

A Study on Role of Industrial Training Institutes (ITI's) in Promoting Self Employment in Gandhinagar District

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Abstract

Education is the chief defense of the country. Technological and Human Resource up gradation is the essence of development of any country. Degree, diploma and professional courses are not the only option to equip with skills and become self-employed. Pursuing higher orders studies means studying volumes of books, appearing for tricky exams and always be worried about the good grades, may not be liked by all students. Some of the students may just be interested in picking up hard skills, for such industrious students Industrial Training Institutes (ITI) offers lucrative courses. Vocational training is fundamentally based on practical learning, which offers great deal of avenues for self-employment. It is a gate pass for banking upon quick employment opportunities.

Keywords:

Vocational Training, Trades, Self-Employment, Career Building

JEL Classification: E24, J60, M53

Introduction

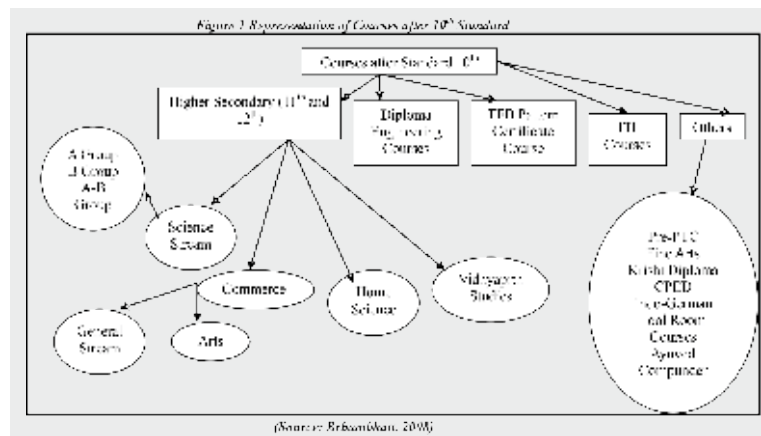
Gujarat is entrepreneurial capital of India. This progressive state is known for its business friendly climate, good governance, excellent infrastructure facilities, multi-talented and skilled human resources. Major industrial clusters of Gujarat are in the field of engineering, textiles, agro and food processing, mineral processing, chemicals, automobile and solar technology. These clusters demand workforce who are talented and trained in the promising cluster areas. The location decision of a firm depends on various factors like skilled manpower, availability of raw material and easy accessibility of ancillary services of infrastructure, banking etc to facilitate trade and commerce. The directorate of employment and training, government of Gujarat has been a forerunner to implement multiple skill building programmes for human resources and promoting industrial development in the state. There are 263 government Industrial Training Institutes (ITI), 448 grant-in-aid and self-financed Industrial Training Centers (ITCs), 335 Kaushalya Vardhan Kendra (KVKs), 238 Vocational Training Provider (VTPs) and 41 employment exchanges are functioning under this directorate. A team of more than 6,500 people are actively engaged in imparting training to 4,75,220 trainees (Talimrojar, n.d.). Technological development will be one-sided development if the human resources are not equipped with the necessary skill set.

Conceptual Framework for Courses After Secondary Level Schooling

Education till secondary level is a routine process. But the dilemma in

education field comes twice for parents and students at two stages viz., at the inception of the schooling and after standard tenth. Tenth standard is the junction from where one has to catch the

proper train of career to reach the appropriate destination. Various alternatives are available after standard tenth, which is represented in the Figure 1.



It can be observed that diverse courses are available after the secondary level schooling. It is very crucial for the student to choose appropriate course based on his/her interest area,

capability, personal hard-working capacity, economic resources to fund the course and the most important is the availability of employment opportunity on completion of the course.

Table 1 Course Description and Employment Opportunities

Course	Description of Course and Major Employment Opportunities
Higher Secondary (Science Stream)	Higher secondary offers doors for graduation and post graduation. Mathematics, Physics, Chemistry, English etc. are to be studied in 'A group', which offers employment opportunities in Engineering, Architecture, Bachelor of Science (B.Sc.), Master of Business Administration (MBA) etc. In 'B group' Mathematics subject is replaced with Biology and it offers opportunities in Medical, Dental, Physiotherapy, Pharmacy, Homeopathy, B.Sc., Ayurvedic etc. In 'A-B group' Maths and Biology are to be studied which offers career potential in almost every sector.
Higher Secondary (Commerce-Arts Stream)	Higher secondary opens doors for graduation and post graduation. In Commerce stream subjects like Accountancy, Statistics, Business Maths, Economics, and Business Administration etc. are taught. In Arts stream Sociology, Logic and Psychology etc. are taught. One can easily be graduate in following streams like Bachelor of Commerce/Arts/Business Administration/Rural Studies/Physical Education/Primary Teachers Training Course (B.Com., B.A., BBA, BRS, B.Ed., PTC), Hotel Management, General Nursing etc.
Home Science	This field teaches a blend of creativity and science to manage the house. One can be a bachelor or masters degree holder in home science.
Vidhyarthi Studies	It exclusively targets study in the subject of agriculture and village industries. After 12 th Standard one can pursue a degree course of BRS.
Diploma Engineering Courses	Diploma engineering provides an option to complete the course in three years viz., first two years (Bachelor level) and additional two years (Master's Level) in degree engineering course. It offers quick possibility for employment. The scope for diploma engineers is only at supervisory level. A higher percentage score in diploma opens a gate for direct admission in second year of degree engineering course.
TET Pattern Certificate Course	There are at least 50 different types of courses offered under TET pattern. The duration of this course is 1-2 years. Studying some of the important courses under the TET pattern gives a gateway to directly enter the diploma engineering under the reserved seat category.
ITI Courses	It is boon for the students who do not wish to pursue longer duration degree courses or who have less percentage score in 10 th standard which hinders the students to get admission in diploma or higher secondary courses, may opt for pursuing vocational based, practical, training oriented courses offered by ITI. There are more than 100 types of vocational courses run by ITI.
Other Courses	Pre-PTC is a one year duration course offering opportunity to become a teacher in primary schools. Fine Arts course is a five to six year course after 10 th standard in which student may avail Diploma in Applied Fine Arts/ Paintings/ Sculptures and Modeling. Kashi diploma course is two year course run by Agricultural University, exclusively targeted in the area of Farming. Animal Husbandry education can be obtained by pursuing one year 'Livestock Husbandry' course. Certificate in Physical Education (C.P.Ed.) is a two year course offering employment as Physical Training Teacher in schools. Indo-German tool room runs courses like Diploma in Tool and Die-Making and Certificate course in Machinist Tool Room which is too lucrative from employment perspective. Ayurved Compounder and Female Health Worker are also employment oriented courses run by Government Ayurvedic College.

