the methods and of computer science, psychology, and education are complementary and collectively supply nearly complete coverage of the field of AI and education. Artificial intelligence address how to reason about and thus learning. Psychology, particularly its subfield cognitive science, addresses how people think and learn, and education focuses on how to best support teaching.

Role of Artificial Intelligence in Education

1. Development of Intelligent Tutoring System: In the phase of ITS developments, several efforts have been undertaken to develop tutoring systems, mostly for teaching computer programming to students at the university level. However, recent research on ITS developments indicates that there are few dedicated ITSs developed in the engineering domain.

2. Intelligent Tutoring System and Active learning: "Reform"-this word, nowadays, is commonly heard in all educational settings ranging from primary to professional education. This reform movement is due to the unsatisfactory state of our current educational system. The problems are great and there is no single ''magical method available to improve the current state of education. But what we can do is to adopt the ''divide and conquer'' strategy and solve problems that are linked to this disastrous state of education, as far as possible.

3. Mobile Learning and Artificial Intelligent Tutoring System: Learning is an active process of building knowledge and skills through practice within a supportive community. It comprises not a process of continual personal development and enrichment, but also the possibility of rapid and radical conceptual change. Mobile learning is an emerging discipline in the area of education. The field of mobile learning is approximately a decade old and has grown rapidly. As personal computer integration predicated computer–enhanced learning. A primary factor in the growth of mobile learning is the increasingly ubiquitous integration of cell phones into society.

4. Inquiry Learning: Inquiry is an approach to learning in which students actively construct their own knowledge. Students ask questions and gather data to support and refute hypotheses. Inquiry activities why dinosaurs became extinct, where the next earth quake will occur, and how to make soap bubbles firm enough to make a foam tower. Inquiry invites student to make discoveries, rigorously test them in the search for new understanding, and explore new knowledge. It closely mirrors the enterprise of doing real science or history. Students learn which questions to ask and how to make predictions from theories, test theories and derive theories from data.

5. Teaching Collaborative Skills: Teaching students to collaborate requires teaching them communication skills. Organization and management skills are needed for students to share and assume ownership of knowledge. Teaching such skills in a class room is time and labor intensive. Teachers need to know how and when to intervene appropriately.

6. Intelligent Tutoring System and Online Learning: Starting in the 1970s, early computer-mediated communication (CMC) technologies, such as e mail and computers conferencing, were employed to support effort in online education. Although development was performed in a piecemeal fashion and early systems had definite short comings, online education offered important potential benefits.

7. Technology Facilities for Online Learning: The following facilities are used for Online Learning systems. It may also refer to as e-learning systems.

Conclusion

Today's artificial intelligence wave is one of rapid adoption of AI technologies in new applications, driven by, among others the mentioned 3rd platform technologies, including the cloud, faster processing capabilities, scalability, Big Data, the push of various companies in a space where technologies continue to be refined across several applications and, last but not least, market demand for smart and intelligent technologies to leverage the potential of new technologies, information and digital transformation. It's clear that artificial intelligence is indeed not new but has changed a lot and gains more attention than ever. It's becoming ubiquitous and transforms the way to learn, work, live and do business. Along with robotics, artificial intelligence is again an increasingly debated topic. Still, this wave is not the last one, it is even very similar in many regards to the previous one and the hype is loud.

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CHAPTER-7

Challenges and Issues of Skill Development in India

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Introduction

India, the sub continent, has extremely diversified culture, tradition, languages and literature, regional and political set up and even natural environment. In spite of these differences it finds 'Unity in Diversity'. The nation's population is nearly one fifth of the global population. It amounts to 1.30 billion of 7 billion. It has a work force of nearly 350 millions, next to China. Of this nearly 38% of the work force is illiterates or semi literates. Around 25% of work force either attended primary schools or just drop outs. Nearly 36% has an education up to middle and secondary level. It is very pathetic to note that only 10% of the work force has vocational training, out of the minimal force only 2.3% has formal training and experience ability; the rest of the lot has informal coarse training. It is a negligible figure when compared to countries like Korea 96%, Japan 80%, USA 52%, Germany 75% and UK 68%. Around 80% of our work force does not have marketable skills. The root cause of this situation is very evident. India being a multi ethnic, multilingual, varied culture and traditions, uneven regional developments and warning political set up is plagued with problems of illiteracy and lack of proper education, unemployment and under employment, poor skill capacity, absence of specified and specialized knowledge and training, poverty and superstitions.

Historical Background

Hunter Commission 1882-83 had recommended Vocational Education for India Youth in his report. But it was not a conducive period under British rulers. Various Education Commissions and Education Committees under eminent Educationists and Administrators have advocated Education Policies since independence. Most of them concentrated on academic formal and informal education with some reference on Vocational Education. There are a few references of vocationalisation, technical education, work based education, and socially useful productive work of national interest in some committees and commissions. For example Dr.A.L.Mudaliyar Commission 1952-53 had advocated Diversification and Vocationalisation to commence after VIII standard, but it was not implemented. It proposed no clear path of vocational education. Dr. Kothari commission 1964-66 mentioned about Education and Productivity Curriculum. Commission on Higher education and its Vocationalisation 1976, Discussion on it 1977, Review Committee on curriculum for 10 year school, 1977 put forth some light on 'Work Based Education' in relation to National Development, namely 'Socially Useful Productive Work (SUPW)'. The Working Group on Vocationalisation of Education 1977 formed two groups one for Rural and the other for the Non Rural.

Earlier Initiatives

Secondary Education with Special Reference to Vocational Education 1978 under the Chairmanship of Dr. Malcom S. Adhiseshaiah submitted its report 'Learning to Do' recommending selected vocations and relevant action plan for it. The Centrally Sponsored Scheme of Vocationalisation of Secondary Education at +2 level to enhance individual employability, to reduce the mismatch between demand and supply and supply of manpower

was implemented since 1988.It provided alternative for those pursuing higher studies. The revised scheme was in operation since 1992-93. The Scheme had created infrastructure of 21000 sections in 9619 schools and creating a capacity of about 10 lakh students at +2 level (Press Information Bureau, n.d.).. The grants released since the inception of the scheme was Rs. 765 crores. Based on the recommendations of various Committees/Review Groups, the existing Scheme was revised (MHRD, 2015). Of all the committees and commissions since independence this Centrally Sponsored Scheme contributed concrete basement. Yet it was far from sufficiency.

Recent Initiatives on Skill Development in India

To put India on the International map of knowledge and skill, it has to start from the scorch. The present scenario of the nation is slowly changing. To infuse new blood to the Nation 'Make in India', 'Digital India' and 'Skilled India' Schemes were introduced by the Central Government of India. These schemes are interlinked with each other. It looks that the nation has to walk a long way to achieve the goals set by the government. India has rightly put her step in the right direction at the right time.

In 2015 the Prime Minister of India launched an ambitious scheme on the World Youth day – 15th July nearly after two decades of inaction. It is christened as "Pradhan Mantri Kausal Yojana 1.0". This is the flagship outcome based – result oriented skill training scheme of the new Ministry of Skill Development and Entrepreneurship (MSDE). The National Skill Development Corporation (NSDC) is entrusted with implementing the scheme.

Objective of this skill certification and reward scheme is to enable and mobilize a large number of Indian youth to take up skill training and become employable and earn their livelihood. Under the scheme monetary reward would be provided to trainees who are successfully trained, assessed and certified in skill courses run by affiliated training providers (Rani, n.d.). This scheme is known as PMKVY 1.0. The aims of the scheme are: to encourage aptitude towards employable skill, to provide quality training, to reduce poverty and to increase wages. Various training programs have been worked out on the basis of National Occupational Standards (NOS). 1.8 lakh applicants enrolled for 350 employment jobs.

In February 2016, PMKVY 2.0 was launched. It was approved for four years (2016-2020) to benefit 10 million Youth with a budget allocation of Rs. 12000/- crore. The objective of this Skill Certification is to enable a large number of Indian youth to take up industry relevant skill training to help them in securing a better livelihood Individuals with prior learning experience or skills will also be assessed and certified under 'Recognition of Prior Learning' (RPL) (MSD&E, n.d.). Various trades have been identified and classified in to five broad categories by the Sector Skill Councils (SSC). Presently 37 councils are in operation and 600 corporate representatives are operating.

Key Components of the PMKVY Scheme

a) **Short Term Training (STT)** providing short term appropriate training for the freshers. The plan is to provide 60 lakh youth with the opportunity to get trained, assessed and certified.

b) **Recognition of Prior Learning (RPL)** under this component training is provided to those who are already in the trade by aligning the competencies of 40 lakh individuals from the unregulated workforce with the NSQF,

c) **Special Projects** aims at providing and establishing a platform to facilitate training in special areas at Government and Corporate premises.

d) **Kausal and Rozgar Mela:** It is like a review and stock taking exercise to be organized every six months by training partners to ensure Scheme's reach and success far and wide.

e) **Placement Assistance:** Linking the aptitude, aspiration and knowledge of PMKVY candidates to potential employers.

f) **Continuous Monitoring:** Ensuring the maintenance of high standards of PMKVY Training by using technology driven methodologies.

g) **Standardized Branding and Communication:** Ensuring greater visibility and the accurate communication of the Scheme on-ground.

Issues and Challenges of Skill Development

1. **Status of Education - a poor scenario:** To build a high raise building the foundation must be well laid and strong. In the same way a wide and deep knowledge is necessary to develop and build skill strongly. The first and foremost Basic Issue is the Education System of India. There is no common or a single system of education throughout the nation. Ethnic, cultural and Political interventions drag down the system to suit their whim and fancy. It can, at least, be justified in the art studies, social sciences and languages to allow ethnical and regional differences. Science and Technology must have a common curriculum throughout the nation. It must be latest and updated curriculum to suit and address modern innovations at global level. There is an enormous challenge to meet in this regard.

   The states like Orissa, Bihar, Chhattisgarh, Uttar Pradesh, Madhya Pradesh etc; which lack far behind the national literacy average. Enrolment rate is and very low but whereas dropout is very high. These states face unemployment problem. On the other hand the states like Kerala, Tamil Nadu, Karnataka, Andhra Pradesh etc; are competing above the national level and are facing under employment crisis. The economy of the states is also uneven, spreading a vast spectrum from poverty stricken have-nots, laborers to affluent bosses, the haves.

   Commercialization of education has created another problem in-equality. There are different streams of schooling namely State board, Matriculation, CBSE, ICSE and International curriculum schools. This creates social disparity and in-equality among the students and their knowledge and performance, paving way for poor and under achievement.

   The possible solution to this issue could be formulating and implementing a common curriculum for science and technology throughout the nation at all/each and every stage(s) of schooling. It would provide a fair platform to compete and skill development. The secondary and higher level of education is not rosy. The cut-throat competition among the private institutions compel them to stoop too low to engulf the students. It is said students get certificates, diplomas and even degrees in fraudulent ways and means.

   Lack of well qualified teachers in these institutions is an allied issue. Poor supervision and quality check in government institutions is a major problem. The challenge lies in providing apt training to the teacher trainees at all levels, using modern updated digitalized smart technological methods. Stringent academic and technical inspection, internal and external audit should be carried out periodically by experts at all levels.

2. **Lack of Infrastructure:** As per the Periodic Labor Force Survey {PLFS) 2017-18 seventy (70) million Indians of working age of 15 to 59 will enter work force by 2023 and will include 404.15 million. Out of this, new entrants 59 million are youth of 15 to 30 age group. Every year around Hence 7.7 million are denied of proper training facility. It is felt that the financial burden to develop suitable curricula, train the staff, procure appropriate equipment and provide other infrastructure is heavy.

3. **Demand, Supply, Survey Data and Relevance:** The training agency partners should have authentic updated survey data regarding market demand for workforce and supply of the same. A clear comprehensive data of available trained personnel – trade wise, experience wise etc; must be made available periodically. It should take care of the relevance as well. Many nations find it difficult to cope with the demand and supply.

Here are some demands of qualified work force tough to fill in: France 20%, Germany 40%, USA 57%, India 67% and Japan 80%.

4. **Lack of Global Standardization and International Partners:** India aspires to become the Global Hub of Skill and Skilled Workforce. International partners like Japan, UK, Germany, UAE, Australia, West Europe, Canada and East Asia collaborate with training. But there is no uniform standard scale as different training curricula and institutes exist. They fail to meet the international standards. Hence there cannot be a uniform evaluation and certification. With 'India International Skill Centre' India becoming 'Skill Capital World' remains an aspiration in skill testing.

5. **Public Private Partnership (PPP):** Encouraging Public Private Partnership is beneficial for both the private sector and public sector in terms of internal and external mobility of the workforce. But most of private sector industries are reluctant to invest in the training of their own workforce as there is possibility of workers quitting the job for better pay and perks.

6. **Mismatch of worker(s) and employer:** The issue of mismatch of worker(s) and the employer often crops in. The worker would have had excellent knowledge and experience but the employer may lack behind in the trade. In such situations the efforts and expertise would go unnoticed, unappreciated and even unpaid for. Visa versa the employer may be an expert but worker would be a inexperienced leading to poor salary/wages, at times lose of job itself. It can be solved by certifying the worker in the first case and by providing re-skilling the worker.

7. **Minimal Institution Industry Interface:** There is very minimal connection between training Institutions and Industry. A few reasons are: (a) There may not be relevant industry where the institute is situated, (b) Either the institution or the industry may not have interest for a tie up, (c) The industry may not be willing to share its technology, and (d) The industry may not be ready to waste its manpower on imparting training to the students, etc.

8. **Lack of Awareness among students, teachers and parents:** There is lack of awareness among the stakeholders of training program. Neither teachers nor the parents, especially those who live in rural, are aware of the various fields of training available for their wards. Even they are ignorant of the employment opportunities open for the trained. It is no wonder that the students' indifference towards such programs. Enlightenment of the teachers, parents and students is the need of the hour.

9. **Sensitizing and Counseling of Students:** There should be a series of strong sensitizing and counseling sessions by experts of various fields to the students. Even the parents and teachers could be included. Counseling experts must be appointed in the educational institutions.

10. **Students' Reservations and Mobility:** Students have numerous reservations against undergoing training, such as cost of training, transportation, boarding and lodging, medium of instruction, anxiety, confidence level, new environment etc; these reservations prevent their mobility.

Conclusion

India's ambitious scheme 'Skill India' was inaugurated only in the year 2015 and it is just five year old. The aim of the scheme is to have sustainable growth and economic well being of the nation. Elaborate plans have been formulated with rules and regulation setting targets and ultimate deadlines. Issues may crop up in the long run of the scheme. Yet a few issues and challenges are enumerated in this article. Addressing them could enhance the working of the scheme. Statistical data is differed to make the article simple and readable.

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CHAPTER-8

Conceptions of Socially Useful Productive Work (SUPW)

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Introduction

It is accomplished on all hands that education is very important not just for the preservation and transmission of culture however is additionally a very important instrument altogether spheres-social, economic, political and line of work. But the present position of the system of education in India in the light of these characteristics is defective. The schools have become a place of boredom and 'soul killing' routine to which children come 'with a painful necessity under parental compulsion'. It does not prepare them for future life.

The absence of productive work at present has made the educated class almost unfit for life and has harmed them physically. The present generation of students knows no cleanliness, no self-help and are physically weak. Therefore Gandhiji was of the opinion that if education is based on socially useful productive work, it would be panacea for allour social ills.

The Concept of SUPW

Formal education of the present day made education bookish and mechanical. It prepares some 'white collared baboos "who hesitate to do manual work. Therefore, Wood and Abbott in the year 1937 gave emphasis on activity centred education which may lead to the harmonious development of personality. Gandhi, the torchbearer of the concept of socially useful productive work, criticizing the present system of education said, "I am convinced that the present system of education is not only wasteful but is purposely harmful.

Not only Gandhi, but the other great Indian educators, like Tagore, Gopabandhu and Shri Aurobindo all emphasized on manual work, for the all round development of the child, Tagores's Shanti Niketan, Gopabandhu's Banabidyalaya and Sri Aurubindo's Ashram prove that education cannot be book-centred and information mongering.

Socially Useful Productive Work as described by the Ishwarbai Patel Committee is purposive, meaningful manual work "resulting in either goods are services which are useful to the community." When productive work meets the educational requirements, it becomes purposive. A particular work becomes useful when it is related to the basic needs, viz., food, shelter, clothing, health and recreation, community work and social service. In SUPW programme emphasis is laid on all these aspects. Manual work is the king-pin of the programme. Therefore positive attitude towards manual work is encouraged. As the range of the socially useful productive work is very wide, it is necessary to include planning, analysis and detailed preparation at every stage. The socially useful productive work produces materials and involves students render some services. In post-school period, it may be remunerative or may be used for social service. It is a programme of work-experience recommended by the Kothari Commission, which relates education to productivity. The concept of Socially Useful Productive Work has developed in the light of Gandhian Philosophy of Basic Education.

Objectives of SUPW

1. Prepare pupils to practise and perform manual work individually and collectively.
2. Acquaint the children with the world of work and the productive occupations and develop in them a sense of respect for manual work.
3. Develop in children an awareness of social problems and inculcate in them positive attitudes towards community service.
4. Develop a desire to be useful members of the society and contribute their best to the good of the society.
5. Inculcate in them healthy attitudes of team work and socially desirable values like self-reliance, dignity of labour, tolerance, co-operation etc.
6. Encourage children to participate increasingly in productive work at all stages of education and thereby enable them to earn-while they learn.

Criteria for selecting SUPW Activities

1. Those activities which are productive, educative and socially useful only should be selected.
2. Activities need not be confined to the school alone. They may be extra-curricular but should be socially productive.
3. Activities should involve the local needs, community development etc.
4. The community organisations and Government agencies should give necessary resources as a support for the proper functioning of this programme in our schools.

Determinants of Work-Study (SUPW) Activities

1. SUPW intends engagement of pupils in useful productive and maintenance activities which emphasize dignity of manual labour, application and use of modern materials, process of work-planning and innovation. The programme of work study should be of direct use to pupils, the school and the community.
2. The SUPW activities must be chosen in such a way that the activities are within the competence and maturity level of the children.
3. Sequence of experience and processes may have to be observed while planning the activity. The sequence unit should be adjusted to the interest-span of the children.
4. The activities must be chosen that they may impart to pupils enough skills for the production of some socially useful article.
5. As an exceptional part of the SUPW programme, pupils should understand the social usefulness of articles, processes and activities.

Strengthening SUPW to Promote Vocational Education

The NCERT prepared a document, "National curriculum in primary and Secondary Education- A Frame ", in 1985 to act as guide to the existing institutional structure for the curriculum research, development and dissemination NCERT observed,

While the NCERT suggested a comprehensive management system of vocational education programmes in various sectors, it pointed out that, these may be effectively utilised in respect of SUPW at all stages of school education, particularly at the upper primary and secondary levels. The pre-vocational programmes in secondary schools may be so introduced that the latter provides a cluster around higher secondary institutions which offer vocational courses.

Introduction of pre-vocational courses based on local trades and occupations under SUPW at the upper primary and secondary stages may prove to be a source of motivation in the rural and tribal areas. Introduction of these courses in schools may improve the theoretical and technical foundations of these productive activities and services through the mobilisation of professional inputs in these programmes.

One of the major weaknesses of the present SUPW courses at the secondary stage is lack of work-site training as a component of these courses. While there is a need to allocate minimum resources to the school for the introduction of broad-based pre-vocational courses at the secondary stage, as a strategy school authorities may take advantage of the local business establishments, workshops and service centres for the attachment of school students for work site training. In the recent years, the concept of utilising local productive and service activities as 'practice school' of students has proved to be viable.

Work Areas in SUPW

In order to achieve the required educational six important areas have been suggested by the Iswarbhai Patel Committee on SUPW Programme. From these areas we can elicit production of goods and social services and can create productive manual work situations at home, in the school and also in the community The areas are:

1. Health and hygiene.
2. Food
3. Shelter
4. Clothing
5. Culture and recreation
6. Community work and social service.

This programme has 2 necessary elements, viz., a typical core programme and work follow. The common core programme help us to bring about 'attitudinal changes' and prepares for work practice. The work practice aims at giving a 'vocational bias' to the entire programme. It is remunerative and repetitive in nature.

Conclusion

In light of the above, SUPW provides first exposure to different fields of work in order to discover their aptitudes and abilities by exploring occupations and testing their own endurance for taking chosen productive work. Such an educational strategy engages the students in production process to make them productive in functioning and self-supporting in living. This kind of educational efforts impart experience in the maintenance of things useful to him, his house, his family, his school, his community etc. the most important aspect of such work-oriented education is that it orients the mind for aproductive outlook to execute various jobs in all enterprises of life.

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CHAPTER-9

Conceptualizing Safety and Security Skills in Cyber Space: An Awareness Perspective

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Introduction

Technology and human life cannot be separated. Humans use technology to travel, to communicate, to learn, to do business and to live in comfort. However technology has also caused us concerns. Its poor application has resulted into the pollution of the environment and it has also cause serious threat to our lives and society (Kharekha, 2012). It is highly evident that in the present context youths are all too often exposed to cyber risks and cyber threats such as technology addiction, cyber bullying and grooming. They tend to not only be more frequently exposed to risk, but also face more severe outcomes. The problem lies in the fast and ever progressing nature of the digital world, where proper internet governance programs and policies for youth protection are slow to catch up, rendering them ineffective. Hence it is hypothesized that every cyber governance and awareness programs should focus on developing certain safety and security skills among our youth in order to meet the growing challenges of digital era and it must be treated as a serious priority among every stakeholder who are active in the safety field of cyber space.

Cyber Safety and Security

The cyber space and especially social technologies are increasingly used by all groups of citizens. However, how people use these technologies and what benefits they gain as a result may vary a lot. The activities in cyber space increasingly being used in society and the economy, and this is transforming ways of working, studying, communicating, accessing information and spending leisure time, among others. Being able to benefit from digital tools and media can support all the spheres of life in society today. The speed at which technology is evolving makes it difficult to stay current with security. However, better security awareness, skills and planning can help everyone to reduce vulnerabilities and engage appropriately in the online world.

Cyber security means protecting information equipment devises computer resources, communication devises and information stored there in from unauthorized access, use disclosure modification and destruction (Godbole N &Badgure S, 2012). Cyber-safety addresses the ability to act in a safe and responsible manner on the Internet and other connected environments. Cyber Security and Safety has three features: (i) Confidentiality, (ii) Integrity, and (iii) Availability

i. **Confidentiality:** Confidentiality is roughly equivalent to privacy. Confidentiality is the assurance that information is not disclosed to unauthorized individuals,processes or devices. Measures undertaken to ensure confidentiality are designed to prevent sensitive information from reaching the wrong people, while making sure that the right people can in fact get it. It is the assurance that information is shared only among authorized persons or organizations.

ii. **Integrity:** Integrity normally refers to data integrity, or ensuring that stored data are accurate and contain no unauthorized modifications. It is the assurance that the information is authentic and complete. In information security, data integrity means

maintaining and assuring the accuracy and consistency of data over its entire life-cycle.

iii. **Availability:** Availability refers to timely reliable access to data and information services for authorized users .It is the assurance that the systems responsible for delivering, storing and processing information are accessible when needed, by those who need them. Availability of information refers to ensuring that authorized parties are able to access the information when needed. To guarantee these features in cyberspace development of cyber safety and security skills are essential.

Understanding the features of cyber safety and security and the skills needed to protect these components is important for every cyber consumers. Each features acts like a pillar that holds up the safety and security in cyber space. An attack toward these features invites proper security measures. Thus understanding safety and security skills has immense value in maintaining safety culture.

Why Cyber Safety and Security Skills?

The unlimited access to the internet on their phones and at home and it is important that people are able to navigate these online environments safely. Since dangers in the cyber space is more prevalent in the form of cyber-bullying, sexting, age-appropriate content photo sharing and permission, online extortion, online exploitation, plagiarism and copyright, virus protection, cyber security and safety skills becoming a necessary consideration for individuals and families, as well as businesses, governments, and educational institutions because they are the vulnerable groups who may easily get affected. To reduce complexities of dangers in cyber space instigation of cyber safety skills are very necessary. It requires careful, deliberate actions and intervention programs. Each cyber safety skills must ensure:

- Understanding of the potential risk in the cyber space
- Awareness and spread of the cyber risks and its good practice
- Cognizing threat levels and implement technical controls
- Knowing the personal and legal obligations when people are in cyber space
- Investigating and responding effectively to potential future cyber risks.
- Developing ethical conscience in online environments.

People without sufficient cyber safety and security skills are at risk of becoming excluded from important activities, not being able to take full advantage of the opportunities available, and they may even endanger themselves in their usage of digital tools and media. Therefore, actions for encouraging conceptualizing cyber safety and security skills for all citizens, regardless of their age, profession or current ICT use, are needed.

What are Cyber Safety and Security Skills?

Cyber safety skills are the crucial skills for the pursuit of cyber safety and security. Cyber safety skills are the skills necessary for safe and secure practice in the digital environment. Security is a process not an end state. Security is the process of maintaining an accepted level of perceived risk. Cyber security skills are the combination of essential and advanced technical expertise and skills(Cyber Security Council UK, 2019). Cyber safety and security skills comprises of the technical and psychological skills for safe and secure participations in the cyber space. These are the competencies to assess .understand, participate and mitigate the dangers of virtual world. Cyber security skills' are those skills associated with ensuring the security of information technology.

More simply, a cyber-security and safety skill doesn't confine only skills that help to mitigate each security threats. But it also encompasses a few social skills which enables the consumer to protect their cyber environment healthier. Thus cyber security and safety skills can be broadly categorized into two major skill sets. They are: (i) Technical skills, and (ii) Soft skills.

1. **Technical skills:** Technical skills are those skills which help the user to detect and mitigate the vulnerabilities in cyber space. It includes: (a) Operational skills, (b) Data Protection skills, and (c) Strategic skills

    a. Operational Skills: Operational skills and knowledge reflect the technical operation aspects of digital tools, such as using a mouse, using specific software, or file storage operations. Theknowledge aspect relates to awareness of the existence and understanding of the usage of thesetools and functionalities. These basic skills and knowledge are prerequisites for any subsequent useof these tools.Operational skills are the ability to monitor operations and detect problems in computer. It is the ability to diagnose the problems and difficulties in the hardware and software. These are the skills that needed to enhance the performance of the computers.

    b. Data protection skills: These skills encompass the ability to protect sensitive data in the computer. It is the ability to protect private information all over the web.it involves the knowledge about security protocols and encryption methods in computer.

    a) Strategic skills: It is the ability to investigate and respond effectively to current and potential future cyber-attacks, in line with the changing conditions in the cyber space. It's the capacity to prepare strategies and conjure ideas that will both cope with changing environments and consider the various challenges that lie ahead in cyber space.

2. **Soft Skills:** Studies show that along with the technical skills non-technical skills also very important for cyber security and safety. These non-technical skills closely related to the soft skills (Haney M &Lutters G, 2017).Technical credibility can be better achieved through when it is linked with soft skills. Soft skills are personality traits and behaviors. Unlike technical or "hard" skills, soft skills are not about the knowledge you possess but rather behaviors you display in different situations. Soft skills are very imperative in cyber space for safe and secure online activities because it is a matter of routine. The various soft skills are: (a) Communication Skills, (b) Integrity Skills, (c) Empathy and Emotional Skills, and (d) Etiquette Skills.

    a. Communication Skills: Now a day's cyber space is mainly used for communication process. These exchanges of information taking place through various channels like blogs, forums, chat etc. However, people do not receive any formal training in these channels they are all continue to use available technologies without any further considerations also people are not very hesitant to do experiments over online networks. Sometimes these actions may miscommunicate other users and it results in invariability. This could be possibly avoided if people learn, understand, and follow simple norms for communication in cyberspace (Ravichandran,2017). The ability to communicate effectively helps cyber space consumer to deal effectively with others .It reduces misconceptions of people who are online. Proper communication skills ensures cyber integrity in the virtual world

    b. Integrity Skills: Having integrity is doing the right thing even when no one is watching. Cyber integrity is the ability to think critically, behave safely and participate responsibly in the cyber world.Learning to be safe by staying on age-appropriate sites, learning the difference between inappropriate contact and positive connections, and reporting others who misbehave, protecting online information and keeping it secure are essential feature of cyber integrity. Acquisitions of these skills ensure cyber citizenship.

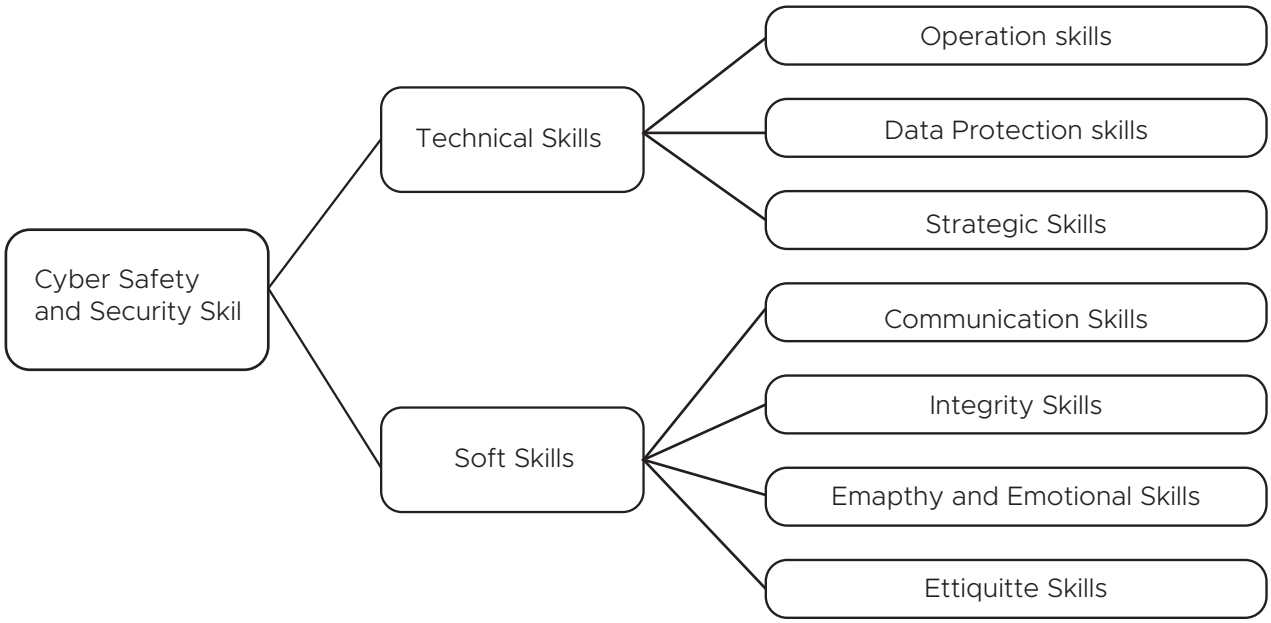
    c. Empathy and Emotional skills: Emotional dimension is a key element of staying in virtual environment. Developing emotional skills is quite difficult because it considers need both empathic and metacognitive skills of the individual.

Lack of human understanding is the major endemic behind cyber safety and security. The skill of empathy is the ability to understand and share the feelings of another.Displacement of face-to-face interaction with online activities has created too much concern about empathic skills. Having an empathetic and positive emotional attitude with others in online will create healthy virtual environment also it reduces the risks and vulnerabilities online.

d. Etiquette Skills: Cyber environments provide plenty of opportunities but activities in them also provide risks for oneself and others. In addition to being critical towards resources andother people, it is important to be always conscious of the visibility and possible consequences ofone's own activities. Users must have an understanding of safety issues and embed them into alltheir interactions and activities in digital environments. They must also consider ethical issues whenusing materials from other people, or creating materials (photos, posts) that may concern or haveimpact on others.Etiquette is a set of customs and rules for polite behavior, especially among a particular class of people or in a particular profession. When people are in cyber space we are obliged to follow certain etiquette behavior these behaviors are known as cyber etiquette. Cyber etiquette refers to etiquette acceptable with respect to use of technology. It emphasizes the importance of ethical concerns that to be followed digital lives. A large part of cyber etiquettes involves our presence in social media. There should be a certain level of confidentiality that should be maintained to protect the data and the reputation of a person. The skill of etiquette ensures cyber world more productive and useful.

Figure 1.

Cyber Safety and Security Skills



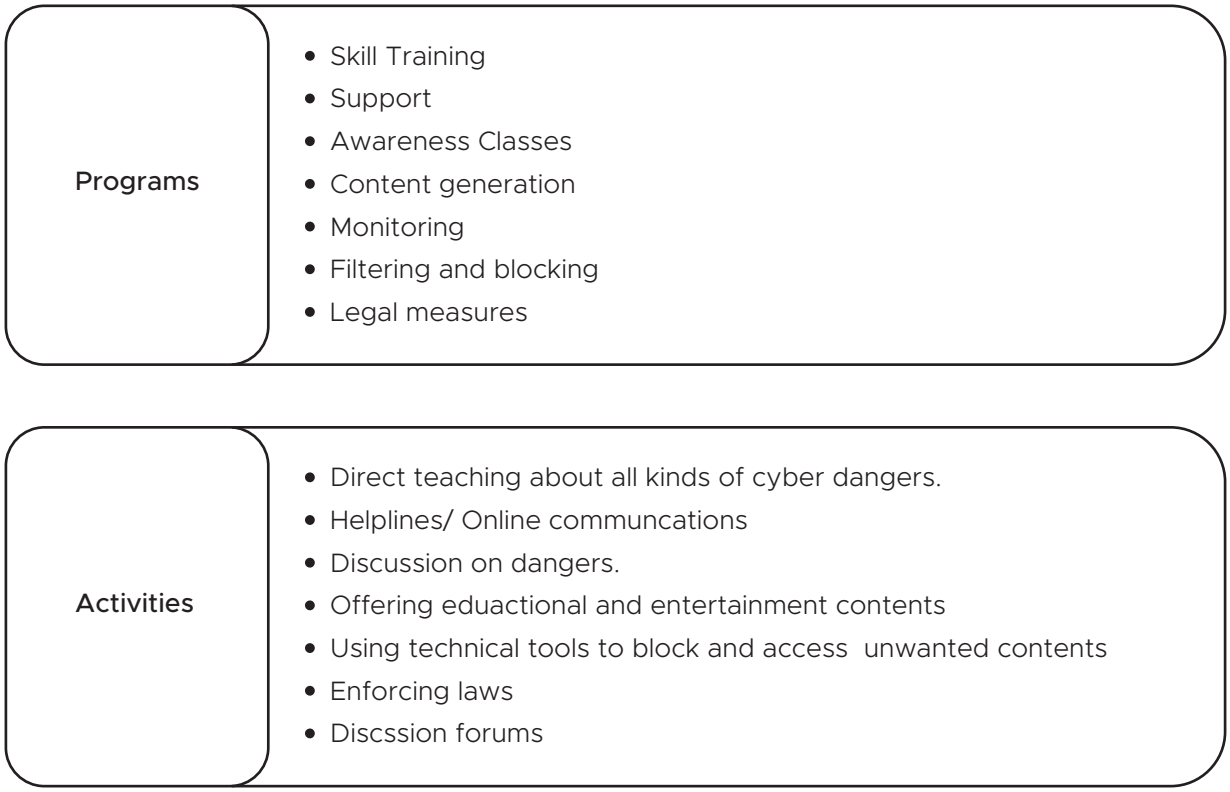
How to Develop Cyber Safety and Security skills

It is already mentioned that imparting skill training requires careful and deliberate attempts. All the stake holders like parents, teachers, law enforcing authorities, content service providers, connectivity providers and authorities are responsible for these activities. The following programs were suggested for cyber safety and security skill development.

Furthermore, both technical skills and soft skills are necessary for people who are continued to be in connection with cyber space. Showcasing, practicing and educating all cyber safety skill sets make consumers in the cyber world more credible and responsible.

Figure 2.

Programs and activities



Conclusion

To conclude cyber safety and security skills are new dimensions of awareness focusing on dissemination of information regarding the safe and secure practices in cyber space that ultimately equips all the cyber consumers as more responsible and expert users. So efforts must be undertaken to ensure and spread all the above mentioned skills related to safety in the online environments through proper channels.

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CHAPTER-10

Developing Employability Skills through Education

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Introduction

Youth unemployment is the most important challenges facing in India today. The rate of unemployment for young people in the region is the highest in the world. A growing problem in the region is a mismatch between the education system and the skill requirements of the present job market. New technologies and integration into world economies require people with problem-solving skills, familiarity with emerging technologies, and self-motivation whereas the traditional education system places too much emphasis on rote-repetition learning.

The challenge is not only in technical education or the curriculum but rather in the development of soft skills, such as management and communication skills etc. One way to bridge this gap between education and employment is by supporting interactive learning solutions, usually provided by private education companies which have proven adept at tailoring their training programs to the job market which helps youth acquire the skills required by their employers.

For education to successfully bridge the gap between education and employment in such a way that ultimately benefits the individual and society, it is important for ministries, policy makers and education institutions, educators and other stake holders to understand the skills, attitudes and abilities that are most linked with employability in a given context.

Education and training should focus on the development of career employability skills in order to meet this challenge to a collection of skills that included team building, leadership, motivation, presentation skills, time management, problem solving, self- management, numeracy, communication, literacy etc.

Future generation students bring strengths to the Institution that indicates that they may become outstanding in their careers. Education programs must prepare students to function effectively in challenging, diverse patient care settings. Use of innovative teaching strategies using different forms of technology will be a basic course expectation for students.

Problem with India's graduates

The reason for this skill gap would be simply the absence of experience in the relevant skills that are required for emerging jobs. There is a strong mismatch between the frameworks/ skills required by the job market and the ones being learned by youths. Every professional program out there has an inbuilt deep experiential learning component without which the program is incomplete. This experiential learning that is inherently expected and hence built into these professional programs ensures quality and relevant skill application of the talent.

In order to address youth unemployment, two fundamentals need to be in place: skill development and job creation. Therefore, focuses on skill development, with special attention to the mechanisms connecting education to employment. It does not address macro or micro economic issues, including regulatory and financial reform.

Science, Technology, Economics, and Mathematics (STEM) skills are required in the job market and taught in the curriculum, the practical application and relevance of these to a working environment is often missing. Knowledge-based economy emphasizes a lot on STEM skills. However, such skills can only be better transferred and applied to the working environment if soft skills, such as interpersonal

skills, strong work ethic, and the ability to identify, analyze and solve problems are also provided in the curriculum.

Apart from STEM skills, rapid changes in technology, information and economy call for the new competence in critical thinking, problem-solving, decision making, team working etc. To equip students with the requirements for graduate competence has become one of the most crucial responsibilities in school education. Interactive learning solutions based on problem-based learning emphasize on learning method that is constructive, collaborative and calls the students' attention to a real-world approach to their employment.

It is absolutely essential that youth should develop effective self-directed learning skills, are able to identify what they need to learn, can locate and use appropriated resources, apply the information back to the problem and reflect on the evaluation of their approach for greater efficiency and effectiveness.

Areas to focus on teaching

There are three main areas to focus on a youth's competence, their tolerance to mistakes, and their ability to set goals. These components help the youth to sustain effort even when a challenge seems too great.

1. **Competence builds resilience:** Teacher can help the students overcome that mindset by building their confidence through experiences that develop their competence. Also the teacher can assign the work to build their resilience to feeling overwhelmed by letting them discover, on their own, how complex things can be broken into parts. When they've completed the task explain that children have just experienced their ability to break something down into more understandable parts. The experience will build their competence awareness. Dividing big assignments on jobs into small tasks will give them the confidence to get started and the resilience to persevere.
2. **Learning from failure:** Teacher can incorporate opportunities for students to experience mistakes as an expected part of learning, build their resilience to setbacks. When students make mistakes, explain that these are not failures: they are opportunities for the brain to build a bridge that will bring them success in future. They need to understand that their brains have evolved to be survival tools. More importantly, when we correct an error, our brain builds new wiring to guide you to make a better choice next time. So doing something wrong can actually be beneficial in the long-term, replacing misinformation with firm experience.
3. **Personal meaning builds persistence:** Youths will engage more if they have to use the facts or procedures as tools for participating in personally relevant tasks. In order to put individual in a position to grow effectively and on a consistent basis, students with the following characteristics will make them an effective employee:

    - Internal motivation and self-management
    - The ability to make difficult decisions
    - Willing to take the right risks
    - Organizational consciousness
    - Adaptability
    - Willing to listen and entertain new ideas
    - Inspiration
    - Proactive
    - Visionary
    - Learn to "See Next"
    - Accept Children for Who They Are
    - Identify Strengths
    - Develop Responsibility
    - Offer Meaningful Participation
    - Promote self-reflection through small-group discussions.

