Teacher Training Education for VET Teachers in India

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Abstract

Training teachers to impart quality Vocational Education and Training (VET) to learners is a worldwide concern. Technology keeps upgrading and changing in a rapid phase. Teachers have a responsibility to upgrade their knowledge, and the same must be imparted to learners. Simultaneously, there have been debates in the field of education regarding whether the profession of teaching is a "vocation" or "calling." Considering these two sides of a model, we need to analyze how prospective teachers identify teaching as a vocation and how vocation operates in one's own life. If teaching itself is a vocation, teachers themselves gain knowledge and know the existing social practices to choose the vocation. One needs to cultivate real interest in teaching to keep the students attentive, if he/she chooses teaching as a profession. More than that, preparing students to become

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learned professionals and showing the path to discover their own vocation are a challenging task. In this context, this chapter discusses how Indian teachers in VET choose teaching as a profession in VET and how they constantly upgrade their knowledge in the changing situation.

On the one hand, the chapter gives an overview of the Indian VET system and teacher training in VET in India. On the other hand, it discusses the aspects mentioned above by focusing on the existing literature in the field and empirical findings of teaching quality in the different regions of India.

Keywords
Teaching as a vocation · Indian education system · Indian VET system · Teacher training in VET

Introduction

India is of interest for researchers in VET from all over the world (Pilz 2016a). The country is one of the fastest growing economies in the world, which faces dual challenge in the current scenario. One is the paucity of the trained workforce, and another is the lack of opportunity for the large sections of the educated youth who possess little or no employability skills (Basu 2008; Pilz et al. 2015; Ministry of Skill Development and Entrepreneurship 2015; Mehrotra 2014). Along with the growing economy, more than 62% of its population are in the working age group of 15–59 years as well as more than 54% of its total population is below 25 years of age (Ministry of Skill Development and Entrepreneurship 2015; Mehrotra 2014). India is considered as one of the youngest nations in the world. It is estimated that the labor force in industrialized nation will decline by 4% in the next 20 years. At the same time, the labor force in India may go up by 32% (Ministry of Skill Development and Entrepreneurship 2015). The Government of India has taken a number of initiatives to reap the benefits of demographic dividend. It has set up a separate Ministry of Skill Development and Entrepreneurship and notified the same in the year 2014. It has also devised a National Policy for Skill Development and Entrepreneurship 2015 by superseding the existing policy of 2009 with the objectives of skilling youth with quality in a sustainable manner. There are various schemes/programs to upgrade the existing Industrial Training Institutes (ITIs) and setting up of new ITIs (Mehrotra 2014; Wessels and Pilz 2018). In the process of achieving set targets, it is necessary to train and appoint the teachers in the vocational training institutes. It is also significant to improve the infrastructure. Infrastructure not only means physical infrastructure, necessary human resources for the training is the prime concern. Trained teachers need to be appointed in the ITIs and polytechnics to train the youths. The Ministry of Labour and Employment in the Government of India takes the efforts to train the youths to appoint as instructor/teachers in the ITIs. It is required to look at the existing research on the perception of teaching as profession before discussing teacher training in VET in India.

Teaching as Vocation

There have been debates in the field of education regarding whether teaching is a "vocation" or "calling" (Booth 1988; Hansen 1995, 2001; Huebner 1987). Considering this contradiction, this chapter discusses how prospective teachers identify teaching as a vocation and how vocation operates in one's life. Hansen (1995) provided two approaches to vocation. Both refer vocation as the activity or work that provides personal satisfaction and service to others. In this context, Buechner (1973), a theologian, defines vocation as "the place where your deep gladness and world's deep hunger meets" (Buechner 1973, p. 119), which plays an important role. According to Hansen (1995, p. 3), "Vocation is a work that results in service to others and personal satisfaction in the rendering of that service." Bearing in mind the above definitions, we can conclude that vocation is not just about financial security, but more about individuals calling for self-satisfaction in helping others. Teachers are the backbones of education. They facilitate learners to acquire knowledge and skill. Education serves a number of social purposes. The core activity of education is knowledge acquisition, acquiring capability of generating knowledge, applying the same for initiating qualitative changes in one's own attitude and behavior, and skills for human resource development. Along with knowledge creation, it has to impart skills and values. Human development is to ensure the overall well-being of the person. Education plays a significant role in human development. Educational indicators are part of measuring the phenomena of continuity and change in both qualitative and quantitative indicators in education. Teachers are core persons in these activities. Teaching is a diverse and complex activity. It is multidimensional. Boys/girls learn and acquire knowledge culminating in overall personality development with skills of self-reliance. There are various stages in these processes. Various teaching methods need to be adopted in each stage of humans to impart knowledge and skill. The methods and content may vary depending upon the age of the learners. Teachers can draw and construct teaching methods and transmit knowledge by identifying significant points from these elements. Unlike other professions, education not only creates knowledge base but is also a practicing profession. Teachers need to draw theories of learning and bodies of knowledge to generate student learning, understanding, and later on helping them to apply it in their lives for addressing different challenges. Teachers are not only generating learning in others, they also learn while teaching. There are three forms of teacher knowledge as suggested by Shulman (1986). These are propositional knowledge, case knowledge, and strategic knowledge (Shulman 1986).