(Source: Adapted from Bhatnagar, 2008)

Review of Literature

Education in traditional India was caste based, where Brahmins reserved exclusive rights to teach boys of upper caste. During Moguls regime education system was elitist, favouring the rich only. During colonial rule modern education system was set up in which entrance and advancement in government service was linked to academic education. In early 1900s the Indian National Congress placed emphasis on technical and vocational training. Nehruvian approach advocated education for all and linked it with industrial development, which acted as a cornerstone to maintain unity in a country, which was actually discriminated on various grounds of caste, creed, religion and wealth. Subsidized quality higher education through institutions like IIMs and IITs contributed to this approach (Lall, 2005). Balamohandas and Sharma (2011) broadly commented that current education system is a mixture of public-private-partnership (PPP) model. It is deciphered that there are different types of universities like *Central Universities* (established under Parliament Act, under the purview of Department of Higher Education), *State Universities* (set up and monitored by State Government and Union Territories, which can be further classified as *General or Specific; Exclusive Women or Coed*), *Deemed or Deemed-to-be Universities* (higher education institutions which are granted autonomous status by Department of Higher Education), *Private Universities* (started in private sector, under the private university act of state government and approved by UGC, which can grant degrees but are prohibited to have off-campus or affiliated colleges), *Indian Council of Agricultural Research- ICAR University* (controlled by agri-educational division), *Autonomous Organization* (institutions granted permission to award degrees, diplomas, but are not called university), *Innovation University* (cluster based approach to spur innovation) and *Open Universities* (education is imparted through distance mode using correspondence courses interactive educational aids).

Ghanchi (2011) underlined on meaningful education leading to gainful employment for youth. Naidu and Ahmad (2011) advocated pluralism and heterogeneity to be provided to the students under cross-cultural environment for better lateral and vertical learning, so that students are well-trained and easily employable. Kolaskar and Manda (2011) lamented on the poor quality of professional graduates who are often not acceptable to the industry. He strongly stressed that it was a necessity to improve the quality of education. Major reforms in education sector would be fruitful if gross enrolment ratio (GER) rises, faculty development for training students and increase in the models of public-private-partnership (PPP) model is encouraged (Singh and Ahmad, 2011). It is a pivotal role of education system to link research and innovation in the system so that students become employable (Naik, 2011). Technopreneurs, Intrapreneurs, Agripreneurs, Edupreneurs, Entrepreneurs, Social Entrepreneurs etc can be made through education. Bajpai and Pani (2011) pointed out that Indian higher education system exhibits quality gaps in terms of academic standards and infrastructure facilities. It was emphasized that Indian education system must payback to the country by providing skilled intellect. Tareen (2011) proposed optimum use of existing land and infrastructure to reach critical mass of students, abolition of affiliation system for strong autonomy, creation of cluster of multi-campus universities for growth and compulsory accreditation for quality education, should

be incorporated in XIIth plan. Motwani (2011) highlighted that academicians is required to be constant learner and adapter to open courseware sites, as technology leads to multi-model learning. Growth of online, professional and physical universities in the area of *Science, Technology, Engineering and Mathematics and Management* (STEM) has provided society with a pool of skilled manpower (Ramnarayan, 2011).

Saikia (2011) distinguished between a commerce and management course. A commerce course is a liberal and traditional course (targeting service gaps fulfillment) whereas a management course is a professional course (catering to business needs). Role of true education must be creation of awareness of self and surroundings, discovering things without boundaries, trusting ones own judgment and act with confidence (Ramanathan, 2006). Parthasarathy (2009) made a remarkable comment that educated people are like human capital, which yields returns. Author drew attention to poor quality of education; ramshackle infrastructure facility and inadequate pedagogic attention are common problems across all government schools. It was also necessary that government spends more money from its coffers on education. The ecosystem of education in India starts with pre-primary, primary, elementary, secondary, higher secondary, under graduation and post graduation education. The apex body National Council of Educational Research and Training (NCERT) takes care of curriculum, various boards which disseminates education are State Government Boards, The Central Board of Secondary Education (CBSE), The Council for the Indian School Certificate Examinations Board (ICSE), National Institute of Open School (NIOS), International Baccalaureate or Cambridge International Examinations and Islamic Madrasah Schools (Parthasarathy, 2009). Currently the epitome of Indian education system is based on Common School System (CSS) in which education is promoted in different social classes and groups together for egalitarian and integrated society (Sadgopal, 2008). Indian school system is based on British structure; the major challenges in Indian education system are higher drop out rate, education of girl child and teacher quality, teaching environment and quality skilled students to match the market demand. A three tier structure exists at school level viz, government schools, government aided- privately run schools and private schools (Cheney, Ruzzi and Muralidharan, 2005). A new design for village education is being developed at Rishi Valley Institute for Education Research, where students are practically taught the curriculum through *balwadi, puppet shows, theatres and metric melas*. Schools act as nucleus for recovery of traditional commons and the return on social capital. The major prominence in village schools rests on the premise of breaking down the learning process into a sequence of concrete manageable steps, through which students become self learners and the teachers are just facilitators (Herzberger, 2007). Government's goal of universalizing elementary education was depicted through its large scale initiative programme like District Primary Education Programme (DPEP), the Sarva Shiksha Abhiyan (SSA) and the Mid Day Meals Schemes, in which the physical access to schools had greatly increased in terms of backward caste enrolment and girl child enrolment of education (Bajpai and Goyal, 2004).