- Build supportive relationships with others.
- Build Empathy
- Listen

4. **Value Based Teaching:** Teachers are expected to teach an approach that allows students to master concepts and at the same time acquire value based education. Various strategies have been encouraged to teach value based in the teaching of classrooms. The goal of teacher is to enhance students' abilities to integrate curriculum-mandated teaching and learning for human rights, peace, social justice, cultural competency, environmental awareness, and global citizenship in their classrooms.

5. **Harnessing Creativity:** Educators should foster a teaching environment that sparks creativity. Youths' learn best through doing and creating things, experiencing the world hands-on and connecting their classroom experience to the wider world around them. Educators can put these insights into practice. One way is to give students projects that involve them presenting their work back in imaginative ways whether that's designing unique apps, creating and engaging presentations or videos about their research or building online portfolios of their work. This helps encourage creativity while developing the kind of thinking that builds science and tech skills allowing students to flex their creative muscles in real-world scenarios that are still relevant to what they are learning at school. Educators can work collaboratively with the students in order to guide them creatively and technically but also encourage them to explore and experiment with digital tools to develop their digital literacy as well as to lead their career independently.

6. **Digital Teaching Platforms:** Digital teaching platforms are a series of technology products allowing technology intensive learning environments in teacher-centric classes. The platforms improve classroom and curriculum management, real time student assessment and student-teacher interaction. Moreover, teachers can deliver series of learning material consisting of applets, multimedia, group exercises and quizzes. Currently, a tool such as Google Classroom allows teachers to organize classroom assignments and provide real time one-to-one feedback to students. The use of technology in classrooms provides many opportunities for teachers to create an active learning environment while fine-tuning their teaching methods to address the weaknesses of the class.

7. **Globally Competent youth:** The changing educational landscape in the global context and the increasing interconnectedness and interdependence of the world have placed unprecedented demands on education programs in preparing teachers to educate for 21st century. The challenge in this era of education is to teach students who have various capacities and different learning rates. Teachers are expected to teach an approach that allows students to master concepts.

   The ultimate objectives of global citizenship education is to build a sense of belonging with a global community and a common humanity, and nurture a feeling of global solidarity, identity and responsibility that generates actions that are not only based on, but also respect universal values. There is still much work to be done, including indentifying a systematic approach, locating the appropriate analytical and curriculum framework, developing more relevant policy and resources, increasing professional development opportunities for teachers and creating more space to bring global dimensions and perspectives into teaching and learning to face the job market.

8. **Designing a New Future for Higher Education:** Given future generation youths demand to take control of their life, new courses have to be developed to create an interesting opportunity within higher education. The course should focus on design thinking techniques, and challenges students to design their future. As the higher education, envisions its future, addressing the needs of today's student. Connecting with students provides the insight schools

need to evolve, and appeal to prospective families. Understanding the future of the youths is a critical component of designing programs that will foster continued support pursuant of advanced degrees, distinguish universities, and keep schools competitive in a job market.

9. **Career Readiness:** A slow and steady shift is occurring in schools across the nation to prepare youths for a job including poor student outcomes and a shift in the job market toward a more educated workforce. Looking beyond student outcomes, issues of quality, cost, and accesses also other factors. The knowledge and skills needed for life in the 21st century is growing and gaining access to higher education all contribute to the complex picture. So career and technical education reflects a more rigorous framework that combines academic and career coursework, the negative image persists for many parents, policymakers, and even educators. In career readiness programmes, the educators have to provide all students with the basic knowledge and skills needed for entry into college and the job market. Steps are needed to build a comprehensive system that supports college and career readiness for every individual student, such as connecting students with real-world work experiences, gauging student learning along a continuum through a portfolio of assessments, and developing and recruiting teachers.

10. **Experiential Learning:** Looking beyond the framework of what students should know and be able to do, some educators are focusing on how to revise teaching and learning strategies to promote college and career readiness for all students. Educators are exploring hands-on, project-based learning as well as work-based learning experiences that connect academic, technical, and workplace knowledge and skills. Promising models merge academic, technical, and workplace knowledge and skills in the classroom using a range of strategies from team teaching to additional training, externships, and even partnerships with business and industry experts to fill the gaps.

11. **Interactive Learning and Hands on training:** Interactive learning education is a hands-on teaching approach that prompts students to learn by interacting with course materials through technology including videos, online games and activities, curriculum tracking apps, and active discussions. Since students are invited to participate in the conversation through both classroom strategies and online instruction as opposed to the traditional lecture, interactive learning is a lot more engaging.

    Technology can have a huge impact in this space and bridge the education and employment gap, as interactive learning solutions have shown. Countries in the region have invested heavily in equipping schools and faculties with computers, labs, networks, and software to ensure that students have hands-on opportunities to master their skills. The gap between education and employment can largely be tackled by improving the underlying quality of education using the interactive learning solutions. A fundamental shift from traditional rote-repetition learning to one that promotes problem solving and application of knowledge is required to help ease the path to gainful employment for the youth of tomorrow. Policy makers need to devise education funding strategies to sustain quality and meet rising demand for education and learning with an increased emphasis on interactive learning solutions, which also require resources.

12. **Skill based training:** In the changing world scenario with regard to industry and the job market, there is now an overpowering need for skilled workers. A skill-based training system provides practical instruction and education of how to proactively find a job in the field desired. It trains individuals with solid,

time-tested principles and fundamentals that allow them to take charge of their job search. It must be designed and delivered so that the graduate sees both its obvious effectiveness and their ability to apply the system.

The challenges being faced by the various stakeholders in the skill development and has put forward recommendations to overcome them. Any initiative from the government or the private institutions needs to encompass all the stakeholders in the process, ensure collaboration between them, backed by sound policy decisions on labour laws and policy alignment between the various ministries. Hence, skilling is joint responsibility of both private and public sector and each should leverage their expertise to come together and create a holistic skill environment for the country's youth. India is facing a massive skill gap problem with hundreds of graduates every year but only a few possessing the skills required in the industry now.

Conclusion

Educators and administrators should improve schools, change teachers' classroom practices, enhances quality of teaching, student learning and achievement and student engagement as learning outcome. Teachers affect positively the learning outcomes of students, and primarily relates to the development of high-quality learning and teaching in schools. It focuses on the principles of professional cooperation, development and growth. Teachers govern the classroom, identifying and contributing to the youth community and influencing in order to improve educational practice.

Future youth should definitely get tremendous experiences towards positive changes in the job opportunities, when global competence education is integrated in their educational practices. These changes are manifested through students' increased engagement and interest in learning, broadened perspectives and global awareness, enhanced critical thinking and problem-solving skills, greater awareness and respect for diversity, and more commitment to sustainable actions as citizens of the local and global societies. Therefore, it is not only desirable but also critical that all education programs infuse global perspectives and strategies, and develop professional competencies to educate for employment as a way to achieve transformative learning in various educational settings.

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CHAPTER-11

Digital Skills: Essential Skill in the Teaching-Learning Process

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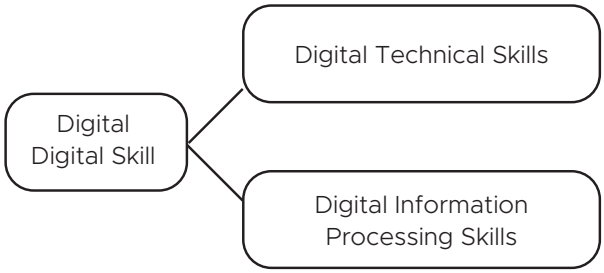
Introduction

> “The world used to think we are a land of snake charmers and black magic. But our youth has surprised the world with its IT skills. I dream of a digital India”
>
> **- Narendra Modi.**

Educational uses of information and communication technologies (ICTs) have made an enormous contribution to improving education and to the development of learning theories. Increasing competitiveness, technological change and the re-engineering of production and social processes require continuous upgrading of skills and personal growth. Technological innovation, the adoption of new teaching/ learning theories and social change all call teachers to modify their role, to introduce new content, tools and methods, and to deal with heterogeneous student’s population. Skill is an essential feature of any profession; skills provide a means for professionals to put theoretical knowledge into practice. Effective teachers should possess skills and competence that set them apart not from ineffective teachers. Effective teachers can not only do things in the classroom that others cannot, but they can also understand the relationship between their actions and the effects of these actions on the students. The skills required by them can be taught, practised, evaluated, predicated and controlled. In the present education system, digital learning is one of the innovative methods of teaching learning process. Digital skills are providing the flexible learning environment in the students and teachers. Now a days, so many digital learning devices have been using the education system. This paper mainly focused in digital skill one of the essential skills in the teaching-learning process.

Digital Skills



Digital Technical Skills;

- Use digital tools: Use computers and other hardware
- Use software applications: Select and use appropriate software
- Apply security measure in digital environment: Protect hardware, software applications, data and personal information

Digital Information Processing Skills

- Access information: Locate, select and retrieve digital information
- Communicate Information: Share digital information with others
- Organize Information: Decode, restructure and protect digital information

Teaching Skills

Teaching skills are very important to the teaching learning process. In the present situation, digital learning is one of the innovative methods in teaching. There are several skills have used in teaching learning process, given below:

1. Skills of writing instructional objectives
2. Skill of introducing a lesson
3. Skill of stimulus variation
4. Skill of reinforcement
5. Skill of keeping silent
6. Skill of asking probing question
7. Skill of explanation
8. Skill of using blackboard
9. Skill of using audio-visual aids
10. Skill of closure
11. Skill of lecturing
12. Skill of classroom management and organization

1. **Skill of Introducing a lesson:** Teacher introduces a lesson or unit; he gives brief introducing about the lesson in order to predispose the pupils mind to it. Generally, an introduction to a lesson includes what the teacher does with or without the help of the pupils up to the stage of starting the aim of the lesson. The way the teacher introduces a lesson or unit is a skill of the part of the teacher. Digital skill best skills for developing the new content in teaching. This type of learning provides so many past and future experiences in some specific content. So, student creates new ideas from the particular content.

   Components of skill of Introducing a lesson

   1. Using pervious knowledge
   2. Using appropriate devices
   3. Use of analogues, examples, similarities
   4. Questioning
   5. Lecturing / Describing / Narrating / Illustrating
   6. Story Telling
   7. Role playing / Dramatization
   8. Use of Audio-visual aids
   9. Experimentation / Demonstration

2. **Skill of Motivation:** According to B.F.Skinner, Motivation in school learning involves arousing, persisting, sustaining and directing desirable behaviour. The motivation is a psychological concept or internal process which initiates and directs the activity. It does the following function in the teaching activity:

   1. Rewards
   2. Punishment
   3. Praise and Blane
   4. Success and Failure
   5. Teacher and pupil relationship
   6. Levels of Aspiration
   7. Active participation of the learner
   8. Well-structured teaching
   9. Linking past to present
   10. Child-centred approach
   11. Use of effective methods and Media
   12. Completion and Cooperation

Digital skills best tool for motivating students, colure full images, and videos, animation links, expert online videos and attract audios useful to create motivation to all students.

3. **Skill of Questioning:** Questioning is one of the important devices of teaching. It plays an important role in teaching, learning and testing process. The minds of the learner and the teacher can be brought into close touch and the learner can be led to creative effort through questioning. In fact, it is a key to all educative activity purpose. Raymond says that the acquisition of a good style of questioning may be laid down as one of the essential ambitions of a young teacher.

   Classification of Questions according to objectives:

   1. Lower order questions
   2. Middle order question
   3. Higher order question

   Purpose of questioning in relating to stages in the Lesson Plan

   1. Introducing

   - To establish rapport
   - To assist in establishing set induction devices
   - To discover what the class knows
   - To revise previous work
   - To pose problem which lead to the topic of the lesson

   2. Presentation

   - To maintain interest and attention
   - To encourage reasoning and logical thinking
   - To discover if pupils understand what is going on.

   3. Application

   - To focus and clarify
   - To clear up difficulties and assist individual pupils
   - To lead the pupils to make observations and draw inferences for themselves

4. Conclusion

   - To revise the main points of the lesson
   - To test the extent of the pupil's understanding and assimilation
   - To suggest further problems and related issues.

   Digital skills promote new evaluation techniques, based on individual learning. The current education system fully individual learning, digital tools to enhancing the ideas and create new questions and new thoughts.

4. **Skill of Explanation:** Explaining will generally be around a phenomenon, action, result, condition, or event. While giving explanation about any one of them, we shall consider the following

   1. Causes for the phenomenon
   2. Reasons behind the action
   3. Various steps involved in arriving at a particular result
   4. Reasons for the condition
   5. Various events that have occurred earlier

   Types of Explanation

   - Descriptive Explanation
   - Interpretative Explanation
   - Reason giving Explanation

   While explanation a concept we have to follow certain norms, there are,

   - Use relevant statements
   - Maintain continuity across the statements
   - Use vocabulary that is well known to the students
   - Be fluent in speech
   - Use explaining links

- Use of visual techniques
- Defining technical words
- Testing students understanding

Digital skills deliver the content in different format, based on individual capacity. Digital learning provides the audio, video, image, animation and word-based different types of explanation in the particular topics.

5. **Skill of Stimulus Variation:** This skill of stimulus variation involves deliberate change in attention drawing behaviour of the teacher in order to secure and sustain student's attention to what is being taught. The skill of stimulus variation implies attracting and focusing student's attention by changing stimuli in the environment. The variation in the stimuli generates interest among students in their learning and hence helps in their academic achievement.

   Component skills of Stimulus Variation

   - Teacher movement
   - Teacher gestures
   - Change in speech pattern
   - Focussing
     - Verbal focussing
     - Gesture focussing
     - Verbal and nonverbal focussing
   - Changing in interaction style
     - Teacher-student interaction
     - Teacher-teacher interaction
     - Peer group interaction
   - Pausing
     - Co Oral to visual
     - Oral to oral-visual
     - Visual to oral visual
   - Student movement

   Digital skills promote the stimulus variation, this is one of the innovative methods in the teaching learning process, digital skills promote the so may new links and interaction and group activities and teacher student's interaction and student to student sharing ideas, providing different types of variation.

6. **Skill of Reinforcements:** Reinforcements is a major condition of learning. Every teacher should acquire the skill of using reinforcement to facilitate learning in his/her students. The skill of reinforcement involves teachers encouraging student's response using verbal praise, accepting their response or using nonverbal clues smile, nods, etc. It is a major skill to be acquired by the teachers.

   Components skills of Reinforcements:

   - Positive verbal reinforcement skill
   - Positive non-verbal reinforcement skill
   - Negative verbal reinforcement skill
   - Negative nonverbal reinforcement skill
   - Extra verbal reinforcement skill
   - Repeating and re-phrasing students' responses.

Digital skill every teacher should have…

1. Create online content using social bookmarking sites
2. Use file sharing tools to share docs and files with students online
3. Use digital assessment tools to create quizzes
4. Use game-based learning
5. Use social media for professional development purposes
6. Set up a website, blog or wiki for your class

7. Create personal learning networks to connect with other educators
8. Share resources on the cloud
9. Create, edit and share digital audio, video and image content
10. Find and evaluate authentic web-based content
11. Create digital portfolios
12. Create visually stimulating graphics
13. Conduct effective online searches
14. Use polling software to create a real-time survey in class

Conclusion

The present education system based on technology enabled learning, every teacher and student well awareness in the field of digital learning. Now education system focused on individual learning or student-centred learning. In this situation, digital skills are very important both teacher and student. Current education system so many innovative ideas to be produces in the teaching learning process, especially QR code one of the best methods of digital learning, and teacher based online courses, and free DTH channels, free YouTube videos this are all effective tool for improving teaching learning process. So, digital skills are one of the essential tools for teaching learning process.

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CHAPTER-12

Education for Unemployment

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Introduction

One of the major objectives of education at all levels is that it should enable the individual to secure employment after formal education. The aim of employability helps him to preserve his dignity and respect as a human being. His basic physiological needs are satisfied by the emoluments from employment. Unemployment is one of massive and perplexing problems in the country, we have failed to evolve a plan to suitably employ people. This has puzzled the government. Job satisfaction and recognition result when the adult secures a job or vocation for which he has the aptitude. Society regards the adult as a bread-winner for the family. He should look after himself and maintain his family which is depending on him. For economic efficiency, social effectiveness and professional satisfaction of the citizen, job-oriented education should be provided at all levels.

Definition of Unemployment

If an educated person is unable to secure any job commensurate to his qualifications, knowledge, abilities and remains idle wasting his time without doing any job then it is termed as 'Unemployment'.Millions of educated men and women, as also several thousands of the uneducated, are without proper employment or are under-employment. Either they do not have a job or they have to work in a job, where they do not derive any satisfaction.

Nature of Education Unemployment

Visible and invisible are the two major forms of the educated unemployment. In the visible unemployment those person may be included who do not have any employment. The invisible unemployment includes those persons who are doing some job much below their standard which they should have in terms of their qualification. Invisible unemployment is also known as under –employment. Persons who are having only part-time jobs also come within the invisible unemployment group. People having only seasonal work for some time are also within the invisible category. In our country both the types of invisible unemployment are found. There are also some such persons who are not able to obtain any gainful employment. This is perhaps because of the fact that the industrial development of our country is lagging behind the expansion of education. As a result, intensity of unemployment is increasing day by day. This situation has posed a serious challenge before the government. In order to solve this difficult problem we should understand the causes of educated unemployment.

Category of Unemployed

Unemployed can be put into four distinct categories:

a) Educated Unemployed i.e., B.A or M.A.

b) Underemployed.

c) Employed on daily wages.

d) Illiterate unemployed.

Causes of Unemployment

The number of registered unemployed educated persons in the office of the Employment exchange indicates that the problem of educated unemployment is getting more serious day by

day in a way the existing system of education is largely responsible for this phenomenon. The important causes are as below although the list is not exhaustive in itself:

1. Defective educational system. Our educational system is purely clerical. There is no vocational bias in it.
2. Defective planning. It means failure to create jobs at proper places.
3. Over population. It means gap between economic growth and population growth.
4. Policy of the Government. It means not to fill posts for years to come. Some people who can easily be employed remain unemployed.
5. Increasing retirement age. It is self evident.
6. Lack of desire on the part of youth to serve in village or remote areas means that some job will remain vacant for years. In turn it means that some will remain unemployed.

Types of Employment

Employment could be classified under two categories. They are: (i) Employment by other agencies, and (ii) Self-employment.

1. **Employment by other Agencies:** The public and private sector industries and enterprises employ people by paying them monthly or weekly salaries or wages. Placement in a job is based on the ability of the employee to satisfy the job requirements service conditions and salaries are usually commensurate with job requirements and job performance.

   There are several advantages in this type of employment.

   1. The employee has job security.
   2. The factors of risk and responsibility for the employee are less.
   3. Regular monthly income is assured.

   The disadvantages are:

   1. The employee cannot exercise his ability of decision making in his place of work, unless he holds administrative designation. even here his decision making skill is used minimally, since all employees will always have bosses to determine what their subordinates should do and must not do.
   2. The employee in most cases is a mere subordinate and subservient to the boss.

2. **Self-employment:** There are several advantages for the individual undertaking self-employment.

   a) The Self-employed person is independent. He is not a subordinate to an outside authority and is his own master. He can make the best use of his creative talents and is motivated to succeed in the venture he undertakes.

   b) Whatever profits he gets, depending on the input he has made into his self-employment scheme will be to his advantage.

   c) As and when required, he can give employment to others.

   d) He could contribute to the national wealth, productivity and prosperity in his own style.

   e) He enjoys the sense of job satisfaction, the feeling of achievement, success and recognition.

   f) By working hard he could save for the future of his family and for himself.

Education for Self-employment

Our educational system should aim to develop in pupils the requisite knowledge, skills, abilities and grasping power required for self-employment. All types and levels of education should include compulsorily the vocational component so that students coming out of schools and colleges could take up self-employment. Presently in higher secondary school at the +2 stage, academic and vocational streams of education are provided. Roughly half the numbers of students opt for vocational courses. In most

cases it is done unwillingly, since there is a feeling that the vocational stream is meant for the intellectually average. Students who pass out of the vocational courses which are terminal often seek entrance into colleges and other institutions for furthering their education, thereby losing sight of the objectives of vocational education.

Delinking Employment from Degrees

It is believed that college education will open up better job opportunities in a competitive world where everyone aspires for a college degree, based on which they hope get a job or vocation. Instead of concentrating on any area of specialization, they take up any subject-course that is available. After passing, they are disillusioned when they find that they have to stand in queues at the Employment Exchanges for registration and in the ardent hope of a clerical post at a distant future. Their plight is miserable as their coveted paper-degrees do not take them anywhere. They just add to the millions of the already unemployed.

In such a situation, it is worthwhile to consider the experience of the more progressive nations. Higher education in these countries is acquired for specialization in an area of the student's aptitude and interest. After the school certificate examination, which is universal and compulsory, the citizen is sure to get a job in which he gets adequately paid.

In the Indian context also, degrees should be delinked from employment. The concept of white collared jobs should be replaced by the idea of any job where once could secure a living with dignity and self respect. The planners of the economy and the educational administrators have to evolve a system of delinking degrees from employment.

Measures for Removing Educated Unemployment

We are briefly hinting below at some more important measures for removing educated unemployment:

1. Suitable change in the educational policy for removing the existing defects as pointed out above.
2. The principle of demand and supply should be adopted in various educational activities.
3. Education should be vocationalised.
4. The need for production-oriented education.
5. Emphasis on self-employment.
6. Judicious use of modern technology.
7. Expansion of various types of industries.
8. Family planning in order to reduce the population growth.

Conclusion

The number of educated unemployed persons is increasing day by day. Solutions of this problem are very necessary for a welfare state. By providing due importance for the teaching of subjects, related to 'Life Oriented Education' right from the elementary school stage, right values such as positive attitude towards 'blue-collared jobs', 'dignity of human labour' and 'respect for hand crafts' could be developed in pupils at the secondary and higher education stage, participating in SUPW activities could be made compulsory for all students. Revising the curriculum in such a way as to include vocational subjects in all courses at the collegiate education level and making them compulsory for all to learn for removing educated unemployment education should be vocationalised. There should be a balance between demand and supply the increase in population should be controlled, lack of self-employment tendency. Education should be production-oriented. Immediate steps should be taken up to meet this challenge, otherwise we shall be engulfed in a very big catastrophe.

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CHAPTER-13

Effective Techniques for Improving Social Skills for Children with Learning Disabilities in the Classroom and Beyond the Classroom

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Introduction

Social skills are skills used to communicate with each other verbally and non-verbally through gestures, body language and our personal appearance. Learning disability mentions to a variety of disorders that affect the acquisition, retention, understanding, organization or use of verbal and non-verbal information. A learning disability may also cause difficulties with organizational skills, social perception, and social interaction (Willoughby, 2012). Most children with a Learning Disability (LD) face problems in their interpersonal understandings, specifically when compared to their typically developing peers (Agaliotis & Goudiras, 2004). In this article try to give some important effective techniques for improving social skills to children with learning disability.

Learning Disability (LD)

LD come from neurological variances in brain, brain structure and functions of brain and its affect a person's skill to receive, store, process, retrieve or communicate information. Learning disabilities can be caused by a brain injury before, during or after the birth, including maternal illness/ injury, drug/alcohol used during pregnancy, maternal malnutrition; low birth weight, oxygen deprivation and premature/prolonged labor are some of the factors. Visual impairment, hearing or motor disabilities, language proficiency deficit, intellectual disabilities, mental retardation, emotional disturbance, cultural factors, environmental and economic disadvantages are not causes for LD.

Learning disabilities are real and permanent. However some researchers never find that learning disabilities are responsible for their lifetime difficulties in the areas of reading, writing and do to math. Others are not identified as having LD until they are adults (National Centre for Learning Disabilities, 2014). Many LD children/adult suffer from low self-esteem, low self-confidence, struggle with underachievement and underemployment, have few friends and, with greater frequency than their non-LD peers, appear to end up in trouble with the law (National Centre for Learning Disabilities, 2014).

Types of Learning Disability

Specific Learning Disability

- Dyslexia (Difficulty in reading)
- Dyscalculia (Difficulty in math)
- Dysgraphia (Difficulty in writing)
- Dysphasia (Difficulty in language)
- Dyspraxia (Difficulty in fine motor skills)

Associate Deficits/Disorder

- Auditory processing
- Visual Processing

- Non-verbal LD
- Executive Functioning Disorders
- ADHD

Social Skills

Social inability can be a lifelong problem. Therefore, social skills deficits need to be resolve within the same way as early identification and solving the problems of children with learning difficulties, because social ineptitude rather than learning problems can be detrimental to their success in life. There are many different types of social skills a child needs to master. From ability to initiating, maintaining and ending the conversation to complex skills, such as reading social signals, problem solving and resolving conflict (Lawson, 2003).

Social Skills and Learning Disability Children

Research into social incompetence and LD shows that these individuals share a number of characteristics: (Dena Tenenhouse)

- Have more difficulty solving social problems
- More likely to choose unacceptable behavior in social situations
- Less probable to adjust to the characteristics of their listeners in conversations
- Less able to successfully deal with complex social interactions, such as peer pressure or giving and accepting criticism
- More likely to be the object of negative, non-supportive comments from adults
- Less adaptive to new situations

Common Behavioral Characteristics of Individuals with Learning Disabilities

- Inability to interpret environment and social cues
- Poor judgment; little thought about logical consequences
- Poor impulse control
- Need for immediate gratification
- Inability to set realistic priorities and goals
- Inappropriate conclusions due to deficient reasoning ability
- Illogical reasons for actions
- Inability to develop meaningful relationships with others
- Immature and “bossy” behavior
- Low frustration tolerance resulting in disruptive behavior

Brown and Hedinger (1995) recognized five problematic areas exhibited by the students with learning disabilities in the social context: (LDAHH, 2011)

- Auditory processing problems, which make it difficult to process verbal messages: Auditory processing of disorder students are easily distracted, have great difficulties in discriminating between the messaging and background noise, and have difficulty keeping up with pace of conversation.
- Memory, long and short term: Difficulty remembering the sequence of instructions or events, following conversations, recalling personal information of classmates, and recalling past conversations.
- Attention: These type of people participate in almost everything offered in their environment. They often do not

focus on class, jumping from topic to topic, have poor communication skills, and are more likely to be distracted by hearing and visual stimuli.

- Visual, spatial, or motor disabilities. Students with disabilities may have difficulties in counting money, writing utensils, reading menu and social signs, observing personal space, and understanding nonverbal cues in basic conversation.
- Expressive language, affects the students written and verbal abilities. These students have difficulty communicating thoughts verbally, in writing, in complete sentences, and understanding the thoughts of peers.

This is an example recognized by Brown and Hedinger for how the areas of learning disabilities and social skills are reflected together.

Teaching Social Skills

Children with social skill deficits can be taught these skills directly by parents, teachers and/or professionals using the strategies of modeling, role-playing, rehearsal and practice. Children with verbal and nonverbal learning disabilities often have social problems at school. These children struggle academically and socially. While schools address children's learning problems, they often neglect children's social needs and rely on parents and/or professionals to handle these problems (Candy Lawson, 2003).

Skills required to teach Learners with Special Needs

Teachers are an essential link between children with learning disabilities and the interventions and services that can help them. There is no student with a learning disability who cannot learn, if a teacher has received appropriate training and is willing to spend the time, using his or her expertise to reach and teach that child. To most effectively help children with learning disabilities, teachers should,

- Know the warning signs, all students' exhibit difficulties at one time or another with spoken or written language, memory, attention, concentration, organizational skills, physical coordination, and social behavior. However, if a student consistently displays difficulty with a group of these behaviors, it is a good indication of a possible learning disability.
- Participate in workshops, seminars, conferences and faculty/staff development programs. Good teachers are constantly learning. Update teaching skills and share successes and challenges with fellow educators.
- Seek the help of special educators and professional learning disability organizations. Draw on their expertise. Do not be afraid to acknowledge what we don't know.
- Design a learning profile of each student. Monitor each student's ability and involvement in classroom.
- Being aware of the learning styles, work level, reasoning ability, classroom participation, comprehension and progress of a student with learning disabilities.
- Teacher can effectively build on his/her existing strengths and weakness.
- Develop effective teaching techniques. When students have learning disabilities, their brain work differently than those of other children; simply slowing the pace while using traditional teaching methods will not work. Use innovative techniques to maintain student interest and improve opportunities to learn.
- Call the child by name. This will help alert the child to focus attention upon the classroom activity.
- Use visual apparatus to capitalize on a student's visual processing, and to provide the auditory/visual association needed to learn new concepts and language.

- Write assignments on the board so the student can copy them in a notebook, or provide the student with the list of assignments.
- Make sure that students with learning disabilities have enough time to answer test questions. If necessary, change testing procedures if the testing mechanism itself interferes with a student's ability to demonstrate his/her knowledge.

Important Strategies for Teaching Social Skills

- Individualized instruction: Learning disability children have more difficulty than others in grasping concepts and communicating information in class. To be effective, teachers should modify their instruction to meet the various learning styles and abilities of students with learning disabilities.
- Provide a structure for Social Skills: Many students with learning disabilities have difficulty in organization of information, developing work habits, and coping with change. Teach them to monitor their own progress and regulate the time and effort they spend on each assignment. Maintain consistent teaching routines and methods.
- Build self-esteem: Build confidence among these students by delivering information in a gradually more progressive manner, allowing them time to master a topic at one level before moving on to more difficult material. Recognize and help them appreciate the value of their creativity.
- Meet with Parents to discuss their child's problems: Parents and guardians are often unaware of their child's problems at school. Meet with them and discuss the situation in an open and supportive manner.
- Collaborate with Parents and Teachers
- Direct instruction in social skills training is highly recommended to help individuals with learning disabilities cope with their innate lack of social perception. Professional help from a variety of disciplines on an ongoing basis may be necessary (Dena Tenenhouse).

Effective Techniques for Improving Social Skills

- Effective social skills techniques include strategies of self-verbalization and self-monitoring, prosocial skills, social skills support groups and virtual reality (LDAHH, 2011).
- The teacher can phrase using different tones of voice, explaining the different meanings of tonal quality (LDAHH, 2011).
- FAST strategy: The F (freeze and think) A (alternatives) S (Solution) T (Try it) strategy helps students deal with interpersonal problems. Students have a chance to stop and approach the problem in a rational instead of impulsive manner by Janet Learner.
- SLAM strategy: The S (stop) L (look) A (ask) M (make) strategy helps students receive verbal messages from peer groups. Students are taught to ask for clarification of the expression and then to respond appropriately (LDAHH, 2011).
- Skill-streaming: This behavioral training program takes four components: 1) modeling, 2) role playing, 3) performance feedback, and 4) transfer training. The use of modeling gives the student a chance to see, hear, and experience the specified behaviors. After the behaviour has been modeled, the students will be guided to role play the specified behaviour.
- Role playing is a technique: This technique help students play an active role and internalize the skill instruction.
- The use of performance feedback gives students specific reinforcement and suggestions on improving the skill.
- Transfer training is instituted to help students generalize the social skill across settings. It should be taught in as many natural settings as possible (LDAHH, 2011).
- Therapeutic approach: This approach is also effective in teaching social skills. Gresham and

Elliot (1989) say us that learning disabilities children experience social and emotional difficulties as a result of their disabilities (Brown and Hedinger, 1994).

- Peer Group Approach: This approach can help students recognize and deal with stressful situations, (LDAHH, 2011).
- Direct instruction on appropriate responses in social situations is also necessary

Some Important Suggestions (LDAHH, 2011)

- Teach children to smile and make eye contact while talking to adults and children.
- Display the various emotions pictures such as happiness, sadness, anger, joy, love, surprise. This presentation begins with jolly to sad.
- Discuss the meaning of different body signs such as goodbye, shrugging a shoulder, tapping a foot or shaking a finger in impatience, crossed arms, outreached arms.
- Allow the child to listen a voice on a tape recorder and ask him to explain the mood of the individual.
- To help LD children improve conversational skills, teachers and parents should provide feedback.
- The LD child should be given chances to training social skills involving both verbal and non-verbal. These activities include smiling when meeting a friend or acquaintance, making introductions, paying attention to the person who is speaking, asking other children to play a game, and making positive statements for other's efforts.
- Teaching social skills to LD children must include components that will assist them in theregular classroom.
- Use academic games to provide drill and relieve boredom.
- The LD teacher can instruct the LD students in a variety of games within the special education class setting.

Parent's Role

Parents can directly teach social skills by modeling, role-playing and providing opportunities for their child to rehearse and practice new skills. Parents should encourage and praise the child for successfully using a new skill. (Candy Lawson, 2003). Parents can help by asking the child to identify facial expressions of characters on TV programs (LDAHH, 2011).

Conclusion

This article has explored several effective strategies for teaching social skills. The effective teaching of social skills will have a great impact on inappropriate classroom and school management. It is important to recognize the development of the whole child with learning disabilities.

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CHAPTER-14

Eliminating gap between Education and Employment

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Introduction

Any country will be called a developed nation only on the basis of good quality of manpower who can compete with any other nations in every field. Earlier it was the rich resources in minerals and metals which were considered to call it a developed country. Hence in this aspect, education coupled with good level of quality skill will lead anyone to fetch employment opportunities with good returns. At present it is noticed that there exists a long gap between Education and Employment leading to unemployment and under employment. We must take all earnest attempts to come out of this major issue. The government and society should ensure that providing quality education along with skill development which will enable everyone to get good employment in their respective profession.

In this article, let us understand the various issues involved in the mismatch of education and employment and how to eliminate the gap between them to lead a happy moments in all walks of life.

Education

The significant contribution of education plays a very important role in the development of any individual. The NPE 1986 and POA 1992 had also contributed very much in this effort. The then government took all initiatives to provide good and quality education to all people who could not afford to such benefits due to various constraints such as economic, social, demographic conditions, etc. The Right to Education Act was introduced to make it convenient for the people to study in any school in the country and no denial is accepted. The inclusive education was also successful in our country through which the under privileged and physically handicapped children were encouraged to lead a healthy and peaceful life. The introduction of vocational courses in the school curriculum itself made a good impact on the employment opportunities. The students should also be encouraged in all extra-curricular activities such as sports, arts and crafts, music, etc, which will enable the student to get suitable placement. Multitasking is order of the day. The industrial training institutes were established to provide Craftsmen training courses and the industries were required to extend apprenticeship training in the respective field. Similarly the students of all categories were also required to undergo in plant training as a part of their education to get the degrees.

Unemployment vs. Underemployment

The Unemployment of a developed country shows the number of persons who are readily available for employment but the positions are not available showing the mismatch of the requirement. Underemployment occurs when one does not have a job that is full-time or that reflects his or her training and financial needs.

Due to mushroom growth of educational institutions especially in the private sector, the number of graduates in engineering and other field coming out of this every year are at the peak level resulting in unemployment. This had caused a great stress among the students and parents. The parents and the society are at a big loss in the unemployment aspect. Having spent so money and time to get the required degrees for further prospects in the future, the parents are terribly affected for not having secured good employment for their children and social life is devastated. The government is also being questioned in this aspect.

Further underemployment had also become prevalent in our country due to various reasons. The qualified students are asked to take up menial jobs and the highly qualified students are provided jobs with meager salary. The fixation of salary is supposed to be based on the qualifications, requisite experience and the skill level and equivalent to the neighbouring industry practice. In reality it is not happening and the people are offered lower category of job profile and less salary. In the working class also, the highly skilled workers are expected to do unskilled work. The employees had to undergo this entire ordeal due to the family circumstances and economic conditions. During the period of recession, lay off, natural calamities, etc., the employees are compelled to undergo the underemployment process. The legislations of the government did not yield good result in this aspect.

Skill Development

At this juncture, it has become absolute necessary to go forward in the skill development. The present government had taken up the cause of unemployment and under employment in a very serious manner.

The Ministry of Skill Development and Entrepreneurship was formed and formulated National Policy on Skill Development and Entrepreneurship in 2015. Further this policy was enlarged to take care of all sectors and to provide a good climate for the industrialists and the employees during the year 2019. This has created a good confidence among all categories of people. The government had formed Skill Development Council at the National level and state level with the monitoring agency.

The main objectives of the Skill Development Council are to ensure the quality vocational training for the students and employees thereby benefitting both the category. The training facilities and the required infrastructure are recommended to develop the unskilled and semi skilled persons to highly skilled jobs and this will lead to reduction of cost of expenses for hiring the highly skilled category of persons.

To cater to the needs of the financial aspect for the skill development programme, the government had instituted the National Skill Development Fund. And this had really contributed to the welfare of working class and the society at large.

Education and Employment

The recent trend in the education shows a big gap towards employment. The quality of education should meet the needs of the employment which are the essential requirements in the present scenario. The vocational and need based education are the very important elements. The in-service teacher training in the field of education to equip and acquire the required skills for the advancement of their career has shown a significant improvement in the teachers' profile.

Conclusion

From the above it is crystal clear that the skill development ensures all category of persons in their placement and career advancement and leading a happy life. The success of the skill development is possible with the full cooperation of all the stakeholders such as students, parents, employees, employers and the government. Let us all unite to achieve this.

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CHAPTER-15

Empowering the Citizens of the Nation with the Skill India Mission

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Introduction

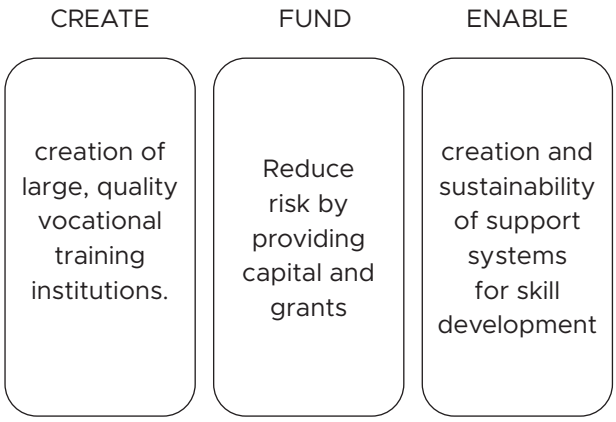
> “We are a youthful nation. Our youth are our strength. The world and India need a skilled workforce. Let our youth get those skills that contribute towards a Strong India.”
>
> **- Narendra Modi, Prime Minister of India**

India is moving towards becoming a developed nation. A nation where there is growth and development in primary, secondary as well as tertiary sector. When these sectors are developing then how can the people of nation remain behind? Citizens of India are having abundance skills and knowledge, and when given correct training and shown the right path, they can contribute to the highest level in their personal as well as national growth. With this thought, the government of India have taken the initiative of skill development for all the citizens of the country, irrespective of gender, caste, religion, race, age, language and region. Various skill development programs have been started in almost all over India with an aim of developing the abilities and capacities of the citizens to be self-sufficient.

The National Skill Development Corporation India (NSDC)

With a vision to provide vocational training to the people by 2022, the Government of India have launched ‘Skill India Mission on 15 July 2015.Ithas a variety of courses available under different programs in different regions. By getting trained through the training programmes, the trainees could be employed or self-employed and live a sustainable life. Having a unique model of Public Private Partnership, NSDC provides funding to the organizations that provide vocational skill training to the youngsters.

NSDC is based on following three pillars;



NSDC operates through partnership with the assistance of following multiple stakeholders;

- Private Sectors like; Larsen and Toubro Limited, HDFC Bank Limited, ICICI Prudential Life Insurance Company, Orion Edutech, Industree Crafts Foundation and many more.
- International Engagement Memorandum of understanding signed between NSDC and

various organisations from countries like Australia, Bahrain, Canada, France and many more.