An Overview of the Indian Education System and VET System

The Indian education system consists of primary education (1st standard to 5th standard), upper primary (6th standard to 8th standard), secondary education (9th and 10th standard), higher secondary (11th and 12th standard), and collegiate education (3 years for science and arts stream and 4 years for engineering). Students

need to learn in schools till secondary education, whereas higher secondary education is imparted "either in schools or junior colleges" (Gupta et al. 2016, p. 43). After completion of higher secondary education, students have access to higher education. School education at the level of secondary and higher secondary education is considered to be significant as students must decide if they want to continue in regular stream or vocational training (Gupta et al. 2016, p. 42 f.).

The Indian VET system includes two levels: the school level and the higher educational level (Wessels and Pilz 2018). At the school level, VET starts at the higher secondary level (11th–12th standard) and offered as separate group, which lasts for 2 years. The Department of School Education in the Ministry of Human Resource Development is responsible for the vocational education at schools (Venkatram 2012, p. 172; Agrawal and Indrakumar 2014, p. 484ff.). One hundred sixty vocational courses in agriculture, business and commerce, engineering and technology, health and paramedical [care], home science, and science and technology are taught at around 10,000 schools in India (Agrawal and Indrakumar 2014, p. 487; Gupta et al. 2016, p. 45).

At the higher educational level, VET is mostly provided by the government ITIs and private ITIs (Agrawal 2012, p. 456; Venkatram 2012, p. 172). Directorate General of Training (DGT) in the Ministry of Skill Development and Entrepreneurship is responsible for the vocational training and education at the higher education. Training at the higher educational level is imparted under two schemes, namely, the Craftsmen Training Scheme (CTS) and the Apprenticeship Training Scheme (ATS) (Agrawal and Indrakumar 2014, p. 484 f.; Gupta et al. 2016, p. 46).

ITIs were set up with the goal to fulfill the requirements of the labor market under the CTS in the year 1950 (Sodhi 2014, p. 458). The structural reform in the macro economy in the year 1991 has increased the economic activities. It has also created the demand for skilled labor. The government and private players rapidly have expanded the number of ITIs in the 1990s. The number of ITIs has doubled, from 2,137 to 4,274 between 1990 and 2000. The number of ITIs has grown even faster since 2000. Most of the newly established institutions were private ITIs whose number has grown from 2,772 in 2001 to 6,498 in 2010 (Joshi et al. 2014, p. 87). The growth of government ITIs was not so strong. It has increased from 1,727 in 2001 to 2,189 in 2010 (Joshi et al. 2014, p. 87). In 2015, there were 11,964 ITIs (2,284 government ITIs and 9,680 private ITIs) in India that offer training courses in 126 trades (DGT 2015).

The period of training ranges from 1 to 2 years depending upon the course in the ITIs (DGT 2015). Those who completed 8 or 10 years of schooling may get admission in ITIs (Gupta et al. 2016, p. 46). The courses at the ITIs have been designed in such a way that the percentage of practical component occupy the major portion of the syllabus. But, teaching or instructions of theory dominate over practical instruction in reality (Tara et al. 2016, p. 3). Students receive National Trade Certificates after the completion of the training program (DGT 2015).