A definitional work on Vocational education or *Vocational Education and Training* (VET), also called *Career and Technical Education* (CTE), prepares learners for jobs that are based in manual or practical activities, traditionally non-academic and

totally related to a specific trade, occupation or *vocation*, hence the term, in which the learner participates. It is sometimes referred to as *technical education*, as the learner directly develops expertise in a particular group of techniques or technology. Vocational education is related to the age-old apprenticeship system of learning. It focused on specific trades and was therefore associated with the activities of lower social classes, which attracted a level of stigma (Aicte, n.d.).

The review of literature portrays that existing work in the field of education is conceptual in nature. The issues addressed in the literature mainly consist of evolution of education in India, traditional and modern pattern of education, issues of quality concerns in education, problems in education system, evaluation of education schemes floated by government etc. Much of the theoretical work pertains to issues of higher education. No empirical work was found in the area of education, especially in the field of vocational training based education. An apparent need was felt to address this gap, which is filled by the empirical research on students pursuing course at ITI, faculties imparting knowledge at ITI and evaluation of secondary data was also performed.

Research Objective

1. To understand the availability of varieties of courses after secondary level schooling.
2. To identify the significance, type and pattern of courses taught at ITI.
3. To study the major initiatives offered by Gujarat government in the area of vocational training courses.
4. To evaluate the secondary data of directorate of employment and training and identify the popular trades prevalent in the market.
5. To empirically test the students awareness level towards the availability of career opportunity in the course pursued by them.
6. To check faculties perception towards the training provided by them to the students of ITI.

Research Methodology

It is briefly described below in the table.

Table 2 Research Methodology Adopted for the Study

Parameters	Survey of Students	Survey of Instructors
Research Design	Descriptive	Descriptive
Sampling Method	Non probability based judgmental sampling	Non probability based judgmental sampling
Sample Size	100 (details mentioned in the forthcoming table)	30
Sample Size Determination	$n = Z^2 \cdot p \cdot q / e^2$, i.e. $(1.96)^2 \cdot (0.5) (0.5) / (0.10)^2$	Based on the guidance of principal of ITI
Sampling Area	Gandhinagar	Gandhinagar
Method of Data Collection	Primary	Primary
Research Approach	Survey	Survey
Research Instrument and Contact Method	Questionnaire- translated in vernacular language, filled through personal visit	Questionnaire- translated in vernacular language, filled through personal visit
Sample Duration	28 th January to 2 nd February, 2013.	28 th January to 2 nd February, 2013.
Sampling Unit	ITI Campus, Gandhinagar	ITI Campus, Gandhinagar
Sampling Element	Students pursuing trades in ITI.	Faculties teaching in various trades in ITI.
Data Processing	Excel and SPSS 19	Excel and SPSS 19
Data Analysis	Frequency distribution, descriptive statistics such as mean, median, mode, standard deviation	Frequency distribution, descriptive statistics such as mean, median, mode, standard deviation, rank analysis
Inferential Statistics	Parametric and Non-Parametric Test: Fisher's Exact Test, Factor Analysis, One Sample T-test	Not applicable

(Source: Authors Compilation)

Table 3 Type of Course and Sample Selected from Each Course for Student's Survey

Refrigeration and Air Condition Mechanic (5)	Draftsman Mechanic (6)	Draftsman Civil (5)	Electronics Mechanics (5)	Surveyor (5)
Electrician (5)	Instrument Mechanic (3)	Mechanic Motor Vehicle (5)	Mechanic Diesel (5)	Dress Making (3)
Fitter (5)	Machinist (5)	Hair and Skin Care (4)	Wireman (4)	Painter General (5)
Welder (5)	Certi. Course in E-Commerce (5)	Steno-cum-Steno-operator (Gujarati) (5)	Medical Equipment Mechanic (5)	Armature Motor Rewinding (5)
Carpenter (5)	Total = 100			

(Source: Primary Data)

The primary as well as secondary data sources have been used to understand the availability of education avenues after standard tenth, functioning of ITI, courses at ITI and the popular trades of ITI. Secondary data was collected from various books, journals, newspaper and magazines and websites of talimrogar and ITI were mainly surfed for collecting the data. Secondary data collected from employment exchange of Gujarat was analyzed using descriptive statistics like mean (\bar{X}) and frequency. Inferential statistics like Welch F ratio, Games-Howell post-hoc test and Independent sample t-test was applied to analyze the data. The data was available for 8 years viz., 2003 to 2010.