- Central Ministries Programmes like Make in India, Swachh Bharat, Pradhan Mantri Jan Dhan Yojana, Smart City and Digital India.
- State Governments For example: MOUs for skilling in School Education were signed with Rajasthan and Madhya Pradesh state government.
- University/School Systems Vocationalisation of education through specific training programs.
- Non-profit Organizations Smile Foundation,Vivid Foundation,Shanti Sahyog and many more

Following are few of the Ministry wise Skill Development Schemes

1. Ministry of Skill Development and Entrepreneurship

   Pradhan Mantri Kaushal Vikas Yojana (PMKVY): Its objective is to enable Indian youth to undergoindustry-relevant short-term skill training at PMKVY Training Centres (TCs). It includes training ofsoft skills, entrepreneurship, financial and digital literacy.Here, training and assessment fees are completely paid by the government.Upon successful completion of their assessment, the trainees are provided placement assistance. Also, every 6 months it conducts Kaushal and Rozgar Melas for the youths.

2. Ministry of Rural Development

   DeenDayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY): DDY-GKY is responsible for national policy-making, funding, and technical support. It designs to provide high quality skill training opportunities to poor rural youths and candidates belonging to Vulnerable Tribal Groups (PVTGs), persons with Disabilities (PwDs), Transgender, rehabilitated bonded labour, victims of trafficking, manual scavengers, HIV positive persons for securing their future. The training is based on national and international market demand.

3. Ministry of Micro, Small and Medium Enterprises

   a. Skill Upgradation & Quality Improvement and Mahila Coir Yojana (MCY): MCY provides training to coir artisans in processing of coir and value addition to potential workers. It is intended to provide self-employment opportunities to rural women artisans in regions processing coconut husk or coir fiber.

   b. Entrepreneurship Skill Development Programmes (ESDPs): Comprehensive entrepreneurship-cum-skill development training programmes are organized to upgrade skills of prospective entrepreneurs.

4. Ministry of Tourism

   Hunar Se Rozgar Tak Initiative: In this, training on skin care, spa therapy, golf assistants, tourist facilitator, security guards, driving, transfer assistants and office assistants is offered free of cost. Also, each trainee receives a stipend based on the scheme norms.

5. **Financial Assistance for Skill Training of Persons with Disabilities (PwDs):** It provides financial assistance to PwDs (with not less than 40% disability) having15 to 59 years of age. In this 30% reservation is for women candidates. Funds are provided for training, also stipend and transport allowances are received by the trainees.

6. Skill development for Minorities

   a. Seekhoaur Kamao: It aims to upgrade the skills of minority youth in various modern or traditional skills depending upon their qualification and market potential. It helps them to earn suitable employment or make them ready to be self-employed.

   b. Upgrading skills &Training in Traditional

Arts/Crafts for Development (USTTAD): It aims to preserve the rich heritage of traditional arts and crafts of minorities and generating interest among youngsters for taking traditional arts as a profession. USTTAD updates the traditional skills of master craftsmen. It also works towards developing national and international market linkages for creating market of traditional craft products.

c. Nai Manzil: It helps the minority youths who are dropouts or educated in the community education institutions, by providing formal education and skills. 'Nai Manzil' enable them to seek better employment in the organized sector and thus make their lives better.

d. Maulana Azad National Academy for Skills (MANAS): It provides an all India level training, to the Minority population in skills associated to emerging market demands. MANAS also provides concessional credit to minorities for expanding their existing businesses and setting up new businesses.

7. Skilling Indian Youth for Overseas Internship: Technical Intern Training Program (TITP) empowers the Indian youths by providing them with skill development, personality development and career advancement opportunities in Japan. This program provides attractive compensation, health insurance also welfare pension after completing the Training. The trainee here gets exposure to Japanese work culture, quality management and innovative techniques. It helps in increasing the societal status and work productivity of trainee.

8. National Institute of Open Schooling (NIOS): NIOS provides skill development programs to the girl or women through its unique free of cost training programme called 'Sewing Machine Operator'. And after successful completion of the training, it also provides guaranteed job placement.

Few Success Stories of Skill India Mission Women Participants

The 'Skill India Mission' aims to increase the participation of women trainees. Many of its programmes are designed, considering the needs of womenalso, many PMKKs provides creche facilities to facilitate mothers to take training. Presently, India has 18 national skill training institutes especially for women.Government is actively encouraging women to get skilled in new age jobs. InThe recent data informs that, near by 50% of candidates trained under PMKVY are women. Collaborative efforts of government and various organizations in NSDC have created economically independent Indian women. Here are few success stories of women who have attended NSDC training programs and are now successfully chasing their careers;

1. Laxmi, the Sales Executive: Laxmi is a differently-abled girlwith 60% paralysis in her left leg. In her family of five members had only her father as anearning member. After completing her 12th standard, she hadvery few options to get appropriate employment. When she came to know about the PMKVY,she immediately took admission in customer care executive.Her training helped her not only to understand the nuances of skills, but also once a shy and timid Laxmi gained new confidence and developed her personality. After her training, she got the job as a sales executive and is been praised by her employers for her hard work.

2. Anandhi, the Autoconer Tenter: Anandhi is 18-year-old girl hailing from a hilly region of Chennappanayakanpalayam. Her parents are daily wagers whose income proved to be insufficient for sustaining the family livelihood. Therefore, after 12th she was unable to continue with her higher education. When, Anandhi got to know about 45-days free training programme of NSDC, she quickly got enrolled for training. The trainers taught her both theoretical and practical aspects of job, she received training in soft skills, safe work practices,fire safety, emergency handling procedure, Digital India, and so on.After

her successful completion of training and assessment she received PMKVY certificate and was showered with a job as an Autoconer Tenter with a monthly salary of Rs 10,000. According to Anandhi, everyone should acquire a skill through PMKVY, for a gainful employment.

3. Arsona Devi, the Customer Care Executive: Coming from a small village in Assam. Arsona have a dream of becoming successful in life. However, being a village girl and with a family of five members, where her father was a farmer, her life was challenging. But, when she came across the DDU-GKY project in skill training, hence to pursue her dreams, she went to Guwahati and joined for 3 months for the training. Here, she learnt basics of customer care, IT, soft skills and also English language. She is the recipient of PRISM award from the Chief Minister of Assam, Mr. Tarun Gogoi for her outstanding performance in the training session. Later, she got placement at "Hinduja Global Solutions", Siliguri as a Customer Care Executive. According to Arsona, 'joining day was the best day of her life'.

Thus, to conclude the skill India mission is playing a pivotal role in capacity building of the citizens and has helped them tobe financially independent, secure a better livelihood, and earn respect in the society.

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CHAPTER-16

Empowerment of Young Women through Vocational Education & Training

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Introduction

In many developing countries, women suffer from lower levels of economic and social empowerment, poorer investment in human capital and greater restrictions on access to labour markets in comparison to their peers in developed countries. The past few decades have witnessed a massive increase in the number of different microfinance and employment intervention programmes that have typically targeted women in developing countries to help them become more economically and socially independent. These vocational interventions have included a focus on skills development as a key to improving rural productivity, employability and income-earning opportunities, enhancing food security and promoting environmentally sustainable rural development and livelihoods. However, the literature shows mixed evidence for the success of these interventions.

This study aims to answer these questions by evaluating the impact of a large-scale women's empowerment intervention in the conservative setting of rural area of Allahabad, Uttar Pradesh. The study builds on a growing body of economic literature concerning the impact of training on the labour market outcomes of women (e.g. De Mel et al., 2014; Field et al., 2010; Karlan and Valdivia, 2011; McKenzie and Puerto, 2017). Most of these studies focus on existing entrepreneurs and evaluate the impact of training, alone or in combination with microfinance, on the performance of small firms as well as women's outcomes. Only a few studies focus on bringing women into the labour market in the first place, in either self- or wage employment (e.g. Bandiera et al., 2015; Groh et al., 2016a, 2016b; Maitra and Mani, 2017). The findings of these studies vary depending on the context and the type of training provided. This study has the advantage of being one of the first to focus exclusively on rural women and uses a holistic approach to empowerment by providing women with a bundle of training measures covering business, vocational and life skills.

Need and Significance of the Study

In June 2012, the International Labour Conference of the International Labour Organization (ILO) resolved to take urgent action to tackle the unprecedented youth employment crisis through a multi-pronged approach geared towards pro-employment growth and the creation of decent jobs. The resolution "The youth employment crisis: A call for action" contains a set of conclusions that constitute a blueprint for shaping national strategies for youth employment. In 2016, the Global Initiative on Decent Jobs for Youth was launched to facilitate increased impact and expanded country-level action on creating decent jobs for young people through multi-stakeholder partnerships, the dissemination of evidence-based policies and the scaling up of effective and innovative interventions.

Despite improvements in literacy and school enrolment rates over the recent decades, the gender disparity in terms of economic opportunity has not improved significantly among the younger cohort of the population. Young women face a persistently disadvantageous position on the Indian labour market. Based, only 13.3 percent of young women (aged 15–29) participate in the labour force compared to 57.8 percent of their male peers. The unemployment rate among female youth (at 32.3%) is more than

triple that of young males (9.3%). Young women's employment aspirations continue to be based on the flexible working conditions provided by the public sector, and the private sector has, to date, failed to offer conditions which are sufficiently attractive to encourage long-term labour force participation among female youth. The entrepreneurship rate among youth is still very low, particularly among females. Only 5.7 percent of employed female youth reported establishing their own business in 2014, compared to 13.1 percent of their employed male peers.

The situation is particularly challenging for young women in the rural setting of Allahabad, which is the most culturally conservative and traditional region. The agricultural sector provides livelihoods for 55 percent of the population and directly employs about 30 percent of the labour force. The majority of the rural poor live in Allahabad, where there are higher rates of illiteracy and infant mortality, limited access to safe water and sanitation and a greater number of children who are underweight. It is one of those pockets of population in the rural area region where the vicious cycle of low educational attainment, early marriage, high fertility rates and severe poverty persists.

Allahabad is culturally distinguished from other parts of India in terms of its population's values and attitudes to gender roles. This region is characterized by distinct patriarchal values, which underscore the power of men over women, the influence of elders over youth and the prevalence of tribal feud. These cultural restrictions greatly limit young women's mobility, educational attainment, economic opportunity and ability to participate in the public sphere, as the onset of puberty decreases girls' access to friends and restricts their ability to move around the community. Only 13.5 percent of young women (aged 15–29) participate in the labour force in these conservative communities. They face the most challenging transition to work, as job opportunities are not readily available in the villages. Young women in rural area of Allahabad also stand out as the largest group among those who are left behind in education, where employment options in the non-agricultural private sector are extremely limited, both small enterprise development and the expansion of female-friendly employment within existing enterprises are essential aspects for boosting job creation and generating new employment opportunities.

As the related studies and literature is reflecting the poor economic status of women in rural Allahabad, investigator conducted this research to establish the relationship between women empowerment and vocational education & training; impact of vocational education & training on women empowerment and finally discussed the different interventions to empower to women in India.

Statement of the Problem

The problem was stated as Empowerment of Young Women through Vocational Education & Training.

Objectives of the Study

The following objectives were framed in this study:

- To study the impact of a large-scale empowerment intervention in rural Allahabad targeting marginalized women.
- To improve women's human capital in a conservative setting like rural Allahabad towards women economic empowerment.
- To ensure the accessibility of classes and vocational training to women for the success of women's economic empowerment programmes in conservative rural settings of Allahabad.
- To promote safe, flexible, female-friendly employment and workplaces for women.
- To engage local communities in creating enabling environments for women's empowerment in rural Allahabad.
- To provide the intensive training on gender dynamics and social norms combined with innovative programme design to women of rural Allahabad.

- To enhance both social and economic empowerment of young women in rural settings of Allahabad.
- To access the effect of livelihood intervention programmes on the social empowerment of young women in conservative rural settings of Allahabad.

Sample

A total of 900 women completed the midline survey; 300 of them received training (treated), 300 resided in treatment villages but did not receive training (untreated) and 300 lived in control villages (control). The end-line survey tracked down 900 of these women (300 treated, 300 untreated and 300 control), corresponding to a tracking rate of 81 percent.

Tools

The tools used to collect the data from young women of rural areas of Allahabad are (i) Self-made questionnaires (Survey), and (ii) Intervention programme was introduced by the Vocational and Training Modules

Data Collection and Outcome Variables

The intervention programme implemented as the researcher decided as per plan. To conduct a midline survey as well as an end-line survey to access the impact of the programme, data were collected for all treated women and a random sample of the untreated women in intervention rural area of Allahabad. The midline survey was conducted in September 2018 and the end-line survey in January 2019. Before the midline survey was carried out, the business skills classes were almost completed and the vocational training was just starting.

Analysis of Data

The data analysis was predominantly done using the Statistical Package for Social Sciences, Version 10.0 (SPSS 10.0). Tests like independent Chi-Square, t-test, paired t-test and correlation were used to find out the result.

Findings and Discussion

The following major findings were point out by the investigator and recommended to policy-makers and development practitioners emerge:

- **Improving women's human capital in a conservative setting like rural Allahabad is a vital step towards women economic empowerment.** Some entrepreneurship promotion interventions focus exclusively on providing financial services. Only a small number of recent programmes combine both financial and non-financial services. However, research shows that gender differences in human capital play an important role, in particular in conservative settings where women are often less well-educated, less experienced in basic cost–benefit analysis, have more restricted access to business networks and are less informed about investment opportunities than men (Karlan and Valdivia, 2011; McKenzie and Woodruff, 2012). The findings of this evaluation provide evidence that increasing women's human capital provides a significant jump-start to their economic empowerment. The provision of hard and soft skills, in the form of vocational, business and life skills training, combined with close guidance for business start-ups, improved women's business knowledge and engagement in entrepreneurial activities.
- **Ensuring the accessibility of classes and vocational training for women is crucial for the success of women's economic empowerment programmes in conservative rural settings of Allahabad.** Most of the youth employment programmes implemented in Allahabad has broad and/or multiple target groups. Furthermore, the few programmes that specifically target young women rarely employ a gender-sensitive design, which would include gender-sensitive outreach, creating female-friendly spaces during training, minimizing the distance to training facilities, flexible timing of classes and close mentoring by local women, who serve as role models. Even with these mechanisms in place, the study finds that programme participation was highly dependent on socio-economic

factors. For example, married women were less likely to participate in the training. An important lesson to be learned is that making the timing and location of classes and training convenient for all women can help to ensure high rates of take-up and positive overall training experiences.

- **Promoting safe, flexible, female-friendly employment and workplaces for women**. Job opportunities are limited in the villages of Allahabad, but women generally have been reluctant to seek employment outside their own village. Finding ways to make work and married life with children more compatible should be an important policy priority. Maternity protection, paternity leave and other protection measures help to encourage women to return to work and facilitate shorter career breaks, as well as allowing for a more harmonized work–family balance. National laws and policies in Allahabad need to be designed to minimize the financial cost to employers, particularly small and medium-sized enterprises, as well as expanding coverage to those categories of workers who are frequently excluded, such as non-standard workers, domestic workers and home workers.

- **Engaging local communities is an indispensable factor in creating enabling environments for women's empowerment.** Involving community members in the rural villages of Allahabad in women's livelihood programmes and gaining the community's support is critical for the effective implementation and sustainability of the programme. Throughout the intervention programme, community mobilization events took place; for example, promoters made home visits to parents and husbands when beneficiaries failed to attend or when they faced familial constraints. Encouraging women to start businesses with other family members creates an environment that enables women to be active economically. The fact that this study does not find short-term impacts on women's decision-making power indicates that established gender roles change slowly, at best, and need to be taken into consideration when designing an empowerment intervention.

- **There is an urgent need for intensive training on gender dynamics and social norms, combined with innovative programme design, to be able to enhance both social and economic empowerment of young women in rural settings of Allahabad.** As shown by previous research, and confirmed in this study, gender norms and intra-household decision-making power may not be easily altered by classroom-based empowerment training interventions (Beath et al., 2013; Field et al., 2010). The study attempts to enhance young women's economic and social empowerment through a combination of life and livelihood skills training, delivered within a safe space setting. However, the intervention appeared to have no impact on embedded attitudes towards gender roles and intra-household decision-making dynamics. This might be due to the scope of the training programme, which emphasized business, vocational and life skills training rather than social norms and gender dynamics. There is an urgent need to continuously design, test and provide evidence on the effectiveness of new programme approaches and gender dynamics curricula on different target groups and community settings, both in Allahabad and nationwide. One alternative programme approach is to provide livelihood skills training through a youth-friendly and voluntary delivery mechanism, such as through young women's clubs.

- **Long-term impact estimates are needed to properly access the effect of livelihood intervention programmes on the social empowerment of young women in conservative rural settings of Allahabad.** The endline survey evaluating the effects of the intervention project was conducted approximately six months after the programme ended, thus allowing a very short period over which the impact of the programme could be gauged. Some project participants may have had enough time to set up their own businesses. However, social empowerment might also in part be driven by

economic empowerment, such as establishing a profitable business and accumulating savings. Thus, effects on gender roles and intra-household decision-making power might take longer to materialize. In fact, evidence shows that short-term project gains may help to change gender norms, causing additional positive project outcomes to arise after a delay (e.g. Jensen, 2012; Buvinic and Furst-Nichols, 2014; Valdivia, 2015). Hence, long-term impact evaluation is needed to better understand the full potential of training interventions to boost the social and economic empowerment of young women in rural settings.

Conclusion

This study presents findings from an impact evaluation of a large-scale training intervention in rural area of Allahabad, India, where marginalized women in treated villages were offered intensive vocational education and life skills training. In comparison to women in the control villages, the intervention increased the likelihood of treated women engaging in income-generating activities, driven by an increase in self-employment. The findings of the study suggest that, while the economic situation of women in conservative societies could be enhanced by vocational training interventions, this does not necessarily translate into better social conditions for women.

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CHAPTER-17

Eradicating gap between Education and Employment

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Introduction

National development is the foremost concern of all citizens of a country. It could be achieved only by the collective efforts of all people irrespective of age, gender, caste, religion and status. But the major portion of contribution to the development of the country rests on the young people who are the present partners and future builders of the nation. They have to be in the forefront of any national exercise planned and executed for its development. Proper education plays a vital role in the formation of the youth.

Education in the Present Scenario

The formal education at schools and non formal education outside the school for the illiterate adults and school drop outs has boosted up the rate of literacy in the country. But their acquisition is limited to knowledge of the subjects and general values imparted to them through the traditional courses offered by the institutions. Their accomplishments don't match the requirements of the prospective employers and inadequate for self employment. The educational institutions have failed to turn out employable youth every year. It is a shocking revelation that the number of vacancies and the graduates increase year after year. But the mismatch between education and employment leave the positions vacant and the graduates unemployed. 'The skill shortage is an economic issue' that has threatened the progress and sustenance of the industries and business in turn the Country. It has necessitated the revamp of courses offered at the educational institutions at primary, secondary, higher secondary and collegiate levels.

Education for Future Needs

Transformation of courses to match employment involves the participation and co-operative efforts of the academicians, policy makers, economists and industrialists. Evaluation and assessment of the existing courses and the demands of the employers have disclosed the skill gaps in the prospective educated yet unskilled employees. The designers of courses of study and the formulators of curricula can identify the causes of skill gaps and the kinds of skills needed for employment.

1. Causes of Skill Gaps
    - Changes in jobs occasioned by the new trends.
    - Challenging competitive environment in business.
    - Unprecedented growth in technology.
    - Systematized administration and management.
    - Global demands for employment.
2. Kinds of required Skills
    - Basic / general / core / transferable / essential skills.
    - Communication skills.
    - Specific / technical / professional / vocational skills.
    - Managerial and leadership skills.
    - Emotional Intelligence.

The identification of skill gaps has made the redesigning of courses and the curricula the urgent task to be performed to match education with employment.

Modifications required for skilled work force

- Instead of naming the secondary, higher secondary and collegiate courses after the subjects, they can be named after the trades and jobs for which the skills of the students are honed as done in professional colleges.
- Educational institutions can go for industry tie ups for framing curricula, internship and evaluation.

Equal responsibilities lie with both academicians and industrialists in educating the students of today and the skilled workforce of tomorrow. The industrialists should study the present and future skill gaps and the skills and competencies needed to reach the current and future targets of their industries. The economists can undertake the study of present economic status of the country and the future economic progress targeted to make ours a developed self sufficient country. Policy makers can scrutinize the demands and needs of educational institutions to determine and allocate funds for education in the budget to provide skill, knowledge and value based curricula, the appointment of skilled teachers, in service training programmes for teachers, adequate infrastructure facilities, transportation for internship for students and continuous assessment of the students by the course teachers and the industrialists.

Process of Education

It is a mistaken motion that education starts only in the educational institutions. Formal academic education is imparted at schools and colleges but the foundation for competencies in terms of skills is laid down at home by the parents. The influence of parents as primary mentors is unquestionable in childhood. Most of the general or essential skills other than the job specific skills can be introduced and taught in childhood itself by the elders. The children can be trained and involved in 'Team work, Taking Initiative, Planning and organization, problem solving and self management' at a micro level in childhood activities especially in games. The participation and achievements of the children reveal to the parents their field of interest and their aptitude for learning. It makes feasible the choice of subject for their further academic pursuits

The professional mentors, teachers, can open up for the children new vistas of formal education at educational institutions. Primary education may concentrate on implanting general skills familiarized to the children at home. Ample opportunities have to be created by the teachers to expose to the students the preliminary skills of Communication, arithmetic, basic computer applications, team work, problem solving initiative and enterprise, planning and organizing, self management, right attitude towards learning, positive thinking, will to achieve, empathy, effective handling of success and failure, social commitment through participatory interactive learning etc.

Education it higher level can invest the youth with the specific skills demanded for the jobs sought after. Internship in Industries should be an essential component of higher education. The acquisition of skills has to be jointly assessed by both the teacher at the institution and the industrialist in the worksite. It affirms the employability of the candidates and saves money and lapse of time for additional training for them in the beginning of their career. The candidates are 'Job ready graduates' with skills and knowledge that enable them to succeed and the companies to thrive.

The complete revamp of the educational system can revolutionize the practices of the institutions. The transformed educational system will solve the skill and employment crisis. It can set right the mismatch between education and labour pressure in the industries and ensure the progress of the industries and the development of the Country at large.

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CHAPTER-18

Goal towards Skilling India

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Introduction

Technical manpower in developed, undeveloped and developing countries comprises of Inventors and Innovators, Managers and Engineers, Specialized and General Technicians, Craftsman and Skilled Workers, and Semiskilled and other Workers. For any country capabilities of participating in benefits of technological progress and of contributing actively to technological innovations depends on a number of educational prerequisites. In all advanced countries manpower of different levels like craftsman ,technician ,engineer and manager etc. certified by industry associations or professional bodies having desired education and competencies is employed in social, cultural ,economical, art and architecture, engineering and services etc. sectors. Recognizing the high demand for skill in the country, Central Advisory Board of Education (CABE) emphasized the need for a National Vocational Education Qualification Framework (NVEQF) that provides a common reference framework for linking various vocational qualifications and setting common principles and guidelines for a nationally recognized qualification system and standards. In pursuance of the decision of the Cabinet Committee on Skill Development in its meeting held on 19th December 2013, Ministry of Finance (vide notification No. 8/6/2013-Invt. Dated, 27th December 2013) notified the National Skill Qualification Framework (NSQF). As per the notification, all other framework including NVEQF would cease to exist and will be superseded by NSQF in view of the new notification by the by Ministry of Finance. The Council decided to run the existing programmes approved under NVEQF by AICTE after aligning them as per the provisions of NSQF.

Need for NSQF

General education and vocational education & training have been operating as separate verticals, with very little interaction between the two. In order to facilitate mobility from vocational to general education, and vice-versa, a qualification framework for a country, i.e the National skill qualification Framework (NSQF) will help make qualifications more understandable and transparent.

Features of NSQF

i. Across sectors and across the country
ii. Short duration, focused and modular programs
iii. Practical hands on focus
iv. Delivery in the local language
v. Full day, half day or week end programs
vi. A network of centers
vii. Full mobility between formal, Vocational streams of education and the Job market with multi Point Entry and Exit

Advantages

The advantages of NSQF framework include enhanced mobility between vocational and general education, a standard training process,

global mobility of skilled workforce from A country, cross-sectoral progress mapping, revised approval of NOS/QPs (National Occupational Standards/Qualification Packs) as national standards for skill training, etc. Also, Recognition of Prior Learning (RPL) will help a person transit from non-formal market to organised market through assessment of the concerned person's industrial competencies. Such a setting would prove immensely beneficial for individuals who have developed skills equivalent to a certain grade level, but in the unorganized job market.

A Detailed Description of NSQF

The National Skills Qualifications Framework (NSQF), approved by the Cabinet Committee on skill development on 19.9.2013, is a quality assurance framework which organizes qualifications according to a series of levels of knowledge, skills and aptitude. These levels are defined in terms of learning outcomes which the learner must possess regardless of whether they were acquired through formal, non-formal or informal learning.

The NSQF would also help shift emphasis to outcome based learning - both in the general and vocational space. Today, there is lack of uniformity in the outcomes associated with different qualifications across institutions, each with its own duration, curriculum, entry requirements as well as title. This often leads to problems in establishing equivalence of certificates/diplomas/degrees in different parts of the country, which in turn impacts the employability and mobility of students. By shifting the focus from inputs to learning outcomes, the NSQF would aim to tackle this challenge.

The NSQF organizes qualifications according to a series of levels of knowledge and skills. These levels are defined in terms of learning outcomes i.e., the competencies (knowledge, skills and attitude) which the learners must possess regardless of whether they were acquired through formal, non-formal or informal education and training system. Qualifications are made up of occupational standards for specific areas of learning units or unit of competency. Units of competency are the specification of knowledge and skill and the application of that knowledge and skill to the standard of performance expected in the workplace. The Unit of competency or National Occupation Standards comprising generic and technical competencies an employee should possess is laid down by the Sector Skill Council of the respective economic or social sector.

The Objectives of NSQF

1. Allows the development of a set of qualifications for each level, based on outcomes which are accepted across the nation
2. Provides structure for development and maintenance of progression pathways which provide access to qualifications and assist people to move easily and readily between different education and training sectors and between those sectors and the labour market
3. Gives individuals an option to progress through education and training and gain recognition for their prior learning and experiences
4. Gives individuals an option to progress through education and training and gain recognition for their prior learning and experiences
5. Supports and enhances the national and international mobility of persons with NSQF-compliant qualifications through increased recognition of the value and comparability of people qualifications

Expected Outcomes

1. Integration between vocational education, skill training, general education, technical education and job markets.
2. Increased potential for Recognition of Prior Learning (RPL) of individuals who have acquired skills through non-formal channels.

3. Creating a framework where any degree or diploma can be aligned to the NSQF – once the competencies being created through that formal qualification are ascertained.
4. Creating national principles for recognizing skill proficiency leading to international equivalency.
5. Countering the negative perception associated with vocational education & training by development of quality qualifications that also permit acquisition of higher qualification, including degrees & doctorates.

Key Stakeholders of NSQF

1. Sector Skill Councils – Develop skills for various job roles in sector
2. Central Ministries – Ensure that all stakeholders align their programmes
3. State Governments – Align programmes in their state to the NSQF
4. Regulatory Institutions– Define entry and exit qualifications in terms of NSQF
5. Training Providers – Organise courses
6. Employers – Interpret the qualification of educations of individuals

Challenges

The challenges faced to develop policies and to ensure effective implementation of various schemes and programmes for preparing youth for the world of work and further education and training. It addresses the following challenges:

- Improving the quality of vocational education and training.
- Providing greater access to a wide variety of skill development programmes attuned to the needs of individuals and employers.
- Building seamless pathways for the world of work and further education and training.
- Preparing a curriculum plan that integrates general education with vocational education in a manner that every student gets an opportunity to acquire knowledge, skills and ability for a smooth transition from school to work.

Problems with Implementing NSQF

Lack of support or adequate resources are an endemic problem in most systems of education and training. They do not adequately explain the difficulties associated with implementing NSQFs that may be specific to them. Here distinguish between political, administrative and technical or professional difficulties are explained.

Political difficulties can arise from the fact that the responsibility for an NSQF is never easily located within one government department. In most national governments, the departments of education, labour and industry and trade are all likely to be involved and are likely to have different agendas concerning how an NSQF should develop.

Administrative difficulties are most frequently expressed in the proliferation of new agencies and committees concerned with quality assurance, standard setting and assessment that NQFs invariably generate.

Technical or professional problems (in the sense used here) refer to assessment, previously limited to the relatively straightforward activity of setting and marking examinations, and for the need for a new language of standards, units and levels to define criteria that have to apply to very different qualifications.

Conclusion

Today, there is lack of uniformity in the outcomes associated with different qualifications across institutions, each with its own duration, curriculum, entry requirements as well as title. This often leads to problems in establishing equivalence of certificates/diplomas/degrees in different parts of the country, which in turn impacts the employability and mobility of students. By shifting the focus from inputs to learning outcomes, the NSQF would aim to tackle this challenge.

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CHAPTER-19

Improving Employability Skills among Indian Youth

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Introduction

Education is the driving force of economic and social development in any country. The progress, prosperity and accelerated growth in economy require support from the higher education system in providing on workforce. India attains its goal of becoming a global economic power. It needs people of caliber to power and accelerate growth and for all this India needs to cater employability skills to its educated youth.

Employability Skills

Employability skills refer to specific skills essential for employment. These skills are a set of attributes, skills and knowledge that all labour market participants should possesses to ensure they have the capability of being effective in the workplace – to the benefit of themselves, their employer and the economy. These are the critical tools and traits required to perform tasks at workplace. These are all about the ability of individuals to exhibit their skills to the prospective employers and the ability to execute the tasks thereby achieving organizational goals and objectives. Besides, it also talks about the ability to switch over to other jobs comfortably.

Employability skills are the additional skills apart from the core skills and hard skills. These skills are essential for all employers cutting across all industries. These days employability skills are much sought by employee. The needs of employability skills differ from country to country and from sector to sector and from time to time. However, certain qualities such as communication skills, interpersonal skills, integrity, right attitude, problem solving, decision making and team building skills can be taken as a few common employability skills.

Employability Skills at Global Level

The need employability skills differ from one country to another. For instance, American Society for Training and Development (ASTD) identified six categories of skills which are important to employability. They are; basic competency, communication, adaptability, developmental activities, group effectiveness and influencing others. In Malaysia, these are positive values, leadership skills, teamwork force, communicative skills and life-long learning. In Australia employability skills are defined as 'the skills required gaining employment or establish an enterprise, but also to progress within enterprise or expand employment capability, so as to achieve one's potential and contribute successfully to an enterprise's strategic directions.' The eight employability skills are initiative and enterprise, learning, self-management communication, team work, problem solving, planning and organizing and technology.

1. Self Management- Contributes to Employee Satisfaction and Growth: Self-Management refers to an individual's ability to manage themselves in relation to the outcomes expected of their work role. Individuals must increasingly take responsibility for their own performance. It includes readiness to accept responsibility, flexibility resilience, self- starting appropriate assertiveness, time management, readiness to improve own performance based on feedback/ reflective learning.
2. Team Working- contributes to productive working relationships and outcomes: Team work recognizes the important of relationship with others in the workplace. There are very few tasks and roles which occur in isolation, but even these require at least some degree of relationship with customer

and / or supervisors for an understanding of how the work being done contributes to an overall goal or target. Structural change, the growing complexity and diversity of services and products being provided, the use of outsourced providers, workplace flexibility and multi-skills are just some of the factors influencing the increased requirements for teamwork.

3. Relationship building and Customer Awareness- contributes to business success: Relationship is defined as a mutual affiliation or connection between individuals or groups of people or entities. It focuses on understanding the needs of the clients' and getting the best possible results. Establishing a relationship has certain for it to develop like networking, establish rapport, use of contacts, and concern for stakeholders. Relationship building promotes an ethic of client service and so an understanding and anticipation of clients' changing needs is essential.

4. Communication- Contributes to Productive and Harmonious relations between Employee and Customer: Communication skill is to facilitate people for to communicate effectively with one another. It also plays an important role in forming relationship. Communication involves elements such as being a good listener, expressing yourself clearly, explaining things to people from different backgrounds and presenting a clear case. For effective communication, a sender transmits his or her message in a clear and organized form to maintain and promote the need and interest of the receivers. Receivers or listeners show interest only if the person communication is loaded with confidence, gestures and softness. Speaking, listening, reading and/or writing are central to all work practices and there are very few examples of units of competency which do not contain at least some aspects of communication is the key to individuals and team effectiveness.

5. Problem Solving and Initiative- Contributes to Productive Outcomes: This involves being able to offer a solution to a problem by analyzing a situation and working out how to arrive at a favorable outcomes. It often involves making optimum use of available resources and enlisting others to achieve an outcome. At a more complex level, problem solving can include processes to identify problems for example, problem solving as it allows individuals to take steps to solve problems, with or without input from supervisors.

6. Learning-contributes to ongoing improvement and expansion in employee and company operations and outcomes: Learning skills refers to a preparedness to lean from experience in a range of settings and scenarios. It contributes to ongoing improvement and expansion in one's knowledge and skill set. This also refers to ability to learn workplace skills and expectations specific to organization. To keep up with the techno change employees need to continuously engage in self- assessment against the technological landscape of skills and knowledge, and take proactive steps toward enrolling in continuous training.

Factors of Employability Skills among Youth

1. Soft Skills Programmes: Language and soft skill programmes should become mandatory for postgraduate student and undergraduate student. Introduction of soft skills and language skills will certainly improve the employability of our graduate student.

2. University-Industry Collaboration: There is need to end the isolation of higher education sector and the industrial sector. Both the sector should come together in their own interest in their own interest and in the interest of the nation. The higher education institutes should build relationships with industry and collaborate with them in designing the requisite curriculum for supplying employable graduates in the industry and business organizations. Enhancing employability through imparting required skills has become the imperative of the higher education system.

3. Industry Internship Programmes: In association with industry, an industry internship programmes should be made mandatory so that the graduates can understand the industry atmosphere and the industries can identify the talents and skills in our graduates and employ the opportunities arise.

4. Coordinated Approach: Government, educational institutions, industry, and the student themselves all the four parties need to play a better role in addressing the critical challenge ad understanding the changing role of technology and innovation in driving transformation. None of the four can make this work in isolation: it will take a well-coordinated approach.

5. Modernized Education System: India has one of the largest education systems in the world, but there is an urgent need to modernize it. We need more institutions in diverse fields like agriculture. Biotechnology and human resources etc are needed to reap the advantages of our demographic profile.

6. Employable Courses: The institutions should develop the course as per the requirements of the employers, the competencies have to be mapped, and evaluation systems have to respond t the requirement of the assessment of competencies which have been acquired by the learner and not simply knowledge domain.

7. Proficient and Trained Teachers: Capacity also needs to be upgraded in terms of human resource. In other words, we also need to train more teachers, re-skill them according to today's requirement. Young people should be motivated to work as educationists. This will partly solve the unemployment problem and add to the system a large number of people who can then transfer those skills to students. There is need for faculty enablement, faculty development and faculty recruitment. There is a need for blended training which is part ICT enabled training and part faculty driven.

8. Qualitative Improvement In Education: A change should reflect in pedagogical methods and lay emphasis on several dimensions, including.

    - A Shift from rote memorization to development of student's capacity for critical thinking.
    - A shift from traditional academic to practically relevant curriculum.
    - A shift from traditional academic to practically relevant curriculum
    - A shift from imparting information to imparting life values such as independent thinking. Self-reliance and individual initiative that are essential for success in any field of endeavor.

Conclusion

To be employed is to be at risk, to be employable is to be secure' - Peter Hawkings. An important role to education is to foster in each child the attributes and values of a responsible, capable, active and healthy members of the family and the society. The rigidity of curriculum, testing and teaching methods need to be relaxed so that innovative methods and new models of education can be evolved, tested and perfected. The growing Indian economy is now facing the shortage of competent manpower. There is a mismatch between required qualifications and competencies. The achievements in terms of academic qualifications do not show up in terms of competencies in the work area. There is a big difference between the actual learning outcomes and the required learning outcomes. Businesses want graduates who not only add value but who have the skills to help to transform their organization in the face or continuous ad rapid economic and technological change. All graduates whatever their degree disciplines – need to be equipped with employability skills. The employability, however, is a more serious problem and is a major challenge to the entire educational system and contend of the curricula as well as

the emphasis on the theoretical as distinguished from practical applied training. The efforts made by the Indian state and policy- makers in the area need them to be reviewed carefully. Training individuals for the jobs of the future and allowing them to visualize what it possible today will not only make a difference in their lives but will enrich our communities now and for years to come. Empower these youngsters with the requisite skills they will need to get employment and to grow in a corporate environment. Hence, the reform in the higher education system must necessarily provide the skilled graduates with suitable value additions in order to meet the demands of the growing economy.

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CHAPTER-20

Improving Employability Skills among Youth

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Introduction

"Survival of the Fittest" is the eternal truth and it has universal applications. The modern era is the era of sharp competition. In order to achieve success in life, one has to struggle through out his life by developing his personality and managing his career. The present employment scenario looks odd and strange. Jobs are available in dense rate but deserving candidate is in scarce as they are not equipped with the required skills. Young graduates invest their time and energy in upgrading themselves in specific content knowledge while parallel enhancing of life and job skills are less focussed. Graduates are expected to possess certain skills for employment, both to get absorbed in and to subsequently retain the job.Number of skills for employment are essential like preparing a Curriculum vitae or a resume, preparing the minutes of a meeting, presenting data in verbal and non-verbal modes, reading and replying to emails, correct attitude for employability and so on. The following paragraph will highlight the core skills for employability like group discussion, facing interviews, making presentations, interacting with superiors and listening to reports and customer complaints.

Employability Skills

The employment market of today expects a plethora of skills ranging in ability beyond acquisition of knowledge. The Smyth County Industry council, a governing body based in the US, brought out a report of a survey it conducted on "Workforce profile" which found an across-the-border unanimous profile of skills and characteristics needed to make a good employee. Every employer looks for trait in an employee: (i) Positive work ethic, (ii) Good attitude, and (iii) Desire to learn and be trained. The Department of Education, Science and Training (DEST), the Australian Chamber of Commerce and Industry (ACCI) and the Business Council of Australia (BCA) have developed a list of employability skills. They are:

initiative	Communication	Team work	Technology	Self- management
Problem solving	Planning	Learning	Analytical skills	Data analysis
Critical appraisal	Time management	Report writing	Adaptability	Written communication
Making effective presentations	Action planning	Commercial awareness	Assertiveness	Lateral thinking

Present Scenario

India's economy has been growing at a steady, envious growth rate of 8-9% for the last several years. Booming economy means that the cycle of production and consumption is going steady-rather, it is continuously improving. With growing economy, jobs are also getting created in all sectors, be it manufacturing, services or even agro-industries. New areas are coming up in Media, Retail, Insurance, BFSI, Bio-Technology, Law, Organic Farming, Fashion, Education, Training, Networking, Security and more. These are areas that create new opportunities for jobs as well as entrepreneurships.While jobs are getting created, there are not enough suitable takers. In its zeal to increase penetration and access, the government has allowed mushrooming of institutes everywhere, with a resultant decline in quality.As India moves into services model, the skill gap has suddenly become very pronounced. From doing a back-end desk job, the professionals are now required to be in the forefront. They are required to communicate, work in multi-cultural, multi-lingual teams and show high emotional maturity. Suddenly the Indian professional stands exposed, not just in India, but internationally.

Five Pillars of Career Selection

1. **Introspection-The First Pillar:** In our original philosophy, introspection has got spiritual meaning. It advocates an individual to look inwards and examine one's origin, composition, relationship, existence, life and its objectives outside world and its surroundings where the cosmic and earth forces are active and potent in influencing the entire nature and its living creatures. Introspection must be done periodically and on occurrence of a failure or loss in the first mission of career. Introspection whenever undertaken retrospectively with repentance and positive mindset under these circumstances helps and guides you positively to gain success thereafter.

2. **Self-Assessment – The Second Pillar:** Self-assessment reveals a true practical approach for assessing your self and its potential in a real objective and pragmatic way. It gives a realistic perspective about oneself and enables them to make a right choice for proper career. In this process, the negative attributes and their proportional presence within is known. It also opens out a door for undertaking the process of self-development in which a person can develop his potential and personality and thereby increase chances for future promotions after placement in the service.