ITIs also train "semiskilled workers" (Venkatram 2012, p. 174). ITI graduates should undergo and complete apprenticeship training in order to be considered as a skilled worker (Venkatram 2012, p. 174). On-the-job training is imparted in different

government-run and privately owned companies under the ATS. The duration of the training ranges from 6 months to 4 years (DGT 2017d). There are five categories of apprenticeship training: trade, graduate, technician, technician (vocational), and optional trade apprenticeship training (DGT 2017d).

Furthermore, there are polytechnics that offer diploma programs in the engineering and technology streams. They offer programs for 3 years and are open to students who have completed 10th standard and above (Wessels and Pilz 2018). The level of the polytechnic studies is considered as higher than the certificate courses offered in the ITIs (Majumdar 2008, p. 20). Thus, we are not dealing with the polytechnic programs in this chapter.

Problems in VET

As we have mentioned earlier in this chapter, India needs skilled manpower for the growing needs of the economy, but "the progress in establishing vocational schools and the subsequent enrolment are rather slow" (Venkatram 2012, p. 173). It is estimated that 12 million people will enter the labor market annually. However, the training capacity of the technical institutes is about 4.3 million, which means that including all forms of training in different institutions, 64% of the labor force will not be able to undergo any formal training (Saini 2015, p. 4).

Moreover, the participation in vocational courses is very low. According to the National Sample Survey Office (NSSO) data collected in 2011–2012, only about 3% of the Indian population aged between 15 and 59 years have completed or are completing vocational training (Ahmed 2016, p. 333). In 2014, less than 3% of students have opted for vocational education at the school level (Agrawal and Indrakumar 2014, p. 487).

This is partially due to the fact that the manual jobs are associated with poor educational achievement and low income in India (Venkatram 2012, p. 173 f.). People show huge reluctance to undertake vocational training due to the absence of a qualification framework. Vocationally trained workers remain in blue-collar jobs throughout their lives (Sodhi 2014, p. 459). As general and vocational education in India is separated from each other from higher secondary schooling onward, it is not possible for leaners to switch over from general to vocational or vice versa. There is a stigma attached to vocational education also. Many learners may feel reluctant to undergo vocational training since it has an inferior status in society as compared to other streams of education (Ajithkumar 2016, p. 190; Agrawal and Indrakumar 2014, p. 488).

Furthermore, the quality of education at VET institutes is very low, and many skills imparted to the students are out of date (Saini 2015, p. 4; Pilz 2016b). Learning in the vocational education establishments resembles academic learning, and the training curriculum has little relevant to the requirements of the labor market (Agrawal 2012, p. 456; Sodhi 2014, p. 459).

As many vocational graduates do not possess the required skills, companies often choose to employ candidates with higher qualifications in engineering or people with

secondary education and provide in-house training (Agrawal 2012, p. 458). As a result, vocationally trained workers have difficulties in finding jobs. The World Bank report (World Bank 2008) showed the employment situation of the vocationally trained graduates and their difficulties in finding jobs. The situation of the large percentage of vocationally trained graduates has not improved much after the completion of the course. Only 16.2% of the trained workers in the State Orissa managed to find paid employment or became self-employed or joined family business according to the study conducted by the International Labour Organization (ILO) in 2003 (Agrawal 2012, p. 455).

In response to the abovementioned problems, the Indian Government devised a policy with the support of the World Bank and its own scheme to upgrade 500 ITIs during 2005–2006 with the goal to train labor force to world class standards (DGT 2017e; Tara et al. 2016, p. 7). In 2016, there were 1,896 government ITIs in India that had been upgraded into the Centers of Excellence (COE) (Tara et al. 2016, p. 7). However, despite the great significance of VET for the development of Indian economy and many efforts of the government to improve it, its capacity has still not been utilized effectively because of many problems; one such problem is the shortage of competent instructors (Ajithkumar 2016, p. 183). For this reason, it is important to analyze teacher training in VET in India and its current challenges, which is studied and discussed in the forthcoming section.

VET Teacher Training Programs

The DGT in the **Ministry of Skill Development and Entrepreneurship** is responsible for the training of VET teachers in India. The schemes related to the training of instructors include the Craft Instructor Training Scheme (CITS) and the Hi-Tech Training Scheme (HTS) (Ajithkumar 2016, p. 193 f.).

