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Skill education and home science

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Abstract

It is well known fact that Home science is dealing with five major areas viz Foods and nutrition, Human Development, Textiles and clothing, Home management and Development communication. These all are known by different names in different universities. All the disciplines have great vocational opportunities since the subject introduce itself. But it is very gloomy, that nowadays this subject is losing its shine in the shadow of introduction of new courses. Major reason behind struggling of these courses are poor infrastructure of government institute, dependency on budget, teacher are having diverse responsibilities so they couldn't much focus on teaching innovations due to other administrative responsibilities, syllabus not revised as per changing market needs and more so over due to government policies and percentile formula which replace the high percent gained students with low percentage students. There is a strong need to review its status and restructure the course according the guidelines of National Skill Development Agency, which is an initiative of Ministry of Finance, Government of India. Bachelor of Science degree should be replaced with Bachelor of Vocational Degree. All the vocational component of home science syllabus has a great opportunity to become a skill course in itself. The attempt should be made in a cumulative approach as per the expectation level of Courses needs to be aliene with the skill gaps of the Nation/state/area. The present paper is an attempt to develop a model of conversion of Bachelor of home science (B.Sc.) with Bachelor in Vocation (B.Voc) through modifying syllabus as per the changing skill needs of India and its alignment with National Skill Qualification Framework.

Keywords: Skill education, job roles, home science education, national skill qualification framework (NSQF), B.Voc.

Introduction

Education is a process which aims the overall development of individual with positive changes in the behavior so that they can turn in effective member of society. Whereas, Home science education is helping individuals to live more happy and satisfying personal, family and social life. Home science as a subject had five branches, as known by various names in different colleges viz foods and nutrition, human development and family studies, textiles and clothing, family resource management and development communication and extension. All these provides spectrum of opportunities, few among them are given below.

It is really disappointing that the finest integrated subject of home, science, professionalism and life based application is now a day's losing its value (in both of the term ie family and vocational). The students switched over to more professional courses which are served to them in modern packaging of name and fame. This is one situation where a subject which had a great potential to youth via its vocational component, is suffering from life threatening disease on the other hand the Government of India is strategically planning to indulge the unskilled labour through converting them in to productive and constructive skilled and semiskilled workforce.

Objective

Conceptualization of idea (Curriculum reforms) regarding convergence among traditional education of home science and skill education to upgrade disciple as well to ensure job opportunities.

Genesis and Methodology

As per National Skill and Entrepreneurship policy 2015 of Government of India " India is rich in youngest population among world with more than 62% percent of population is in 15-59 year of age, out of which 54% percent are below 25 years of age.

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It is further estimated that average age of the population in India by 2020 will be 29 years as against 40 year in USA, 46 year in Europe and 47 year in Japan. India will have a 32% increase in labour force in next 20 years. To reap this demographic dividend which is expected to last for next 25 years, India needs to equip its workforce with employable skills and knowledge so that they can contribute substantively to the economic growth of the country". Skills and knowledge are driving forces of economic growth and social development for any country. Countries with higher levels and better standards of skills adjust more effectively to the challenges and opportunities in domestic and international job markets. Keeping it in view first National Policy on Skill Development was notified in 2009. In the aftermath of this policy, National Skill Development Corporation (NSDC) was established in 2009 to promote private sector participation via innovative funding models. They coordinate the industries to hold trainings, partnerships with academic institutes, establishment of Sector Skills Councils (SSCs) which are intended to facilitate much needed participation and ownership of industry to ensure needs based training programmes. National Skills Development Agency (NSDA) which was created in June 2013 has been working with State governments to rejuvenate and synergize skilling efforts in the States, National Skills Qualification Framework (NSQF) skilling and education outcomes with the competency based NSQF levels. Since its inception NSDC developed policy to map skill needs of all the states in India, so that skill education can be shaped properly. NSDA and NSDC are working with universities to build up the gap between Industries and academic institutes. In order to synchronize the skill education with regular education various job roles on the basis of National Occupational Standards (NOS) from level 4-10 mentioned in the National skill Qualification Framework (NSQF). These NSQF are been operationalized and anchor through NSDA. Before moving ahead, clarification of few terms are require, which are discussed below-