3. **Self-Appraisal – The Third Pillar:** It is a self-centric process which is addressed to oneself and becomes significant and critical effort in bringing out the real and valuable data along with its drawbacks in bold, frank and transparent manner without shying away. Appraisal means an act of judging, assessing value, quality and working conditions of a system. Therefore, it becomes a statement that pertains to the technique to be adopted for carrying out the actual process of getting into an apt position.

   SWOT Analysis: S-Strength W-Weakness O-Opportunity T-Threat. SWOT is modified into SWAIT where I stand for interest,

   - **Strength-It** indicates strong points of one's nature and personality. Mentioning the positive attributes as STAR PLUS qualities.
   - **Weakness-It** indicates weak points of nature and personality. These are manifested in the form of negative attributes and mentioned as NEGATIVE STAR qualities.
   - **Aptitude-It** indicates talent, capacity, urge and willingness to learn. It implies mental adaptability and suitability to choose, follow and take to success with total involvement

- **Interest- It** means the preferred activity which implies determination, creativity, initiative and dedication for it to sustain and pursue for a longer period of time.
- **Threats- It** means different challenges, financial crisis, competitions and dislikes. It includes timing for availing opportunities. Course duration and completion time becomes important factor for consideration.

4. **Self-Development – The fourth Pillar:** The process of self-development focuses at harnessing all available sources and agencies and seeks proper advice from time to time in order to make the best possible use of them for achieving tangible benefits and placing you squarely in the competitive race. In a way, they tend to give specific direction to the vision, ambition, and personal mission and motivate one to march ahead in whatever career/service chosen. Self-development position comes only after the process of self-assessment and self-appraisal is carried out. Then only it becomes effective, productive and meaningful for causing improvement in life and offering its benefits for enjoyment.
5. **Self- Interrogation- The fifth Pillar:** Self-interrogation implies doing introspection of a special nature. This trend to Know Thyself is a positive and healthy shift. It becomes a stepping stone to visualise about good and bad or strong and weak qualities and their respective levels. The thought process now starts working on many issues which are related intimately with the career. It is quite evident that the destiny and basic attributes are two inseparable sides of a coin thereby indicating that destiny manifests basic attributes or basic attributes represent destiny. In either way, it results in achieving one's life long aspirations according to their respective strength and quality.Thus, the utmost importance of these career-oriented pillars is highlighted for their emphasis in life. If it is ignored then destiny is ignored.

Interview Skills

It is a process that involves study of the industry, institution, the job and the candidate. The ultimate aim of the interviewer and the interviewee is to elicit the right and useful information to arrive at a decision. Both will explore different question techniques and points in their favour. Job seekers can attend mock interview in order to train themselves confidently with all other core skills. A mock interview is a simulation of a real interview. As the basic objective is to give the candidate the feeling of an actual interview and train him accordingly. His performance is videotaped and replayed with the comments of the interviewer. A well-conducted mock interview can help the candidate eliminate the mistakes like; poor first impression, cliches and repetitions, poor body language and poor verbal communication.

Correct attitude for Employment

Knowledge refers to what a person knows and skill refers to what he can do with that knowledge. Attitude is the way knowledge and skills are brought to bear upon in the display of presentations in jobs or to employers. In order to maximize performance in a job, everyone should have a positive attitude and this would help a long way in creating, sustaining and changing opportunities in jobs.

Job selection criteria

When a candidate opts for a job he has to look at the job selection criteria and keep in mind the following considerations: Financial security, autonomy, managing people, responsibility, achievement and creativity, self esteem and recognition, social contact, work flexibility, outdoor activities, personal growth, development and status, risks and challenges, work and leisure balance. Priority for considerations of graduate's expectations may vary according to the urgency to get the job. The job seeker is required to match their personal attributes with the types and grades of the jobs and select the one which can meet criteria of his selection and at the same time, it is in line with their educational and professional qualifications.

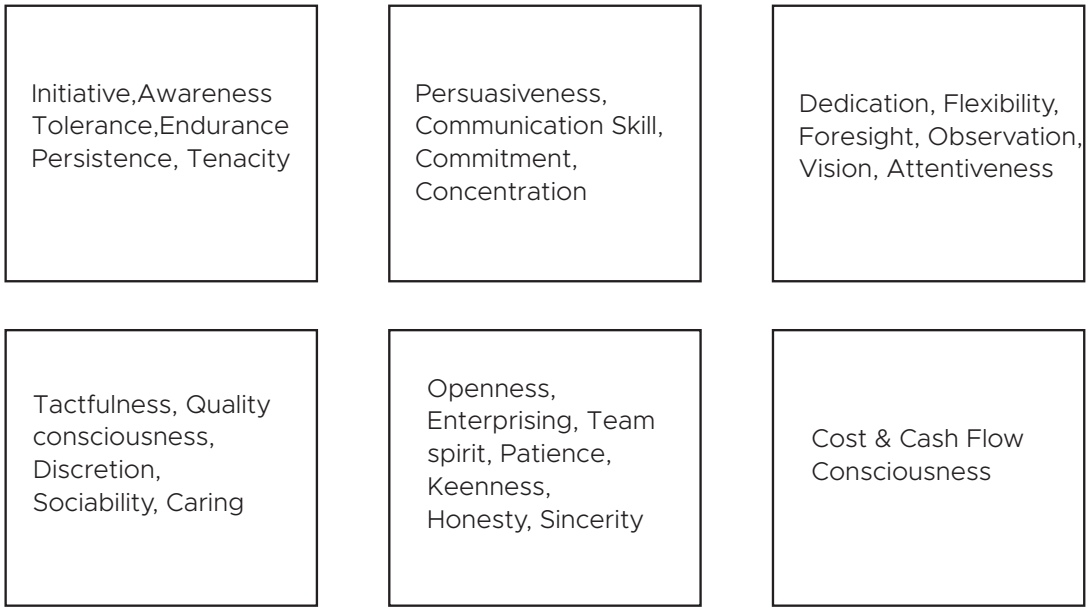
Employer's Expectations

There are many aspects some attributive, some qualitative, and some psychological which are responsible for resulting, ensuring, an optimum productivity of fairly high quality and giving solid foothold and edge in the competitive market. While at the same time, it enables an employer to achieve his employee's commitment and involvement in his organization. The core aspects which an employer of the present day expects from his employees are Goal/Objective, Positive Personality, Appropriate Technical Skill, Application Skill, Work Ethics, Learning, Focus, Maturity, Self-Discipline, Loyalty and Integrity, Realistic Approach, Cost and Quality Consciousness and Leadership. If a candidate discharges these properly, his performance is definitely going to be highly satisfactory. The person is appreciated and liked besides being an asset to the organisation.

Prospects for Doing Self Employment, Self-Business/Entrepreneur

The probability of getting an employment in the Government, Public sector, Semi Government and private organizations is becoming dim every day on account of the financial stringency, downsizing policy and shrinking job potential in the industries. The business and self-employment as suggested are service oriented such that one has to render a special type of the service to a particular class of the people who constitute eventually their dedicated customers. It is also self-performance oriented with their own initiative, planning, talent, efforts, direction and management. Before entering in to any business, it is essential that the person should have prior knowledge, exposure and some experience at the operating level of that business. Certain special attributes help and drive the businessmen in the right direction and imbibe them with the spirit and acumen of a typical businessman for conducting business related activities. They are:

These guidelines are quite valuable for job seekers and career hunters because they give the holistic picture of the entire operation and the cognizance is taken seriously well in advance if it has to prove ultimately fruitful, purposeful, productive, and self-satisfying. Becoming aware and familiar in the beginning about qualities, resources and limitations is important. It needs a fair, sincere, honest and unbiased self-assessment and frank admission of one's own weaker areas.



Mandatory Prior Planning

- Assess honestly specific skills, expertise and aptitude
- Survey the market extensively to asses the demand and supply potential for a particular product
- Go around and visit places, areas and regions
- Assess the extent and depth of the market for your business
- Assess marketing efforts to reach out customers through personal contacts and advertisements
- Assess the type of specific skills and experience required to do business
- Assess likely pitfalls, obstacles, competitor's jealousy, delays, financial problem, Government rules and regulation
- Assess the capacity to cover the areas of the business and estimate market fluctuations
- Workout estimated sales and find out the financial support from banks
- Find out people's attitude and expectation towards the business
- To listen and correct customer complaints without argument
- Understand customer's psychology and be a good salesman
- Keep all controls of business in hand and spot the problem taking timely measures for correction
- Get the frequent feedback from the customers to analyse and take suitable corrective actions

It is indeed realized that the job and potential are related intimately and they are required to be matched in order to get the best and satisfactory output results as well as job satisfaction, mental relief and lead to a comfortable, contented and happy life.

Managing Career in an Organisation

In any organization today, its functional role, structure, manpower and logistic inputs and control modalities are undergoing drastic changes. They are becoming more flexible, personal centric and decentralized. Devolution of power and decentralization of controls are taking place regularly in order to face challenging situation and global competition on instant to instant basis called on line. Downsizing is normally adopted to cut down the cost on manpower and office expenses. It is resulting into outsourcing outlets and demands for multidimensional and multilateral skills in working personnel. Emphasis on merit and competency is the new theme to emerge for executing recruitment and promotions. These in-house dynamic organizational changes pose challenge to managing career.

Career Decision Making

Decision making for selection of a proper career in the 21st century would be a complex function because of stringent requirements for the working environment, job qualifications, operating skills, different grades, employment service potential, scope, absorption, expansion, merging, risks and challenges, accuracy of self-assessment, self-appraisal for knowing competency, limits, potential, talents, efficiency, capacity, availability of computer aided decision making as an effective tool to help you but it could be effective only when you provide inputs to it properly and correctly.

Conclusion

The above paper mentions the employability skills to be improved among youth to fetch the right job. The graduates therefore have to imbibe the required potential to get sucked in the appropriate positions they desire at the reputed organisations or institutions.

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CHAPTER-21

Integrating Life Skills Education: A Pathway to enrich Rural School Students

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Introduction

The World Health Organization (WHO, 1997) defines life skills as "abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life". Life skills comprise a wide range of generic skills that help an individual to cope with various facets of life. It facilitates in strengthening the survival capacities of the individual by providing him an orientation to basic education. Life skills can enhance the abilities of the individual with the changing environment and empower them to make informed and rational choices about their future and life. Life skills are not a substitute but a complementary to formal education. These skills can be incorporated among students at any stage or level of education and through different fields of study.

Botvin (1997) highlighted the importance of the life skills and initiated training programme based on life skills. He initiated a highly effective life skills training programme for youth from seventh to ninth grades to improve assertiveness, decision making and critical thinking skills. UNESCO (1991) suggested to implement these life skills techniques for teaching in school based programme. This prevention approach has produced significant positive changes in knowledge and attitude among students. The assertiveness and ability in decision making have also changed due to their participation in the programme.

The importance of life skills in various facets of life are emphasized by researchers from different fields. Life skills are problem-solving behaviours used in the management of personal affairs (Curtiss & Waren, 1973). The development of life skills is an important part of personality development, which can be beneficial for all young adults (Rao, 2003). Life skills constitute a continuum of knowledge and aptitudes that are necessary for a person to function independently and to avoid interruptions of the employment experience (Brolin, 1989).

Life Skills: Concepts and Components

Life skills are abilities for adaptive and positive behaviour that enables individuals to deal effectively with the demands and challenges of everyday life. It is a group of psychosocial competencies and interpersonal skills that help people to make informed decision, solve problems, think critically, creatively, communicate effectively, build healthy relationship, empathize with others and cope with and manage their lives in a s

According to UNESCO (2001) Life skills are person's ability to maintain a state of mental well being and to demonstrate the same in adaptive and positive behavior while interacting with others and with environment.

The components of life skills selected for study are explained below.

- Self awareness: The ability for recognition of our character, strengths and weaknesses, desires and dislikes
- Empathy: Empathy is an ability to imagine what life is like for another person even in a

situation that we may not be familiar with. It is characterized by high motivation to help others.

- Critical Thinking Skill: The ability to make objective judgments based on reasons and empirical evidences.
- Creative Thinking Skill: It is the ability to make things in a new or unique manner.
- Problem Solving Skill: The ability to deal constructively with problems in our day to day life
- Decision Making Skill: It is the ability to make appropriate decisions at appropriate time.
- Interpersonal Relationship: It is a skill that helps us to understand, maintain a cordial relationship with others and also end relationships constructively.
- Communication Skill: It is an ability to express both verbally and non verbally in an appropriate manner
- Stress Management: It is ability for recognizing and responding to emotions appropriately and managing stress effectively.

All the components of life skills are interdependent and none of them stand alone. According to UNICEF (2008) communication skills need self awareness and empathy and even needs to think creatively and critically. When you make a decision, you need to communicate with the people concerned with that decision and try to persuade them to accept it. These skills are inter-related and reinforce each other. Together, they are responsible for our psychosocial competence, building our self-esteem and self-efficacy, and nurture holistic self-development.

Awareness on skills provides us with choices on how to react, rather than allowing them to govern our behaviour, which may lead to unpleasant consequences. The stress can affect our lives one has to know what sort of harmful effects the stress can have on our mental and physical health. The sources of stress have to be identified in order to take action to mitigate its impact on us.

Need for the Study

Life skills are broadly applicable, some of us might be curious to realize what exactly life skills are. We could say that life skills refer to personality traits, social gracefulness and fluency in language, personal habits, friendliness and optimism that mark people to varying degrees. The life skills are imparted in a supportive learning environment. There is a need of awareness about life skills; it should empower the students to face their challenges on their life. As a future professionals must aware on these, hence it make students knowledge attitude as newer form.

Objective of the Study

- To find out whether is there is any significant difference in the life skills of rural students with respect to their gender, age and school

Hypotheses of the Study

- There is no significant difference in the life skills of rural students with respect to their gender
- There is no significant difference in the life skills of rural students with respect to their age
- There is no significant difference in the life skills of rural students with respect to their schools

Methodology of the Study

The area of the study is confined to Dindigul district. The researcher has adopted the descriptive survey method of research for access the impact of life skills among rural students in this study. Tool of the study is “life skill Inventory” questionnaire. The survey questionnaire has fifty items. The items were short out by expert. The tool was constructed and standardized by Nandini and Sreedevi, (2015), It consist of three point scoring key like, Always, Sometimes and never. The reliability index obtained after correcting with Spearman–Brown formula was found to be 0.729. Simple Random sampling techniques was adapted to this study. Population of this study

consists of the rural students, who are pursuing School Education in Thavasimadai panjachayat at Dindigul district, Tamilnadu. Seventy one Rural school students were selected randomly from St. Antony's Higher Secondary School (34 samples) and R. C. Amala Annai School (37 samples) for the collected data were scored and analyzed using statistical techniques like mean, median, Standard Deviation and t-test.

Data Analysis and Interpretation

Table 1

Difference in Life Skills of rural students with respect to their Gender

Gender	N	M	SD	t-value
Girls	34	50.44	6.19	2.3804*
Boys	37	46.21	4.62	

*Significant at 0.05 level

The table 1 reveals that, the mean value and SD values of Impact of Life skills among Rural students with respect to their gender. They are 50.44, 46.21 and 6.19, 4.62 respectively. The mean difference between rural girls and boys are found to be 4.23, which shows that impact of Life Skills is higher among Rural girls who are all pursing in School education when compared with Rural Boys. The calculated t-value is 2.3804, which is significant at 0.05 level and hence the formulated hypothesis "There is no significant difference in the life skills of rural students with respect to their gender" is rejected.

Table 2

Difference in the Life Skills of Rural students with respect to their age

Age	N	M	SD	t-value
12-14	34	46.10	4.7	3.4810*
15-17	37	50.74	6.21	

*Significant at 0.01 level

The table 2 reveals that, the mean value and SD values for the impact of Life skills among rural students with respect to their age factor (12-14 / 15-17). They are 46.10, 50.74 and 4.7, 6.21 respectively. The mean difference between 12-14 and 15-17 age students are found to be 4.62, which show that Impact of Life skills among 15-17 age group students are having higher impact when compared with 12-14 year age group students. The calculated t-value is 3.4810, which is significant at 0.01 level and hence the formulated hypothesis "There is no significant difference in the life skills of rural students with respect to their age" is rejected.

Table 3

Difference in the Life skills among Rural students with respect to their Schools

Schools	N	M	SD	t-value
St.Antony's	34	50.24	6.12	2.6794*
R.C.Amala Annai	37	46.85	3.99	

* Significant at 0.01 level

The table 3 reveals that, the mean value and SD values of t-test for the Impact of Life skills among Rural students with respect to their Schools (St. Antony's / R.C.Amala annai). They are 50.24, 46.85 and 6.12, 3.99 respectively. The mean difference between St.Antony's school students and R.C.Amala annai school students are found to be 3.39, which shows that Impact of Life skills is higher among St. Antony's school students when compared with R.C.Amala Annai School students. The calculated t-value is 2.6794, which is significant and hence the formulated hypothesis "There is no significant difference in the life skills of rural students with respect to their school" is rejected.

Results and Discussion

From the data analysis, it is found that there is a significant difference in the life skills of rural

students with respect to their gender, age and school. Results shows that the need develop on their skills and aware about life skills and its usage on education and other day today activities to promote themselves in a right pathway to have a success life. According to Junge, et. al. (2006) suggested that life skills development gives children for perceiving or responding to diverse life situations and achieving their personal goals. Children Participation in quality contribution on education programmes and social development and academic success while promoting life skills. Bender and Lombard (2004) states that Life Skills as the skills, insight, awareness, knowledge, values, attitudes and qualities that are necessary to empower individuals and their communities to cope and engage successfully with life and its challenges. Through these studies suggested that young or adult should promote their skills to face their challenges.

Conclusion

Considering the fact that during the last decades in society the perceived importance of life skills has increased significantly, it is of high importance for everyone to acquire adequate skills beyond academic or technical knowledge. This is not particularly difficult. Once a shortcoming in a certain area of soft skills has been identified at oneself, there are numerous ways of rectifying such a deficiency. Educators have a special responsibility to develop life skills, because students faced certain things to solve during their Schools days itself and they have major impact on the development on their skills. Besides raising awareness regarding the importance of life skills and encouraging students to improve their skills.

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CHAPTER-22

Issues of Skills Development Kills Development

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Introduction

Modernization and Urbanization has viciously increased the competition between countries in their production, distribution, cost, services, etc,. In olden days skill was usually inherited from parents to children. The modernization and civilization process has brought change in the idea that work and knowledge could be separated. As per the reports submitted by various commissions and policies states that work and knowledge must never be separated. Based on it they formulated the educational patterns in the country. The focus of such initiatives was to build a sustainable skill based educational system only a few percentagesof people choose vocational or skill based education. As a consequence, demand has increased most for professionals, technicians, managerial staff and skilled educated production workers. If such skill based workers are produced then only they will be able to perform tasks to standards, continuously innovate and improve processes and products through the application of new technologies. There are many issues that are prevailing in the present society which do not allow people to use innovative ideas, thinking, to adapt education and training systems which does not allow improving the competencies and employability of the work force.

Conditions Prevailing

Though government has numerous plans and programmes focusing on vocational education very minimal percentage of the population choose vocational Education these limited mass are also trained in the theoretical aspects to qualify the degree, where the training to develop their skills is not given intensely. The people who are literates or illiterates, people from urban or rural, people from different achieved or acquired status in these modern days do not posses any skills. There are three kinds of target groups such as:

1. No formal qualification but has skill.
2. Have formal qualification but no skill.
3. Have both, but need to upgrade skill.

Though Government of India has set a separate Department for skill Development headed by Prime Minister, So many issues are still prevailing which hinders the developmental process.

Major Issues

To improve the competencies and employability of the work force involves various innovative thinking and methods are formulated to adapt education and training system. It aims to bridge the gaps between knowledge acquired through formal education and that learnt in work a long term process that is essential for their career. If better education is imparted lack of training in skill development prevails which will bring down the productivity of a country and the income also reduces. As the technological Development is in a large scale the challenges are also more as training in the developed field is not taken care to improve a person's employability and labour mobility. For this the ability to do research in that field has to be encouraged so that innovative methodologies to adopt the changing technologies could be met.

To raise a nation's economic development, foreign investments have to be attached to promote growths which in turn require both education and skill. If skill development takes place the dependence on income support for the unemployed shall be reduced. If the people are skilled automatically their behavior will show

improvement, they will have a lawful behavior, there may be a reduced crime rate and they will also posses health awareness.

Challenges Faced

1. Youth do not acquires education and skill simultaneously
2. The employers do not invest in new production if relevant skill is scarce. This condition is prevailing as the young generations do not have a culture of learning continuously.
3. In a country like India the major concern is youth employment as the Education system has led to questioning of the content and quality.
4. The over population in developing country like India also lead to lack of education in a standard manner to a part of people which indulge them to work for low wages, working in unhealthy circumstances.
5. New and higher skills have to belinked so as the potential for improving productivity in this Technical era maybe possible.
6. Manual work is not replaced by Technical skills as people are scared of developing their new skills.
7. Policy makers approaches are not focused to vocational learning need to be extending beyond the current focus on competences to include a stronger concern with the teaching and learning practices that facilitate sound vocational skill development.
8. Student are only encouraged to develop their general skills and not on a specific skill as the curriculum is framed or generalised for all. Specifications are necessary.
9. In this Technical era the students have to be trained accordingly but, these programmes are not updated.
10. Quality of teaching is a critical component. Importance of teaching skill has been devalued. Now the Higher grade certificate has become an entry level certificate.
11. Vocational learning requires same high levels of teaching competence.
12. Teaching and learning practices need to adapt to the diversity of learners and their needs. Greater use of new information and communication technologies have to be incorporated otherwise it will be asynchronous and just-time learning.
13. We have to produce effective skill based practitioners who make informed judgments and have the capacity to keep learning. This requires an educational process that goes beyond training only in specific vocational skills towards one based upon the development of critical facilities and an awareness of the ideas and principles that underlie practice.
14. Partnership across the community need to be a greater part of our future strategy, which may include the different institutions that provide education to share components of the total curriculum.
15. Policy makers need to see the development of vocational learning in specific areas as a partnership between educators and relevant sections.
16. We will need significant and sustained careful evaluation of the capacity is to be bided.
17. There are lapses in setting up and composition of local and national bodies with other stake holders, representation to advice on policies and implementation.
18. Care has to be taken to determine the ways of how the skills and competencies need to be assessed and certified.
19. The process of increasingly accepting students for longer periods of on-the-job training and directly providing work place training facilities are not found.

20. It is not encouraged to develop new approaches to skills upgrading for informal economy operators.

21. Minimal effort is mounted to improve the employability of graduates at all levels of education and training system.

22. There is no methodology to identify the skills prevailing in an individual.

23. There are no enough resources, may be private training systems which charge student at high rate or Government system.

24. There is lack of policy coherence between ministers and public agencies responsible for education in one hand and vocational training on the other.

25. Public-Private Partnership in improving provision of education and training has to be established.

26. School-to-work transition is not focused.

Conclusion

The challenges and issues that prevail in skill development may be numerous. Three major fields are pertained to it such as the Government Organisation, Private sectors and the Educational Providers. If these three are perfectly regulated in the aspect of skill development a perfect triangle may help to resolve the issues related to skill Development. Training and re-training, harmonization ofskills and training regulations across the country develop detailed occupational profiles and build programmes based on the education and training specific skills would encourage employability. Concentration has to be laid on policy level to training level. Training of youth in professional, technical and skill based jobs is vital and evidenced by number of developing countries experiencing both large-scale labour underutilization and serious skill shortages. This is holding back growth and thus inhibiting a faster pace of poverty reduction.

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CHAPTER-23

Learning Assessment in a Self-learning Material

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Introduction

Assessment is a generic term for a set of processes that measure the outcomes of students learning in terms of knowledge acquired, understanding, developed and skill gained. Assessment serves many purposes. It enables students to obtain feedback on their learning and helps them improve their performance (Boud, & Falchikov (2007). Whenever we learn we question ourselves. How am I doing? Is this enough? How can I tell? Should I go further? In the act of questioning is the act of judging ourselves and making decision about the next step. This is self assessment (Baud, 2005). Self- assessment is about students developing their learning skills. Self assessment has great potential when it seen from the point of view of contributing to students learning and when it is used to engage students more deeply in the subject areas being studied. As Yorke, (2003) notes: the act of assessing has an effect on the assessor as well as the student. Assessors learn about the extent to which they [students] have developed expertise and can tailor their teaching accordingly. The past ten years has seen a counter- movement to the emphasis on what Peter knight, (2006) has termed "high-stakes assessment". Assessment for learning has begun to take a place on the agenda within institutions although it still takes a secondary place in public policy debates and in the media (Boud, & Falchikov 2007).

Assessment in distance learning is of paramount importance since the question of credibility and quality of open and distance learning system. Learning assessment is an attempt to gain knowledge of the learner's competencies. In particular, what competencies have they acquired as a result of learning process. Learning activities is designed to facilitate learner to learn various kinds of knowledge and skills related to the objectives developed earlier. As the result of these activities, the learner will gain their capabilities related to the objectives. There are five domains of competencies to be gained as the result of the learning activities. The domains are intellectual skills, cognitive, information, psychomotor and affective.

Methodology

The proposed paper mainly is descriptive-analytical in nature. Relevant books, articles and newspapers are used in this paper. Data and information are collected from the concern sources as per need to strengthen my research. Interpretative approach has been followed in this research.

Learning

For effective learning of any kind to take place, learners-whoever they may be-must develop capability of monitoring what they do and modifying their learning strategies appropriately. Such self-monitoring is what educational psychologists include as part of their term metacognition which now a central plank in cognitive theories of learning (Biggs and Moore,1993). It is important all learners to develop the ability to be realistic judges of their own performance and to effectively monitor learning can be effectively undertaken when the learner monitors what is known, what remains to known and what is needed to bridge the gap between the two (Boud, 2005). Melton, (1996) questions the effectiveness of the behaviorist approach to assessment in classifying students according to whether they have achieved or have not achieved specified objectives.

However, distance learning in the contemporary period has been associated with high product innovation and process variability where course curriculum and delivery mode can rapidly

adjusted to meet the changing needs of distance learners (Campion, 1990; Raggart, 1993; Rumble, 1995). Assessment has two kinds of influence on the distance learner-it can empower him in many aspects of distance learning such as individual learning pace and the selection of course modules or it can severely restrict him to following the narrowly defined assessment criteria laid down by distance education institutions. The assessment mechanism or methods are crucial as these may have a greater influence on students' growth than the impact of supervising teachers or teaching materials (Boud, 1988).

The Purposes of Assessment

There are two main purposes for learning assessment:

1. To aid learners in their subsequent learning.
2. To report on what they have learned.

   The first use of assessment is known as formative assessment since it is meant to form the learner's learning. The second is summative because it sums up what each has achieved.

Formative Assessment

Formative assessment is at the heart of effective teaching and that self assessment is an essential component of formative assessment. Studies over many years have shown that formative assessment is an aspect of teacher's class room work and that attention to improving its practice can enhance the learner's achievement (Gardner, 2012).Learning assessment could be used to investigate learning difficulties faced by the learner. Based on the result of assessment, we could decide of any treatment to be used to help the learner. The treatment could be improving some topics, or the whole of the topics of the subject being learned. This kind of assessment is known as formative assessment. Formative assessment is meant to make sure each learner achieve every specific objective of learning. Usually, instructor carries out formative assessment informally during the learning activity. A central argument is that, in higher education, formative assessment and feedback should be used to empower students as self regulated learners. The construct of self-regulation refers to the degree to which students can regulate aspects of their thinking, motivation and behavior during learning (Pintrich & Zusho, 2002).

But, for self-learning activity, formative assessment is an integrated part of learning material. It can be activities- - such as in-text questions (ITO) and self assessment questions (SAQ) or assignment on each unit of the material in order to monitor and develop learners own learning. Sometimes it may involve getting feedback from their colleagues-peer assessment. Self-and peer-assessment are powerful means for challenging the student's unconscious assumptions, beliefs and attitudes (Walter and Carey, 1996).

Formative assessment is such an assessment that is performed during the implementation of learning activity. The objective of such assessment is to recognize whether a learner can continue his/her activity into the next unit. Learners of a self-learning activity to assess the level of achievement by him/her can use formative assessment. If the result is adequate, the learner can move into the next subject matter.

The major stress of this formative assessment is to form the level of mastery on the material learnt. That is why within a self-learning material, the completion of formative assessment is put on the learners. The learning material developer solely provides questions and the answer key. The learners then answer the questions by him/her and compare answer key.

A tutor that will check the answer afterward also can oversee the formative assessment. Tutor may give any comments to the result. Based on the tutor's assessment, then continue his/her activity whether to re-read the subject matter the learner had learnt or to move into the next subject matter.

Hence, a teacher or an instructor to determine what kind of action needed to assist a student in a learning process could use the result of formative assessment. For student or teacher,

the result of formative assessment can be used to measure his/her strengths or weakness. So the learner can determine what kind of effort should be done.

Summative Assessment

Summative assessment is such a final assessment by which a student or a trainee is determined to be succeed or fail to accomplish his/her learning activity. This assessment is performed in the end of certain period of time of the course or training. For a self-learning activity, summative assessment can be performed in the end of a module or series of module. The material assessed in the summative assessment is more widespread than that in the formative one. The material includes the whole subject matter learnt for a unit of time. The objective of summative assessment is to report the whole things recognized or achieved by a learner after the learner follows a learning program. This assessment determines the success or failure of a learner in accomplishing any course or training program (Rowntree, 1997).

The classic case of the summative assessment is semester final exam in written or practical form. Nevertheless, the mid semester tests or certain tasks can be classified as summative assessment if their result is considered in the final outcomes. Continuous assessment is sometimes used for summative purposes since it is recognized that students are more likely to treat it seriously if it contributes towards the ultimate assessment of their achievements.

The Role of Assessment in Self-learning Material

Self-learning materials or modules are designed for students or trainees to study individually with less assistance from other people. A student or a trainee is expected to comprehend the learning content by reading the module as well as by conventional face-to-face tutorial. What could you do to active that objective? Try to discuss it, and then compare what you have discussed to the description below.

A high quality self-learning material or module should contain sufficient activities to stimulate student to study constantly. The integrated activities within the module should be able to create a certain situation similar to classroom learning activity. One of the stimulation's is question or practice form. Question and activity within module can be constructed in order to put back the dialogue between teacher or instructor and student or trainees occur in learning activity (Grange, Briggs and Wager, 1992). With the given question or task, student is encouraged to read the description or explanation within a module, so the learner can answer the question or solve the problem proposed. They are encouraged to read since they realize that without reading the description or explanation they will not be able to answer the question or the assignment.

The other role of the learning assessment is as a measuring tool to recognize whether a student or a trainee has understood the material the learner has learnt individually or by assistance of teacher or instructor. Through a self-test, a student or a trainee can measure his/her learning progress. Whenever the learner masters the material, the learner can go on with another topic. On the contrary the learner should repeat learning the material if the learner failed to master it.

A teacher or an instructor can use end of module test or end of unit test to measure the student's or trainee's learning progress. This test result can be a measuring tool to determine whether a student or a trainee comprehends the module. According to the result a teacher or an instructor can decide whether a student or a trainee may step in to the next module or unit.

Assessment Question in Self-learning Material

The questions within a module act as a substitution of a teacher is an instructor's question in the classroom. The second function is to measure/ assess the learning progress after reading the module. For both reasons, there are several types of question or assignment that can be put in a module. At least there are five type of learning assessment tools could be included in a self-learning material. The assessment tools are intext

question, self -assessment question, assignment, end of module test, and end of unit test (Jenkins, 1987). Each question has its own purpose. Some of them are just to encourage learner to study actively. While the other are as tools to measure learner's achievement in learning.

In text Question

In open and distance learning materials in-text questions have encouraged students to think about and check their learning. The first type of in text question is applied to attract the learner to pay attention to a certain problem rather than to assess the learning progress. This type of question needs no written answer from a student. This question just reminds them to stop reading for a while to think or discuss with his/her friend(s) if they learn in a group.

Such question can assist to conclude certain ideas by his/her own. These questions can link the subject matter to his/her experience. It also can be used to encourage the learner to make a discussion with his/her friend. How important this type of question is supposed to be? Pretend it is important, why is it not designed so that the student should answer that in written way? This type of question is somewhat important. It can assist to attract the learner's attention and enhance the comprehension the learner has acquired without disturbed by certain requirement. However, they will be impatient if they are frequently asked to stop reading and to write. That is why this type of question needs to written answer.

Self-assessment question

Self-assessment question is such a task that requires written answer from a learner. As the learner completes the task, he/she is asking to check his/her answer with the answer key provided in the module. A distance learner rarely meets his/her teacher. That is way the task should be given within the module in which the learner can check the answer by his/her own. Accordingly, the learner knows his/her learning progress. Transformation of assessment approach from assessment by teacher to self-assessment by learner is one of the characteristics of open and distance learning.

Self-assessment could be developed in various form of test question such as easy question, fill in the blank, multiple choices, true-false and matching.What is the function of this self-assessment test for the distance learner?

Self-assessment test could strengthen learning process performed by the learner. Using this kind of test they can see their learning progress regularly. Clearly these activities should avoid focusing on self-marking alone which does not involve students in establishing assessment criteria (Boud & Falchikov, 1989). Self-assessment test with essay question has an important function in self -learning material. The first function is to encourage learner to think independently in developing idea. Another function is to help learner to associate what they learned with their own experience.Self-assessment can lead to significant enhancements in learning and achievement. For example, McDonald and Boud, (2003) have shown that training in self assessment can improve students' performance in final examinations.

Since self-assessment is a critical tool in working towards increased reflective ness (Jarvinen & Kohonen, 1995).

Assignment

Another assessment tool in self-learning material is assignment. Assignment is more substantial rather than a self-assessment question. Assignment is an application of what the learners learnt from the module into their own situation. Assignment could be presented in many ways such as mini project, observation report, and description of learner's experience regarding the materials they learnt. This type assignment tool will present a unique lesson for each learner.

Unlike self-assignment test, assignment generally requires some feedback from the instructor. Based on this feedback, a learner understands their weakness in comprehending the material from a module. The most important function of an assignment is to provide the learners with feedback about their product that they could not measure themselves. For a practical reason,

usually the assignment has a time limitation. This limitation will help the learners to manage their own pace in learning the self-learning material.

Assignments within a self-learning material will help learners in their learning process. Assignment will help the learner to focus their attention to the main idea and the most important competency included in the self-learning material. It will help them finishing the assignment.

End of Module Test

End of module test is a test to be given to the learners after finishing learns is a self-learning material or module. End of module test will assess learner accomplishment of learning a module. If they succeed than they can continue to learn the nest module. In contrary, if they failed they should repeat learning the module until they achieve the objectives. The learners could not assess end of module test. There will be no answer key for this test. Instructor will measure the test and will give the grade to the learners work. The grade of this test will be used to decide whether the learner passes or fails. For the learners, feedback of the end of module test could be used to improve their mastery of the material they just learned.

End of Unit Test

The end of unit test is a test given to learners after they finish studying a set of module. This end of unit test is a summative test for particular lesson comprises several modules. If we compare it with the face-to-face tutorial, the end of unit test is similar to the test given to learners after a course is accomplished. As like as a end of module test, the end of unit test is not assessed by the learner but assessed by the instructor. The report of this test result is an assessment to the success or failure of a learner in accomplishing a particular lesson or course.

Referring to the purpose of the test, the first three types of assessment question described above are classified as formative assessments. The feedback from answer key or from comments of instructor intends to encourage learners rather than to make final assessment of their learning outcomes. The following two types of test- -end of module and end of unit- - are summative ones since they assess learner's learning outcomes after accomplishing a module of a set of module (Rowntree, 1995).

Concluding Remarks

Of all ideas associated with assessment, self assessment provides the fundamental link with learning. Self assessment is concerned with learners valuing their own learning and achievements on the basis of evidence from themselves and from others.It occurs within a particular context, with respect to particular domains of knowledge and with particular goals in mind. The necessity of emphasizing learning assessment is perhaps best reflected in the constant thirst for innovations and radical advances, which is the essence of competitiveness in post modern society today. As such distance education providers must explore and provide an assessment mechanism to promote distance learning. Along with this comes the need to evaluate the way distance learning material is written and presented and perhaps the way courses are conducted.

In distance education context, the assessment model should accommodate the possibility of little communication and different pace of learning and yet be flexible enough to allow distance learners and teachers to make appropriate decisions such as assessment criteria and the number of assessments to be taken throughout the course. Distance education institution must ensure a transparent and valid assessment mechanism to continue to enjoy public acceptability since distance education itself owes its credibility, after all, to arguments that face to face contract between teachers and students is not essential and learning can take place in a non-contiguous mode. Due to spatial and temporal separation between teachers and learners, assessment provides perhaps the only indication of the student progress in the learning process. Learning assessment thus becomes a necessity in gauging an effective mechanism for promoting self-learning material.

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CHAPTER-24

Perception of Prospective Teachers on Life Skill Development Programme

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Introduction

Prospective teachers are the individuals who enrolled themselves in teacher education institutions to get themselves trained for teaching profession. These teachers are going to create greater impact on every student's life either directly or indirectly. Students not only learn subject matter from teachers but also learn various life skills that enable them to become good individuals. In this regard, if students are trained systematically with life skills that would help them to become more self-reliant and independent persons. The World Health Organisation (1997) defined life skills are the abilities for adaptive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life. An individual who has adaptive behaviour is flexible in approach and able to adjust in different circumstances and he/she is expected to have positive behaviour looking forward to find a ray of hope and opportunities to make possible solutions in difficult situations. Educational institutions particularly teacher education institutions should not only train the students in gaining mastery over the subject knowledge and pedagogic skills but also form them as productive human beings. This process of formation of teachers with various life skills is called as 'capacity building'. Therefore, prospective teachers should be empowered with life skills by various capacity building programmes in turn to empower their students.

Life Skills for Capacity Building

Enemark and Ahene (2002) explained the importance of capacity building for development of human resources (knowledge, skills, individual and group attitudes) and also for the purpose of developing and managing certain areas in society. Further, Brown, La Fond & Macintyre (2001) indicated that most developed organizations are involved in capacity building for achieving development goals and contributing to sustainability. Capacity building is viewed as a process that supports only the initial stages of building or creating capacities and also assumed that there are no existing capacities to start from.

Life skills have been identified as an essential resource for developing psychosocial, emotional, cognitive, behavioural, and resilience skills to negotiate every day challenges and productive involvement in the community (Desai, 2010; Galagali, 2011). Life skills are considered the key contributors to negotiate and mediate challenges that young people might face in becoming productive citizens (Prajapati, Sharma, & Sharma, 2017; Savoji & Ganji, 2013; World Health Organisation, 1993). The World Health Organisation (1997) has listed 10 life skills under three broad categories as: (i) Thinking Skills: It includes self-awareness, critical thinking, problem solving, decision making, and creative thinking; (ii) Social Skills: It consists of effective communication, empathy, and interpersonal relationships; and (iii) Emotional Skills: It deals with managing emotions and coping with stress.

Need for Life Skills for Prospective Teachers

World Health Organisation (1997) emphasises the importance of life skills for developing adaptive and positive behaviour to enable individuals to deal effectively with the demands and challenges of their day-to-day life. Quane (2002) says that life skills are developed as a result of a constructive processing of information, impressions, and experiences both individual and social that are part of one's life and work and the rapid changes that occur in the course of one's life. Therefore, every education system is to envisage for the development of life skills among students in order to enable them to function effectively in the society. Studies conducted to identify the extent to which teachers in primary schools were able to support learners in the development of life skills revealed that many of them were lacking the necessary competency to do so. Hence, the life skills programmes need to be given to address the gap in teacher education curriculum.

Life skills are essential for everyone right from children to adults who would like to be most successful in career and look for a quality personal life. Further, it is assumed that life skills training will help students by preventing them from indecisive situations and to find answers for all their life related questions. Hence, it is felt that life skills programme will help in capacity building of a person to perform better in everyday life. Having this idea, a life skills development programme was organised for the first year prospective teachers of B.Ed. programme. Only 5 skills among the 10 skills listed by World Health Organization that are felt essential for the future teachers were alone considered for the capacity building programme with the aim to develop life skills.

