

for school pupils to expose them to the nuances of science. These camps serve as an interactive platform between students and scientists. During the camps students are sometimes accommodated on campus to foster interaction among peers and learn basic science, scientific methodology and skills from their mentors. However, INSPIRE Camps have not been able to match the aspirations with which the programme was instituted.

Primarily, there is a need to make changes in the selection procedure. Currently, marks or grades obtained is the sole criterion. Such a criterion deprives students interested in basic science and preferentially selects top scorers, who

aspire to be doctors or engineers. The present criteria do not take into account personal traits of students like intelligence, observational skills or their interest levels. Therefore, DST should alter the selection procedure. Secondly, several camps do not provide lodging facility, leaving no room for pupil-mentor interaction. On campus lodging should be made mandatory to cultivate informal discussions and foster pupil-mentor relationship. It is also important to choose mentors who can talk to children in a simple and lucid manner. Also, laboratory and group experimentation should be considered during these camps.

For organizing such camps, DST is allocating huge funds. The funds should be utilized in a streamlined fashion, with not too much spending on promotional activities, while the institutes should observe expenditure guidelines. With respect to the points mentioned above, DST should take a fresh look to meet the aspirations with which this programme was instituted.

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Skill development through government initiatives: anything for women?*

Jamal and Mandal¹ provide of the status of vocational education and training (VET) in India that largely constitutes schemes or programmes initiated by the Government to promote employable skill development system. However, the article misses out on reviewing the initiatives taken by the Government to strengthen skill development for women.

Women worldwide, not only in the developed countries but also developing countries, face the challenge of getting employment. Nearly, 48.4% of the Indian population are women (Census of India, 2011). However, the female labour force participation rate remains less than half of that of males. An employment and unemployment survey (2009–10) by the National Sample Survey Organization (NSSO) reveals that 23% of women are in the labour force compared to 55.6% of men. Similarly, unemployment rate has been consistently high for women since 1972–73 in both rural and urban areas. Decline in the workforce participation rate of women is a matter of concern and has implications on their overall economic empowerment. Therefore, there is an urgent need to increase productive employment opportunities for women through skill development in different sectors.

The National Policy on Skill Development (2009) emphasized on equal access to skill development among all social groups, particularly women and disadvantaged sections of the society to help them secure a decent employment and as a measure to alleviate poverty. The 11th Five-Year Plan detailed a roadmap for skill development in India that favoured the formation of Skill Development Mission (SDM), both at the state and national level. To create such an institutional base for skill development in India at the national level, a coordinated action on skill development with three-tier institutional structure was made operational. The following features were envisaged with respect to gender equality in skill development: (i) to raise women's participation by at least 30% by the end of the 11th Plan; (ii) to facilitate women's participation by providing hostels, scholarships, transport, training materials and loans; (iii) expanding Women's Vocational Training Programme (WVTP) through institutional network; (iv) to identify sectors employing large number of women in order to promote skills and employability among women and (v) to eliminate gender stereotyping from vocational courses to encourage women's participation in non-traditional occupations, including existing and emerging technological fields.

Realizing that the process of social development has to take into account the

needs, interests and aspirations of women, the gender-specific WVTP was designed and launched during 1970s under the Directorate General of Employment and Training (DGE&T), Ministry of Labour and Employment, Government of India to mainstream women into economic activities. At the central level, it was implemented through a network of 11 institutes under DGE&T that included National Vocational Training Institute for Women (NVTI) at Noida and ten Regional Vocational Training Institutes for Women (RVTIs) at Mumbai, Bangalore, Thiruvananthapuram, Panipat, Kolkata, Tura, Indore, Allahabad, Vadodara and Jaipur. These institutes offer about 7768 seats for regular courses and also run short-term courses. As on 30 September 2011, approximately 90,000 women have been trained since its inception. The WVTP aims to promote self-employment and wage-employment for women in industry as semi-skilled, skilled or highly skilled workers by increasing their participation in skill-training facilities.