Areas (field)	Type of employment opportunities
Production Industry	Food preservation
	Dress making
	Specialized cooking
	Textile designing and dress manufacturing
	Work in production units
	Food industry and hotels
	Food processing
	Food analyst
	Quality analyst
Tourism Industry	Quality controller/ managers
	Hotels and hospitality
	Catering agent
	Dietician in Hospitals, Maternity home, sliming center, boarding school etc
Research and Teaching	
Sales	Sales promotion job of food products
Technical	Food scientist
	Research assistant
Community development and extension	Development agent
	NGO establisher
	ITC material developer
	Media content developer

What is NSQF

The National Skill Qualification Framework (NSQF) organizes qualifications according to a series of levels of knowledge, skills and aptitude. These levels (1-10) are defined in terms of learning outcomes which the learner must possess regardless of whether they were acquired through formal, nonformal or informal learning. So NSQF is a quality assurance framework. It provides for multiple pathways, horizontal as well as vertical, both within vocational education and vocational trainings and among vocational education, vocational training, general education and technical education, thus linking one level of learning to another higher level. (NSQF gazette of INDIA, Ministry of Finance)

National Occupational Standard and Qualification Pack-

The Sector Skill Councils (SSC) are designing National Occupational Standard (NOS) and Qualification packs (QP) for various job roles according to the need of industries to align it with formal qualification. NOS are the measurable performance outcomes required from an individual engaged in a particular task. The list down of individual's knowledge and skills as an outcome. Each job role may require the performance of a number of tasks, the combination of all the NOSs and QPs for the job role. The NOS and QP for each job role corresponding to each level of the NSQF are being formulated by the concerned Sector skill Council (SSC). Each level of NSQF is associated with a set of descriptors made up of five outcome statement viz. process, professional knowledge, professional skill, core skill and responsibility. Explanation to those are-

1. Process- general summery of the four domains corresponding to the level.
2. Professional knowledge- learner should know and understand with reference to the subject. Depth of knowledge (general or Specific), breath of knowledge (single topic to multidisciplinary area of knowledge), complexity (combination of kind, depth and breadth of knowledge).
3. Professional Skills- what a learner should be able to do. These are in terms of the complexity of skills and include; cognitive and creative skills, communication skills, interpersonal and generic skills.
4. Core skill- basic skills involving dexterity and the use of methods, material, tools and instruments used for performing the job, including IT skills needed for that level.
5. Responsibility- it determines the nature of working relationship, level of responsibility for self and others, managing change, accountability for action.

Table 1: Detail description of NSQF are given below

Level	Process required	Professional knowledge	Professional Skills	Core Skill	Responsibility
Level 1	Prepare person to carry out process that are repetitive on regular basis required no previous practice	Familiar with common trade terminology, instructional words meaning and understanding	Routine and repetitive, takes safety and security measures	Reading and writing, addition subtraction, personal financing, familiarity with social and religious diversity hygiene and environment	No responsibility, always work under continuous instruction and close supervision
Level-2	Prepare person to carry out process that are repetitive on regular basis with little application of understanding, more of practice	Material tools and application in a limited context, understanding context of work and quality	Limited service skill used in limited context, select and apply tools assist in professional works with no variables differentiates good and bad quality	Receive and transmit written and oral messages, basic arithmetic personal financing and understanding of social political and religious diversity, hygiene and environment	No responsibility, always work under continuous instruction and close supervision
Level 3	Person may carry out a job which may require limited range of activities routine and predicable	Basic facts, process and principle applied in trade of employment	Recall and demonstrate practical skill, routine repetitive in narrow range of application	Communication written and oral, with minimum required clarity, skill of basic arithmetic and algebraic principles, personal, banking, basic understanding of social and natural environment	Under close supervision some Responsibility for own work within defined limit.
Level 4	Work in familiar, predictable, routine, situation of clear choice	Factual knowledge of field of knowledge or study	Recall or demonstrate practical skill, routine and repetitive in narrow range of application, using appropriate rule and tool, using quality concepts	Language to communicate written or oral, with required clarity, skill to basic arithmetic and algebraic principles, basic understanding of social political and natural environment	Responsibility for own work and learning
Level 5	Job that requires well developed skill, with clear choice of procedures in familiar context	Knowledge of facts, principles, processes and general concepts, in a field of work or study.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools materials and information	Desired mathematical skill, understanding of social, political and some skill of collecting and organizing information, communication.	Responsibility for own work and learning and some responsibility for other's works and learning
Level 6	Demands wide range of specialized technical skill, clarity of knowledge and practice in broad range of activity involving standard nonstandard practices	Factual and theoretical knowledge in broad contexts within a field of work or study	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	Good logical and mathematical skill understanding of social political and natural environment good in collecting and organizing information, communication and presentation skill.	Full responsibility for output of group and development
Level 7	Requires a command of wide ranging specialized theoretical and practical skill, involving variable routine and non-routine contxt.	Wide ranging, factual and theoretical knowledge in broad contexts within a field of work or study	Wide range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	Good logical and mathematical skill understanding of social political and natural environment good in collecting information, communication and presentation skill	Full responsibility for output of group and development
Level 8	Comprehensive, cognitive, theoretical knowledge and practical skills to develop creative solutions, to abstract problem. Undertakes self-study, demonstrates intellectual independence, analytical rigour and good communication.			Exercise management and supervision in the context of work/study having unpredictable changes, responsible for development of self and others.	
Level 9	Advanced knowledge and skill critical understanding of the subject, demonstrating mastery and innovation, completion of substantial research and dissertation			Responsible for decision making in complex technical activities, involving unpredictable study/work situations.	
Level 10	Highly specialized knowledge and problem solving skill to provide original contribution to knowledge through research and scholarship.			Responsible for strategic decisions in unpredictable complex situations of work/study.	