Planning and Execution of Life Skills Development Programme

In an experimental study, Helaiya (2009) found initially majority of the student-teachers were poor at different life skills. But the post-intervention scenario revealed a remarkable gain in the self-awareness skill, effective communication skill, interpersonal relationship skill, coping with emotions skill, decision making and problem solving skill among the student-teachers. Results of the research studies on life skills confirm the effectiveness life skills programme (Botvin & Kantor, 2000; Huang et al., 2012; Mandel et al., 2006). Hence, the Internal Quality Assurance Cell (IQAC) of Loyola College of Education made an attempt to find out the effectiveness of life skills programme for the first year prospective teachers of the B.Ed. programme during the academic year 2019-2020. It was planned as a five-day programme. A brain storming session was conducted with all the faculty members to cull out their ideas regarding the conduct of life skills development programme for the first year prospective teachers of the B.Ed. programme. All the fifteen teaching staff agreed to volunteer themselves to handle different topics regarding life skills for a one and half hour session on rotation. The programme was planned to be held for five working days as a team teaching style involving fifteen teaching staff members covering fifteen topics on five broad areas. To give a systematic input to the prospective teachers on the focussed five broad areas of self-development, value education, time management, health education, and personal management skills, the life skills development programme was schedule as given in Table 1.

Table 1

Schedule of Life Skills Development Programme

Day	TIme	Section	Technical	Vocational	Staff-in-charge
Day 1	9.00-10.30 Hrs.	A B C	Self-development	Self-awareness Positive thinking Goal setting	1 2 3
	10.45-12.15 Hrs.	A B C	Value Education	Personal values Spiritual values Social values	4 5 6
	13.05-14.35 Hrs.	A B C	Time Management	Introduction – Time Management Principles - Time Management Skills - Time Management	7 8 9
Day 2	10.45-12.15 Hrs.	B C A	Time Management	Introduction – Time Management Principles - Time Management Skills - Time Management	7 8 9
	13.05-14.35 Hrs.	B C A	Health Education	Self-awareness Positive thinking Goal setting	1 2 3
	13.05-14.35 Hrs.	B C A	Time Management	Health & Diseases Physical fitness Yoga	10 11 12
Day 3	9.00-10.30 Hrs.	C A B	Time Management	Introduction – Time Management Principles - Time Management Skills - Time Management	7 8 9
	10.45-12.15 Hrs.	C A B	Health Education	Health & Diseases Physical fitness Yoga	10 11 12
	13.05-14.35 Hrs.	C A B	Personal Management Skills	Emotional management Stress management Conflict management	13 14 15

Day	TIme	Section	Technical	Vocational	Staff-in-charge
Day 4	9.00-10.30 Hrs.	A B C	Personal Management Skills	Emotional management Stress management Conflict management	13 14 15
	10.45-12.15 Hrs.	B C A	Value Education	Personal values Spiritual values Social values	3 4 5
	13.05-14.35 Hrs.	A B C	Health Education	Health & Diseases Physical fitness Yoga	10 11 12
Day 5	9.00-10.30 Hrs.	C A B	Self-development	Self-awareness Positive thinking Goal setting	1 2 3
	10.45-12.15 Hrs.	B A C	Personal Management Skills	Emotional management Stress management Conflict management	13 14 15
	13.05-14.35 Hrs.	A B C	C A B	Personal values Spiritual values Social values	4 5 6

Process of the Programme

Each life skill was taught by dividing the one and half hour duration into three half an hour phase. First half an hour was concentrated on concept clarity with proper illustrations. The second half an hour was used to strengthen the concept with exercises, activities and videos. The last thirty minutes was spent for sharing of thoughts and self reflective questions and prospective teachers were encouraged to understand and internalise the skills thoroughly.

Effectiveness of the Programme

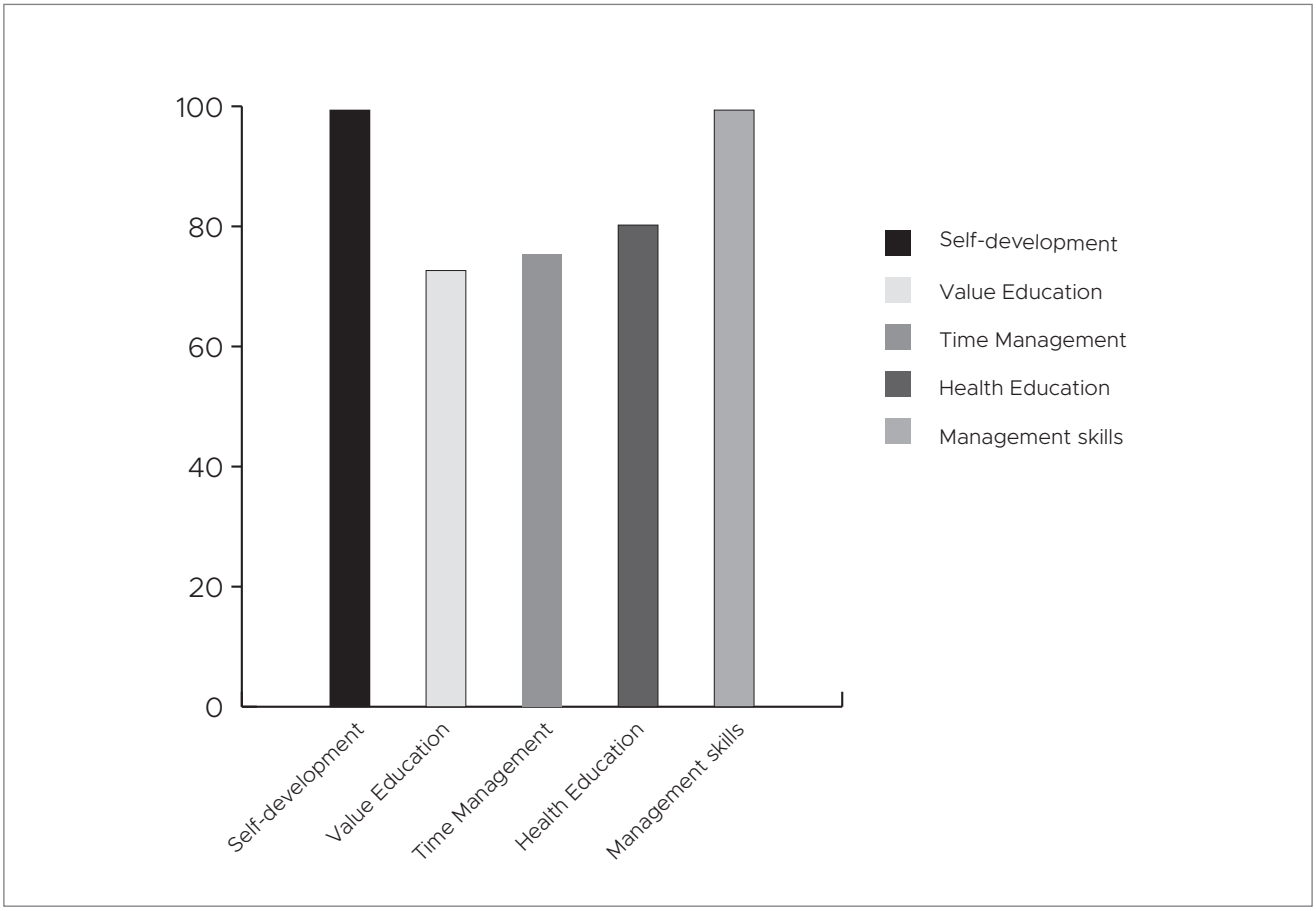
A feedback form was given to all participants to record their response and the effectiveness of the programme was analysed in four criteria as 'clarity of content', 'coverage of content', 'performance of teaching', and 'effectiveness of the programme'. The participants gave their feedback on a four-point scale as 'excellent', 'good', 'average', and 'poor'.

Sl.No.	Major Skills	Maximum Score	Scores Obtained	Effectiveness of the Programme in Percentage
1	Self-development	1584	1494	94.36
2	Value Education	1584	1152	72.65
3	Time Management	1584	1194	75.34
4	Health Education	1584	1272	80.22
5	Personal Management Skills	1584	1401	88.37

The feedback of the prospective teachers who participated in the life skills development programme was analysed and the results of the effectiveness of the programme is shown in Figure 1.

Figure 1

Effectiveness of Life Skills Programme (in percentage)



From the above figure it is evident that all the five broad areas of life skills seem to be useful for the prospective teachers and particularly the 'self-development skills' seem to be the most useful one for them than the other skills in which they became aware of their own-self, also they were helped to increase their 'positive thinking', and 'goal setting skills'. Prospective teachers have rated 'personal management skills' next to 'self-development skills'. 'Health education skills' were rated by them as their third choice. They have rated 'value education skills', and 'time management skills' comparatively giving the last two positions than the other three life skills. However, the overall effectiveness of the life skills development programme is rated by the prospective teachers as 'good' which evidently shows that they have a good perception on life skills.

Conclusions

Life skills refer to a large group of psychosocial and interpersonal skills that promotes mental wellbeing and that leads to a healthy and productive life. Life skills increase the level of competencies and actual behaviours in human beings. As the prospective teachers are having a great responsibility of moulding

the future citizens of our nation, they should be empowered with appropriate life skills and help them in turn to empower their students to develop the essential competencies and positive behaviour in their students. The attempt made by the IQAC of Loyola College of Education on conducting a life skills development programme was mostly rated by the prospective teachers as 'good and effective' by giving their order of preference life skills into self-development skills, personal management skills, health education skills, time management skills followed by value education skills. Hence it is assumed that life skills development programmes for future teachers might cause their self-development and also make them to be more self-reliant persons and productive citizens of the nation. It is also suggested that if all teacher education institutions follow this strategy, it will be beneficial for the student-teachers who are the architects of building the future citizens of nation to face their life challenges with courage.

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CHAPTER-25

Problem of Work Experience in Education

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Introduction

Work Experience means to obtain experience through work. "Work experience' is a technique through which 'work' and 'education' are correlated. The 'work' means that activity which is productive. 'Work experience' in education is that activity which develop a tendency for productivity. In India the current system of education is so theoretical that the students seldom get an occasion to learn, things by doing. They are generally passive listeners in the class. The students will be able to learn by their own experiences if more importance is given to 'work' in education. They will not be always dependent upon others experiences. They will learn many things on self-experience.

Historical Review

Work Experience is a global concept with universal acceptance. It trails a long history behind it, and its evolution is marked by a number of stages in the history of educational thought. The first stage arose when educationists like Rousseau, Froebel, Pestalozzi and Comenions revolted against the bookish, mechanical, stereo-typed and rigid education prevailing in educational institutions and pleaded for activity methods, joyous experiences derived from pleasant activities, play was learning by doing. As our present scheme of work experience emphasises learning by doing and as play also is some kind of doing the4 activity oriented education in the activity schools was the first indication of the eventual emergence of work experience. Montessori also pleaded for learning by doing and john Dewey went a step further in characterising activity as purposeful and creative. By starting problematic acts in natural setting, designated as projects he laid foundation of another type of activity which was purposeful and full of utility. This was the second stage of the emergence of this new concept. This third stage was arrived at when Gandhi advocated the same principle of learning by doing but gave a new colouring and specification with 'local habitation and name'. Like all the forerunners of activity movement (Pestalozzi, Rousseau, Froebel, Montessori and Dewey) Gandhi advocated the same principle of learning by doing, denounced book-learning, rote-memory and theoretical study and emphasised practical experience through work and play. While as the western educationists introduced play and simple work, Gandhiji made a modification and presented his novel scheme of productive work and thus emphasised the economic aspect as well, in addition to the educative aspect of work. It is obvious that the shocking poverty of our countrymen, and apathy on the part of the British government to educate the Indian masses, compelled Gandhiji to emphasise upon the productive aspect. He went still further and converted the activity not only as a part of the curriculum but also a centre of all education. He, therefore, made selection of activities and started with spinning, weaving and extended the scope to agriculture, wood work, smithy, tailoring, embroidery and cottage industries. Craft the name given to such activity was chosen as a subject of education, as a medium of education and as a factor of actual production in the school. The productive value of craft was emphasized, besides the educative value, so as to make education self-supporting in the sense that children learn something through productive craft and meet the expenses of schooling and again they would peruse these crafts even after schooling as vocation so as to become self-sufficient in choosing a profession and earning a living.

Definition

The Education Commission has defined work experience as "participation in a productive work in school, in the home, in a workshop, on a farm, in a factory or in any other productive situation".

Characteristics of Work Experience

While trying to make education production oriented, one should keep in view the needs of the people. As modernization is not Westernization, work experience methods should be devised in Indian context. Following are the chief characteristics of work experience suitable for Indian conditions.

1. **Development of skill:** Work experience should not be related only with productivity, rather, it should aim at developing a skill for productivity.
2. **Self-experience:** Work experience should give self-experience to students which would satisfy his interest and aptitudes.
3. **Modernization:** As the student has to employ latest technological and scientific methods in work experience it develops a tendency towards modernization. A smooth path is paved for the society for imbibing modern culture.
4. **Self-dependence:** Work experience makes the student self-dependent to a certain extent, as he may earn for himself for a part of his expenses of education.
5. **Vocationalization:** Work experience vocationalizes education.
6. **Community Development:** As work experience makes the educational institution a centre of community development, it meets some needs of the community.
7. **Material Gain:** By education imparted through experience both the student and the school may gain materially through having some products of daily use.

Arranging the Programmes of Work Experience in Schools

The following programmes of work experience for the different stages to suit the age and maturity of the pupils have been suggested by the Commission.

1. In the lower classes of the primary school, work experience may begin as simple handwork the objective being use of their hands and thereby help their intellectual and emotional growth.
2. In the upper primary classes, work experience may take the form of learning a craft which develop technical thinking and creating capacities in the pupils.
3. At the lower secondary stage, work experience may be in the form of workshop or experience in real life situations involving the application of science and technology in productive units including agriculture.
4. At the higher secondary stage, work experience should be provided in school workshops and also on farms and in industrial or commercial establishments.

Problems and Remedies of Work Experience

1. **The Problem of Determination of Aims:** People assign different aims to work experience. While some take it as a means for creating the trait of productivity, others think that it should develop a capacity for production.

   Remedy: The aim of work experience should be dependent on principles of work experience. Its purpose should be to develop the virtue of productivity in the child.

2. **The Problem of Suitable and Trained Teachers and Guides:** Teachers are unsuitable for giving education based on work experience.

   Remedy: Teachers should establish a close relationship between general education and work experience. For making the workshop

experience more practicable and meaningful, it is necessary to establish a close relationship between the teacher training institutions and industries.

3. **Lack of Interest and Motivation for Work Experience:** As 'Work' is drier and tiring than 'play' it is possible that the child will not take interest and lack motivation in education based on work experience.

   Remedy: The work experience technique should be introduced through play-way method which is likely to be very interesting to children.

4. **Incorporation of Work Experience in the Curriculum:** The purpose of work experience will remain defeated unless Work Experience is satisfactorily decided.

   Remedy: Work Experience should be organized in a logical and psychological manner for incorporation in the curriculum. It should be related with local industries or with the needs of the immediate society.

5. **The Problem of Instruction and Method of Work:** The objectives of work cannot be obtained through lecture method.

   Remedy: The subjects which cannot be taught through the correlation method may be left for the 'free' method. In the 'free' method the student is left free for obtaining experience in the workshop.

6. **The Problem of the Necessary Teaching Materials:** It appears difficult to arrange the necessary materials for work experience in schools and colleges.

   Remedy: Work Experience should be related to vocationalization of education which requires organisation of necessary materials, equipments and laboratories.

7. **The Problem of Evaluation:** Work Experience requires devising objective and rated evaluating devices.

   Remedy: It requires practical examination, laboratory experiment and oral and written examination, all taken together.

8. **The Unfavourable attitude of guardians towards Work Experience:** As the Guardians have not fully understood the importance of vocationalization of education, so they do not react favourably against work experience.

   Remedy: Favourable attitude may be created in Guardians for work experience. Through exhibition, seminar, lecture, publicity through news paper and radio.

Conclusion

Work –experience is a method of integrating education with work. This is essential in modern societies which adopt science-based technology. Work experience provides a much needed corrective to the over academic nature of formal education. Kothari Commission observed that work experience should also result in some earning for the student. This will help to develop in him values which promote economic growth such as appreciating the importance of productive work and manual labour, willingness and capacity for hard work and thrift.

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Furthermore, it should also be recognized that even for those in work, the nature of employment is changing such that education (higher and otherwise) is the first step in a continuing program of lifelong learning - much of which will subsequently be conducted in a workplace setting.

CHAPTER-26

Role of Technology in Skill Development

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Introduction

Gone are the days when human needs and requirements are out of reach. In this modern era, any information available at the door step. Even one can be skilled by sitting from home or any workplace provides good internet facilities. There is no urge for taking any tiring and toiling efforts to be equipped with skills. The purpose of Skill Development has never been outdated till now. India is in need of skilled human resources for its economic growth. Well living citizens leads to well developed country. In spite of all the efforts, expected output of skilling people has not been achieved yet. Hence, there emerges various internet based trends to meet up with changing needs in the various fields of skilling human resources related growth. The main idea of the government is to make people getting minimum income for their survival in order to live away from poverty.

Skills - an overview

Skill is of broadly classified as three types. They are:

1. **Cognitive skills,** which includes numeracy and literacy and ability to understand complex ideas, adapt effectively to the environment, learn from experience, and reason.
2. **Socio-economic skills,** it's the ability to navigate interpersonal and social situations effectively and include self-control, leadership, teamwork, and grit.
3. **Technical skills** are the acquired knowledge and the ability to expertise in a specific job, including the mastery of the tools, materials, or technologies.

Also, skills are categorized into two types. They are (i) Hard skills, and (ii) soft skills.

1. **Hard skills:** They are defined as the learned abilities, acquired and enhanced through practices, repetition and education (Kagan, 2020). Hard skills include technical or administrative competence. There are many hard skills which are required for daily wagers like carpenters, welders, technicians or any businessmen to software developers. Learning by doing is the main agenda for any hard skill training people. It is not just a theoretical idea one can be incurred as such, it is obviously acquired by proper practical training and experiences.
2. **Soft skills:** They are the personality traits of people may spend in their whole life developing. Though hard skills provide employment, soft skills make them incredibly valuable and desired by their employers. It is necessary for sustainability and better persons at their work place. Soft skills includes Communication, Integrity, personality traits, flexibility, Courtesy, Interpersonal skills, Positive attitude, Professionalism, Responsibility, Teamwork, Work ethic, Critical thinking, Emotional intelligence, Social skills, Empathy, Social intelligence, etc.,

Skill Development in Early stages

India has acknowledged the insignificance of skilled labour force even before independence. Government has given importance for training the people and makes them skilled. Many training schemes, policies, programs and centers has been concentrated for the welfare of skilling the people by investing huge funds, starting from AICTE to "Skill India". Since India is having youngest labour work-force, it is important to skill the people efficiently. Industries contribution for the economic growth is high but the availability of skilled work force is in scarcity.

Emerging Technological Tools in Skill Development

The idea of trending tool is to provide more efficient training and feedbacks for the betterment of the labour forces for their skilling and re-skilling process. Not only in industries, even for entrepreneurs or agriculture and non-agriculture based workers, these tools help them to update and upgrade their learning process in their respective fields. In the Learning and Development process, required innovations and changing technology play a key role in knowing not only how but also when and why to use emerging tools. Some of the important tools are: (i) Artificial Intelligence (AI), (ii) Rapid e-learning authoring tools, (iii) Robotics, (iv) Technological Areas, (v) Digital Badging, (vi) Augmented Reality (AR) & Virtual Reality (VR), (vii) Block chain, (viii) Reinforcement Tools, (ix) 3D printing & Design, (x) Immersion technologies to manage change, (xi) Cybersecurity, (xii) Data sciences, (xiii) Quantum computing, and, (xiv) Internet of Things (IoT), etc.

1. **Artificial Intelligence (AI):** Artificial Intelligence helps in finding the skill gap and provides necessary data for further initiatives for the empowerment of the people. Many tools are used in AI, including versions of search andartificial neural networks, mathematical optimization and methods based on statistics, economics and probability. It provides informative data for various fields like computer science, information technology, engineering, mathematics, psychology, linguistics, philosophy, and many other fields. Machine learning models can suggest learning experiences and self-optimize by analyzing historical matches and continuous learner feedback. This way, people can be paired with the best mentor and resources to support their mentorship programme, or with experts, the right peers, and resources to collectively go through a meaningful group learning experience.
2. **Rapid e-learning:** Rapid e-learning is referred as a methodology to build learning courses rapidly in online. These tools help anyone to create e-learning content without knowing programming language. They often contains with readily available templates, themes and animations. It is changing the landscape of e-learning called as bite size or short form learning. The authoring tools for Rapid e-learning to consider are Elucidate, Adobe Captivate, articulate story line, inspiring suit, etc. The rapid e-learning tools are of three types: They are: (1) PowerPoint based add ins, (2) installation based authoring tools, and (3) cloud based authoring tools. This helps the educators and trainers to give proper training sources in an effective manner. It is found more useful for the content providers for various training programs.
3. **Technological Areas:** Technological areas are an insignificant source for anyone who is ready for receiving informative data for acquiring skills. It converges the information from various sources available in nook and corners of the world and connect them to provide detailed data for any process of one's need. Technology is vastly in used in the field of Education and training sectors. It has made the world as a global village by their trending innovations. Learning by doing is the new trend for vocational education and skill development. The government has been taking several measures by allocating huge budgets in concentrating the services of some of the large IT and skill development companies to help in putting all of this for economic growth of the country.

4. **Digital badging:** Digital badges can validate achievement to improve retention and levelling up in learning in potential employers. They motivate engagement and collaboration; support innovation and flexibility in the skill; and build and formalize identity and reputation within learning atmosphere. This kind of learning can be useful tools for scaffolding, measuring and communicating the acquisition of knowledge, skills or competencies. There is a significant increase in measures of motivation including self-efficacy, self-regulation and perceived competence found among the learners. Development and implementation of digital badges for learning science, technology, engineering and math (STEM) practices has been found useful.

5. **Augmented Reality (AR) & Virtual Reality (VR):** Augmented reality (AR) is expressed as an associate interactive real-world experiencing environment where the objects that reside within the real world are enhanced by computer-generated perceptual information, sometimes across multiple sensory systems including auditory, visual, haptic, olfactory and somato-sensory. Virtual Reality (VR) is referred to a simulated experience that can be similar to or completely different from the real world. Applications of virtual reality can include entertainment (i.e. video games) and educational purposes. Mixed Reality (MR) (both AR & VR) is a boon for today's workforce demand for more advanced training and skills development in the various industries. It's an incredibly effective way to teach students about highly advanced technological processes, such as STEM and coding; plus, it makes the process of learning information faster and more fun. This helps in the retention of the learned skills last longer. It is used to make 3d images objects, designs, construction sites, or any educative content for better learning.

6. **Reinforcement tools:** Reinforcement is used to retain the skills learned for the development. Training reinforcement is to ensure that skills and knowledge learned in training are used on the job. There are three ways to reinforce skills: repetition, applicability and effective use of technology. It provides a detailed reinforcement process and numerous skills activating tools which help to ensure sustainability and application of learning. Output of reinforcement includes high performance, self confidence to perform hard tasks, facing the unexpected situations in work places, etc. It also helps to boost up the thirst for learning process.

7. **Immersive learning to manage change:** Einstein said 'Learning is experience; everything else is just information' (Goodreads, 2020). Likewise learning is something developed by practices to manage sudden changes. New technologies are creating opportunities to make immersive learning more experiencing. This creates the opportunity to transport people into an environment or situation where they are enveloped and engaged at greater depth. More deeply immersive learning is currently potential, and it's transportation with it a robust tool for delivering additional unforgettable and meaningful learning experiences. However , there's currently a brand new generation of immersive technologies , together with interactive 360-degree video, video game (VR), increased reality (AR), mixed reality (MR) and, bit more down the road, that hold exciting potentialities for transportation deeper immersive learning into the workplace itself.

8. **Internet of Things (IoT):** Many things or objects are connected with the internet than people. Internet of Things is nothing but the convergement of the various embedded systems without the interaction of human. They function as a system to collect data, collate and transfer data, analyse data and take actions. They connect with other available sources of technology for the better data. IoT can make farmers job easier in agriculture. Sensors can provide weather forecasting, soil content and also would help automate farming techniques. It has the ability to provide any information about anything at anytime at anywhere. It also helps in improving the quality of business

services without human interaction. Anyone can access their needs and develop any kind of skills from home itself.

Conclusion

Skills development can be an important tool for reducing poverty and exclusion and enhancing competitiveness and employability (ILO, 2008). Government collaborations with industries, education sectors, and Information Technology must be improvised with these tools for the expected results in the skill development of the people. Not only the government and other organizations but the people themselves should take responsibility in giving fullest cooperation to be skilled. Skilled working population uplifts the country's economic growth. So each individual should pledge to acquire skills and knowledge and benefits from the Government training programs even from their rural areas. Both men and women should be aware of the current status of the country as well as theirs and take part in the digital ecosystem in an effective manner.

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CHAPTER-27

Skill based Vocational Training and Assessment

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Introduction

The focus is more on working skills and expertise in a particular field of one's own. Hence vocational education and training can prove to be double edged weapon to be used against unemployment problem and also producing skilled technicians and workers for the global market. Vocational Education has been defined as any form of education, the purpose of which is to fit an individual to pursue effectively a recognized profitable employment. Earlier vocational education had no formal base and hence it was imparted in such a way that the learner acquired the skill by observation and manually handling things.

Very often, when given a choice, people tend to move towards a general educational qualification rather than a specialized form of education. There may be varied reason for this and most importantly due to the lack of interest shown by people towards it.

Vocational education or Vocational Education and Training have also been termed called Career and Technical education. The perception of the common people towards Technical Vocational Education and Training (TVET) is not satisfactory for attracting the attention of the youths or the employers. Vocational Education remains out of the purview of the formal mode of education and hence it is not blended within the curriculum framework of the mainstream education.

Definition and Historical Base

According to the Planning Commission's Committee on India Vision 2020 "Skill" can also be perceived as the ability to direct human energy efficiently to achieve desired goals. UNESCO defines Vocational Education as education designed to prepare skilled personnel at lower level of qualifications for one or group of occupations, traders or jobs.

The Kothari Commission has emphasized on Vocational Education at lower (11-16 yrs) and higher secondary stage (17-18 yrs). A centrally Sponsored scheme for Vocational Education was introduced in 1988 and was later revised by NCERT in 1992. Women's Vocational Training Programme is also being offered for skill training by the State governments at the state level through a network of Women ITI's, private women ITI's and wings in General ITI's.

Status of Vocational education

Vocational Education comes under the joint purview of the Ministry of Human Resource Development and the Ministry of Labour. There are also 20 Ministries and Departments which run TVET Programmes. The All India Council for Vocational Education (AICVE) is responsible for planning, guiding and coordinating the progrmmes. In the States, it is the responsibility of the State Council for Vocational education and Trade Communities to assist the NCVT or the National council for Vocation Education. The NCVT manages the training aspect and advises the Central government on vocational measures. Under the Constitution of the India the Central and the State Government share the responsibility of Vocational training.

Importance of Vocational Education and Training

The rapid change in economic structure of the market, which lays emphasis on knowledge and professionalism, has driven people to acquire and upgrade their technical skills to improve their performance as well compete in the global world.

Vocational Education will not only help the educated sections of the society to enhance their skill for employment, improve their job mobility and efficiency of labour, but it will also enable to illiterate section of the society to train themselves for self-employment and financial independence.

The progress and sustenance of a Business organization depend on skills of its work force. But there is a mismatch between the skills the organization needs and the capabilities of its work force. Such organization fails to gain a competitive advantage in the present global business scenario. It has led to the great demand for talented employees to solve the crucial skill crisis. The remedy lies in the vocational education programmes that produce skilled human resource to satisfy the requirements of business organizations.

The manifold responsibilities of the institutions include community assessment, job analysis, and preparation of individualized vocational curriculum, assessment strategies and appropriate placement for the trained candidates.

The vocational education Institution launches on the community assessment to identify potential employment opportunities in the community as the individuals will eventually seek jobs after the completion of their education. The assessment will be useful for the vocational trainers to decide and target the skills for training as they are required for performance on real jobs in actual employment sites.

Based on the information gathered from community assessment, the institution undertakes job analysis. The trainer

- Visits the job site.
- Observes the way in which current employees perform the various routines.
- Participates in the typical orientation procedure.
- Decides on the need for detailed job analysis and inventories for the various tasks of the job.
- Obtains approval from the employer.
- Selects potential training strategies, motivating strategies, possible adaptation, and opportunities for job restructuring.
- Develops an effective format for capturing all the components of the job that need to be trained.
- Finalizes a comprehensive training plan based on all the information collected during the job analysis.
- Decides on a sequential process for imparting the training.

The Job analysis enables the institution that imparts Vocational Education to design the individualized curriculum. Both work skills and work related skills should be considered and listed in relationship to actual jobs available in the community. It prepares a checklist to assess the work readiness skill to ascertain the inclination and aptitude of the pursuers of the vocational education. The required behavior expected to the successful on-the-job training include punctuality, relationship with employer and co-workers, reaction to stress on different task, accuracy, speed, following instructions, ability to communicate and withstand fatigue.

Work related skills can be specified though they are not directly required by the employer for the job but they are vital for successful performance of the job. They may not always be possible through direct observation, since many of the skills required may not be easily observed at any given time. These skills include self help, mobility

and functional academics in addition to skills that relate to become a responsible worker. The most appropriate strategies have to be drawn to assess the candidates at the institution and in the worksite where they undergo on the job training. The internship may serve as an entry level job that can help them gain business experience, work with confidence and satisfy the needs of the employers. The skilled workforce is an asset to the employers. They ensure the progress of the business organization by promoting the productivity that escalates the prosperity of the nation and places it in the forefront of the global market.

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CHAPTER-28

Skill development programme for Persons with Disabilities- A perspective of NIEPMD

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Introduction

Skill generally can be interpreted as an ability to perform a particular task or let us say as expertise in a particular field or stream. A country that is to develop both in economic and social front skills and knowledge are required. India, a second largest populated country is still a developing country, though by the end of 2027 India will be outsmarting China in the population tally; apart from that India is keeping its fingers crossed to become an economic powerhouse worldwide. But for that India has to strengthen its workforce and make them more skilled (Osborne, 2019). The labour force in India will substantially increase to 32% as compared to the labour force of the world which will be at 4% due to the fact that 62% of India has a working force in the age group 15-59 years and around 54% of its population is below the age of 25 years; on the contrary only 2% of the workable force have undergone any sort of skill training programmes (Patnaik, 2015). So if India has to achieve its dream of becoming an economic force in the world, then it has to focus on advancing skills which should be relevant to the emerging economic environment (Jha, n.d).

PwD can be empowered with proper realisation of education and involvement in economic activities. The workforce of PwD in India as per the census 2011 is nearly one third of the total PwD working in the country. The census further highlights that, 36% of the total PwD are working of which 47% PwD (male) are working and only 23% among PwD (female) are the workforce. Contrasting to the fact that 25% of the workforce of PwD (female) belong to the rural India and only 16% of the workforce (female) is from Urban India. Among the total non –workers having disabilities, about 46% are in the age group 15 -59 years, 31% in the age group 0-14 years and 23% are 60+ years. Among the non – workers who are male with disabilities, 42% belonged to the age group 15-59 years, while 49% are female having disabilities among the non-workers belonged to this age group (Census, 2011).

Skill training for persons with Disabilities

Skill training is a systematic process carried out after school education with proper guidance and helping them to decide on career choice while rehabilitating PwD for a more meaningful and quality of life throughout their life. Various stakeholders are putting effort in systematic vocational training which includes skill training for PwD through agencies empowering PwD. Thus vocational training in our country has gained momentum and many of the agencies involved are adhering to change in policies and also removing attitudinal barriers towards PwD. The agencies are looking forward to adhere to training PwD in skills which would pace along with the economic development of our country. Agencies such as National Institutes under DEPwD, Ministry of Social Justiceand Empowerment (MSJ &E), Career and guidance centre for the PwD under Ministry of Labourand Employment, Vocational Colleges, Technical

Institutes, Vocational Schemes undergrant in aid umbrella of MSJ&E, Non-Governmental Organizations, Public Sectors, Skilldevelopment agency etc. All this effort is being made with a motive to skill PwD for better empowerment.

Skill India Campaign

Further to achieve this goal Skill Indiacampaign of Government of India was launched and there has been, made animpressive advance through MSME. SIPDA is one such flagship programme. The target kept is to skill 25 lakhs PwD in the coming next 7 years for which various effort is being made by various agency under the Government and Public private sectors to achieve this target. Taking into consideration various category of PwD and their geographical distribution, vocational empowerment done, in a phased manner for the employable age group. National Skill Development Council (NSDC) emphasis vocational training in variety of trades through various sector skill council registered under them such as hospitality, tourism, retail, food, corporate industry, aqua-culture etc.

Skill Council for PwDs (SCPwD)

Skill Council for Person with Disability has responsibilityforskillsandworkforcedevelopment of Persons with Disability. Skill Council for Persons with Disabilities (SCPwD) whichfocus on training in various category of PwD such as locomotor disabilities, hearingimpaired, visually challenged and Intellectual Disabilities with additional disabilities.SCPwD gives employers direct influence on training policy and is looking at education and training at all levels. The Key objective of the Council is to create a robust and vibrant ecosystem for quality education and skill development for Persons with Disability in the country.

India a skilled manpower?

Even though India's average growth rate is 7 % since the last two decades, though the growth rate dipped to 6% presently due un due factors but still the International Monetary Fund (IMF) has predicted the Indian economy as a "bright spot", there is a deficit of well trained and skilled manpower in our country. It is estimated that 2.3% of the India's workforce underwent some form of formal skill training as compared to the workforce in other countries. If we look into the population of our country the figure of 2.3% of India's work is a drop in the ocean. Wide segment of the educated workforce in the country have no or very little job skills which makes them vulnerable to unemployable skills. So in order to compete India must ensure meeting the demands and contributing to the growth rate by ascending the skill training programme which can provide economic independence to the individuals. So individuals with disabilities should not be excluded, hence Govt. of India is indebted to create schemes to promote skill development for PwD in order to improve the quality and scope of employment.

Vocational education for persons with multiple disabilities (PwMD)

National Institute for Empowerment of Persons with Multiple Disabilities (NIEPMD), Divyangjan was established in the year 2005 by DEPwD, MSJ & E, Govt. of India is one such resource centre in the entire country empowering persons with multiple disabilities. Programme and services of NIEPMD got strengthened in terms of introducing newer strategies in particular economic independence for persons with multiple disabilities and their families.

The primary goal of any vocational educational system is to prepare the individuals to have an independent living skills, hence the same protocol needs to be followed for individuals having disabilities or multiple disabilities. As the individuals have to work in the community hence the skills to be taught needs to be functionally competent within acommunity along with a wide array of skills need for economic independence.

So the schoolcurriculum should include prevocational, vocational skills and transition skills at the school level itself. The special school training should have a component of functional relevant academic skills, activities of daily living skills, interpersonal skills and self-engagement skills (Ramachandran. R, 2019).

Individuals with disabilities in particular multiple disabilities should get opportunity to engage themselves in differenttypes of activities in which they express interest and have relatively acquire necessaryability and thus can become productive. The selected activity for training likely to have generic value to several jobs infuture and exposure to the activities as part of initiation into work. Work related skillswould prepare the students to enter into wide areas of skills. So NIEPMD developed a protocol mechanism for vocational training in terms of placement to serve in a job (public or private sector) or to become an entrepreneur.

Concept of Vocational Training – Changing Scenario:

Vocational training of persons with Disabilities is beyond skill training. it begins with anelaborate evaluation in terms of the individual, family members and the community to assessthe strengths and weaknesses in the respective areas. This includes survey of various jobs,with commercial values in the community, followed by job analysis in identifying thecore work area, episodic work, work behaviour and work related skills. These methodsincluded highlight strengths of the individual. Vocational Training are planned only after thesuccessful job negotiation with the employer. The training model includes either on-the-jobplacement (place/train/follow up) or stimulated training (train/place/follow up). Other modelsof placement for individual with disabilities include sheltered workshop, open employmentand self-employment.

NIEPMD and its role in skill development

Skill development programme initiated by NIEPMD under the SIPDA Scheme was implemented during 2015-15 with 400 beneficiaries on roll, from the 400 individuals 387 got skilled, with a span of one year. The individuals based on the classification of disabilities were enrolled; Individuals with hearing impairment - 45, loco-motordisability - 165 multiple disability - 7, mental illness – 4, intellectual disability - 80, orthopaedicdisabilities– 93; and individuals have visual impairment - 6) which tantamount to 205 males and 195 female enrolled in the above said programme (Balabaskar et.al., 2019).

Skill based trades comprising of 9 different eco-friendly trades such as tailoring,shampoo making, coir products, nursing assistant, desktop publishing/ computertraining, carpentry and toy making, cell phone service, jute diversified products,sublimation printing done by the training partners. Majority of the training partnerschose desktop publishing/ computer training and tailoring. Out of the 400 individuals 387 completed the courses successfully of which 373 got employment. NIEPMD also constituted a sub- committee for making recommendations on customisation required in job roles/ trades with intellectual disabilities and multiple disabilities.

NIEPMD became an implementing agency to undertake skill training for 500 individuals with disabilities through the Empanelled Training Partners (ETP) registered under DEPwD for the year 2017-18. The ETPs must be a registered society or a trust or company recognised for Skill training by the respective Government. The partners should have atleast 3 years of experience in organising skill training programmes along with proper infrastructure facility. The ETP partners were located in 6 states and 1 union territory were selected.The skill training programme as per the approved curriculum of SCPwDwas implemented related to domestic data entry operator, sewing machine operator and dairyfarmer/ entrepreneur. The result indicated that individuals who received skill training got included within the community in realisation of the Sustainable development goal (SDGs). The skill related to domestic data entry operator course which NIEPMD rolled out for three batches substantiated with the aim of information communication and technology (ICT) serves as a medium to support persons with multiple disabilities to overcome the additional challenges they face in communication and learning ultimately enabling the individuals to obtain suitable job placement while exhibiting their talents (Dhakshnamoorthy et.al. 2019).

Action plan for skill India

Under our Prime Minister's initiative to fulfil the dream of making India skilled, SCPwD was established on 1st October 2015. The objective of SCPwD is to mainstream PwD through skill training and provide them the opportunity to earn a dignified livelihood.India which is a signatory to United Nations Convention of Rights of Persons with Disabilities (UNCRPD) acknowledging the fact to enhance employability through skill development/ vocational/ professional rehabilitation. With National Action Plan (NAP) launched, the aim of the skill training programme must provide a quality skill training with high employability and extensive urban and rural coverage. In the circular issued the Ministry of Skill Development and Entrepreneurship (MSDE), is working closely with various stakeholders to coordinate all skill development efforts across the country under the skill India Mission.

Paradigm shift

The recent development in skill development is being done by National Skill DevelopmentAgency (NSDA) by setting up minimum norms for industry validation, curricula and contentfor qualification alignment and approval. Thus the National Policy for Skill Development anEntrepreneurship 2015 has emphasized on the need to undertake skilling in India at sale withspeed, standard (quality) and sustainability. Training people under the new NSQF requires acoordinated effort to ensure, parity of awards across different educational sectors. MSME is keen to ensure that qualification skills gained arevalued in the labour market by employers and students. The policy clearly states 'One Nation One Standard' to ensure that a uniform set of nationally accepted standards can bealigned globally and career progression opportunities at local, national and internationallevels. To ensure quality the following parameters have been identified;

- Quality assurance framework embedded in NSQF
- Market relevant training programme
- Recognition of prior learning
- Curriculum alignment
- National Certification Framework
- Employability skills
- Placements

The Quality Assurance Framework will act as a regulatory framework which will define thenorms, quality standards and processes to be followed by various stakeholders, in thevocational education and training space in the country. The proposed National QualityAssurance Framework (NQAF), places particular emphasis on the evaluation andimprovement of the outputs and outcomes of VET and general education in terms ofincreasing employability, improving the match between demand and supply and promotingbetter access to lifelong learning. NQAF embedded in NSQF has been conceived as anoverarching framework for Quality Assurance, covering all skilling initiatives of Statesschemes, GOI ministries, private and corporate sector, to be implemented in a phased mannerthrough proper institutional structures.