Research Hypothesis

Employment exchanges are interface between job givers and job seekers. A hypothesis (*first*) was framed to test whether registration, submissions, vacancies notified and placements differed significantly in the duration of 2003 to 2010. It is believed that if supply outperforms the demand then all vacancies might be filled. A hypothesis (*second*) was framed to test whether vacancies notified and placements availed differed significantly. It is a general belief that boys have flair for technical learning. A hypothesis (*third*) was framed to check if there was any association between gender and the kind of course pursued. A fourteen statement data was tried to reduce through data reduction technique of factor analysis. The hypothesis (*fourth*) formulated tested if the variables were uncorrelated in the population. One becomes curious to know, the reasons for which the students are pursuing the course at ITI. A hypothesis (*fifth*) was framed to study the different ratings provided by students with respect to the objective of taking admission in ITI.

Limitations of the Study

The basic limitation of the study owing to time and budget constraint is the sample size in the case of student's survey and faculty survey. This type of study could be replicated in other geographic regions with a bigger size. Inter region ITI performance could be compared in terms of courses offered, student's satisfaction and faculties' perceptions towards the course. A larger sample size would help to draw in depth conclusions.

Scope of the Study

Gujarat is known for its entrepreneurship. Many small, medium and large sized industries are found in Gujarat. The industry sector mainly produces heavy goods, engineering goods, light goods, consumer durables, agro based goods etc. Varied firms need well trained and skilled people to assist in the production. This gives rise to demand for multi-skilled people possessing industry specific skill sets. Inculcating the industry specific skill either for employment or self-employment is done by ITI, based in capital city of Gujarat- Gandhinagar. Therefore, ITI based at Gandhinagar was taken for study. This study could be useful to create awareness about the different courses among prospective candidates. Empirical study is based on in-depth analysis; implications drawn from the study can also be useful to ITI Gandhinagar and ITI of other places.

Types and Pattern of Vocational Courses

There are many courses run by ITI. To give the description of each course is beyond the scope of this paper. One can find the detailed information of courses offered by ITI from the website of directorate of employment and training, Gandhinagar, from the website of ITI and information booklet of ITI. A broad outline of type of course and its description is provided in the table.

Table 4 Types and Pattern of Vocational Courses

Type of Courses	Description
Institutional Training- Craftsmen Training Through ITI	It is provided to youth to make them semi-skilled workers for industry. The educational qualification varies from Class VIII pass to Class XII pass depending upon the trades. The duration of training varies from six months to three years.
On the Job Training- Apprenticeship Training Through Industry	Training is imparted to school dropouts and ITI graduates with the objective to prepare skilled workers for industry. The educational qualification varies from class VIII pass to Class XII pass depending upon the trades. The duration of training varies from one year to four years. Successful apprentices are awarded National Apprenticeship Certificate, which is a recognized qualification for recruitment to the shop floor level subordinate technical posts within the country as well as abroad.
Skill Development Initiative on Modular Employable Skill (MES)	It has been developed in close consultancy with Industry, State Governments & experts in pursuance of excellence in vocational training. MES is 'Minimum Skill Set' which is sufficient to get an employment in the world of work. MES allows skills upgradation-formation, multi entry and exit, vertical and horizontal mobility and lifelong learning opportunities in a flexible manner and allows recognition of prior learning. The skill is to be assessed by the Assessing Body mainly from the Industry organizations.
Pattern of Vocational Courses	
National Council of Vocational Training (NCVT) Pattern	In order to obtain National Trade Certificate trainees appear for all India trade test is conducted by NCVT. This certificate is recognized for the purpose of recruitment to the subordinate technical posts at the shop floor level within the country as well as abroad.
State Council of Vocational Training (SCVT)	By pursuing a course under SCVT pattern trainees receive certificate from the respective state government's council of vocational training, which is valid within the state. For the state level courses in Gujarat the certificates are provided for courses run on GCVT pattern.

(Source: Adapted from Information Booklet of ITI)

Major Vocational Training Courses

A brief description of vocational training courses is provided in the table.

Table 5 Details of Major Vocational Training Courses

Vocational Course	Targeted To	Description	Key Benefits of the Course
Kaushalya Vardhan Kendra (KVK)	School dropouts, adults in need of skills, farmers and rural artisans, housewives, peasants, those who needed change in skills or up-gradation of skills, youth of the village and home based workers.	Women oriented, industry oriented, soft skill and service sector related courses and hard core traditional courses of 84 different types are included and imparted based on the local need of the place.	Training facility is at the doorstep, in which trades taught, meets the gap of urban-rural divide and imparts skills at par with urban area. It brings change in the quality of life of rural people as they too become multi-skilled.
eMpower Scheme	Candidate who is 5 th pass and is above 14 years of age.	Basic computer course and information technology bridge course will be commenced through which basic training in the field of computer and IT will be provided.	It will empower youth of the state to compete at global level. Certificate from GCVT will be awarded and those who clear Microsoft examination will be awarded joint certificate of Microsoft-GCVT.
Call Centre Assistant Training Programme	Candidate who is 12 th pass with English subject.	Train student in written and spoken English, assist in personality development, interactive skills and impart advanced technical knowledge.	Easy employment in call centre, customer care, hospitality management and receptionists etc.

(Source: Adapted from Information Booklet of ITI)

Analysis of Secondary Data

The website of Directorate of Employment and Training was surfed to collect the data specifically pertaining to Gujarat State. Details like number of Employment Exchanges in Gujarat, Registration in the exchange, vacancies notified by the exchange, submissions in exchange and placements carried out by the exchange was obtained from the website, in the time slot of 2003 to 2010. There are 41 Employment Exchange across Gujarat (Employment Exchange Statistics, n.d.). Using the available data, following hypothesis was tested.