Teachers or trainers are trained by the CITS at various DGT training centers. There are 1 national level Craftsmen Training Institute (CTI), 5 regional Advanced Training Institutes (ATIs), 1 National Vocational Training Institute (NVTI), and 12 Regional Vocational Training Institutes (RVTI) in India. They cover 29 out of 121 disciplines of teacher training (DGT 2014). The total training capacity of the institutions for engineering trade is around 1,600 teachers per year, including the NVTI and RVTI for women's training, which alone train around 500 female participants per year (DGT 2017a).

The applicants must possess either an academic or a technical qualification to get admitted into Craft Instructor Training course (Central Training Institute for Instructors 2016). Moreover, all candidates must clear the All India Common Entrance Test, which consists of multiple-choice questions (75%) on a specific trade and open-ended questions (25%) measuring "logical, numerical, and reasoning" ability (ATI Chennai 2017).

In 2009, 1-year craft instructor training was converted into modular training program to allow more flexibility in the choice of the training institutions. Single modules could be completed in 3 months (Ajithkumar 2016, p. 194; DGT 2017a). In

August 2014, a revised version of the teacher training program was introduced, which lasts for 1 year (Central Training Institute for Instructors 2016).

Courses consist of four modules. All students undergoing instructor training must complete a module on Training Methodology (TM) that covers the topics such as "principles of teaching, learning psychology, workshop administration, motivation, use of computers and audio-visual aids in teaching, preparation of lesson plan," etc. (Central Training Institute for Instructors 2016). Moreover, trainees in engineering trades must successfully complete a module on Engineering Technology (ET) and two modules on Trade Technology depending on their trade. Trainees in non engineering trades are required to complete a module on Vocational Calculation and Science and two Trade Skill modules (DGT 2017a).

Trainees must complete the two-semester training course "within 3 years of their admission" as an eligibility criterion to take the final exam (Central Training Institute for Instructors 2016). After completing their training, they undergo All India Final Trade Test and receive a National Craft Instructor (ITI Instructor) Certificate (Ajithkumar 2016, p. 194; DGT 2017a).

The Central Training Institute for Instructors was founded in 1962 under the auspices of the NCVT, the DGT, the MoLE, and the Government of India with the support of the ILO. The aim of the institute is to provide training to the trainers for ITIs and ITCs. The only national facility is located in Chennai with all modes of good connectivity like flight, train, and road network. The 1-year program is divided into four modules, each with a duration of 3 months, in the subjects of Trade Technology I (TT-I) and II (TT-II), ET, and TM. In order to complete the TT-II module, the trainers need to complete the TT-I module and should pass.

The cost of the training varies depending upon the individual and the form of enrolment. The cost of a module for already posted officials is 1.50 euros. It costs 8 euros for regular participants, and it costs only 2.50 euros if the participants belong to the Scheduled Castes (SCs) or Scheduled Tribes (STs) community. Since the CTI is local, accommodations are made available to the teaching staff. The cost of accommodation is 4 euros per module (Central Training Institute for Instructor 2014).

The ATS program employs a total of 15,000 teachers, which shows a positive growth with respect to number of participants. For this reason, the DGT calculates with an increase of 2,000 teachers per year. In addition, approximately 3,000 teachers are required each year to counter natural processes such as retirement (ATI Chennai 2017). With the ATS and CTS training programs, an additional 10,000 teachers may get recruited every year (ATI Chennai 2017).

The ATIs were founded by the DGT with the support of the United Nations Development Program (UNDP) and the ILO. A total of five ATIs are located in Howrah, Hyderabad, Mumbai, Kanpur, and Ludhiana. The programs (like the central CTI teaching facility) are addressed to the incoming teachers at ITIs/ITCs or other training facilities. The courses last for a year and teach the "Principle of Teaching (PoT)." There are also refresher courses for teachers who want to expand their knowledge and skills or incorporate the latest technologies into the classroom (see National Skill Development Corporation Mart 2011, p. 82). This flagship program can train up to 1,200 per year.

Under the HTS, high-technology training is provided for 2- or 3-week courses in the ATIs/Advanced Training Institute for Electronics and Process Instrumentation (ATI-EPI) for the industries/public sector undertakings/government organizations/trainers from the institutes/industries, etc. (Ajithkumar 2016, p. 195).