Forthcoming route for developing skills

The National Institutes should be more proactive in developing career education programme for PwDs by setting up separate units of career education programme in the respective National Institutes. These career education programmes should stress on skill development necessary for economic independence for the individual, their family members and for the community. Community colleges, technical schools which focusses on various vocational skills should be established in districts for a wider reach of individuals with disabilities. It is also felt that while giving individualised training programme (ITP) skill based activities to be included along with career education components (Singh & Pujari, 2016).

Conclusion

26.8 million people are with disabilities as per census 2011. With a large population of PwD in the country difficulties are often visible in terms of employable skills and meaningful employment. Providing a suitable vocational training that enhances their skills is not only essential for improving the quality of life not only for the individuals but also to their family members. This will have a substantial gain in the economy. "There is a strong economic imperative to increased labour force participation which will help in addressing India's shortage of skilled labour force, while at the same time reducing fiscal pressures associated with welfare dependency" (NAP, 2015). India is pressing its accelerator by being the youngest manpower in the world which is occurring due to the rapid growth of technical, professional and skill based programmes not only confined to cities but also to the rural areas. In few years from now India will be able to export the skilled manpower to the world, individuals with disabilities will also make a mark in improving their quality of life with the support of training in relation to the skills required to be a part of the India's economy (Ragi, Sondhi, Pathak, 2018) As the Incheon strategy points out, "make the rights real", let's support the endeavour ", by making India 'Kaushal Bharat Kushal Bharat'.

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CHAPTER-29

Skill Development through Vocational Education in India Problems & Prospects

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Introduction

Vocational education and training has been given importance throughout the history of education in India. Even in ancient Gurukula system, the shishya (disciple) was expected to earn his livelihood by way of manual work. Work and education were integrated and imparted by the Guru (the preceptor) to his shishyas. Skills and knowledge are the driving forces of economic growth and social development of any country. As India moves progressively towards becoming a Knowledge Economy, it becomes increasingly important that vocational education (VE) create and nurture a skill development system. The issue of skill building has been at the forefront of policy debates in recent years. Unprecedented scope for skill development in the country arises from a unique opportunity India's demographic dividend. Skill enhancement of the younger generation is imperative to trigger economic development in India. Moreover, it is expected that the ageing economy phenomenon in rich countries will globally create an acute shortage of skilled manpower by 2020. Therefore by getting the skill development India can have a skilled manpower surplus.

India has the lowest proportion of trained youth in the world. The quantitative dimension of India's skill development challenge is that majority of new entrants to the workforce have no opportunity for skill training against very meagre existing training capacity. The Prime Minister's National Council on Skill Development has endorsed a vision to create 500 million skilled people by 2022; The government has taken due recognition of the skill gaps and plans to take new initiatives for bridging the gap. In this regard, the National Policy on Skill Development (GOI, 2009) provides a direction for skill development in the country. Some of the innovative measures include,

1. using innovative delivery models such as decentralized delivery, mobile training, distance learning, e-learning and web-based learning,
2. involving panchayats, municipalities and other local bodies in skill development and employment generation at the local level in collaboration with Self Help Groups (SHGs), cooperatives and Non-government Organisations (NGOs),
3. establishing sector specific Labour Market Information System (LMIS) and Human Resource Planning at national and state levels, and area-specific planning at local levels with the help of Sector Skill Councils (under National Skill Development Corporation) to undertake labour market analysis,
4. establishing a National Vocational Qualifications Framework to facilitate standardized and acceptable, international comparability of qualifications and
5. strengthening and upgrading Employment Exchanges under the National Employment Service to provide counselling, guidance and placement services to employment seekers.

In India, vocational education is imparted through industrial training institutes (ITIS) & Polytechnics. The skill shortage in the Indian Economy today is largely due to neglect of vocational education. Vocational education is the tool for economic, social & political development as well as economic

stability of the nation. This paper focuses on various aspects of skill development in India from conceptual background to challenges and prospects of vocational education scenario prevalent in India.

Conceptual Background of Vocational Education:

For the most part, general and academic education is seen as that which builds analytical skills, knowledge and critical thinking, while vocational education develops craftsmanship, practical experience and practical problem-solving. However this simple definition and demarcation can mislead and cause academic drift of vocational education. The etymology of vocational education hasn't been constant throughout the world over the ages. During the industrial revolution, vocational referred to the type of education aimed at stable job and stable career in a respectable profession. However in the 20th century, waves of changes have moulded the institutions- political, economic and social. As of today vocational is at the bottom of a ladder of knowledge and value, it is a stream of knowledge available to the lower achiever, it is governed in a way with highly constrained degrees of freedom over content and process, it is legitimated solely in industrial and other utilitarian terms rather than in the connections among different kinds of meaning making and it is preserved for occupations of lower status. In India vocational education takes place with two basic structural streams, a small formal stream on the one hand and a large informal stream on the other. The formal structure includes,

1. Vocational education in schools at post secondary stage,
2. Technical and professional education imparted through professional colleges,
3. Technical training in specialized institutions such as Industrial Training Institutes (ITIs) and Polytechnics and
4. Apprenticeship training in factories.

The informal structure of vocational education includes the transfer of skills from one generation to another in traditional crafts or acquiring skills on the job. NGOs, Krishi Vigyan Kendras (KVKs) and other institutions are also taking initiatives in imparting skills at various levels. Councils for Vocational Education (SCVEs) at the state level. Work education is included in the primary (I–V) and upper primary (VI –VIII) standards to make the students aware of the concept of work. Pre-vocational education is imparted in classes IX and X (secondary level) with a view to providing the students a measure of familiarity with the wide spectrum of world of work and vocational education as a distinct stream starts in the classes XI and XII (senior secondary). The Central Board of Secondary Education (CBSE) with a view to giving a new dimension and direction to vocational stream has ventured upon vocational courses in its Senior School Curriculum. The Secondary and Senior Secondary and Vocational Courses of National Institute of Open Schooling (NIOS) are offered through Study Centres. Even on-line admissions for VE courses have also been introduced.

Regulatory framework of vocational education & Training in India is under the aegis of Ministry of Human Resource Development (MHRD), Ministry of Labour and Employment (MOLE) and coordinated by All India Council for Vocational Education (AICVE), All India council for Technical Education (AICTE), National council for Education Research and Training (NCERT), Directorate General of Employment and Training (DGE& T) and States.

The Current Status of Vocational Education in India:

Vocational education in India is largely a supply side and is not enough with industries current demand for various skills. Most of the vocational courses are in the industrialized sector and only a few being in the rapidly expanding services sector. Usually vocational subjects are desirable on general education grounds but they should not detract from efforts to improve the quality of core subjects; however the fact is that most variants of vocational education are more costly per student per class period than general education subjects, mainly

because of small classes and the greater cost of facilities, equipment, and consumables. Unit costs of vocational education are higher than that of general secondary education. Further the enrolment in some of vocational courses is often strongly gender biased. Many skills taught are culturally identified with one gender only, for example domestic science and secretarial skills with girls and industrial art skills with boys. Apart from the quantitative aspects of demand, there are issues relating to the quality of the vocational education imparted. There is often segregation of students into vocational streams without assessment of their specific aptitudes and interests. In addition, the inadequate career counselling arrangements providing only work knowledge rather than motivating the students, leads to lack of interest in the pursuit of vocational courses. Similarly textbooks in vocational education have not made any leap in the wake of the National Curriculum Framework. A National Policy on Skill Development has been formulated by the Ministry of Labour & Employment. The objective is to create a workforce empowered with improved skills, knowledge and internationally recognized qualifications to gain access to decent employment and ensure India's competitiveness in the dynamic Global Labour market. It aims at increase in productivity of workforce both in the organized and the unorganized sectors, seeking increased participation of youth, women, disabled and other disadvantaged sections and to synergize efforts of various sectors and reform the present system. If we look at the organisation setup for skill development in the country, it is scattered over a number of agencies sector wise as under,

Vocational Education in the Unorganized Sector

The unorganized sector is dominated by its own account of workers and apprentices in micro enterprises, unpaid family workers and casual labourers, home based workers, migrant labourers, out-of-school youth and adults in need of skills and farmers and artisans in rural areas. These groups are characterized largely by low skills, poor efficiency and low and uncertain income. As per the National Commission on Enterprises in the Unorganized Sector (NCEUS) merely 2.5 percent and 12.5 percent of them have formal and informal vocational training respectively (NCEUS Report, 2009). The unorganized sector is vast and varied, and the training requirements resultantly differ very widely across occupations. Though the contribution of this sector towards GDP of the country is about 60 percent, due recognition to the needs of the sector has been slow. While there is a large (though inadequate) institutional network of training and skill development of workers in the formal sector, the facilities for the informal and the traditional sectors are grossly inadequate, however Government of India has come out with a Skill Development Initiative (SDI) under a Modular Employable Skills (MES) framework. Several Ministries/Departments directly and through NGOs operate the training programs. Some of the schemes are,

1. Jan Shikshan Sansthan (JSS): Adult education program aimed at improving the vocational skills and quality of life of workers and their family members.
2. National Institute of Open Schooling (NIOS): It provides opportunities to those who would have otherwise missed out with focus on vocational skills.
3. ITI and ITCs: These institutions provide short term vocational training to the school drop-outs governed by State Council of Vocational Training (SCVT) and National Council of Vocational Training (NCVT).
4. Community Polytechnics: They address the market-driven skill needs of the surrounding villages and their village-folks.
5. Ministry of Rural Development through large number of schemes address the skill needs of unemployed youth, women, NGOs, Trainers etc.
6. Khadi & Village Industries Commission (KVIC): Conduct courses throughout India catering to beneficiaries.
7. Dept. of Women & Child Welfare: Reaching to youth and women every year mainly in rural areas.

Vocational Education in the Organized Sector

Vocational education broadly refers to certificate level crafts training in India and is open to students who leave school after completing anywhere from Std. VIII-XII. Programmes are administered under two principal schemes, viz., Craftsmen Training Scheme (CTS) and Apprenticeship Training Scheme (ATS). For implementing these programmes, Central Government has set up specialized institutions which are directly under the control of DGE&T. The National Council for Vocational Training (NCVT), a non-statutory body, and Central Apprenticeship Council (CAC), a statutory body under the Apprenticeship Act, 1961 are the two advisory bodies of Government of India for policy formulation, deciding training standards, testing and certification, while the State Councils advise their respective State governments on policies and procedures. Programmes under CTS focus on industrial trades are operated by Industrial Training Institutes (ITIs). In addition to ITIs, there are Advanced Training Institutes (ATIs) provide training for instructors in various trades and offering long and short courses for training skilled personnel at technician level in the fields of Industrial, Medical and Consumer Electronics and Process Instrumentation. Government of India has implemented a Technical Quality Improvement Programme (TEQIP) with the assistance from the World Bank to improve the quality of education and enhance the capabilities of the technical institutions to become dynamic, demand-driven, quality conscious and competitive at national and international levels. The proposed reforms include faculty development, examination reforms, regular curriculum revision, introduction of semester system, focus on research and giving autonomy with the accountability.

Vocational Education at Higher Education Institutions in India

The vocational education system at tertiary level in India develops human resource through a two-tier system.

1. The University Grants Commission (UGC) has scheme of Career Orientation to Education/ Career Oriented Programme/Career Oriented Courses. The objective of the scheme is to ensure that the graduates who pass out after completing these courses, have knowledge, skills and aptitude for gainful employment in wage sector in general and self employment in particular so as to reduce the pressure on institutions of higher learning for Master Degree. The courses of B.Voc. run parallel to the conventional B.A., B.Com. and B.Sc. Degree. The successful students are awarded certificate/diploma/advanced diploma under this programme.

2. Diploma level graduates who are trained at polytechnics as technicians and supervisors. There are also the polytechnics which have been converted into what is being called Community Polytechnics to cater to neighbouring villages and the youth in the vicinity. The scheme of Community Polytechnics (CPs) was introduced in phased manner starting from the year 2000. Over the years, the diploma programmes have deteriorated losing the skill components, which has resulted in their being just a diluted version of degree education. The organizations employing them have to train them all over again in basic skills. It should be noted that though the proportion of private institutions engaged in engineering related trades is relatively low, it is still higher than in many other developing countries, implying that private sector is willing and able to provide training in hard sectors.

   The need to implement programme related to vocational education at higher education level has been appropriately dealt in a scheme proposed by the MHRD, Government of India named Rashtriya Ucchatar Shiksha Abhiyan (RUSA). In RUSA due importance have been put on,

   1. Major bottlenecks impending movement of large number of students to vocational education with less or nonexistent linkages with industries.

2. The mind set of Indian parents and students is focused on pursuing degree qualifications and higher education, which often fall short of requirements of employment.
3. There is lack of qualified vocational teachers.
4. There is special need to meet the demands of disadvantaged groups including women.

Challenges and Prospects before Vocational Education in India:

Vocational education at school level is given a low priority and low status and not treated at par with the arts, science and commerce streams. It is considered as the less acceptable option for students not performing well at the secondary stage. Further the main challenge in vocational education is that there are provisions for only technical subjects. There is no place for liberal education. So with their technical knowledge the young men are not able to acquire knowledge of human relations and social objectives of productions. However with the recent recognition of equivalence of 02 years ITI certificate with std X and 03 years Diploma with std XII, with provision of passing the general education subject through any recognised school board has attracted the students to opt for vocational education from std VIII and X onward itself as there remains ample scope for further educational avenue with addition of Liberal arts subject in the same stream for higher technical education. On the basis of work the caste system has been built in India and the roots of division of Labour based on thousands of years of caste system have gone deep into our society. The people engaged in handicrafts and other physical works for earning their bread are not looked with respect.

According to World Bank report public funding for vocational education in India is ad hoc and not based on any funding formula and no transparent formula of funding is followed by any of the State governments for financing vocational education. Low levels of funding constrain visits by companies, skill up gradation of instructors and recruitment of new instructors. Also as the unit costs for vocational training are high, the expenditure on critical inputs remains low because of limited funds. Majority of the grants are used to meet salary expenditure and very little is left for equipment, professional development of teachers and maintenance of building.

Since vocational education is a concurrent subject, both the Central and the State governments share the responsibility in financing it. While the State government meets the maintenance expenditure, the Central government is responsible for financing of development activities as well as the maintenance and promotion of quality of training, certification and evaluation. The funding of ITIs comes mainly from the State governments. The contribution to financing of fees from students is negligible. The institutions also do not provide any significant financial contribution towards financing of ITIs even though PPP mode has brought enterprise representation through the Institutional Management Committees (IMCs) responsible for improvement in administrative academic and development activities of the Institutes. Apprenticeship training scheme is financed by the DGE&T and MHRD and it is mandatory on the part of employers both in public and private sector establishments to have the required training infrastructure as per the Apprentices Act, 1961 to engage trade apprentices. The community polytechnics, Jan Shikshan Sansthan, and centres for vocational training run by NGOs also get financing from the MHRD. Against this background to vocationalise higher education, RUSA mission mode on higher education can also be supportive to vocational education through adequate funding of Higher Education Institutions, developing educational standards and core curriculum and appropriate counselling for choice of training and career planning.

Various new initiatives have been taken by the Government of India for improving the quality of vocational education. The financing of these initiatives involves up gradation of ITIs into Centres of Excellence (COE) with domestic funding (for each of the upgraded ITIs with the

centre-state government share being in the ratio of 75:25). Also up gradation of Government ITIs and establishment of Skill Development Centres (SDC) in PPP mode is given preference. In each of these schemes, an Institute Management Committee (IMC) has been constituted with government, industry, and academic persons to effectively utilize funds and to improve the quality of training.

Conclusion

India is at the cusp of a great new opportunity: the demographic dividend. In order to utilize this demographic dividend effectively, India needs to impart sufficient and suitable skills to its workforce. The education system churns out students that are not immediately employable and skill up-gradation on the job is very low; implying that a large section of the currently employed labour possesses outdated skills. Vocational education in India is one which is truly at cross-roads. Its coverage remains extremely small and very meagre percent of secondary school children are enrolled in the vocational stream. The skill requirements of the unorganized sector in India remain huge. If the unorganized sector remains largely unreached, it is equally distressing that the vocational education available to the organized sector remains relatively limited in scale and scope. While the Government of India has initiated the Skill Development Mission, there has so far been very little shift in the ground reality. The Government needs to think seriously about creating a fund for financing vocational education throughout the country, both for the organized as well as unorganized sectors.

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CHAPTER-30

Social Networking Skills to improve the Quality of Life of Elderly Women: An Overview

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Introduction

Networking refers to the ability of exchanging ideas and information with groups as well as individuals that have shared interests, such that long-term relationships are developed for mutual benefit. Social networking is the practice of expanding the number of one's business and/or social contacts by making connections through individuals, often through social media sites such as Face book, Twitter, LinkedIn and Google+. Women empowerment is equipping and allowing women to make life-determining decisions through the different problems in society. Social communication will enhance the self-confidence in the elderly and will be a solution to the problem of loneliness. In addition the depression, despair and the loss of well being will affect their quality of life. It is necessary that all aspects of physical, psychological, social, economic and spiritual health of life need to be considered.

The factors creating hardships for women includes the feminine nature of ageing, society discriminatory treatment towards female education and employment and ill treatment because of the traditional roles attached to women in society. According to Asharaf (2005), such traditional attitudes and discriminations have made lives of women vulnerable in old age.

Social networking and Quality of Life

To create efficient social relationship among the elderly it is essential that they are not in isolation in terms of social network.

- Reconnecting with people from their past and this will enable them to have a powerful support network.
- Blogging and online discussions will help women with personal issues and chronic diseases for support online.
- Social spaces provide opportunities to share skills across generational divides.
- Sharing photos, videos and updates on a daily basis provides a link with faraway family and friends.
- Empowers them by updating their rights and legal safe guards.

In his study Prakash (2003) revealed that the status and problems of widows and elderly are in a poor condition. The loss of the role as a wife through divorce or widowhood makes women more vulnerable to social isolation.

According to Radhika (2006), creative and developmental programs are to be associated with elderly people. Old age clubs and other organizations should be formed to involve them in various social, recreational, educational and cultural activities. Acute economic dependency and social isolation aggravates her misery and they are in need of basic health care and counseling service.

Towards social connectedness and social support

Women with good networking skill seem to be more confident, healthy and have a positive impact on their psychological wellbeing as they nurture a feeling that someone is there for them to rely on. Proactive measures are the need of the hour from Individual, Community and Government level to create an age integrated society.

“

True friendship is like sound health, the value of it is seldom known until it be lost”

- Charles Caleb Cotton.

Elderly women are gradually using the new technology for its multifunctional utility ,connected to others for security, social interaction and even reducing boredom, making calls (regardless of time and distance). Address book, alarm and reminders (medical schedules and appointments), display of date and time, panic button for emergency (medical assistance), incoming call with caller picture and camera (satisfaction in seeing their grandchildren abroad). Besides playing songs or videos, using emails or global positioning system are also helpful to them.

On learning new technology, elderly group of people enjoyed the experience of using it. Conci et al. (2001) concluded from the research study that their self esteem boosted when they could perform certain chores by themselves like paying bills, groceries, information retrieval and communication and feeling secure due to safety measures available on the cell phone.

Challenges in adapting to social networking

The older people face multiple issues in using the devices since the gadgets on social networking are mostly designed keeping the younger generation in mind. The small mobile device makes holding it difficult and the text message is too small to read on screen. Further the smaller keys and navigation controls are hard to operate and the back light time is too short than the reflex time. The multiple keys with different functions in these devices are very sensitive to touch operations that lead to frequent accidental dialing and at times fail to lock the keyboard. It is necessary to design gadgets keeping in mind the problems faced by elderly while using it.

In a research study by Van Bookel et al. (2017), on the usage pattern of internet users concluded that there are four types of internet users- Practical users, Minimizers, Maximizers and Social users. The practical users are using the internet for practical and financial purposes. The minimizers are in the mean age of 73 years and spent the smallest time on internet for basic minimal needs. They have lower psychological well being, instrumental activities of daily living and experience poor overall health as compared to the practical users and maximizers. The maximizers are those with mean age less than 70 years who spent more time on internet from online orders to net banking. The social users use the internet for gaming and social network sites.

Social networking to combat loneliness

Social media phenomenon described by Denecke et al. (2015) is found increasing among the elderly, especially through those who suffer from chronic illness. In a study by Cohen & Litwin (2004) it was reported that those elderly people who have high social interaction during their illnesses had recovered faster. Social networking can help elderly improve their life quality, stay healthy and live on their own for longer periods. Hogeboom et al. (2010) and Pascoa & Gil (2012) highlighted the importance of participation of older adults and elderly users in social networks as they become older.

Among the problems faced by elderly women that challenge their sense of self and capacity to live peacefully are depression and loneliness. If technology can reduce loneliness and enhance social networks, this could lead to better physical health among older adults. Loneliness and social isolation are the predictors of poor health and mortality. Social networking individuals have the ability to pressure and persuade them to adhere to medical treatments, leading to faster recovery after an illness. Thus personality and health behavior of elderly women can be the antecedents to positive health changes. At the same time social networking can provide them an opportunity not only for making new friends,

developing new interest, discovering better ways of service and spending their time on sharing their experiences.

Conclusion

It is a social necessity to pay attention to the needs of the elderly. Evaluating the social networking usage among them and improving the quality of life of the elderly helps in better understanding of their needs. Creating efficient social relationship among the elderly and improving their social networks in family, friends and neighbors will improve the life satisfaction of elderly people. Most of the elderly people especially women are in isolation mode and high risk for isolation in terms of social network. We have to accept them in their respective societies, create specific centers for welfare and local communities to encourage them to voluntarily participate in activities to improve their life quality by improving the quality of social networks.

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CHAPTER-31

The Prelude of Skill Development for Women Entrepreneurs

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Introduction

Entrepreneurship is not preparation for life, entrepreneurship is life itself. Women entrepreneurs may be define as the women the women or a group of women who start and operate a business venture. A women entrepreneur has several functions. They should explore the prospects of beginning new enterprise; undertake risk, introduction of new innovation, co-ordination, administration and managements of business. Women entrepreneurs are extremely increase in the economies of almost all countries. The hidden business potential of women has beenincreasing with the growing sensitivity to the role and economic status within the society.

Women entrepreneurs engage in business are the core reasons for women toengage in business as a result of push and pull factors that provide confidence to women to have an self-sustaining occupations and stands on their foots. Logic towards independent decision making on their life and career is that themotivational factor behind this insists on "women entrepreneur" is a personalneeds and turn out to be economically independent. A powerful desire to do enormous positive is an integral quality of entrepreneurial women. Who is competent of tributary values both family and social life with the introduction of media. Women are conscious of their own qualities, rights and also the work situations. The glass ceilings are shattered and women are found indulged in each line of business from pickle to telecommunication. Right efforts in all areas are very important within development of women entrepreneurs and their greaterinvolvements within the entrepreneurial activities.

Objectives

1. To study challenges faced by women entrepreneur in varioussector
2. The role of women entrepreneurs in a skilldevelopment
3. To know the development of womenentrepreneurship in MSME.
4. To give recommendations for changing existing challenges into potential opportunities.

Women Entrepreneurs

Women entrepreneurship means an act of business ownership. Creation and controlling which empowers women economically increases their economic strength as well as position in society. Entrepreneurship is not just confined to any one gender now rather due to multi-faceted economicpressures women have turned up and realized that the survival of their families and their own potential lies only is working side with men.

The Role of Women Entrepreneur in MSME sector

Micro, small and medium enterprises sector plays a significant role in fostering entrepreneurial talent and distribution of income and wealth at gross root level. It contributes immensely in manufacturing output, exports entrepreneurs cannot be ignored in this sectors, especially in rural areas where they have strengthen the rural economy lay generating employment in microenterprises.

DISTRIBUTION OF TYPES OF ENTERPRISES BY MALE AND FEMALE

Sl.No.	Category	Male	Female
1	Micro	79.56	20.44
2	Small	94.74	5.26
3	Medium	97.33	2.67
	All	79.63	20.37

Source: Annual Report MSME 2017-18.

The above Table reveals that the share of female owners is decreasing with the increase in the size of enterprise. The share of female owners is highest in micro enterprises i.e. 20.44 which just 5.26 in small sector and it further reduced to 2.67 in medium sector. So it Asian confirms the male dominance in ownership of MSME.

The Government of India Provides Many Schemes

Women entrepreneurs in India are playing a vital role in generating employment both directly and indirectly are followings.

1. Rajiv Gandhi MahilaVikasPariyjna (RGMVP)
2. Udyogini Scheme
3. MahilavikasNidhi
4. Entrepreneurial Development (EDPS)
5. Micro and Small enterprises cluster development programmes.
6. Priydarshini Projects
7. Trade related entrepreneurship assistant and development (TREAD)
8. Working women's forum
9. Rashtriyamahilakosh
10. Women development corporation (WDC)

Challenges faced by Women Entrepreneurs

Women entrepreneurs' performance is not a much progressive as a desire due tovarious challenges faced by them.

1. **Personal challenges:** in personal challenges are lacks of confidence, education, communication skill, provision of amenities, knowledge of business administration etc.
2. **Social challenges:** in social challenges are changing in attitudes, male dominated society, traditions, customs, socio-culture values, ethics, gender based violence, self-recognition etc.
3. **Economic challenges:** in financial challenges are lack of working capital, awareness about the financial assistance, income derived is inadequate, lack of tangible security toaccess funds etc.

Recommendation for uplifting women's Entrepreneurship

1. Women should understand and implement the new way to balance work and life.
2. Women should make adequate, preparation to face the challenges before starting business.
3. Women should attend training programs, seminars, workshop, this may help to reduce the challenges they face in business.

4. Women should start their business from micro and small level and allow it to grow gradually
5. Women should take assistance of other women entrepreneurs who are already successful in their business.

Conclusion

India is a developing country, which makes it very important for government to promotes entrepreneurship more. Government today is providing lot of useful schemes for women as well, than job seeking youth. Allwe need to day is include a feeling of entrepreneurship in the youth today.

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CHAPTER-32

Transformation predicament of employability skill development among generations – A subtle approach

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The difference between being employable and becoming employable has its own genre of relativity. It becomes easy to employ an employable person as the person has the traits and attitude to be employed, but to make someone to secure the traits and acquire the attitude is the difficult part. Even though the jobs are available and resources are plenty, the effort taken to fill the position with a right person and to maintain the person as an employee in the organisation is a Hercules task for the employers. The skill development procedures are followed reverently in our country, over 5.2 million students have been trained, this task is definitely not an easy one, and the strategic coordination from each and every one involved in it is a mandatory aspect. The All said and done the hot topic under discussion is the ways and means by which the skill development and sustenance of the same would become plausible in today's scenario.

Through this study the transition of employability skill traits has been studied to see whether the job is difficult for the employers to employ and maintain the Gen X and Y candidate or if there is no significance difference and to find out the way, in which Gen Y is paving a way for the Gen Z. Also the ways by which the so called today's generation be it the Gen Z or part of Gen Y or even a part of the forth coming generation the Generation Alpha, could be made predominantly employable.

Skill development predicament with respect to various generations

The ministry of Skill Development in our country, since its inception in 2014 has initiated many developmental endeavours, along with 235 private partners, 1400 training partners, 28179 centers and around 16479 trainers, the ministry had trained more than 5.2 million students, this highly commendable task has become possible only with vigorous strategic planning, the study states that the employability skill does not only involve in providing the correct answers in the interview, it consists of various aspects to be fulfilled during the interview and even after being placed in the organisation.

Employees are the most important resource of any organisation, but the inefficient performance of the employee can have a deadly effect on the organisation (Tziner & Birati, 2015). According to Messarra, Karkoulin & El-Kassal (2016), the difference in the skill development in the generations may be because of their values, expectations, personalities etc., which may have adverse effect on each other. If an organisation is not able to manage the employees effectively it would result in poor performance and less commitment.

The recent study shows that the era of Gen X are done and the so called younger generation of Gen Y (Millennial), which has received much criticism, has now risen to the levels to take up the important positions in the organisation of leading, developing and creating an organisational set up for the Gen Z (Larry Alton, Forbes, 2017). Although there cannot be a set trait for any generation, people born in the same era have many common traits, hence, even though the Gen Y could be a decade older similar expectations and predispositions can be set right for them.

Generation X

The so called "Xers" (Bejtkovsky, 2016) are characterised as somebody who is independent, seeking emotional security, being informal and possess more entrepreneurial skills than the Baby Boomers or so, even the Generation Y (Howe & Strauss 2007). They value relationships more than work, they require a positive space to grow and a steady work-life balance. They always try to strike a balance between work and personal life and are always drawn towards good work values (Lancaster and Stillman 2005, Stuenkel de la Cuesta and Cohen 2005). They are loyal to their work and more importance is given to work related aspects.

Generation Y

Also called as, 'The Millennial Generation', 'Echo Boomers', 'Generation Next' (Sheahan 2005, Parry & Urwin 2011), are the "the most technically literate, educated and ethnically diverse generation in history" (Eisner 2005). They prefer instant bonuses and other benefits (Hurst & Good 2009) Martin (2005) describes them as confident, independent and entrepreneurial, socially active, collaborative and team oriented. (Smola & Sutton, 2002; Eisher, 2005; Morrison, Erickson & Dychtwald 2006, Cogin 2012, ShenKian, Wan Yusoff & Rajah 2013, Wan Yusoff & Shen Kian 2013) calls them as people who wants less rules, more transparency, work as one of the priority only, requires empowerment, needs new challenges and opportunities, wants personal flexibility and positive work climate. They are generally born in a family, that had taken care of all their needs, due to this over parenting, these people who know to handle the tough organisational aspects well, are unable to handle sensitive issues in the organisations, they mostly do not know how to act in a work environment and how to approach and handle personnel and sensitive situations in the organisations.

Interaction with the current Generation X managers or parents of this generation reveals that their Gen Y employees or their kids who belong to the Gen Y cohort are people who do not care about what they speak; they do not possess a slight notion about the way their acts and words affect the other people. Also they are not capable of delicate hand works as they believe more in technology and not dexterity. Because of the over parenting the Gen Y are not aware of the day to day problem solving skills to the extent that the daily house hold chores are not part of their everyday schedules, this is brought into the office too. They do not take initiation on matters that they feel is not organisational, they expect somebody else to solve the problems for them which they feel is trivial which makes them interpersonally ineffective.

Research also says that due to their educational debt and family brought up, this generation has a tendency to have migratory opinions and actions are less loyal to their employers (Deloitte 2016). Economist Robert Gordon states that highly cognitive non-routine work has grown by 60 % in the last few decades and is still growing. Statistics say that 56 million US based Millennials, who held a job in 2000 did not hold one in 2010 (O'Boyle, Atack, Monahan 2017)

Generation Z

This generation is also termed as Post- Millennium or the Mobile Generation or simply the Gen C (connected) or Gen M. They are also known as "Digital Natives", (West, 2014). They have grown up with the internet, or rather they are brought up by the internet and these people are avid users of the internet, YouTube, Smart Phone etc., (Kapil & Roy, 2014). They are ready to take up the business world by their self confidence and their interest to set and fit into a team. Not only this, research has shown that this generation are more interested in social activities than that of the previous generations (Ozkan & Solmaz, 2015). These multitasking personalities are social media savvies, who are smart with an ability to process information faster, also people who are concerned with the environmental aspects (West 2014). Clair Madden in her speech on "Generation Z & Future Employability Skills", says, that in the next 10-15 years, 40% of our jobs are threatened by computerisation which requires high level of creativity and problem solving, high levels of social interaction, Emotional Quotient and high levels of dexterity.

All these traits Madden says belong to Gen Z, hence if properly trained on soft skills, such as interpersonal communication skills and conflict management skills, it would give a better chance to Gen Z, for whom Job Mobility is better than Job Security, a proper platform to adapt and excel in the changing external environment.

Merging and collaborations of the different generation cohorts

It has been estimated and foreseen by Forbes Coaches Council (March 3rd 2017), that by the year 2025, 75% of the workforce will be the Millennials and the rest would be Gen Z with traces of Gen X in it. The following Figure, enunciates the differences between the generation cohorts. The skill development process would involve to identify the various skill gaps among the students and to initiate the methodology to fill and develop these skills among the students. The skills include, communication skills, analytical and reasoning skills, adaptability, interpersonal ability, ability to make decisions and solve problems, ability to plan organise and prioritise work, ability to lead the group, having attention to details, self- confidence, public speaking skill, tactfulness, ethics and integrity, strong work ethics, ability to work under pressure, ability to accept and learn from criticism, so on and so forth.

The generations by itself has its own level of calibre with possibilities of variations in it, handling these generation and moulding them also needs its own level of calibre. As we have already seen, each generations has its predicament and behaviour, of the skills listed above, Gen X could own the skills of ethics, integrity, work under pressure and criticism and so on, but they might not be great in the skills related to communication skill, prioritising work, public speaking etc., the same with minor variations could be applicable for the Gen Y too, but when it comes to Gen Z, of all these skills listed the entire generation has the advantage of owning most of the skills in a broader perspective, but the major areas of concern would be the communication skills and the self confidence aspect, many students do have a skill set, but they do not realise it, they do not do a self analysis to identify the areas of development they have to focus, as they do not deem themselves as skilful individuals. If the students are not able to do it, the trainers must take up the responsibility, it must be one of the major strategies in training the skills, if this is followed, and the trainers would be able to make the students understand that they are capable of achieving everything and even more.

When this mental justification is attained, with a proper scheduling and lesson plan it would become easier to train the students in all the necessary skills required by them. This Gen Z needs this understanding even more as their behavioural pattern differs in a larger scale when compared to the other generations, unless and until these values of self realisation, self development, self confidence and self esteem are inculcated in them, the training given to them would be not be productive.

Conclusion

The traits exhibited by the generations have clearly shown that in quite a small span of time, group values and needs have changed. The Gen X which values relationship has given itself to adept to the need and value change of the Gen Y, it is still difficult to manage attrition though. But, when it comes to the Gen Y and Gen Z, the transition seems to be difficult, the Gen Y who is currently holding the major positions in the organisations and wanting to set up a unique work culture or themselves, must adapt and understand the need of the new and powerful generation Z, that is going to take up their positions very soon. The Generation Z, the proud owners of the various traits necessary to become the successful employees in the organisation, must be made aware that they already own many, but it is just, that they must do a thorough realisation of them either by themselves or with the aid from the trainers, fill the gap and excel in any endeavour taken up by them.

Also, not many years are left for the Generation Alpha to hit the business, hence the Gen Y with all its valour and zeal must pave way for the generations to come. This paper is mostly based on the secondary research and to a certain level observational study, hence the conclusion given may not be completely established, further research is required for a more substantiate result.

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CHAPTER-33

Upskilling through Digital Learning: Filling the Worker's Skill Gap

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Introduction

Today's organisationsare facing new set of demands in terms of Talent management because of new skills economy. Continuous Upskilling is the need of the hour to meet with the jobs that are becoming highly specialised, distributive technologies and automation which are overturning traditional roles, workflows and business models. This does not anyone in any rank where everyone has to acquire new competencies and aptitudes to match with changing business objectives.Globally thecontinuing struggle of corporate to fill vacancies endorsing this domineering. This can be understand from the annual Talent Shortage survey released by Manpower Group which states that there are about 45% of companies could not find skilled employees for their job openings. This trend is all time high. The trend is continuingin India too, as many organisations struggling to source and retain the appropriate skill for their digital revolutioninventiveness.

Upskilling makes business sense

Upskilling programs are aimed at train and organise a labour force that is ready to face the challenges posted by automation, artificial intelligence (AI), and many, in the years to come. For example, workers would be capable to get the appropriate competencies to accomplish the human oriented part of their jobs, furthermore easily transitioning to new types of jobs.These upskilling programs will also yield remarkable benefits for the business. A research reported in July 2018 by Capgemini shown that organisations with advanced upskilling platforms and highly ready for automation will able save $270m more when compared to those having less concern for upskilling and adoption for automation. Besides, employee upskilling will fetch you more commitment and employee retention through which an organisation can save lot of time and money spent on new talent recruitment.

Upskilling with digital learning

Now the organisation faces the other question how they can design and deliver the upskilling program to meet their expectations?The answer is trivial, they can simply adopt digital medium to give a customised and qualitative upskilling program for their employees.Because, these digital medium of learning has several advantages over the traditional system of classroom learning. Especially for workers who are expected to be on role every time. Digital learning program gives the learner flexibility in fixing their pace, highly interactive and personalised contents. Actually, there are many organisations have already included this digital medium of learning to enhance and upskill their employees.

When you are in developing phase of digital learning, it is mandatory that you must get an expert opinion on the content, syllabus and structure in order to validate the applicability and relevance of current business environment. For making the upskilling program more personalised, the learning management system (LMS) need to be designed in such a way that support adaptive learning, so that learner can decide and choose the modules they are interested in and suits their professional growth. Overall the LMS need to provide user based learning experience so that it can configure the upskilling pathway in respect with their engagement on different modules.

The other way organisations incentivise their employees through monitoring their progress in the upskilling program by conducting instructor based assessment test and certifications.

The Need for Skilling

Organisations have identifies and they are very conscious about the need for upskilling.A study conducted by a firm called CareerBuilder last year revealed that "more than two-thirds connected with employers (67%) are involved greater than growing abilities gaps. Over fifty percent (55%) of these selected have experienced a bad effect on their company since of prolonged job opportunities, which result in productivity problems, larger voluntary turnover plus earnings loss". This can go to be able to show that upskilling staff by encouraging these to be able to seek new skill designs is the mantra regarding retaining employees, helping just about all of them grow, plus ensuring the better upcoming for the particular company subsequently.

Yet more significantly, at the time any time everything within the business world is usually electronic digital, organizations have in buy to remember the electronic digital factor with regards to be able to skilling employees. In agreement to a joint report by the World Economic Forum and The most suitable shoes for the summer Boston Consulting Group, "managing abilities in the digital era group requires organizations to control technology that permits these to leverage a data-driven technique to lifelong learning plus smart upskilling".

The Effect of the 'Skill Gap'

A 2017 report by Capgemini and LinkedIn declares that "over half (54%) of the organizations selected stated that the electronic talent gap is hampering their own digital modification programs and that their particular organization offers lost aggressive advantage due to a shortage associated with digital talent. Many staff are concerned that their own skills are usually both already outmoded or also will soon become consequently. Further, around 29% staff surveyed believed their capability set is redundant today or is going to be able to be inside the particular subsequent one to two years, while more compared to a third (38%) think about their set of skills may be redundant in the particular subsequent 4 to five years".

The immediate a result of skill redundancy in addition to insufficient upskilling initiatives will be usually attrition. The report provides that "more as compared to fifty percent of electronically talented workers (55%) say they are usually willing to shift in in an attempt to another corporation if they can feel their digital abilities are stagnating at their particular present employer, while close up to half of staff (47%) are probably in purchase to gravitate towards businesses that will offer much better digital ability development".

ThreeMerits of Upskilling

It's not really tough to be able to understand the particular features of upskilling employees within typically the digital world; due to be able to the fact the paybacks are enormous. Those usually are:

1. **Enhanced Productivity:** Electronic upskilling will be regarding utmost importance if workers are not upon a similar page as the organization in terms of technology; their productivity is likely to go down.
2. **Employee Retention:** "Around 60% of companies cannot locate qualified candidates to load open positions. In order to fill this distance and reach their total innovation capacity, organizations should instead focus on upskilling and re-training current workers. "Companies that commit in upskilling initiatives regarding their employees are more inclined to appeal to employee allegiance and possess them stick back longer.
3. **Employee Engagement:** Upskilling is additionally a splendid way to have interaction employees and make sure that they are extra inspired to supply their satisfactory at work. Companies like IBM agree with that organizations maximize their human capital via imparting "the proper competencies at the proper time for the proper people". In its report, titled The Value of Training,

IBM located that 84% of personnel in the nice performing groups are receiving the education they need, compared with 16% in the worst-performing companies.

Benefits of Shifting to Digital Learning

There is an intense transition in human learning platform, thanks to the swing from print to digital which given greater significant in spreading its benefits more quick and awful way. The digital medium transition has given a way for formal education remodelling and opportunities for informal mastering. This proposes several benefits as discussed below.