Each level of NSQF represents a different level of complexity, knowledge and autonomy required to demonstrate the competence commensurate for that level. Though NSQF levels are not related directly to years of stud, but definitely they move higher from lower levels or across levels of qualifications as they take on new learning and acquire new skills. These levels are confined in to academics in degree format, from graduation (B.Voc to Ph.D), which is described in the table

Table 2: Confederation of NSQF Levels and general education

Level	Name of degree/ diploma
Level 4	Certificate
Level 5	Diploma
Level 6	Advance diploma
Level 7	B.Voc Degree
Level 8	Post graduation diploma
Level 9	Post graduation degree
Level 10	Ph. D

NSQF is based on an outcome based approach, participation of the industry and employer is a critical prerequisite for the success of NSQF. Vocational education, vocational training, general education and skill development courses needs to designed, developed, delivered and learners assessment and certified in accordance with NSQF in consultation with SSCs, industry and employers. NSQF would require regulatory institute (ie UGC, AICTE, NCVT, Technical and school Boards etc.) to define of their entry and exit parameters in term of competencies ascribable to that level of the NSQF so that vertical progression in vocational education would be strengthened). In Indian context, for affiliation a course as skill course, recognition of Prior Learning (RPL) is very important associated function. The reason is, non-receipt of formal training, RPL includes the knowledge and skill which were gained by a individual from outside of formal learning situation or through independent learning. It will help learner make clearer connections between the learning they have already and future learning or career opportunity.

Strategical planning of skill education helps government to know the thrust areas of every state and country as a whole in terms of demanding skills. These studies were conducted by NSDC with the help of state livelihood departments. As per the study conducted by National Skill development Corporation to know the skill gap of Rajasthan State, it was found that Rajasthan will have surplus of 9.8 lakh unskilled labor and deficient of 3.23 lakh and 3.23 semiskilled and skilled labor respectively. The high demand area of skilled manpower is construction, textiles, handicraft, health care, tourism, hospitality, food processing, retail, gems and jewelry and IT related sectors. According to another study by Ministry of Labor and Employment, 2011-12 skill gap in Rajasthan by 2017 would be 24 lakh with an unemployment rate of 1.4.

Reason behind skill gap are

1. Unskilled population in solving customer problems, communication and customer reaction and less ability to anticipate customer need.
2. Cross cultural management and service skills.
3. Cross functional skills and the ability to meet rapid changes.
4. Knowledge gap of market trends.
5. Lack of result orientation.
6. Skill in strategic insight.