H₀1: Registration, Submissions, Vacancies notified and Placements do not differ significantly in the duration of 2003 to 2010.

H₁1: Registration, Submissions, Vacancies notified and Placements differ significantly in the duration of 2003 to 2010.

Before performing one way analysis of variance (ANOVA), test of homogeneity of variances was conducted. It was noticed that

Levene's statistic ($F(3,28) = 14.51$, $p\text{-value}(0.00 < 0.05)$) was statistically significant and the assumption of homogeneity of variance was violated, so the Welch F ratio was reported. There was statistically significant difference between groups as determined by Welch ($F(3, 14.52) = 6.91$, $p = 0.00 < 0.05$). Hence the H_0 is rejected i.e. Registration, submissions, vacancies notified and placements significantly differed in the duration of 2003 to 2010. The Games-Howell post-hoc test does not rely on homogeneity of variance, so it was applied. At 95% confidence limit the test depicted the result for registration variable (261.83 ± 135.74), submission variable (640.35 ± 135.74), vacancies notified variable (174.60 ± 135.74) and placement variable (134.25 ± 135.74). The mean difference was statistically significant ($p < 0.05$) for variables, in the group; submissions and vacancies notified and submissions and placements. The mean difference was statistically not significant ($p > 0.05$) for other variables in the group. The details of employment statistics is mentioned in the table below.

Table 6 Details of Employment Statistics

Year	Registration	Submissions	Vacancies Notified	Placement
2003	273.70	224.00	68.30	64.90
2004	197.70	216.30	74.40	64.90
2005	193.20	396.70	121.50	92.90
2006	239.40	571.00	145.60	99.00
2007	350.40	904.10	245.00	178.30
2008	38.90	1091.00	290.70	217.70
2009	395.20	775.60	191.20	153.50
2010	406.50	944.10	260.70	202.80

(Source: Compiled from Employment Exchange Statistics, n.d.)

It may be inferred that during 2003 to 2010 the registration and submissions increased considerably. People have registered to get details of new job opportunities. Gap between the vacancies notified and placement is quite narrow, indicating that employment exchange has been successful in communicating the vacancies to the registered candidates, thereby generating placement for the candidate. Thus, employment exchange serves as a healthy link between job seekers and job givers. From the year 2004 onwards, it was observed that placements were less than the vacancies notified, indicating that registered candidates might already be absorbed in job before the vacancies were out and they might be reluctant to switch over from the existing job. Candidate might have not updated his/her placement status to the exchange and as per records exchange might be treating them unemployed.

H₀₂: Vacancies notified and placements availed do not differ significantly.

H₁₂: Vacancies notified and placements availed differs significantly.

The p-value for Levene's test for equality of variances $F = 1.50$, $p(0.24) > 0.05$ denoted that the result was not statistically significant, so it was possible to proceed with the independent sample t-test. There was no significant difference in vacancies notified and placements, at $t(12) = 1.08$, $p(0.29) > 0.05$. It may be inferred that employment exchanges have properly matched the demand and supply leading to the success of absorption of right candidate at right place.

Empirical Analysis of Students Pursuing Course at ITI

Primary survey was conducted for students pursuing course at ITI, the detailed analysis is provided for the same.

Table 7 Analysis of Demographic Details

Parameters	Observed Statistics in the Research	Implication
Gender	92 respondents were male and 8 were female.	The highest number of male students highlights that vocational courses are favoured by boys. It proves that nuts and bolts based technical skills attracts boys as compared to girls. The glass ceiling syndrome is not broken by female students of ITI Gandhinagar.
Age	The mean, median and modal age of the respondents was 19 years. Junior most respondent was of 16 years and the senior most respondent was of 40 years.	This highlights that there is no upper limit of age, which prohibits a candidate for pursuing a vocational course. Eligibility of candidate with respect to age criteria is emphasized only at the entry level to avail admission in the course. Pursuing occupational course at the early age could make the candidate perfect in his work.
Place of Residence	56 respondents lived in rural areas, 34 in urban areas and 10 in semi-urban areas.	Maximum students of rural areas were fascinated to learn practical skills at ITI. It represents the zeal of rural people to educate their children in technical field. It is a known reality that hard skilled based blue collared jobs offers lucrative job opportunities, which attracts students across different areas.
Occupation of the Head of the Family	Head of the family (HOF) of 45 respondents was occupied in farming, 30 (HOF) were involved in service and 25 (HOF) in business.	Maximum respondent's head of the family were involved in farming in the rural areas. This point out that farming is conventional, ancient occupation of people dwelling in rural areas. Farmers by occupation are industrious and tend to inculcate the same spirit in their children.

(Source: Author's Compilation)

Type, Duration and Kind of Course

58 respondents were pursuing long duration course, 31 respondents were involved in training oriented course and 11 respondents were occupied in short duration course. It may be inferred that maximum respondents pursued long duration course. It was also learnt that hardcore technical courses required lot of guidance and practice, which could be achieved only through interaction with instructor and complete workshop training under long duration course. Training based and short duration courses, involved teaching of specific type of skill set only, within a given time frame. The mean (X) duration of the course was found to be 18 months, median duration was 24 months. For maximum respondents, the modal (Z) time was 24 months. Minimum and maximum time duration was 12 and 24 months respectively. The dispersion from mean (standard deviation SD) was found to be as high as 6 months. Based on the nature of the course a high time line variation was noticed. 77% respondents pursued engineering

course and 23% pursued non-engineering course. It may be comprehended that engineering courses were fundamentally fully technical in nature, of longer duration and its pedagogy was designed in such a way that it required considerable time to impart theoretical and practical knowledge. Non-engineering courses were partially technical, of short duration and its pedagogy involved imparting specific type of on the job required set of skills. A hypothesis was framed to know if there was any association between gender and kind of course.