1. **Personalized learning:** Digital learning understands that everyone is unique likewise their need. It paved the path for learners to decide their phase and mode in learning the content. This has been taken as prototyping for developing next generation schools. There were periods where student look for private tutoring to get personalised focus from the teachers. However those were highly expensive and not affordable by the common public. But digital medium has brought the focused learning to everyone and become learner centred approach.

2. **Expanded learning options:** Digital learning has widened the learning prospectsglobally. This provides wide opportunities for the learner to choose learning process irrespective of their background. It addresses the unique needs and progress based on the competencies of the learner.Accesses to education will no more a buzz word in the era of digital learning. There is no restriction in learning anything from anywhere in the world. Furthermore the students able to access the best content of knowledge from the best professors in the world and everything is free to anyone with an internet connection.

3. **High engagement learning:** The swing to digital medium will increase the student drive. Anyone who has seen activity based learning fetched a good result because of high engagement will appreciate this digital learning which has the same perspective. Actually it is argued that personalisation will lead to more productive in addition to increased motivation for business to have more learning periods every time throughout the year. The future generation schools have already predicted this one.

4. **Competency-based learning:** Learners demonstrate not only they learn but also add more of their experience and show mastery. This is called competency learning which was done with the conventional learning, but who has what competency? Nobody has addressed these issues since there is no proper tool to monitor this individual competency improvement. However the digital learning addressed this issue very early and it feeds the learning content to cater the competency of the learner.

5. **Assessment regarding learning:** Digital learning coupled with continuous feedback and assessment system with adaptive learning. It helps the learners to monitor their own progress and it increases their motivation.

6. **Collaborative learning:** Collaborative learning is the other merit of the digital learning. Here the learners are alone but they are not learning alone. Because the digital medium proposes the social platform for learners to collaborate and share their knowledge horizontally.

7. **Sharing economy:** Most of the resources in e-learning are free and open to access. This has been major revolution to the country like India where education affordability is still in crawling. Not only free and open content even the paid content can be shared with others easily and many schools join together and utilize the resources that are not affordable by a single student or school alone. In this way the economy sharing is highly supported by the digital medium.

8. **Relevant and Regularly Up to date Content:** Students are able to regularly up to date to the content they are learning regardless of their age or course, by the way surplus access. This will bring the teachers and students to personalise more update content in exciting ways. This is possible because of frequent access to materials that have been able to update regularly.

9. **Next-gen learning for educators:** This learning process not only focused the learning but also gives a blended, competency based and personalised experience to the teachers too. It is become challenge for the tutors to feed the need of the digital learning environment. This requires not the conventional teachers but the next gen facilitators. The teachers are expected to be more advanced than the learner and they expected to be co-learning with the wards. In the era of digital medium where everything is accessible by everyone the role of teacher has changed from teaching to facilitating.

Digital learning is the clue for revamping the world. It generates and connects the idea economy. It immensely improving the upskilling and filling the knowledge gap.

Do not forget the specific 'soft' component

Effective upskilling entails a proper blend associated with both practical and gentle skills. Therefore, along with specialized and functional training, an individual need to in still abilities including communication, effort plus time management between your own workers. At the same time, get all of these people trained on aspects, this particular kind of as problem solving, creativeness, ideation, style thinking, plus emotional intelligence.

Conclusion

Actual upskilling involves a holistic combination of useful and gentle skills. Hence, alongside technical and focussed training, it is required to inculcate skills comprising of communication, teamwork and time management among the workers. Instantaneously, get them trained on aspects, such as hassle solving, creativity, ideation, diagram thinking, and emotional intelligence.

Upskilling would not be a one-time business. Rather, it will be acontinuing process in the digital era, as digital conversionincreases momentum across businesses and technology gets entrenched in every aspect of it. The responsibility lies on us to connect the digital medium efficiently to reskill and upskill our workforce, so that the organisations can remain competitive and significant in a dynamic marketplace.

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CHAPTER-34

Vocational and Technical Education in India

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Introduction

Some countries in the world lacking in many natural resources are able to organize good man power on the basis of technical and vocational education. This skilled man power converts raw materials bought from the other countries into finished products and has thus made its country very prosperous. Needles to say that good technical and vocational education may be very helpful in making a country prosperous even when it lacks in natural resources. Through vocational education one acquires a capacity to earn his living. By having this capacity he starts production of some kind. Technical education is only a part of vocational education. For technical education, the trainee has to acquire some specific techniques on the basis of which he may convert raw materials into finished products.

Definition

The UNESCO, in its recommendation of 1974 on technical and vocational education , defined vocational education as a comprehensive term embracing those aspects of educational process involving in addition to general education, the study of technologies and related sciences and acquisition of practical skill, attitude and understanding and knowledge relating to occupations in the known sectors of economic and social life. Such an education would be integral education and means of preparing for an occupational field and aspect of continuing education.

Objectives

1. To give scientific education in the latest technology.
2. To effect a co-ordination and harmony between general, specific and scientific knowledge.
3. To give relevant vocational education even to the handicapped.
4. To make the training continual.
5. To create respect for manual labour.

Impact of Technical Education in the Society

The influence of Technical Education in the society is in both the ways – direct and indirect.

(i) Direct Influence. The building of industrial centres is the direct consequences.

(ii) Indirect Influence. Labour welfare, residence, urban culture, recreation, education, health hazard, crime etc. are its indirect influences.

When we make practical use of science it is known as Technical Education. Man controls the means of earning his livelihood by the help of technical education and expresses his social relation and intellectual development.

Problem of Technical and Vocational Education

1. The problem of qualitative improvement.
2. The problem of creating the right attitude for manual work.
3. The problem of improving the technical and vocational education curriculum.
4. The problem of establishing a co-ordination with the industries.
5. The problem of lack of teachers and guides.
6. The problem of medium of technical education.
7. The problem of administration and control.
8. The problem of research.
9. The problem of post-education and training.
10. The problem of moderation of technologies.
11. The problem of co-ordination between training facilities and job opportunities.

Views of National Council of Education Research and Training

A workshop was organised at Chandigarh by NCERT where developed Scientific attitude were described:-

1. Clarity and Stability – An individual who is clear and stable in his sayings and standard facts.
2. Basis of judgements – He bases his judgements on the basis of standard facts,
3. Ready to think without prejudice over new thoughts and inventions – He is ever ready to think without prejudices over new thought and inventions.
4. Use of science for the Welfare of man – he supports the use of science for the welfare of mankind.
5. Ready to re-consider his judgments, decisions- He is ready to re-consider hid judgements/decisions.
6. Stores apparatus and related material methodically – He preserves the apparatus and related material methodically at the end of the work.
7. Rejects the judgement in the absence of sufficient evidence – He rejects the judgement in the absence of sufficient evidence.
8. Free from partiality – He is free from partiality.
9. Objective outlook – His outlook is objective.
10. Truthfulness and Honesty – He collects scientific material and records it truthfully and honestly.

Trends in Vocational and Technical Education in India

1. More and more women are coming forward for joining vocational and technical courses.5 to 10 girls are spotted in an engineering college in the traditional engineering courses.
2. The mother tongue is gradually becoming medium of instruction at the Diploma level courses. Engineering books are published in regional language.
3. There is trend towards diversification. Now courses are being adopted.
4. In some states in India, there is provision for vocational and technical courses as part time and evening courses.
5. Technical Teachers are being trained. Technical Teachers Training institutes have come into existence. There is one such institutes at Chandigarh.
6. Doing post graduation is now very common. There is increased specialisation in vocational and technical education. Hence the necessities of post graduate courses.

7. Some courses are becoming unpopular even in vocational and technical courses. There are no takers for these courses.

8. Humanities are being introduced in technical institutes. It is true that industrialization is the only hope of the poor but in the centre of all human activities lies man himself. Technology devoid of any human outlook is very dangerous. It will morally drain us. To prevent that, humanities are being taught in technical institute. This is to give human touch to technical souls.

9. Courses in management and pharmacy are becoming very popular. It is in the mind of an Engineering to do MBA also.

10. Regional Engineering colleges are coming into existence. There are 16 colleges in India.

Role of Teacher and Education in Technical Change

After the achievement of Independence India underwent many changes. Education made its special contribution in bringing about the changes but in spite of all this the present education system could not build socialistic pattern of society. Everyday democracy is being murdered. The reason is that our education has become lame. It needs support. No doubt, education has taken the form of technical Education. We have made great efforts to establish links at national and international levels, even then the whole framework of education stands in need of reform, and otherwise we shall lag behind other countries by many centuries. Education and technical development are mutually and closely related. Education follows as well as leads technology. Education has to play an active role in social, economic, religious, moral, cultural and political changes.

Conclusion

Education should thus play a very effective role in preparing a strong work force. As the economic and productive activities expand, there is even greater need for educated and trained people to design, supervise, manufacture and sell industrial and agricultural products. A good number of young people need to be trained in skilled, and technical crafts and vocations in the area of agricultural, commerce, industry, health, defence etc. Here lies the intense need of vocationalisation and technical education. The government should take hard decision on delinking most of the jobs from degrees, to provide satisfactory conditions of work, revision of recruitment policies etc. The teachers and students should carry out their part of responsibility to improve standards and the whole academic community should strive to serve the society. A nationwide effort should be organised to achieve a stimulation break through on the social as well as education work

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CHAPTER-35

Vocational Education in India: An Overview

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Introduction

Vocational Education is defined as education is based on profession and employment. Vocational Education is also mentioned as a career and technical education or technical and vocational education and training (TVET). It prepares people for specific careers at various levels in all spheres of our life. It involves various practical activities. Vocational education includes practical courses through which one gains skills and experience directly linked to a profession in future. It is sometimes referred to as technical education because the trainee directly develops expertise in a particular group of techniques. Vocational education is linked to the apprenticeship system of training and learning. In other words, vocational education may be classified as training of practical knowledge. It helps pupils to be skilled and it offers better employment opportunities.

Vocational Educational in India

Vocational Education and Training is an important component of the nation's education initiative. Skills based education is becoming more important today. India is a vast country with a population of more than 1.3 billion. A large number of India's population lives in about villages. There is an observable difference in rural and urban, rich and poor, highly educated and less educated, forward and backward social categories. Urban areas peoples have had access to better education and professional training, but majority of rural area peoples and slums are lesser educated and rarely undergo any technical, professional and vocational training. In fact, for most such people get quality education and technical and professional education is too expensive. Many employers expecting new employees to have all the practical skills they need to start work and also for those who have to support their families directly after school education. In today's technical world, even an engineering graduate and other professional student's is supposed to have some technical skills apart from the degree possessed by him in the form of certification. Vocational courses are naturally more practical and skills oriented than academic degrees, but they are often trained at vocational institutes. Skill based education has to be viewed from diverse multi-layered practices. One is of course the hands on training and other is employment generation and sustainability. If you know what you want to do in your profession and it requires some practical skills.

We believe that education is the key to nation-building. It is also a well-accepted fact that providing the right awareness and skills to the youth can guarantee the overall national development and financial growth. The Indian education system recognizes the role of education and particularly skill based vocational education. Vocational skill based training is provided on a full-time as well as a part-time basis to the peoples. Full-time programs are generally offered by Industrial Training Institutes. Part-time programs are offered by the state technical education boards that also put forward full-time courses. The technical and vocational education and training system; develops the human resource. The Government is well aware of vocational education and has already taken a number of important initiatives.

The central government scheme provides for financial assistance to the state governments to set up administrative structure, preparation of curriculum, text books and training modules and to strengthening technical support for research and development.

Vocational education courses include the education and skill development at all levels education through formal as well as non-formal streams. It must develop the competencies like knowledge, skills and attitude is required by a particular profession, through diver's vocational courses to prepare the pupil for the self-employment. It provides the opportunities to enhance individual employability and reduce the difference between demand and supply of skilled manpower.

But the programme has been out of action by a range of conceptual, administrative and resource constraints for more than decades by poor infrastructure, untrained or unqualified trainers and outdated courses. The massive and vital task of building a useful and vibrant course of vocational education is not available. Work-centered learning as an integral part of the curriculum is expected to put down the necessary foundation for restructuring the skill based vocational education to meet the challenges of a globalised market.

Appropriate space and a friendly environment will have to be created in the vocational institutions for engaging local service providers as resource persons. These institutions could also act as a hobby centers for all students and could be accessed before or after teaching learning hours. Such centers should also be available for schools with collaborative arrangement for the work-based curriculum. Transform this vision into practice, several new resource centers to be created besides strengthening and refreshing the existing national resource institutions.

In a competitive economic situation of our nation, the unorganized sectors are important for the development of our country, it needs to boost the productivity of its manpower for its growth. Another contradiction before the Indians, unorganized sectors cannot employ well educated and professionally trained manpower resources which usually desire for highly challenging and rewarding profession. The only option available before the Indian unorganized sectors is to depend upon only low paid manpower training through the non-formal system of skill development.

Thus the urgent need to train a large number of persons through a national wide network of non-formal skill development centres. Such non-formal skill training should attract beneficiaries from all social groups of Indian nationals. In the developing countries like India, the vocational education institutions refers to an alternative system of education, which is aimed at the empowerment of the deprived groups through appropriate skills improvement and it's leading to gainful employment in collaboration with local resources and community and achieves skills for employment and self-employability of the underprivileged group. The government should take the necessary steps to accountability of the vocational courses i.e.

- Introduction of systematic, well planned and carefully implemented programmes of vocational education is crucial in the proposed educational reorganization.
- Training centres could build partnerships with businesses and the workforce investment system to create career pathways through which workers will earn new credentials and promotions through step-by-step, worksite education programs that build essential skills.
- Vocational institutions will work closely with employers to design training that is relevant to the local labor market and likely to lead to employment and careers.
- The establishment of vocational courses or institutions will be the responsibility of the government as well as employers in the public and private sectors; the government will take special steps to the needs of women, rural and tribal students, differently-abled and the deprived sections of society.
- Non-formal, flexible and need-based vocational courses will also be made available to uneducated adolescences, school drop-outs, persons engaged in work and unemployed or part time employed persons.
- Vocational institutions could create open online course materials such as interactive tutors, simulations, and multimedia software that can help students learn more, and learn better, in less time.

- There are many private institutes in India which offer courses in vocational training, but most of them have not been recognized by the government. Firstly the required steps should be taken to recognize appropriate institutes those fulfils the underlined criteria.

Conclusion

The industrial and labor market trends clearly indicated the urgency of strengthening of vocational education in India. It is proposed that we move in a phased manner towards new courses of vocational education and training, which is conceive and implemented in a mission mode, involving the establishment of separate institutions for vocational institutions from the level of village to metropolitan areas. The introduction of vocational education will enable us to make wider the vocational education bases. These elements are meant to develop a healthy attitude among pupils towards work and life, to enhance individual employability.

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CHAPTER-36

Vocationalisation – A historical perspective

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Introduction

Education, broadly perceived as a seamless continuum of lifelong learning, is essential for human resource development at every age level. In a package of developmental inputs available to the youth, vocational education forms an effective means to improve the status and character of living patterns of the people, help intellectual, social and emotional development of the individuals and to enable them to enter into productive and meaningful life.

Concept of Vocationalisation

UNESCO states that " Vocational education as a comprehensive term embracing those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and acquisition of practical skills, attitudes and understandings and knowledge relating to occupation in the various sectors of economic and social life. Such an education would be an integral part of general education and a means for preparing for an occupational field and an aspect of continuing education".

Vocationalisation means the provision of a strong vocational bias to secondary education. Vocationalisation means training in a particular vocation at the high and higher secondary school and this vocational training may be of the terminal type, so that a student after passing higher secondary stage can directly enter life. In the second sense, voctionalization means training in some vocation at the higher secondary level along with general education (Nanda, 2000).

Objectives of Vocational Education

1. To strengthen a healthy attitude among students towards work and life.
2. To enrich students employability.
3. To decrease the mismatch between the demand and supply of skill manpower.
4. To provide an option for those intending to pursue higher education without particular interest or purpose.
5. To eradicate the level of unemployment by providing self-employment schemes.
6. To grant a platform to fulfil the needs of women, rural and tribal children and the under privileged sections of society.
7. Provides professional growth, career improvement and lateral entry into courses of general, technical and professional education.
8. To enhance the productive potential of the country.
9. To apply man power to fullest extent.
10. To make the students skilled technicians.
11. Aids equitable sharing of benefits of economic development to ensure social and economic justice.

Advantages of Vocationalisation

- It reduces unemployment amongst youth.
- It increases productivity thereby economic prosperity of the country and the people.

- It suits the individuals' aptitude. It gives training and develops one's aptitude.
- It helps in attaining social efficiency.
- It is a sort of insurance against becoming immoral.
- It puts an end to mad rush for entrance into colleges and universities.

History of Vocationalisation of Education

The vocationalisation has a long history. It originated with the recommendations of Hunter Commission 1882.

1. **Hunter Commission (1882):** Practical subjects were introduced by this commission.
2. **Calcutta University Commission/Sadler Commission (1917-1919):** This commission regretted that vocational education is neglected inIndia. Only general course was opted by the students.
3. **Hartog Committee Report (1929):** They laid an emphasis on industrial and commercial subjects at the secondary stage. Suggested students to choose practical subjects.
4. **Abbott- Wood Report (1937):** This committee mainly focussed on technical and vocational education in India. Abbott and Wood found that unemployment was the major problem of India and realised that only through industrial development that problem of unemployment could be sorted out. This committee recommended that general and vocational education should not be considered as different courses. Separate institution to be established for Vocational Education.
5. **Sargent Report (1944):** This committee suggested to establish technical education institutions in all over India.
6. **Indian Education Commission (1964-66):** Kothari Commission or IEC insisted on Vocationalization of secondary education.
7. **National review Committee (1978):** There should be in-built elasticity in the choice of the general education or vocationalised subjects. Learning must be either through Socially Useful Productive Work (SUPW) or through vocationalised courses.
8. **Gandhi's Philosophy:** Gandhiji (1937) strongly supported the Vocationalisation of education. The system of basic education was advocated by him.
9. **Wardha Committee (1938)** adopted resolutions based on Gandhiji's Philosophy of Basiceducation (Ghosh,2000) .It laid importance on manual productive work considering the environment of the child.
10. **Zakir Hussain Committee:** It stated that the physical environment, social environment and the craft work should be the foci of the curriculum.
11. **Secondary Education Commission (1952-53):** Diversification of courses was introduced by this commission. Establishment of multipurpose schools, technical schools and guidance services were recommended by this commission.
12. **International Commission on Education (1972)** identified that Technology would play a pivotal role in imparting vocational education.
13. **Adiseshiah Committee (1977)** advocated the introduction of socially useful productive work at the school level. It also stated that vocational courses should be in agricultural and related rural occupational areas.
14. **Ishwar Bhai Patel Committee (1977)** recommended a compulsory introduction of socially useful productive work.
15. **National Policy on Education (1986)** insisted to treat vocational education as a distinct stream. Health related a vocational course, non - formal vocational courses,

bridge courses and vocational institutions establishment was also insisted.

Conclusion

In the present educational perspectives, vocationalisation needs to be given a wider meaning. The narrowing down of the area of vocational education also narrows down the importance and implications of vocational education programmes. Vocationalisation at all levels should be promoted to meet the existing and future challenges of the country in view of the overall developmental paradigm- the socio economic needs, the employability, the quality of education, the human resource development, the national productivity and other such issues. However the terminal points in the educational structure- 10th , 11th and 12th stages should be given a vocational bias, so that the students are better equipped with necessary competencies for their easy employability both self as well as wage (Rashtriya ,2007).

Effective planning and implementation of vocationalisation at the higher secondary level will help to overcome the huge problem of unemployment of our young men and women. Proper vocational training of youth is one of the immediate and urgent needs of our country. Vocational guidance services in the institution could work for effective vocationalisation . Students should be helped to choose subjects with the help of the guidance personnel. Schools should take up this tremendous responsibility with concern, commitment and accountability (Lakshmi, 1997).

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CHAPTER-37

Vocationalization and Diversification of Education in India: Prospects and Challenges

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Introduction

> “Every handicraft has to be taught not merely mechanically as is done today, but scientifically. This is to say, the child should learn the why and wherefore of every process.”
>
> **- Mahatma Gandhi.**

Since the get-go word related information and manual aptitude gave, in one structure man to man and from age. This transmitting procedure, whatever its type of association, has formed into the instructive procedure that has now offered ascend to extension and improvements of what might be shaped as professional training. The term professional training is intended to cover both disorderly and sorted out strategies for transmitting information, aptitudes and capability. Professional instruction alludes to exercises intended to add to word related capability. Vocationalization of training intends to give a solid professional predisposition to optional instruction. Professional courses ought to be presented secondary schools alongside general subjects. It suggests that general and professional instruction ought to be isolated, as opposed to two ought to be stirred. Here we are not considering professional preparing for one stream, however to build the job situated segments of all instruction for all understudies. This is the thing that Mahatma Gandhi expected in his “NaiTalim” framework; this is what was prescribed by the Kothari Commission (1966) report through “work understanding” and “Socially Useful Productive Work (SUPW)” (Chandra, 2003).

Need and ways of Vocationalisation of Education

Vocationalisation of Education is for achieving economic development of the country. Our country a land or plenty natural resources, even though, the lack of trained man power results a poor economy.Vocationalisation of Education is for making secondary education a self-sufficient course. It solves the problem of unemployment among uneducated. It will meet varying aptitudes, interests and talents of students. Well planned practical subjects only can meet the different aptitudes, interests and talents. There are several ways can be adopted to Vocationalisation of Education. viz; (1) Vocational Surveys, (2) Establishing new schools in rural areas, (3) Counselling and placement, (4) Close connection with employment agencies, and (5) Apprenticeship and recruitment programmes.

Skills Development or Vocational Training

Both Vocational Education and Vocationalisation of all instruction will include aptitudes advancement. While in the vocationalisation, the aptitudes improvement is planned to fabricate the ability to act in an assortment of genuine circumstances, the professional training gives abilities for a particular livelihood under all around characterized restrictions. Without the general aptitude advancement, the particular expertise

can't assist him with surviving in the opposition such is reality. In this manner, professional instruction must be valuable on a base of general aptitudes advancement Vocationalisation of training is basic to all instruction and professional training can just expand on it and not substitute it. This has been the principle explanation behind the issues we are confronting in our new professional instruction programs as well as the low quality of our general designing and specialized training (Joshi, 2013).

Vocationalisation - When?

In the auxiliary and higher optional stages, we have to pressure socially helpful and profitable work. They will presently should be given the abilities as well as the equipment required to do socially helpful beneficial work and increase the work understanding out of it. What amount of will it cost? Do we have the assets to make it achievable? We have enough field information and proof to show that the venture made in the equipment for the school at this stage, isnot just not out of our officer however this can assist with offering basic types of assistance to the country segment, through the instructive framework, with the network paying for them. Along these lines, this can be a decent reason for coordinating training and country advancement. Moreover, these abilities take into account the optional and higher auxiliary schools to deliver resources for themselves and different schools at a lot of lower costs. Such a situation will likewise empower imaginativeness among the understudies, which is a considerable addition. Subsequently, vocationalisation of instruction will cover all degrees of training, yet just auxiliary and higher optional instruction should be considered for capital speculation on this record. Between these, the optional school ought to have just 'expansive range" aptitudes preparing. The higher auxiliary stage may then give more modules for more distant specialization, whenever wanted (Krishnan & Thamarasseri, 2013).

Vocational Education-Criteria

Any curriculum which embraces vocational considerations will include these elements; viz. (1) Work experience, (2) Industrial visits, (3) Careful vocational guidance before admission to and throughout the course, (4) Problem solving and the practical application of skills and knowledge, and (5) A relationship between the courses and employment opportunities, locally or nationally.

Vocational education in India

Professional instruction has differentiated over the twentieth century and now exists in enterprises, for example, retail, the travel industry, data innovation, memorial service administrations and beautifying agents, just as in the conventional artworks and cabin ventures. Professional preparing in India is given on a full-time just as low maintenance premise. Full-time programs are commonly offered through Industrial Training Institutes (ITI). The nodal office for giving the acknowledgment to the ITIs is National Council for Vocational Training (NCVT), which is under the Ministry of work, Govt. of India. Low maintenance programs are offered through state specialized instruction loads up or colleges who likewise offer full-time courses. Professional preparing has been effective in India just in mechanical preparing organizations and that also in building exchanges. There are numerous private establishments in India which offer courses in professional preparing and completing, In Kerala, 389 professional schools are there with 42 unique courses like Commerce and Business, Tourism, Agriculture, Automobile, Air moulding, Livestock the board, Lab Technician and Agriculture.

Scheme of Vocationalisation of Secondary Education

The Centrally Sponsored Scheme of Vocationalisation of Secondary Education at + 2 level is being executed since 1988. It accommodates expansion of instructive chances in order to upgrade singular employability, decrease the jumble among request and supply of gifted labour and gives an option in contrast to those seeking after advanced education. The overhauled conspire is in activity since 1992-93. The Scheme accommodates monetary help to the States to set up managerial structure,

region professional reviews, arrangement of educational program, reading material, exercise manual educational program guides, reference booklet, educator preparing program, reinforcing specialized emotionally supportive network for innovative work, preparing and assessment and so forth. It additionally gives monetary help to NGOs and wilful associations towards usage of explicit creative activities for leading transient courses. The Scheme, up until this point, has made foundation of 21000 areas in 9619 schools and making a limit of around 10 lakh understudies at + 2 level. The awards discharged so far since the commencement of the plan is Rs. 765 crores. In light of the proposals of different Committees/ Review Groups, the current Scheme is being overhauled. The foundation of the National Vocational Education Qualification Framework (NVEQF) is the nearby organization and joint effort with the business/potential bosses at all stages beginning from recognizable proof of courses, content improvement, preparing and arrangement of asset people, evaluation, accreditation, affirmation and position.

India's prospects of Vocationalization and Diversification of Education

In India, we accept that instruction is the way in to the undertaking of country building. It is likewise an all-round acknowledged certainty that giving the correct information and aptitudes to the young can guarantee the general national advancement and financial development. Join the idea with the way that India is a country of youngsters - out of a populace of above 1.1 billion, 672 million individuals are in the age-bunch 15 to 59 years - which is typically treated as the "working age populace". It is likewise being anticipated that India will see a sharp decrease in the reliance proportion throughout the following 30 years, which will establish a significant 'segment profit' for India. In the year 2001, 11% of populace of the nation was in age gathering of 18-24 years which is relied upon to ascend to 12% before the finish of XI Five Year Plan (Rao, 1999).

This youthful populace ought to be considered as a significant resource which if furnished with information and aptitudes, can contribute viably to the improvement of the national just as the worldwide economy. The vision is to understand India's human asset potential to its fullest in the instruction part, with value and consideration. The Report of the Education Commission (1964-66) set various objectives to be sought after. One of them was "to vocationalise optional instruction." In the year 2007, Government of India reported that 1600 new mechanical preparing foundations (ITIs) and polytechnics, 10,000 new professional schools and 50,000 new Skill Development Centres would be opened to guarantee that every year, more than 100 lakh understudies get professional preparing, which would be a four-overlay increment. There are rising deficiencies are there in the repository of talented and prepared labour in various parts. There is hence a need to extend the VET projects to exploit the segment profit of the nation and to satisfy the yearnings and right of the young to beneficial work and add to national profitability (Thamarasseri, 2014)

System of Vocational Education and Training (VET) in India

The Technical and Vocational Education and Training system (TVET) in India develops human resource through a three-tier system: viz. (1) Graduate and post-graduate level specialists (e.g. IITs, NITs, engineering colleges) trained as engineers and technologists, (2) Diploma-level graduates who are trained at Polytechnics as technicians and supervisors, and (3) Certificate-level for higher secondary students in the vocational stream and craft people trained in ITIs as well as through formal apprenticeships as semi-skilled and skilled workers.There are more than 17 Ministries/Departments of Govt. of India providing or funding formal/non-formal VET programmes. The total annual training capacity of VET programmes thus offered is estimated to be about 25 lakhs. However, there is a lot of variation among the various programmes in terms of duration, target group, entry qualifications, testing and certification, curriculum, etc. which has resulted in problems related to recognition of qualifications, equivalence and vertical mobility. (Singh, & Sudarshan, 2004)

Need for Vocationalisation of Education in India

Vocational Education and Training (VET) is an important element of the nation's education initiative. In order for Vocational Education to play its part effectively in the changing national context and for India to enjoy the fruits of the demographic dividend, there is an urgent need to redefine the critical elements of imparting vocational education and training to make them flexible, contemporary, relevant, inclusive and creative. The Government is well aware of the important role of Vocational education and has already taken a number of important initiatives in this area. In India, skill acquisition takes place through two basic structural streams – a small formal one and a large informal one. Details of major formal sources are listed in table below;

Table 1:

Details of major formal sources of skill acquisition

Type of Source	Institute	Capacity	Quantity
Mainstream Education system	Centrally sponsored Scheme of Vocationalisation of Secondary education run by the Ministry of HRD	Enrolling less than 3 % students at the Upper secondary level	9,583 schools offering about 150 educational courses of two years education
Training Institutions outside the school and university system	ITIs (Govt./ Aided/ Private)	Total seating capacity of 7.85 lakh	1922 Public & 3566 Private ITIs
Diploma Level	Polytechnics	1,244 Polytechnics run by MHRD with a capacity of 2.95 Lakhs	1,747 AICTE approved diploma programs with 294370 seats

Need for Strengthening Vocational Education Programmes

The major reforms proposed for bringing about necessary 'flexibility' in the offering of vocational courses and development of 'modular competency-based curricula' in collaboration with industry to suit the needs of both target groups and the employers (industry) will be useful in reducing the shortage of skilled manpower. In addition, the high dropout rate of students after Class X is significant and a cause of worry, as evident from the following statistics:

Table 2:

Number of Schools and Students

Number of secondary schools (Class IX- X)	1,23,265
Number of higher secondary schools (Class XI –XII)	60,383
Number of students in secondary schools	2.89 crore
Number of students in higher secondary schools	1.66 crore
Projected population of 14-16 age group	4.84 crore
Projected population of 16-18 age group	4.86 crore

Source: Selected Educational Statistics (2008-09) – Provisional Data.

Population projections are based on census data compiled by Registrar General of India

It would be beneficial if these children, as also a large number of children who have the inclination, but are compelled to join formal secondary schooling, to be channelized into vocational education. This would lead to a system of education which is more meaningful and relevant in the local context. Gradually the ambit would be expanded to address the needs and aspirations of those engaged in traditional means of livelihoods too. The contribution of such educated youth would boost the state of the Indian economy through the thrust of the Government on universalization of secondary education, skill development and social justice through inclusive education and training (Venkataiah, 2002).

Conclusion

The fast change of social orders in their social, political, financial, mechanical, and instruction circles has changed points of view on the requirement for and nature of professional abilities. A verifiable difference in sees on vocationalisation from progressively instructive to increasingly utilitarian has expanded the idea of vocationalisation and included separate specialized courses under its umbrella. This example is because of the progressive mixing of general and professional projects, which once in a while share up to 75 percent of their substance. Inside general optional instruction there is a various example of arrangement of TVET. This incorporates at any rate two levels, lower optional and upper auxiliary, and is conveyed inside two modes, as inserted learning and as discrete course/programs. How much vocationalisation happens and its temperament relies upon the degree of financial improvement and on social customs. Social, financial and innovation justifications are utilized by governments to choose their specific vocationalisation arrangement. The modern and work advertise slants obviously show the need of fortifying of professional instruction in India. The presentation of professional training at schools will empower us to expand the professional instruction base at auxiliary degree of instruction. A reasonable pathway for professional understudies to enter advanced education streams is the best approach to push ahead. Through this idea note we have made an undertaking to give a portion of the potential answers for address these issues. Surrounding of

a most recent professional capability structure, remodel of professional degrees and setting up of a Vocational University with polytechnics, junior colleges, as associated schools are a portion of the suggestions which require further thought at National and State level.

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CHAPTER-38

Perception of Employability Skills for Future Generation

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Introduction

Today manpower and human abilities are wasted without putting them into proper use, which results in under employment and unemployment. The important factor contributing to the problem of unemployment is the defective system of education the purpose of this research is to investigate the employers perception of employability skills. The skills needed for future generation are self esteem, self confidence ,career development ,learning experience (work-life) generic skills, emotional intelligence, critical thinking, analytical skills, communication skills that contribute to productive and harmonious relations between employees and customers teamwork skill that contribute to productive working relationships and outcomes. Problem solving skills and Enterprise skills that contribute to employee satisfaction and growth of learning skills that contribute to ongoing improvement and expansion in employee and company operations and outcomes. Technology skills that contribute to effective execution of tasks for the employees.

Meaning of Employability

Employability is related to work on the ability to be employed such as their ability to gain initial employment and the interesting in ensuring that key competencies career advice and an understanding about the world of work or end in the education system the ability to unemployment and make comparisons between jobs and roles within the same organisation to meet new job requirements. The ability to exchange new employment is needed to be freelance within the labour market by being willing and able to manage the owner employment transitions between and inside organisation (Van der Heijde, 2005). The endlessly fulfilling, effort or making of labor through the best use of efforts.

Lee, M.D. defines employability because the ability of a graduate to urge satisfying job, stating that job acquisition shouldn't be prioritized over state for employment to avoid pseudo live of individual employability. Lee argues that employability is not set of skills but a range of experience and attributes developed through higher- level learning, thus employability is not a product but a process of learning. Employability continues to develop as a result of the graduate, once utilized, doesn't stop learning. It is the continuous learning process does employability by this definition is about learning.

Emotional intelligence

Goleman, D (1995) in his book ' Emotional intelligence' in a number of ways comprising many personality traits such as empathy, motivation, persistence, warm and social skills, the most accepted and scientific explanation of the term emotional intelligence may be defined as the capacity to reason with an emotion in four areas: to perceive emotion, to integrate it thought, to understand it and to manage their emotions.

Creative Thinking

Creative Thinking is associated with one's ability to create or construct something new novel or unusual. Skinner,C. (1968) states that Creative thinking means that the prediction and or interferences for the individual for a new, original, ingenious, unusual. The creative thinker is one who explores new areas and

make new observations new predictions are new interferences. Creative thinking in all its dimensions involved divergent thinking instead of routine and fixed type of convergent thinking. The Mind must have complete freedom to wander around to create a new idea the field of Creative thinking and its output is quite comprehensive and wide. It covers all the aspects of human accomplishments belonging to an individual life. Critical thinking is a higher order well disciplined thought process which involves the use of cognitive skills like conceptualization, interpretation, analysis, synthesis and evaluation for arriving at an unbiased valid and reliable judgement of the gathered or communicated information or data as a guide to one's belief and action.

Nature and characteristics of creativity

Creativity as capacity to discover or produce a new or novel idea or object, including this arrangement or reshaping of what is already known to him which proved to be a unique personal experience.

The Creative person

Studies conducted by (Cattel, 1968; Torrance, 1962; MacKinnon, 1962; Forster, 1971) brought out the following behaviour characteristics of personality traits of potentially creative individual:

1. Originality of ideas and expression.
2. Adaptability and sense of adventure.
3. Good memory and general knowledge.
4. A high degree of awareness, enthusiasm and concentration.
5. An investigate and curious nature.
6. Lack of tolerance for boredom. ambiguity and discomfort.
7. Foresight.
8. The ability to take independent definition.
9. An ambitious nature and interesting vague, even silly ideas.
10. An open mind with reference for complexity, a symmetry and incompleteness.
11. A degree of sensitivity towards problems.
12. Fluency of expression.
13. Flexibility in thoughts, perception and action.
14. Ability to transfer learning order or training from one situation to another.
15. A Creative imagination.
16. Diversity and divergence of taught even in convergent and stereotype situation.
17. To elaborate to work out the details of an idea or a plan.
18. Absence of the fear of uneven attraction to the unknown, the mysterious and the unexplained.
19. Pleased with his want self so that he has more time for creative Pursuit.
20. Aesthetic values and good acetic judgements
21. Self respect, self discipline and taking sense of Justice.
22. Patterns of the earth different from those of less creative particularly during creative activity.
23. Differ the opinions of others and acceptance of disagreement and opinions different from one's own.

Problem solving method

Problem solving behaviour may be said to be a deliberate and purposeful act on the part of an individual to realize the set goals or objectives by inventing some novel methods or systematically following some planned step for removal of the interferences and obstacles in the path of the realization of these goals when usual method like trial and error, habit formation and conditioning fail. Problem - solving behaviour helps an individual in the growth and development of his personality, making his life happy life happier and wiser by appropriate adjustment. It also

contributes significantly to the progress and development of society. I

Bransford and Stein (1984) advocated five steps that are basically associated with the task of problem- solving. They referred to these steps as 'IDEAL' thinking and arrange them in the following order;

I = Identifying the problem.

D = Defining and representing the problem.

E = exploring possible strategies.

A = acting on the strategies.

L = Looking back and evaluating the effects of one's activities.

Personality

Personality may be a dynamic organization inside the individual of these psychophysical systems that verify is exclusive adjustment to the setting.

Cattell, (1970) said personality is that which permits a prediction of what a person will do in a given situation.

Eysenck, (1971) said personality is the more or less stable and enduring organisation of a person's character, temperament , intellect and physique, which determine his unique adjustment to the environment.

Personality is the stable setup of characteristics and tendencies that determine those commonalities and differences in the psychological behaviour (thoughts, feelings and actions) of people that have continuity in time and that may or may not be easily understood in terms of the social and biological pressures of the immediate situation.

Conclusion

Employer's recognize that the practice of employment as a direction vital influence on the quality of life for all people, that for employers should exhibit high standards of competency, honesty and impossibility be fair and equitable and acceptor personal responsibility for other and applicable laws. The protection of the public health and maintains safety in the professional actions and behaviour these principles govern professional conduct in serving to the welfare of people. Employees and employers recognize that their work has a direct and vital impact on the quality of life for all people. Accordingly the services provided by the employer require honesty, impartiality, fairness, equity and to be dedicated to the protection of the public health safety and welfare in their profession, the employees must perform under the standard of professional behaviour which requires adherence to the highest principles of ethical conduct on behalf of the public.

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CHAPTER-39

National Building Through Technical Vocational Education And Training (TVET) Problems Of Vocational Education In India

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ABSTRACT

The unemployment ratio in India has acquired dangerous proportions. This has made us realize that it will be futile exercise to spend time and energy on academic courses. Academic courses do not equip our children for a job. As a result, today, there is a tendency among students to join some technical educational institutions rather than joining some academic courses. They have begun to acknowledge the importance of technical education to secure a decent job. Students find it much safer and better to choose a technical course instead of some academic courses. They also find that the acquisition of a technical qualification coupled with a little bit of experience in a particular vocation would fetch them a lucrative job either in India or abroad. Government has also introduced vocational education both at the school and college levels. In the context of the Government of India proposing a New Education Commission that is expected to lay more stress on vocational education in the country to meet the growing need for skilled manpower, the author take a critical look at the prevailing vocational education in the country and suggest measures to make it more meaningful and effective.

Introduction

India has the third largest system of education in the world. It is no longer a mere constitutional obligation to provide free and compulsory school education to all the children in India; in fact, education, now, is a fundamental right of every child. Simple general education may not be a good means of livelihood. Hence, the vocationalization of education at all levels of knowledge acquisition has attained importance in India. Vocational education refers not only to the development of specialized skills but also to the development of a positive attitude to work and the dignity of labour.

Vocational education and training has been given importance throughout the history of education in India. Even in ancient Gurukula system, the shishya (disciple) was expected to earn his livelihood by way of manual work- work and education were integrated and imparted by the Guru (the preceptor) to his syshyas (disciples).

Though the nation in its policy pronouncements and in its planning throughout has emphasized on vocational education, it could not obtain the desired result. In view of the unsatisfactory implementation of vocational education, an attempt has been made to study the present status of vocational education in India and identify the challenges in the light of its philosophy, policy perspectives, its integration with general education, and finally the relevance and employability of the vocational stream.

An Overview

The phrase "Vocational Education", in its broadest sense encompasses education and skill development at all levels from post-primary to tertiary education both through formal and non-formal programs. The UNESCO in its recommendation of 1974 on Technical and Vocational Education defined it as a "comprehensive term embracing those aspects of the educational process involving, in addition to

general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in the various sectors of economic and social life". In the beginning, the progress of implementation of vocational education was slow because of various reasons such as inadequate resources, lack of proper management structure and inadequate teacher preparation. The program got new impetus from the National Policy on Education (NPE-1986). The ministry of Human Resource Development, Government of India, launched a Centrally Sponsored Scheme (CSS) of Vocationalization of Secondary Education in 1988 under which are so vital for the implementation of the program.