The HTS was envisioned as a scheme of the World Bank-financed Vocational Training Project. It is currently funded by the Government of India. The aim of the HTS is to impart skills in the application of electronics, computer, and the modern production system required by the industry, commerce, and domestic consumers (Ajithkumar 2016, p. 195; DGT 2015). A total of ten ITIs and central institutes (ATIs/ATI-EPI and Apex Hitech Institute at Bangalore) teach courses in CAD/CAM, CNC, Control Technology, and other programs (DGT 2017b).

A number of vocational training institutes for women have been established by the national and state governments to improve employment prospects of women from different age groups and social backgrounds (Ajithkumar 2016, p. 194). The NVTI in Noida and the RVTIs in Mumbai, Bangalore, Thiruvananthapuram, Jaipur, Allahabad, Indore, and Vadodara offer instructor training programs only for women "in non-engineering trades like Secretarial Practice (English), Secretarial Practice (Hindi), Electronic Mechanic, Dress Making, Computer Aided Embroidery & Needle Work, Fashion Technology, Architectural Assistantship, and Beauty Culture & Hair Dressing" (DGT 2017a).

In response to the rapidly changing technological development, Mentor Councils were established, which make recommendations for curriculum development, necessary equipment, pedagogy, and assessment of different courses provided by the Ministry of Labour and Employment (Ajithkumar 2016, p. 195). The Ministry has recognized the necessity to impart training to the existing VET teachers with the newly developed curricula and has even thought about the employment of technology-powered distance learning for this purpose. After a large-scale study of different technologies, DGT opted for a nationwide Internet solution (Ajithkumar 2016, p. 195).

For the CTS program, 60,000 teachers are currently employed (20:1 pupil-teacher ratio), whereby the ITCs require about 5,000 new teachers per year (see DGT 2014).

Problems in VET Teacher Training

Despite the abovementioned VET teacher training programs, India faces a huge shortage of qualified instructors. We look at the problems of VET teacher training in India based on our study. One of the major problems is the low availability of seats in the teacher training institutes. Currently, few seats are available for teacher training in VET institutes. Under the CTS, there are 8800 ITIs (2,217 government ITIs and 6,583 private ITIs) as per 2011 date offering 1,220,000 seats, which need approximately 60,000 instructors. The number of training seats in the ITIs is growing by about 100,000 annually. This means that the need for instructors in ITIs is rising by 5,000 yearly (DGT 2017b).

Under the ATS, training is provided by 25,472 establishments in 235 designated trades (DGT 2017b). The number of seats offered by these establishments was 310,000 in 2011, which means that 15,000 instructors were required. The demand for instructors is also growing in these establishments by 2,000 instructors per annum (DGT 2017b).

Moreover, about 3,000 additional instructors are needed in case of retirement and job change of instructors. Therefore, the total demand for instructors for the CTS and ATS schemes was about 75,000 in 2011, and the additional demand was 10,000 instructors per year (DGT 2017b). Especially in rural and less attractive areas, the vacancy of teaching positions is high (Pilz and Wilmshöfer 2015).

However, despite a huge need for qualified trainers, the maximum seating capacity of Craft Instructor Training institutes is only 1,600 instructors per year (DGT 2017a, b). Of those 1,600 seats, approximately 500 seats are reserved for women undergoing instructor training in NVTI and RVTIs (DGT 2017b). Also, the ATI in Chennai and ATI-EPIs in Hyderabad and Dehradun began to train instructors, and the maximum seating capacity has risen to 3338 (DGT 2017a). Moreover, in 2010, the national government granted permission to the state governments and different types of organizations (such as "companies like sole propriety, private/public limited registered under Companies Act, Societies and Trusts registered as per Act and promoters of SEZs" [special economic zones]) to undertake instructor training (DGT 2017a). Such establishments are called Institutes for Training of Trainers (IToT), and they must fulfill specific requirements to be approved by the government (see DGT 2014).

Another problem in VET teacher training is the availability of limited financial resources. The investments from the governments for the vocational education are not sufficient (Venkatram 2012, p. 173 f.). The jobs at ITIs are not attractive to the qualified trainers because of the low payment (Pathak 2017). Moreover, vocational education is seen as low status and, thus, does not attract qualified teachers (Sharma 2014, p. 411).