H₀₃: There is no association between gender and kind of course.

H₁₃: There is an association between gender and kind of course.

At the FISHER ($N=100$), $p=0.00 (<0.05)$, it may be inferred that there is an association between gender and kind of course. The cross tabulated data revealed that 77 males pursued engineering course, 15 males pursued non-engineering course and 8 women pursued non-engineering course. A glass ceiling syndrome was

noticed in the case where no women candidate pursued engineering course. The cultural set up in rural areas still prohibits women to learn technical and carpentry skills. It reflects that nuts and bolts work is masculine and should be exclusively reserved for males. Women were permitted to develop skills in soft areas like dress making or hair and skin care courses. It may also be inferred that women, herself may not be interested to learn hard core technical skills, so they kept away from engineering courses.

Course Currently Pursued

The survey revealed the different types of course pursued by students at ITI Gandhinagar were namely; refrigeration and air condition mechanic, draftsman mechanic, draftsman civil, electronics mechanics, surveyor, electrician, instrument mechanic, mechanic motor vehicle, mechanic diesel, dress making, fitter, machinist, hair and skin care, wireman, painter, welder, certificate course in e-commerce, steno-cum-steno-operator (gujarati), medical equipment mechanic, armature motor rewinding and carpentry. ITIs primary goal is to provide vocational skills in varieties of field. ITI attains this motto by running umpteen numbers of courses under one roof. Thus, in true sense it imparts practical skills to the students to make them employable in their area of interest.

Yearly Fees and Workshop Material Expense

The average fees for the course were ₹1,111. Median fees were ₹1,200. Maximum number of respondents paid ₹1,200 as yearly fees for the course. The SD in fees was ₹626. Minimum fee amount was zero and the maximum fees were ₹2,400. It may be inferred that since Gandhinagar ITI is a government ITI, the fees are found very meager in amount. Lower amount of fees provides opportunity to rural parents to educate their children in technical

field at lower cost and make their dream come true, despite discarding premium fee based professional degree courses. It clearly reflects that the 'right to education for all', could be made possible through such initiatives. Zero amount of fees depicted that such students received scholarship based on their caste criteria.

Workshop training is the crucial portion of ITI curriculum. In workshop training students are trained on machines with materials. 84% students admitted that there was no additional expense that students had to incur for material required in workshop training. This indicates that the material is provided by ITI itself. This arrangement removes the burden and worry of parents to arrange for additional funds for such type of practical training. It is noteworthy that such training invites huge add-on cost in professional degrees. Only 16% respondents incurred additional expense for workshop training. Qualitatively it was investigated that such students pursued indispensable course of dress making and hair and skin care, in which the requisite material expense was to be borne by students. In such cases it was also noticed that the fees charged from such participants was very low and it was short duration course.

Interest in Current Course and Pursuing Additional Course

98% respondents were pursuing course at ITI as it was of their interest area. An irony was found with only 2% respondents who were pursuing course, which was not of their interest area. The cross tabulation revealed that 55 respondents expressed their willingness to pursue a course after the completion of their current course. 45 respondents were adamant to pursue any different type of course. It may be inferred that students who were willing to pursue future course were career conscious, had zeal and enthusiasm to learn something new.

Table 8 Cross Tabulation of Current Course and Additional Course

		Pursuing Additional Course		
		Yes	No	Total
Interest in Current Course	Yes	54	44	98
	No	1	1	2
Total		55	45	100

(Source: SPSS Output)

ITI is focused to either impart skills or upgrade skills or both. Pursuing more than one course, equips the students to be called as multi-skilled. Pursuing the course in the same field is considered as skill enhancement and knowledge advancement. Whereas taking up a course in the different field is considered diversification and skill acquisition. Thus, it may be learnt that timely skill enhancement or skill acquisition, assists the students to develop competitive advantage and stay ahead in the volatile market. Timely learning of new skills raises the prospects of best employment options as well as earnings.

Eligibility Criteria for Current Course

77 respondents were enrolled in the course, in which the eligibility

was 10th pass, 11 respondents were enrolled in the course, in which the eligibility was 12th pass and 12 respondents were pursuing course in which the eligibility was only 5th pass. It clearly pointed the fact that all students may not like to carry on with the routine conventional degree or professional courses. Books and bags routine may not fascinate a person who have inclination for nuts and bolts. In fact low minimum eligibility is a boon for students who wish to master in practical skills at an early age in the minimum time duration.

Awareness About the Course

A multiple choice dichotomous question was probed to the respondents to check out their awareness of the course at ITI. The

positive response towards the awareness were through friends (29%), through relatives (29%), through personal visit at ITI (11%), through advertisement of course in newspaper (12%), through website of ITI (9%) and through awareness camps promoted by ITI (10%). It may be inferred that informal sources act as a superior tool to create awareness about the course. As majority of the students dwell in rural areas, where internet access is lacking, is not used as the primary source to collect information about the courses offered by ITI. First hand experience of friends and relatives assist the prospective candidate to decide upon the enrollment in ITI run courses.

Objective of Pursuing the Course at ITI

Student's opinion regarding their objective to pursue course at ITI was rated on a 5 point likert scale, which was tried to synchronize

through factor analysis.

H_04 : Variables are uncorrelated in the population.

H_14 : Variables are correlated in the population.