The following are the objectives of the Vocational Education program:

- To fulfill the national goals of development and the removal of unemployment and poverty.
- To impart education relevant to increased production and productivity, economic development and individual prosperity.
- To meet the need for skilled and middle-level manpower for the growing sectors of economy, both organized and unorganized.
- To attract sizable segment of population to varied vocational courses so as to reduce the rush to general education courses of universities and institutions for higher learning.
- To prepare students for self-reliance and gainful self-employment.

Vocational and technical education contributes substantially t the socioeconomic development of the country as a whole. The development substance of the industrial sector is entirely dependent upon the availability of trained manpower to perform the multidimensional activities needed to keep the wheel of industry running. Thus the Vocational and Technical Education Development aims towards making available these trained vocationally and technically qualified hands to serve the industry and society. Equality of educational opportunities and preparing highly skilled workforce for enterprises widely, with excellence is also the objective of vocational and Technical Education. Vocational and Technical Education system thus has to be flexible enough to adapt to rapid change. The precise aim of the system is to develop and transfer of technology to user systems.

For the developing countries, the growth of vocational and technical manpower is extremely important, as it is the practitioners of these professions who create the wealth of the country and hence the welfare of the country. For the healthy growth of the profession proper policies are necessary to educate and guide the growth of vocational and technical education.

One of the biggest problems faced is the confusion and stress faced by the young vocational and technical education aspirants, which may undermine the delicate equilibrium among meritocracy, affordability and equity. The role of high quality teachers, facilities for research and industry-institute interaction need hardly be emphasized. The role of modern technology in the use of efficient delivery systems for the vocational and technical education needs to be assessed fully and exploited.

Challenges Before Vocational Education

It is obvious that no one is happy with what is going on in the name of vocationalization of education in India. This is not very particular to vocational education; it is a case with the education as a whole. Though we are doing a lot and can confidently say that we have achieved so many things, we are yet not in a position to make the people happy with what is going on in the name of education in the country. As education itself is such a subject it is very difficult to satisfy people because the expectations are always multiplying. Though we are struggling hard, we find that it is not possible to satisfy the people, and they are not happy. In the same way vocationalization of education is also such

a subject that whenever we share an idea of vocationalization of education, people will say: where is it? What have we achieved? When critically look at our culture and our ancient knowledge, vocationalization of education is not different from education as such, but may be a different form.

Gandhi point out that that Vocational Education is for any particular section of the society or that it is only a bread-winning activity. He made it clear that education is to be integrated and one should learn only through vacation. Not only Gandhi, even Tagore emphatically stated the focus may be on art but at the same time art should also facilitate the individual to earn his livelihood. However, he overemphasized art and explained the role of art in the human development or man-making process with a caution that craft should not be excluded. With such a strong cultural and philosophical basis of Vocational Education, the question remains: why have we failed? Even in the western countries vocationalization is an inherent mechanism of their education. The Western education systems have integrated successfully whereas we even while adopting their models failed to integrate and incorporate vocationalisation into our system.

Bread winning is not the purpose of life. Man will not live by bread alone. Indian thought clearly and categorically states that the purpose of life is of two dimensions i.e., existential dimension and the essential dimension. The existential dimension has something to do with our bread-winning exercise. That is not the end of life. The end of life is something like a quest to realize the essence. So here also the integration of vocation and means of fulfillment should be the important dimensions of education. Therefore, unless we exist we can't ensure the realization of the essence. First of all, we have to ensure existence i.e., make it possible by way of creating some skill or by way of creating some confidence in the individual; then, s/he can proceed further in order to realize the essence of life.

But, unfortunately, our education is not in a position to meet either the existential needs or the essential needs. We go on imparting the same education. The grim fact is that the successive plans of education have failed to enable the children to satisfy either the existential needs or the essential needs. These are basic questions. They are not new. We go on debating unfortunately failing to work out a strategy to overcome these problems. It may be argued that no problem of education can be solved in its entirety. Yet we have to strive to solve it to the extent possible.

In India about 7 crore children are out school, and only 8-10% of children in that age group go to +2 level. 90-95% of the above 8-10% students after passing +2 enroll for one or the other field of higher education. In Japan only 44% where everyone completes secondary education. Rest of them settles in some work. What about the 7 crore children who are out of school? What if all these 7 crore children opt for schooling?

Sri Aurobindo has stated that the vital energy present in us will be used for some destructive purpose, unless we provide a channel for this energy to undertake some constructive work. This is what is happening today. Students often join terrorist groups and indulge in destructive activities. We have failed to channel the youth through proper education to overcome the social problems and to develop a harmonious society. Therefore, it is the need of the hour to go for vocationalization of education. We should not confine Vocational Education to a particular skill or to a particular level. Right from the schooling we should incorporate some skill development in the curriculum. Work Experience should be integrated in the schooling as a whole.

Vocational Education In Teacher Presentation

At present, in India there is no formal teacher-training program for teachers teaching Vocational Education. In the formal academic field also there is no structured program for teacher training in Work Education. Then, how can we ensure that the teachers of vocational subjects or those who teach Vocational Education are successful? And how can Vocational Education succeed in the country? If ITI or Polytechnic degree holders are

appointed to teach Vocational Education, they cannot integrate the skill with the content they teach at +2 level. So the NCERT and NCTE should immediately work out the details for teacher education program for Vocational teachers. The integration of skill development is an integral part of our educational activity. Without, we will not have harmony in the society. It is imperative to create and strengthen an agency that can take Vocational Education policy to the ground level.

Conclusions and Suggestions

The SCERT'S focus is more on environmental education or population education but not on Vocational Education. If we neglect Vocational Education, we will be doing great harm to the future of our country. So, in all streams and at each and every level, it is important to integrate Vocational Education into the mainstream education system. We have to promote a positive approach to Vocational Education in the community to get wider acceptability of time and resources, we have to change the approach. No individual should be allowed to go for higher education without passing through a 2 year period of work in some service sector, so that s/he can develop love for work. The future of our society will be shaped by people who love to work, and enjoy doing work. This should become an integral part of education to do justice to the future of our society in the context of education.

In view of challenges facing the existing system, some changes are required to strengthen the Vocational Education and Training Program. The following are the measures required in Vocational Education and Training System.

- The training programs/qualifications will have to be provided through schools, polytechnics, it is and other educational and training institutions with flexible duration, as per the requirements of the vocation/trade/industry.
- To cater to the changing skills requirements of the local, national and global labor market, the programs are required to be dynamic and there should be built-in-mechanism for continuous scanning of market needs, fast development of training courses and integration thereof in the qualification framework.
- The success of vocational education and training program depends upon developing close linkages with relevant industries/ users/organizations. The industries/users/ organizations in each sector of the economy will be an integral part of the new program involved at all stages of the implementation of the program, from development of job profiles, selection of curriculum and instructional materials, imparting of training and testing of skills, etc.

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CHAPTER-40

Integration of TVET(Technical Vocational Education and Training) in Academic Education

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> “Give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime.”
>
> **- Maimonides**

In the changing world we see lot of social, Technological and economic development and Skills development is the building bricks for implementing and increasing the Technology up gradation and productivity and sustainability of any country in the world. This apart, the Technical Vocational Education and Training is the yard stick of a developed country, since the country’s economy and well being of the people depends on the employability of the youths and this inturn depends on the skill development of the youths.

There has been a tremendous Industrial growth in our country, but unfortunately we continue to follow the old, outdated and redundant education system which is mismatch to the present Industrial need and technology development. Out education curriculum is based on the erstwhile British educational curriculum which was aimed at producing clerks to work in their companies and nothing else. The present day young women and men require the technical skills to perform jobs as per the requirement of the Industry , which is purely skill based and technical oriented.

The Internal Labour Organization (ILO) defines employability skills as “the skills, knowledge and competencies that enhance a worker’s ability to secure and retain a job, progress at work and cope with change, secure another job if he/she so wishes or has been laid off and enter more easily into the labour market at different periods of the life cycle. Individuals are most employable when they have broad-based education and training, basic and portable high-level skills, including teamwork, problem solving, information and communications technology (ICT) and communication and language skills. This combination of skills enables them to adapt to changes in the world of work”.

This strongly emphases the urgent need of our education to integrate Technical Vocational Education and Training in our curriculum and change in line with ILO mission statement.

Always Employability results from several key factors such as a foundation of core skills, access to Technical Vocational Education and Training education, availability of training opportunities , infrastructure, facility, motivation, and support system by the Government to take advantage of opportunities for continuous acceleration for Technical Vocational Education and Training , and recognition of acquired skills through Technical Vocational Education and Training and is critical for enabling the youths to get decent employment.

Our countries needs urgently strategies, laws to ensure that all young women and men get opportunities to under go Technical Vocational Education and Training in order to

enhance their employability and improve the productivity of the industry and the over all growth of their own economic level as well the

nations economy. their importance and ways in which these skills can be delivered, attained and recognized.

Our Education system immediately under changes in curriculum framing which should integrate Technical Vocational Education and Training right from the High school level and to see that every student come out of the High school at least with one Technical Vocational Education and Training, that should ensure him/her to employ in the related industry.

I would like to humbly suggest that Government should establish Technical Vocational Education and Training centers in every High school and colleges and should make it mandatory for all the Private Educational Institutions.

A skilled worker goes hand in hand with employability and earning capacity which contributes to his/her financial sustainability and also country's economic growth. Skills development needs to be part of a comprehensive, integrated part of our Education which will help to attain the strategy for growth that improves the lives of all those who come to class room.

Today in India we have millions of educated youths but unfortunately not much employable youths due to lack of Technical Vocational Education and Training

In our Education, this needs to be looked into seriously by all concerned.

In India many young people face difficulties in finding a job because of the mismatch between their education and Industry's job market requirements. Modern technology and innovation and market developments have turned the world of work into a fast-changing environment. There is a need to equip a technically skilled young workforce with Technical Vocational Education and Training required for the jobs of the future, not to mention re-equipping the current workforce with the skills required to keep up with a changing world. The greatest challenge lies in the technology- and knowledge-intensive sectors that also have the highest potential for economic growth and employment.

Industries are looking for knowledge workers who take responsibility for their own professional development. Lifelong learning is a must for workers, it is a key element for successful career development. Learning to learn is about acquiring the knowledge, skills, attitudes and aptitudes which enable individuals to set, plan and reach their own learning goals and become independent in doing given job. It allows young people to meet the demands and challenges of the industry.

Therefore, learning to learn strategies are about learning what you know, learning what you do not know, and learning what to do about it, this aspect should be included in our education system with an emphasis on Technical Vocational Education and Training.

These skills will enable one to take more responsibility for his/her own learning; spend one's time effectively and reach the set goal by the industry, select the best approaches for each task, provide the knowledge and skills needed to begin, follow through, and complete tasks.

Skill Category For Technical Vocational Education And Training For Employability

Learning To Learn Skills

- Think abstractly
- Use learning techniques to acquire and apply new knowledge and skills
- Organize, process, and maintain information
- Interpret and communicate information
- Pursue independent learning
- Conduct systematic inquiry; and follow through to find answers
- Take responsibility for own learning
- Spend time effectively
- Stay on task

- select the best approach for tasks
- begin, follow through and complete tasks
- manage own learning
- adaptable
- works safely
- is willing to learn
- uses time efficiently without sacrificing quality

Communication Skills

- Competent in reading
- Write to the needs of an audience
- Write effectively in the languages in which the business is conducted
- Listen and communicate effectively
- Listen to understand and learn
- Read independently
- Read, comprehend and use materials, including graphs, charts, displays
- Understand and speak the language which the business is conducted
- Use numeracy effectively
- Articulate own ideas and vision

Team Work Skills

- Interact with co-workers
- Understand and contribute to the organization's goals
- Work within the culture of the group
- Plan and make decisions with others and support the outcomes
- Work in teams or groups
- Respect the thoughts and opinions of others in the group
- Coach, mentor and give feedback
- Lead effectively
- Lead when appropriate
- Mobilize a group for high performance
- Manage oneself at work
- Accountability for actions taken
- Build partnerships and coordinate a variety of experiences
- Work toward group consensus in decision-making
- Value others' input
- Accept feedback
- Resolve conflicts

Think Creatively Skills

- Solve problems independently
- Test assumptions
- Identify problems
- Take the context of data and circumstances into account
- Adapt to new circumstances
- Ability to identify and suggest new ideas to get the job done (initiative)
- Collect, analyse and organize information (planning and organization)
- Ability to plan and manage time, money and other resources to achieve

The role of formal education and Technical Vocational Education and Training :

Technical Vocational Education and Training for Development and implementation of employability skills and ensuring lifelong earning capacity is the need of the hour in our country, since India is emerging a global economy. It is crucial to ensure quality education; change learning practices to equip people for work, with more emphasis on learning by doing, working in teams and thinking creatively; and developing

reliable and efficient assessment methods so the skills developed are recognized by employers.

Good quality primary and secondary education, complemented by relevant vocational training and skills development opportunities, prepare future generations for their productive lives, empowering them with the Technical Vocational Education and Training that enable them to earn their livelihood.

Secondary school is an important channel through which young people could acquire skills that open doors opportunities for employment. Secondary education that is integrated with Technical Vocational Education and Training help the students to gain required Industrial skills and abilities.

Community Colleges in India founded and guided by ICRDCE, Chennai, under the able leadership of Rev.Fr.Dr.Xavier Alphonse, the Founder Director of Community Colleges in India (ICRDCE), needs a special mention here and mission statement that Community Colleges already integrated the Technical Vocational Education and Training in the education system doing marvelous work of Integrating Technical Vocational Education and Training in Academic Education and produced many thousands of employable youths by its excellent curriculum and Technical Vocational Education and Training methodology and as proof of its success almost 100% job placement made for its students all over India and abroad.

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ஆசிரியர் பயிற்சி மாணவர்களின் அறிவியல் கற்பிக்கும் திறனை ஸ்மார்ட்போர்ட் வழியே மேம்படுத்துதல் - செயலாய்வு

சி.பழனிச்சாமி
முதுநிலை விரிவுரையாளர்,
மாவட்ட ஆசிரியர் கல்வி மற்றும் பயற்சி நிறுவனம்,
குருக்கத்தி, நாகப்பட்டினம் மாவட்டம்.

ஆய்வுச்சுருக்கம் **(Abstract)**

கற்றலை மேம்படுத்தத் தகவல் தொழில்நுட்பம் பெரிதும் பயன்படுகிறது. எங்கு ஆசிரியர், மாணவர், பாடப்பொருள், பயன்படுத்தும் கருவிகள் ஆகியவற்றிற்கிடையே உரிய சமநிலை இருக்கிறதோ, அங்குக் கற்றல் சிறப்பாக நிகழ்கிறது. தகவல் தொழில்நுட்பம் மிக வேகமாக வளர்ந்து வருகிறது. தொழில்நுட்பத்துடன் இணைந்த தகவல்களினால் ஆசிரியர்கள் எளிதாகப் பயிற்சி கொடுத்து, மாணவர்களின் கற்றலை மேம்படுத்த முடியும்.

அறிவைப் பயன்படுத்துதல் மற்றும் பகிர்ந்தளித்தலில் ஏற்பட்ட முன்னேற்றமும், தகவல் பரிமாற்றத் தொழில்நுட்பமும், மாறி வரும் கல்வித் தேவைகளுக்கேற்ப மேம்படுத்தப்பட்டு வருகின்றன. ஒரு தனிநபரைத் தகவல்களைக் கையாளுவதற்கேற்பத் தயார்படுத்த இன்றைய கல்விமுறை நிறைய சவால்களை சந்தித்து வருகிறது. குறிப்பாகக் கணினிகள் இணையதளத்தோடு இருக்குமேயானால், அது அனைத்து வகுப்பறைச் செயல்பாடுகளையும் மாற்றவல்லதாகும்.

எனவே, இத்தகவல் பரிமாற்றத் தொழில்நுட்பமானது, ஆசிரியர் கல்விப்பயிற்சியில் மற்றத் துறைகளைக் காட்டிலும் ஆசிரியப் பணியைச் சிறப்பாக மாற்றிவிடும். ஒவ்வொரு ஆசிரியரும் வெறும் தொழில்நுட்பத்திற்காக மாத்திரம் அதைப் பயன்படுத்தாமல், தகவலைப் பரிமாறுவதற்கு அதன் முழுப்பயனும் கிட்டும் வகையில் அதனைப் பயன்படுத்துவது அவசியமாகும்.

செயலாய்வின் முக்கியத்துவம்

ஆசிரியர் பயிற்சி மாணவர்களின் கற்றல் கற்பித்தல் செயல்பாடானது பெரும்பாலும் பாடபுத்தகம், வளநூல் மற்றும் கரும்பலகை என்ற நிலையிலேயே உள்ளது. தகவல் தொழில்நுட்பவழிக் கற்றலில் முக்கியமானதாகக் கருதப்படும் திறன்பலகைவழிக் கற்றல் கற்பித்தல் செயல்பாட்டில் இவர்களின் ஈடுபாடானது குறைவாகவே உள்ளது. எனவே மாணவ ஆசிரியர்களின் திறமைகளை வளப்படுத்தவும், எதையும் கற்றுக்கொள்வதில் முனைப்பை ஏற்படுத்தும் வகையிலும் திறன்பலகைவழிக் (ளுஅயசவ டீழயசன) கற்றல்-கற்பித்தல் வழியே அறிவியல் கற்பிக்கும் முறையை மேம்படுத்த இவ்வாய்வு எடுத்துக் கொள்ளப்படுகிறது.

ஆய்வின் தேவை (Need for Action Research)

இன்றைய பயிற்சி ஆசிரியர்களே எதிர்கால இந்தியாவை உருவாக்கும் சிற்பிகள். சிற்பி தன் பணித்திறனில் தகுதியுடையவராக இருந்தால் மட்டுமே செதுக்கப்படும் சிற்பங்கள் சிறப்பானதாக இருக்கும். ஆகவே தகுதியுடைய ஆசிரியர்களே தரமான மாணவ சமுதாயத்தைஉருவாக்கித்தர முடியும். கல்விச் செயல்பாடுகளில் கற்றல் கற்பித்தல் நிகழ்வானது காலத்திற்குக் காலம், இடத்திற்கு இடம், சூழலுக்குச் சூழல் தேவைக்கேற்ப, கற்பவர்க்கேற்ப மாற்றி வரையறுக்கப்படுகிறது.

ஆசிரியர், மாணவர், பாடப்பொருள், கற்றல் கற்பித்தல் துணைப்பொருள்கள் என்னும் நான்கு உட்பொருள்களிடையே சமநிலைப்பாட்டை ஏற்படுத்தும்போது கற்றல்-கற்பித்தல் இலக்குகள் எளிதாக வெற்றியடைகின்றன. தகவல் தொழில்நுட்பக் கற்றல் அணுகுமுறை, மாணவ ஆசிரியர்களின் கற்றல் அடைவிற்கும், திறன் மேம்பாட்டிற்கும் ஆற்றல் மிக்க பாலமாக இருக்கிறது. மாணவ ஆசிரியர்களைத் தயார்படுத்துவதோடல்லாமல் தகவல்கள் நிறைந்த சமுதாயத்தை சந்திக்கத் தகுதியுடையவர்களாகவும் மாற்றுகின்றது.

இதனடிப்படையில் மாணவ ஆசிரியர்களின் பணித்திறனை மேம்படுத்தி,அவர்களின் முழு ஆளுமையை வெளிக்கொணரவே "ஆசிரியர் பயிற்சி மாணவர்களின் அறிவியல் கற்பிக்கும் திறனை ஸ்மார்ட்போர்ட்வழியேமேம்படுத்துதல்" என்ற இந்த செயலாராய்ச்சி மேற்கொள்ள வேண்டிய தேவை ஏற்பட்டது.

ஆய்வின் நோக்கங்கள் (Objectives of Research)

- தகவல்தொழில்நுட்பக் கற்றலின் முக்கியத்துவத்தை அறியச்செய்தல்.
- திறன்பலகைவழிக்கற்றலின் அவசியத்தை உணரச்செய்தல்.
- திறன்பலகையின் அனைத்துக் கருவிகளையும் பயன்படுத்தச் செய்தல்.
- திறன்பலகைவழியே அறிவியல் பாடத்தினைக் கற்கும் ஆர்வத்தை வளர்த்தல்.
- அறிவியல் திறன்களில் ஒன்றான வரையும் திறனை மேம்படுத்துதல்.
- அறிவியல் திறனை மேம்படுத்த இணையதளங்களை பயன்படுத்திக் கற்கச் செயதல்.

ஆராய்ச்சி முறை

தேர்ந்தெடுக்கப்பட்ட பயிற்சி ஆசிரியர்களுக்கு விரிவுரை முறையில் அறிவியல் பாடம் நடத்தி திறன்பலகை தொடர்பான முன்தேர்வு வைக்கப்பட்டது. பின்பு திறன்பலகைவழிக் கற்பித்தல் மூலம் அறிவியல் பாடம் நடத்தப்பட்டு திறன்பலகையில் உள்ள அனைத்து கருவிகளின் பயன்பாட்டினையும்தெளிவாக எடுத்துக்கூறப்பட்டது. பின்பு ஒவ்வொரு ஆசிரியர் பயிற்சி மாணவரையும் அக்கருவிகளைப் பயன்படுத்தி அறிவியல் பாடம் நடத்த வலியுறுத்தியும் பயிற்சி மாணவர்கள் தாங்களாகவே திறன் பலகையினைக் கையாளும் வகையில் பயிற்சிக் கட்டகம் அவர்களுக்கு வழங்கியும் எழும் சந்தேகங்களுக்கு உடனுக்குடன் குறைதீர் நடவடிக்கைகள் மேற்கொள்ளப்பட்டது. அதன் பின்னர் பின்தேர்வு வைக்கப்பட்டது. இவ்வாய்வு பரிசோதனை முறையில் மேற்கொள்ளப்பட்டதாகும். நாகப்பட்டினம் மாவட்டம், குருக்கத்தி மாவட்ட ஆசிரியர் கல்வி மற்றும் பயிற்சி நிறுவனத்தில் பயிலும் முதலாமாண்டு மற்றும் இரண்டாமாண்டு ஆசிரியர் பயிற்சி மாணவர்கள் 42 நபர்களைக் கொண்டு இந்த செயலாராய்ச்சி மேற்கொள்ளப்பட்டது. திறன்பலகையில் உள்ள கருவிகள், பயன்பாடுகள் மற்றும் அதனைப் பயன்படுத்தும் முறைகள்,என்ற பாடக்கருத்திலிருந்துஆய்வாளரால் வினாநிரல் தயாரிக்கப்பட்டு மெய்நிகர் வகுப்பறை கையாளும் பொறியாளர் மற்றும் கல்வியாளர்களால் ஏற்புடைமை செய்யப்பட்டது.

செயல்படுத்திய உத்திகள்

அறிவியல் கற்பித்தலில் திறன்பலகை மற்றும் அதன் பயன்பாடுகள் பற்றிய புரிதலை மேம்படுத்த ஆய்வாளரால் சில உத்திகள் கையாளப்பட்டது.முதலில் ஆய்வுக்கு எடுத்துக்கொண்ட மாணவ, மாணவியருக்கு பாடக்கருத்தினை விரிவுரை முறையில் நடத்திக் காண்பிக்கப்பட்டது. பின்பு மாணவர்களது புரிதல் திறன் சோதிக்கப்பட்டது. இத்தேர்வில் மாணவர்கள் எடுத்த மதிப்பெண்களை குறித்துக்கொள்ளப்பட்டு மதிப்பெண் பட்டியல் தயாரிக்கப்பட்டது.

- மாணவ ஆசிரியர்கள் ஒவவொருவரையும் அறிவியல் பாடத்தில் குறிப்பிட்ட ஒரு தலைப்பில் திறன்பலகைவழியே கற்பிக்கப்பட்டது.
- திறன்பலகையில் பயன்படுத்தப்படும் படிநிலைகளை முறையாகப் பயன்படுத்த வலியுறுத்தப்பட்டது.
- இணையதளங்களைப் பயன்படுத்தி அறிவியல் திறன் மேம்பட கையாளும் வழிமுறைகள் கையாளப்பட்டது.

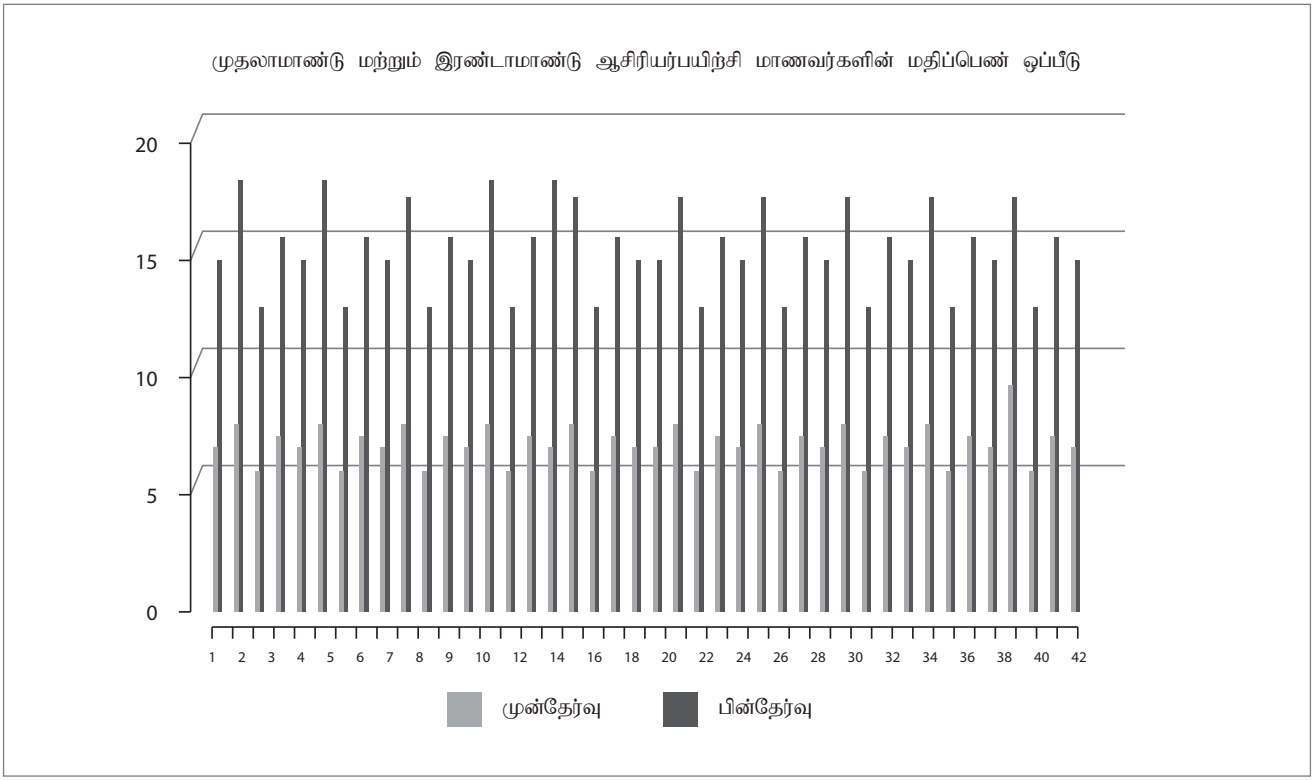
திறன்பலகை மற்றும் அதன் பயன்பாடுகள் குறித்த பயிற்சிக் கட்டகம் ஆய்வாளரால் தயாரிக்கப்பட்டது. இக்கட்டகத்தினை மெய்நிகர் கற்றல் வகுப்பறை (ளுஅயசவ ஏசைவரயட ஊடயளள) ஒருங்கிணைப்பாளர் மற்றும் கணினி மென்பொருள் பொறியாளரால் (ளுழகவறயசந நுபெநெநச) மதிப்பீடு செய்யப்பட்டு பயிற்சி ஆசிரியர்களுக்கு கட்டகத்தின் வழியே பயிற்சியளிக்கப்பட்டது. பயிற்சி ஆசிரியர்கள் ஒவ்வொருவரும் திறன்பலகையைப் பயன்படுத்தி பயிற்சி மேற்கொண்டனர். பயிற்சி ஆசிரியர்களுக்கு தொடர்பணி தரப்பட்டு ஏற்படும் சந்தேகங்களை மென்பொருள் பொறியாளர் வழியே நிவர்த்தி செய்யப்பட்டது.

புள்ளி விவரப் பகுப்பாய்வு

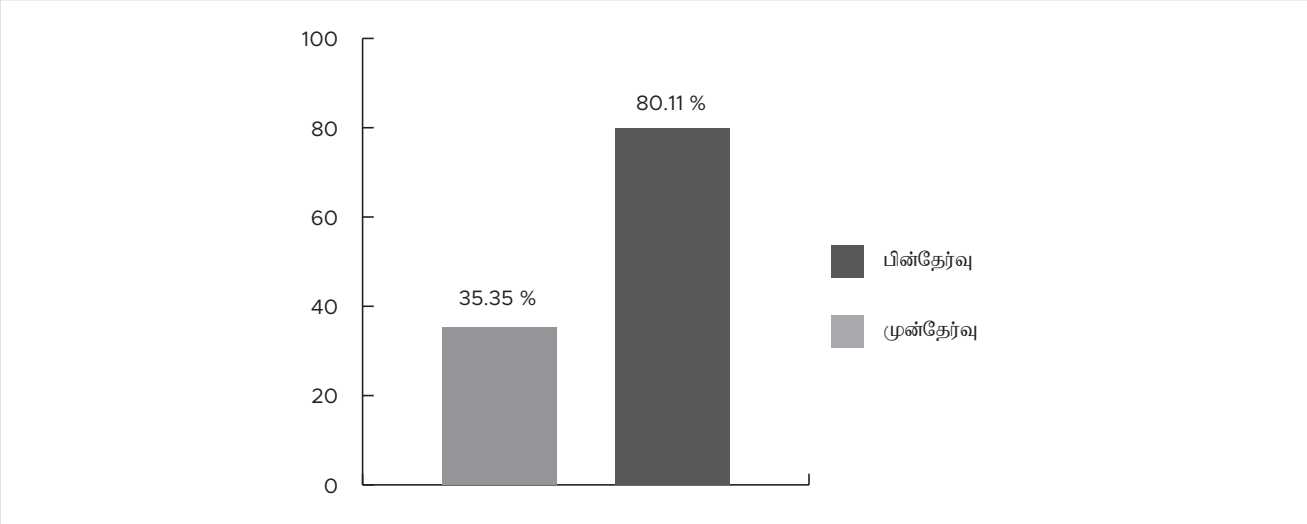
ஆசிரியர் பயிற்சி மாணவர்களின் முன்தேர்வு மற்றும் பின்தேர்வு மதிப்பெண்கள் அட்டவணையிடப்பட்டது. அதனடிப்படையில் புள்ளியியல் கணக்கீடுகளான சராசரி, திட்ட விலக்கம் மற்றும் வ-மதிப்பு ஆகியவை கண்டறியப்பட்டு பகுப்பாய்வு செய்யப்பட்டது.

- அனைத்து மாணவர்களின் திறன் மேம்பாடு
- இரண்டாமாண்டு ஆசிரியர் பயிற்சி மாணவர்களின் திறன் மேம்பாடு
- முதலாமாண்டு ஆசிரியர் பயிற்சி மாணவர்களின் திறன் மேம்பாடு
- முன்தேர்வு மற்றும் பின்தேர்வு மதிப்பெண்களுக்கிடையேயான வ-மதிப்பு கணக்கிட்டு எந்த நிலையில் முக்கியத்துவம் பெற்றுள்ளது என அறிதல்.

வரைபடம் 1. அனைத்து மாணவர்களின் திறன்மேம்பாடு (மதிப்பெண்கள்)



வரைபடம் 2. அனைத்து மாணவர்களின் திறன்மேம்பாடு (மதிப்பெண்கள்)



ஆய்வின் முடிவுகள்

ஆசிரியர்பயிற்சி மாணவர்களின் அறிவியல் கற்பிக்கும் திறனை திறன்பலகைவழிக்கற்பித்தல் மூலம் மேம்படுத்துதல் என்ற செயலாய்வின் மூலம் கீழ்க்கண்ட விளைவுகள் ஏற்பட்டுள்ளது.

- இரண்டாமாண்டு ஆசிரியர் பயிற்சி மாணவர்களின் திறன் மேம்பாடு சதவீதமானது 34.61மூ-லிருந்து 77.5மூ சதவீதமாக உயர்ந்துள்ளது.
- முதலாமாண்டு ஆசிரியர் பயிற்சி மாணவர்களின் திறன் மேம்பாடு சதவீதமானது 36.56மூ-லிருந்து 84.37மூ சதவீதமாக உயர்ந்துள்ளது.
- ஒட்டு மொத்த வகுப்பின் திறன் மேம்பாடு சதவீதமானது 35.35மூ-லிருந்து 80.11மூ சதவீதமாக உயர்ந்துள்ளது.

புள்ளி விவரப்பகுப்பாய்வின் அடிப்படையில் ஆசிரியர்பயிற்சி மாணவர்களின் அறிவியல் கற்பிக்கும் திறன்ஸ்மார்ட்போர்ட்வழியே மேம்பாடு அடைந்துள்ளது. மேலும் திறன்பலகை வழியே அறிவியல் பாடத்தினை கற்பிக்கும்பொழுது அறிவியல் திறன்களான உற்றுநோக்குதல், விளக்குதல், படம் வரைதல், பாகங்களைக் குறித்தல், எளிய எடுத்துக்காட்டுகள் தந்து விளக்குதல் போன்றவை மேம்பாடு அடைந்துள்ளதை காண முடிந்தது. அது மட்டுமன்றி திறன்பலகையின் ஒவ்வொரு உட்கூறு கருவிகளையும் மாணவ ஆசிரியர்கள் பயன்படுத்தி அறிவியல் பாடம் கற்றதை அறிய முடிந்தது.

கல்விசார் நடைமுறைப்படுத்தும் செயல்கள் மற்றும் பரிந்துரைகள்

ஒரு நாட்டின் எதிர்காலம் வகுப்பறையில் நிர்ணயிக்கப்படுகிறது என்பதில் எந்த விதமான மாற்றுக்கருத்துக்கும் இடமில்லை. அதேசமயம் அவ்வகுப்பறையானது மாணவர்களின் உள்ளார்ந்த திறனை வெளிப்படுத்துகின்ற அளவில் ஆசிரியர்களின் தரமும் திறமையும் அமைந்தால் மட்டுமே அது சாத்தியமாகும்ளூ இந்த நிலையில் தகவல் பரிமாற்றத் தொழில்நுட்பத்தில் வல்லமை பொருந்திய ஆசிரியர்களாலேயே வகுப்பறையின் நிகழ்காலம் நிர்ணயிக்கப்பட்டு நாட்டின் எதிர்காலம் தீர்மானிக்கப்படுகிறது.

அதற்கு முன்னோடியாக மாணவ ஆசிரியர்களின் கல்வித்தரம் உயர தகவல் பரிமாற்ற தொழில்நுட்பக் கல்வி மட்டுமே உறுதுணை புரியும். அதனடிப்படையில்ஆசிரியர் பயிற்சி மாணவர்களின் அறிவியல் கற்பிக்கும் முறையை திறன்பலகைவழிக் கற்பித்தல் மூலம் மேம்படுத்தி எதிர்கால ஆசிரியர்களை திறன்மிக்கவர்களாகவும், வருங்கால மாணவர்களை வளமிக்கவர்களாகவும் மாற்றி அறிவார்ந்த சமுதாயத்தினை உருவாக்க முடியும்.

தமிழ்நாட்டில் உள்ள அனைத்து மாவட்ட ஆசிரியர்கல்வி மற்றும் பயிற்சி நிறுவனங்கள் அனைத்திலும் திறன்பலகை அமைக்கப்பட்டுள்ளது. இன்றைய அறிவியல் தொழில் நுட்ப வளர்ச்சிக்கு ஏற்ற வகையில் ஆசிரியர் பயிற்சி மாணவர்களுக்கு உள்ள பாடத்திட்டத்தை திறன்பலகை வழியே கற்பிக்கும் பொழுது பயிற்சி ஆசிரியர் மட்டுமின்றி கல்வியாளர்களும் தங்களது திறன்களை மேம்படுத்திக் கொள்வர்.

UNESCO வின்கல்விப்பரிந்துரைகளில் 21வது நூற்றாண்டு திறன்களில் ஒன்றுதான் தகவல் தொழில்நுட்பவழிக் கற்றல் ஆகும் (வுநயஉாபெ றவைா வுநஉாழெடழபல). குறிப்பாக ஆரம்பக்கல்வி கற்பிக்கச் செல்லும் ஆசிரியர் பயிற்சி மாணவர்களின் கற்பித்தல் திறனை மேம்படுத்துவதில் தகவல் தொழில்நுட்ப வழிக்கற்றலே தற்கால சமுதாயத்தின் வளர்ச்சிக்கும் இது வழிவகுக்கும். எனவே அத்தகைய ஒரு சூழலை ஏற்படுத்தித் தருவது கல்வியாளர்களின் கடமையாகும்.

துணைநூற்பட்டியல்

அறிவியல் கற்பித்தல்- வளநூல்- முதலாம் ஆண்டு- ஆசிரியர் கல்விப் பட்டயப் பயிற்சி – ஆசிரியர் கல்வி ஆராய்ச்சி மற்றும் பயிற்சி இயக்ககம், சென்னை-6.

மெய்நிகர் கற்றல் வகுப்பறை செயல்திட்டம் (Smart Virtual class room Project)
பயிற்சிக் கட்டகம்-நுசுநுேவு India.

செயல் ஆராய்ச்சி ஓர் அறிமுகம்- ஆசிரியர் கல்வி ஆராய்ச்சி மற்றும் பயிற்சி இயக்ககம், சென்னை-6.

Research Methodology in Education, Dr.Radha mohan, Neelkamal Publications.

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About TNOU

The Tamil Nadu Open University (TNOU) is the 10th Open University in the country, which was established by an act (Act No.27) of the Legislative Assembly of the Government of Tamil Nadu in 2002. As per this act, the University with its headquarters at Chennai and 8 Regional Centers in the major cities of Tamil Nadu is carrying out its academic activities all over Tamil Nadu. This university aims at benefitting the sections of people who have been deprived of and/or denied access to higher education. The community of the deprived includes the destitute, the physically challenged, the working men and women, the economically weaker and marginalised people, and the drop-outs owing to various reasons. In nutshell, it aims at reaching the hitherto unreached.

TNOU is the first University in the country which has got over 80 programmes approved by the UGC-DEB. Moreover, it is one among the few institutions approved by the UGC, New Delhi to offer Open and Distance Education (ODL) programmes in the entire State of Tamil Nadu. TNOU currently offers programmes from Short-term to Doctorate level. All 132 Government Arts and Science Colleges of Tamil Nadu have been declared as Learner Support Centres and Examination Centres of TNOU by the order of Govt. of Tamil Nadu. Within a decade, since its existence, the TNOU has remarkably catered to the learning needs of more than 5 lakh students with over 100 programmes, through 14 schools of study and 5 divisions. It has a well-knitted network of student support services with 8 Regional Centers & Constituent Community Colleges, 190 Learner Support Centres (LSC), 157 Learning Resource Centres (LRC), 253 Community Colleges, 3 Programme Study Centres (PSC), 14 General B.Ed. Programme Study Centres (B.Ed.-PSC), 14 Special B.Ed. Programme Study Centres(Spl.B.Ed.-PSC), 9 Special Centres in Prisons, and 15 Work Centres.

TNOU's instructional system comprises of quality print materials in Self-learning format, digital content through stand-alone CDs, face-to-face contact sessions, continuous assessment and term-end examinations. Most of the operations of the University have been brought under e-Governance for efficiency, accuracy and transparency. The university is poised to embark on technology enhanced learning environment. TNOU has been expanding opportunities for life-long higher education and democratizing education by making it inclusive. TNOU has adopted an innovative flexible skill training method to provide skill training to the unemployed youth in the State of Tamil Nadu which encourages rural learners.

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