As a result, most ITIs suffer due to the lack of instructors. As half of the posts remain vacant, ITIs are forced to employ "ad hoc instructors" and instructors on short-term contracts (Joshi et al. 2014, p. 108 f.; Pathak 2017). According to a survey conducted in 2010, contractual and ad hoc instructors consist of 55.3% of the faculty (Joshi et al. 2014, p. 108 f.).

In 2014, Tara et al. (2016, p. 5ff.) interviewed principals at government ITIs in the states of Karnataka, Orissa, Tamil Nadu, and New Delhi and found that about 50% of respondents had difficulty in finding qualified trainers and were forced to employ temporary instructors without required skills. Consequently, ITIs are often criticized for their poor teaching quality, which is looked closely at the next section.

Empirical Findings: Teacher Quality at VET Institutions

Joshi et al. point out (2014, p. 106) that the qualification of instructors is "[o]ne of the indicators to measure quality of training." The Federation of Indian Chambers of Commerce and Industry (FICCI) Skill Development forum stresses

pedagogical competence of the instructor to bring better student learning outcomes (FICCI n.d., p. 15). Thus, it is important to examine the teacher quality at VET institutions in India (Jambo and Pilz 2018).

As has already been mentioned, teaching at ITIs in India has often been subject to criticism. The National Policy on Skill Development emphasizes the importance of improving the quality of instructors by "innovative ways of recruiting" them, "award and incentive mechanisms," "innovative skill development schemes" (students acquiring theoretical knowledge "at the institution [. . .] [and] practical skills in the workplace"), etc. (DGT 2009, p. 19).

In their study, Joshi et al. (2014, p. 89ff.) analyze the qualifications of instructors at government ITIs and private ITIs on the basis of the IAMR survey conducted in 2010. The results (see Table 1) have shown that the majority of instructors (37.1%) only possess the ITI certificate. Only 18.5% of instructors have completed 1-year Principles of Instructor Training (PoIT). Only 6.8% of the instructors working at ITIs (both government and private) possess degrees. While the percentage of instructors possessing a diploma or a degree is slightly higher at private ITIs than at government ITIs, the proportion of graduates with Instructor Training Certificate is significantly higher at government ITIs.

Even at the Centers of Excellence, which are supposed to train "multi skilled workforce matching world standards," the majority of instructors are only ITI certificate holders (292 out of 421 instructors) (DGT 2017c; Joshi et al. 2014, p. 114). Only 42 instructors possess academic degrees and 87 are diploma graduates (Joshi et al. 2014, p. 114). Joshi et al. (2014, p. 111) describe this situation as "distressing" as, although the need for skilled workers is rising, there is a serious lack of qualified instructors, which has a negative effect on the training quality. Joshi et al. (2014: 108 f.) also examine other factors that could lead to poor training quality such as instructors' salaries, involvement of instructors in "activities other than training students," and their "employment status."

Mathur et al. (2014, p. 179ff.) look at the quality of training at ITIs from the learner's perspective. For this purpose, they interviewed 2,507 ITI graduates (out of them 508 did not plan to undergo an apprenticeship training), 905 ATS graduates, and 1,518 trainees. The results of the survey have shown that most students are primarily disturbed by the low quality of training, which they mainly attribute to poorly qualified teachers. Students reported that in order to reduce personnel costs, ITIs employ instructors only for a short period of time. Frequent change of staff

Table 1 Technical qualification of instructors in government ITIs and private ITIs. (Modified from Joshi et al. 2014, p. 107)

Technical qualification	Government ITIs (%)	Private ITIs (%)	Total (%)
ITI graduate	37.8	34.5	37.1
ITI graduate with PoIT	20.1	13.1	18.5
Diploma	30.4	38.1	32.1
Degree	6.7	7.1	6.8
Data not reported	5.0	7.1	5.5

hampers the continuity of learning. Moreover, courses are occasionally taught by instructors specialized in other trades since no suitable instructors are available.