It may be inferred that the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) value is $0.57 > 0.5$, which represents that factor analysis is appropriate. As per Bartlett's test of sphericity the Chi-Square value at 105 degree of freedom is as high as 347.63 and the significance value is $0.00 < 0.05$, i.e. H_0 is rejected. Based on the output of rotated component matrix, following factors were obtained. The reliability testing was performed and the Cronbach's Alpha was found to be 0.65, indicating a satisfactory internal consistency reliability of the questionnaire.

Table 9 Factors Based on Rotated Component Matrix

Factor Nos.	Name of the factor	Variable	Factor Loading
1.	Fascinating, Quick Vocational Training	Practical teaching at ITI	0.60
		Compared to formal degree the relevant skills are taught at no time	0.83
		Gate-pass of the interest areas	0.82
2.	Disinteresting Laborious, Expensive Professional Studies	Uninterested in elementary courses	0.73
		Fear to pursue professional course	0.79
		Tedious and time consuming professional courses	0.59
		Unaffordable fees of professional course	0.54
3.	Motivating Amicable Pedagogy	Clarity to join technical line	0.68
		Understandable vernacular communication	0.72
		Simple and easy examination pattern	0.65
		Suggestion by ITI faculties	0.62
4.	Realistic, Prospective Learning	Impractical 10-2 learning pattern	0.77
		Better job opportunity	0.60
5.	Degree Admission Unavailability	Admission unavailable in the formal degree course of interest area	0.81

(Source: Author's Compilation)

H_05 : There is no significant difference in the mean ratings of the respondents with respect to the objective of taking admission in ITI ($\mu = 3$).

H_15 : There is no significant difference in the mean ratings of the respondents with respect to the objective of taking admission in ITI ($\mu \neq 3$).

Table 10 Test Statistics for One Sample t-test

One-Sample Test ($\mu = 3$)					
Factors	t	df	Sig. (2-tailed)	Mean Values	SD Values
Factor 1	19.93	99	0.00	4.23	0.67
Factor 2	1.01	99	0.31	3.09	0.89
Factor 3	9.57	99	0.00	3.70	0.72
Factor 4	11.24	99	0.00	3.81	0.72
Factor 5	0.54	99	0.74	3.05	1.50

(Source: SPSS Output)

As the p-value in factor 1, factor 3 and factor 4 is $0.00 < 0.05$, H_0 is rejected. Students agree to the fact that ITI provides fascinating, quick, vocational training. They further agree that its teaching pedagogy is motivating and amicable. It was also admitted that ITI's training is quite realistic in nature with the scope of prospective learning. For factor 2 and factor 5 the p-value is greater than 0.05, so H_0 is not rejected, i.e. students do not significantly differ in their opinion of treating conventional professional course as disinteresting laborious and expensive affair. Students expressed a neutral opinion towards non-availability of admission in degree courses. A SD of less than 1 depicted consensus in the reply.

Key Attractions for the Course

A multiple choice dichotomous question was asked to the respondents to identify the key attractions for pursuing course at ITI. The positive response were lower amount of fees (14%), skill acquisition (14%), experienced faculties (14%), placement (14%), practical training (13%), higher value and demand of the course in the market (13%), easy admission (11%) and short duration of the course. It may be inferred that the motto of the ITI is duly attained if students pursue course for skill acquisition or up gradation, which is clearly depicted from the reasons stated for taking up a course at ITI.

Weekly Hours Practical Training

The average weekly hours training was of 38 hours. Maximum respondents were imparted training for modal time of 48 hours. The SD was as high as 10 hours. Higher variation was found, the timings of providing practical training based on the type of the course (i.e. short term, long term or training based) and kind of course (i.e. engineering or non-engineering). Minimum training was for 8 hours duration and the maximum training was for 48 hours duration. Especially for certificate and short duration

courses the training time was shorter when compared to long duration courses, which were highly technical in nature.

Satisfaction Towards Training

On a 5 point likert scale (from strongly agree to strongly disagree) respondents were asked to state their opinion regarding the satisfaction towards training. Factor analysis was performed to club the multiple variables as factors. It was noticed that the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) value is $0.76 > 0.5$, which represents that factor analysis is appropriate. As per Bartlett's test of sphericity the Chi-Square value at 36 degree of freedom is as high as 231.73 and the significance value is $0.00 < 0.05$, i.e. H_0 is rejected. Based on the output of rotated component matrix, three factors were obtained viz., *training methods and placement* (Factor 1), *teaching style and syllabus coverage* (Factor 2) and *skill development and campus facility* (Factor 3). All factors had loading above 0.50. The reliability testing was performed and the Cronbach's Alpha was found to be 0.76, indicating a satisfactory internal consistency reliability of the questionnaire.

Usefulness of the Training and Recommendation of Course

Respondents were asked to state their opinion on the training provided to them, on a scale of very useful to useless. Maximum respondents stated that training was very useful. On an average the training was above the mediocre level. SD was 0.60, which indicated that respondents reply did not widely scattered from the mean. 93 students affirmatively expressed their views to motivate others to pursue course in ITI. Only 7 students refused to motivate others to take up course in ITI.

Empirical Analysis of Teacher's Teaching at ITI

Primary study was conducted for teacher's who imparted training to students of ITI. The details of the same is mentioned.