7. Intercultural communication
8. Language barrier
9. Lack of solution centric approach
10. Innovation skills
11. Less flexible to pick out other work

Recommended strategy to overcome unskilled and semi-skilled population burden

1. Large scale programme to address the huge unskill population
2. Curriculum restricting to match industry needs with an emphasis on shorter courses with quick turnover periods, on job training and practical exposure to industry, guest lecture and field visit to be part of the class.
3. Soft skills such as effective communication should be inherent part of all training along with computer basics, financial literacy and time management.
4. Industry partnership at the training and placement should be encourage.
5. Industry association such as FICSI needs to play a major role in emerging skilled workforce in industry for more efficient outputs.
6. Policy interventions with skill voucher system and bank level financial skill initiatives.
7. Certification courses must be recognized with the better placement of certified candidate for standardization of skill in a cost effective and speedy manner of sector skill council.

To implement the skill education throughout country NDSC is developing partnership with UGC to develop schemes which support skill education in universities and colleges. Short duration courses are been introduce by colleges and universities as their regular and add-on courses. To be future ready and innovative, the courses which are more vocational should be redesigned in BVSc and Mavic courses as per given guidelines, so that students should be job ready just after completing their degree. Multiple entry and exit will make academic more flexible and student friendly. Till December 2016 NSDC has develop total 1801 quality packs 9912 National Occupational Standards in 35 sectors. A model of conversion is been attempted in present chapter by the author for convenient understanding of concept-

NSQF Levels	Quality packs of various sectors/trades in accordance with Home Science subjects		
	Home Management	Textile and Clothing	Foods and Nutrition
Level 4 (certificate)	<ul style="list-style-type: none"> • Billing Executive • Counter sales executive • Facility store keeper • Front office associate 	<ul style="list-style-type: none"> • Assistant Designer- Home Furnishing • Assistant Fashion Designer • Export Assistant • Fabric Checker • Hand Embroiderer 	<ul style="list-style-type: none"> • Diet assistant • Home health aide • Assistant Lab Technician - Food and Agricultural Commodities • Baking Technician • Craft Baker • Jam, Jelly and Ketchup Processing Technician
Level 5 (Diploma)	<ul style="list-style-type: none"> • Facility supervisor • Front office executive • Guest house caretaker • Housekeeping executive • Meeting conference and event planner • Assessor • Trainer 	<ul style="list-style-type: none"> • Cutting Supervisor • Export Executive • Fashion Designer • Line Supervisor Stitching • Processing Supervisor -Dyeing and Printing • Quality Assessor • Record Keeper 	<ul style="list-style-type: none"> • Dairy Products Processor • Food Products Packaging Technician • Milling Technician • Plant baker • Processed Food Entrepreneur
Level 6 (Advance Diploma)	<ul style="list-style-type: none"> • Assistant Catering Manager • Guest relation manager • House keeping supervisor • Lead assessor • Lead Trainer 	<ul style="list-style-type: none"> • Handloom Entrepreneur • Export Manager 	<ul style="list-style-type: none"> • Chief Miller • Food Microbiologist • Quality Assurance Manager • Supervisor: Dairy Products Processing
Level 7 (B.Voc)	<ul style="list-style-type: none"> • Assistant Facility Manager • Housekeeping manger 	<ul style="list-style-type: none"> • Online Sample Designer • Sourcing Manager 	<ul style="list-style-type: none"> • Production Manager • Boutique Manager

NSDC with Sector Skill councils are continuously working for development of new QP and NOS. With this now the technicalities of designing NOS and their alignments with NSQF is been handed over to state also. Any institute which feels that their specific skills needs alignment and not mentioned in list of QP, can identify the RPL (required prior learning), prepare their qualification file and submit it to their state bode for proper channel approval. Academic bodies can avail the benefits and make their courses ready to fit in skill India Mission.

Conclusion

As India moves progressively towards becoming a global knowledge economy, it must meet the rising aspirations of its youth. This can be partially achieved through focus on advancement of skills that are relevant to the emerging economic environment. The challenge pertains not only to a huge quantitative expansion of the facilities for skill training, but also to the equally important task of raising their quality. As India moves progressively towards becoming a global knowledge economy, it must meet the rising aspirations of its youth. This can be partially achieved through focus on advancement of skills that are relevant to the emerging economic environment. The challenge pertains not only to a huge quantitative expansion of the facilities for skill training, but also to the equally important task of raising their quality. An all-inclusive approach to strengthen the entrepreneurship development scenario in the country which is competent, quality conscious, market savvy, innovative and has globally competitive entrepreneurs, needs to be carefully mentored and encouraged. Developing skill opportunities for youth should be the prime concern for the youth oriented organizations.

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