In her study, Ajithkumar (2016, p. 198ff.) interviewed 47 instructors in private ITIs (six of which are principals) in the State of Maharashtra. The data has shown that only 27% of instructors completed "preservice training in ATI." The principals revealed that there is lack of instructors with National Craft Instructor Certificates due to the insufficient number and geographical "inaccessibility of ATIs." Moreover, it is practically impossible to grant 1 year off to teachers for their professional development. Ninety percent of instructors reported that they are not motivated to improve their qualifications since they do not get any rewards, for example, in the form of a pay increase, "paid leave [. . .] [or] promotions" (Ajithkumar 2016, p. 200).

Although 100% of trainers recognized the significance of information and communications technology, all of them indicated that it was not included in their preservice training. Fifty-seven percent of instructors reported that they kept themselves up to date with the technological developments with the help of the Internet, 41% attended "workshops and seminars," and 2% did research (Ajithkumar 2016, p. 202 f.).

After they had undergone their preservice training, none of the trainers were sent to "any refresher course at the ATIs" (Ajithkumar 2016, p. 203). Nevertheless, all instructors participated in different kinds of "professional development programs" which they consider to be "inadequate" (Ajithkumar 2016, p. 204).

Although all instructors recognized the significance of "industrial work experience," 68% of them possessed not more than 6 months of work experience, and only 6% of the instructors had work experience of over 2 years. As a result, the majority of instructors reported it was easier for them to teach theory than practical skills (Ajithkumar 2016, p. 204).

In a study conducted by MART engaged by National Skill Development Corporation Mart (2011, p. 11ff.), 360 instructors at 71 training institutions (government and private ITIs, NGOs) in 8 regions of India were interviewed. The study covered 18 trades (plumbing, dressmaking, housekeeping, accounting, etc.) across 6 sectors. The results of the study have shown that most teachers at government and private ITIs possess technical skills (96% and 90%, respectively). However, they lack teaching skills as only 38% of trainers at government ITIs and 30% at private ITIs have acquired teaching skills.

Only 29% of trainers at government ITIs possessed skill certificates (technical, teaching, soft, and entrepreneurship development certificates) (26% government certificates and 3% private certificates). At private ITIs, the number was even lower as only 25% had certificates (13% government and 12% private certificates). A great proportion of instructors were in the age group below 30 years and had experience of less than 3 years.

In the abovementioned study of Tara et al. (2016, p. 5ff.), the interviewed principals at government ITIs emphasized the importance of upgrading the skills and technical and pedagogical knowledge of the teaching staff. The majority of the teachers interviewed at six CoEs in the state of Karnataka stressed that it was imperative that training programs were offered regularly to keep up to date with the industrial developments (see also Jambo and Pilz 2018).

Joshi et al. (2014, p. 115) emphasize that qualifications of instructors play a crucial role in vocational training, and it is crucial that more instructors are trained and that the quality of their training improves. According to Mathur et al. (2014, p. 192), it is essential that instructors undergo high-quality training along with regular "refresher courses." One of the main recommendations of the FICCI Skill Development forum for the 12th Five-Year Plan was to improve the quality of instructor training (FICCI n.d., p. 15).

Conclusion

The Indian Government has realized the importance of skill development and has initiated many schemes intended to impart skills to its young population. However, there are still many problems that impede skill development in India. Student enrolment in vocational training programs is still very low due to the prejudice attached to vocational training as being of low status and only for people who fail to pursue higher education.

Furthermore, the Indian Government has failed to provide high-quality training and sufficient number of seats at VET institutes. As training has little connection to the needs of the labor market, it does not improve employment prospects of VET graduates. To a large extent, this is due to the lack of qualified instructors at vocational training institutes.

The results of the studies revealed that the majority of instructors possess an ITI certificate but lack teaching qualifications. Even in upgraded ITIs (CoEs), most trainers do not have teaching qualifications. Moreover, most instructors lack relevant industrial work experience and do not attend any refresher courses after their preservice training. Despite the great importance of being up to date with technological advances, it was not included in the instructors' preservice training.

Low investments in teacher training, few job performance incentives, and social stigma attached to vocational training lead to frequent staff turnover and employment of instructors with short-term contracts and no relevant skills.

The overview on VET teacher education in India has shown very clearly the demand for future developments not only in quantitative ways but also in relation to quality. The upgrading of VET teacher education by offering academic programs combined with practical experience in the world of work on the one hand and a proper VET research at universities and other high-ranked research institutions on the other hand are highly important in the future.

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