Table II Teachers Survey Analysis

Parameters	Observed Statistics in the Research	Implication
Gender	22 respondents were male and 8 were female.	ITI provides training in technical and non technical courses. Hard skills oriented technical courses are often a fascination of male teachers. Only two female teachers were mainly involved in imparting training in the area of dress making and hair and skin care. A handful of just six women instructors broke the glass ceiling syndrome and imparted training in tough areas of draughtsman civil, electronics etc.
Teaching Experience	The mean and modal teaching experience was 20 years. The median teaching experience was 22 years. The junior most faculties had just 5 months and the senior most faculties had 30 years of teaching experience.	It may be inferred that ITI Gandhinagar imparted training to students through intellectually sound, well qualified and highly knowledgeable (experience in double digit) faculties. As ITI Gandhinagar is government institute, faculties were serving the institute since long time, due to the perquisites and lucrative benefits associated with the government jobs. A SD of 7.5 years was noticed in the overall experience of the faculties.
Type of Courses Taught	25 faculties taught engineering courses and 5 faculties taught non-engineering courses.	It reflects that engineering courses were highly demanded in the market as compared to non-engineering courses. Med core students who had passion to study tough and tough courses, preferred to pursue technical, engineering, practical skills in the communication friendly and learning friendly environment of ITI, as compared to professional time consuming sophisticated courses. Therefore, number of faculties was found more in technical courses than non-technical courses.

Name of Courses	Motor rewinding, carpentry, draftsman mechanic, draftsman civil, dress making, electrical, electronics, hair and skin care, diesel mechanic, mechanic motor vehicle, medical instrument mechanic, painting, refrigeration mechanic, air condition mechanic, steno-cum-computer operator (gujarati), surveyor, welding, and wireman.	It reflects the true essence of training institute, which is actively involved in training multi-skills to students under one roof.
Scheduled Mandatory Weekly Training Hours	Mean (38 hours), Median (42 hours), mode (42 hours), minimum (24 hours) and maximum (48 hours).	ITI being a hardcore training institute levies emphasis on practical workshop training. As per the designed curriculum the practical workshop sessions are compulsorily fixed, so that student receive exposure of real time work and requisite skills could be taught properly. The training hours varies based on the type of course pursued by the student and the technicalities involved in the same.
Actual Weekly Training Hours	Mean (37 hours), Median (37 hours), mode (48 hours), minimum (20 hours) and maximum (48 hours) and SD (8.8 hours).	Maximum faculties imparted training for 48 hours which was higher than scheduled training hours, this reflects that faculties personally took interest in and made sure that students learn the things to perfection in the workshop sessions. A higher SD was noticed due to problems of non-availability of vacant place in workshop or faculties were at times forced to engage themselves in other administrative work assigned by government officials. It reflects that external bottlenecks hampered the preliminary fixed training schedules.

(Source: Author's Compilation)

Problems Faced in Imparting Training

A 5 point likert scale question was probed to the faculties of ITI to

identify the problems faced by them, while imparting training to the students of ITI. Rank analysis was applied to identify the crucial problems, faced in training students.

Table 12 Rank Analysis

Statements	Total Score	Mean Score	Rank
Frequent assignment of admission work during training sessions.	119	3.97	1
Village students are reluctant to wait for training sessions due to commutation problems.	118	3.93	2
Often engaged in government work.	117	3.73	3
Students are many times not interested in training.	78	2.60	4
Students do not turn up for training.	74	2.47	5
Seldom shortage of material in workshop leads to hindrance.	71	2.37	6
Students perceive training to be a tough exercise, so they tend to keep away.	59	1.97	7
Sometimes workshop is not vacant.	57	1.73	8
Last session training slot is inconvenient for students.	51	1.70	9

(Source: Author's Computation)

Nature of Training and Job Opportunities for Students

In response to a balanced 4 point likert scale question (1- not useful to 4- quite useful) on the nature of training, it was learnt that on average faculties considered training to be useful (3). Maximum faculties considered training provided to students of ITI as quite useful (4). A question was asked to know the job opportunities available for students who pursue course at ITI. 3% faculties opined that students after pursuing course at ITI may start their own business, 20% considered students to be competent for job and 77% believed that students can opt for either part-time job and full time business or part-time business and full time job. It may be inferred that training provided to students is practical and vocational in nature, thereby making them competent with

necessary skills.

Number of Seats in the Trade and Reasons for Drop-out

In the qualitative discussion it was learnt that in almost every trade there were two batches. Each batch on average had 33 seats. Minimum seats in a batch were 12 and maximum were 126. The number of seats varied on the type of the course i.e. engineering or non-engineering. It was also comprehended that all the seats were filled in all the trades, which implied that courses run at ITI has great market demand and students in order to be employable join the courses. The drop-out rate in the trade was found as high as 23 students per batch. Students left studies due to personal reasons (43%), students received opportunity better than ITI (32%), students are often not interested in studies (22%) and students felt

that the training provided by ITI was difficult to accomplish (3%). Hardcore training are industrious in nature, it demands lot of dedication and patience to learn practical skills. Those students who cannot mentally and physically cope with the rigorous training tend to drop-out from the trade.

Enhancement of Skills

Vocational courses leads to acquisition of skills. In the discussion with the faculty members it was understood that acquiring just one skill is not suffice to stay competitive in the market. Multi-skill students have higher probability of employment domestically as well as internationally. Multi-talented students may receive good start and major breakthroughs. In relation to multiple response questions, faculties opined that students must learn things taught in training (27%), they must enroll in courses in which they are eager and interested (27%), must not leave the studies in-between (24%), should enroll in different type of courses after certain duration (17%) and must pursue more than course (5%).

Conclusion

ITI tries to address the missing link such as lack of skilled manpower for industry specific need and retraining of recruited skilled manpower. It is a boon for students who wish to pursue technical courses, free from the ambit of degrees and diplomas. ITI makes the student in employable state. Faculties not only teach but also train the students to be called as multi-skilled. ITI can also act as source of skill up-gradation for degree and diploma holders. It practically provides skilled manpower to industries. Thus, it can be said that the role of ITI is gargantuan.

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