Under the state sector, vocational training is organized through a network of Government and private-run women's Industrial Training Institutes (ITIs) or women's wing in general ITIs which are directly under the administrative control of the respective governments of the State or Union Territory. As on May 2011, there exist 313 Government ITIs

*Disclaimer: The views expressed here are personal and not those of the organization (NMEW/MWCD).

Table 1. Skill development programmes/schemes offered by the Government under various ministries

Ministry	Schemes/programmes
Ministry of Micro, Small and Medium Enterprises – for women entrepreneurs	Tread-Related Entrepreneurship Assistance and Development Scheme for Women (TREAD) Micro and Small Enterprises Cluster Development Programme (MSE-CDP) Credit Guarantee Fund Scheme (CGTSI) Support for entrepreneurial and managerial development Exhibitions for women under promotional package for micro and small enterprises Skill upgradation and quality improvement Scheme: Mahila Coir Yojana
Ministry of Labour and Employment	Modular Employable Skills (MES) under Skill Development Initiative Scheme (SDIS)
Ministry of Housing and Urban Poverty Alleviation	Swarna Jayanti Shahari Rozgar Yojana (SJSRY)
Ministry of Rural Development	Swarnjayanti Gram Swarozgar Yojana Aajeevika Special Projects (NRLM)
Ministry of Women and Child Development	Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG; 'SABLA')
Ministry of Human Resource Development	Jan Shikshan Sansthan (JSS), National Literacy Mission Authority

for women, 136 private ITIs and 726 women's wing in general Government ITIs and 118 women's wing in general private ITIs. Training seats offered for women in these ITIs/wings were 74,124. In addition, about 30% seats are reserved for women in general ITIs.

In the Central Government, around 20 ministries are closely involved in skill development (Table 1). These ministries operate in one of two ways: (a) through setting up their own training capacity in specific sectors, or (b) through providing per-trainee costs of training for specific target populations. Most State Governments have also set up State Skill Development Missions as nodal bodies to anchor the skill development agenda in the states. They are expected to play a significant role in skill development, through identification of key sectors for skill development in the states; as well as coordinating with Central ministries and State Line Departments, as well as indus-

try and private training organizations. Skill development has also been given priority during the 12th Five-Year Plan to cater to the expanding workforce in the country².

In spite of the existing plans and programmes, many in India are not aware of these Government initiatives. Also, non-availability of transportation facility, accommodation in hostels, distance from home and other family constraints further hamper women's participation. To boost women's participation in vocational training programmes, there is a need to create awareness about these programmes and training facilities available in India. Secondly, academic institutes should be involved: (i) to study and assess the performance of existing Government programmes by conducting surveys in urban, rural and tribal areas; (ii) to identify key areas for applying the schemes effectively and (iii) make recommendations to the Government. There

is a need to identify gaps in the existing programmes with respect to market trend and industry demand for wage-employment based on market survey, requirement of industry and employers.

1. Jamal, T. and Mandal, K., *Curr. Sci.*, 2013, **104**, 590–595.
2. Draft 12th Five Year Plan (2012–17), vol. 3, pp. 124–163.

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India's ranking in materials research

Recent Global Research report on 'Materials Science and Technology' by Thomson Reuters provides information on materials research output of several countries including India. Table 1 of the report reproduced in this letter provides information on ranking of 20 institutes/universities by output (number of papers), citations and citations impact for materials science research for the period 2001–2011. In this report only IITs of India are identified as single institution contributing to materials science research.

In Table 1, first column IITs occupies 5th position with a total of 4522 papers, where as the Chinese Academy of Sciences (CAS) occupy number one position with a total of 14,019 papers. In this ranking based on number of papers, none of the US based institutes figure, since rankings is restricted to the institutes having contributed a minimum of 2500 papers. Further column 4 of Table 1, list institutes based on total number of citations. In this kind of ranking CAS occupies first position with a total citation of

104,104. IITs moves down to last position (20th rank) with a total citations of 22,297. Interestingly only six US institutes figure based on the total citations count. Of these six, MIT is ranked number 5. Column 7 of the table list 20 institutes based on citation impact (average number of citation per paper). In the ranking based on citation impact, University of Washington ranks no. 1, with an impact factor of 30.41. Further, it is instructive to note that both CAS and IITs do not figure in this ranking based