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Assessing the Impact of Vocational and Technical Education (VTE) for Human Capital Development in Balochistan

Abstract

Technical Vocational Education and Training Program, also known as TVET, is broadly recognized as one of the most prominent disciplines in the education system. Technical education, as included in Pakistan's national education policy, is concerned with the quality technological human capital leading to a national pool of skilled and self-reliant artisans, technicians and technologists in the fields of vocational and technical education. The descriptive research design was used, and a total of 625 students and 137 TVET institutes of Balochistan participated in the study. The instrument for data collection was an adopted, and amended questionnaire based on study constructs, and data were collected by the researchers. Opportunities lie in the emerging demand for skills in CPEC projects, global markets of Europe, the Middle East and neighboring Gulf states for conventional work and profits, national skills requirements, human capital optimization through workforce skills development, provincial incorporation of skills in major projects.

Key Words: Balochistan, TVET System, TVET Practices, Human Capital Development, Government Policies & Strategies, Curriculum Design, Curriculum Delivery

Introduction

In general, there is a mounting consciousness in evolving states for the requirement to amend the Technical Vocational Education and Training to meet the swiftly changing needs of the marketplace, regionally, nationally and internationally. Nevertheless, TVET is considered an essential factor in Balochistan, as the province cannot achieve social and economic expansion without creative and trained labour that can meet the changing demands of its surroundings.

Balochistan's TVET system is based on providing training skills lasting three months to three years in almost all the provincial districts. It has three ranges of technical education, technical training and vocational training in cooperation with technical training centers, vocational training centers, polytechnics, private training centers and rural and urban development sectors.

Balochistan is the least developed territory in Pakistan, and its socio-economic expansion requires goal-oriented and focused strategic and policy decisions under the China Pakistan Economic Corridor (CPEC) to enhance skills, human capital reform and employment increase. The TVET system has not yet been investigated to see if it meets the need for skills to increase employment and improve human capital under potential CPEC projects in the province (Khan A. H, 2018). Traditional TVET skills, overlapping TVET skills provided by various public sector departments, the inactive status of B-TEVTA, low coordination level in various departments for Technical Vocational supply, low skill level, insurgency, poverty and other low levels of socio-economic indicators are severe concerns to prevent the provision and enhancement of TVET skills required to reap the interests of potential CPEC projects in the province.

Provincial TEVTAs are accountable for maintaining and developing TVET Systems, Interaction of TVET Systems, Linking to Labor Markets and Strengthening TVET Systems in the provinces in Pakistan. (NAVTEC, 2018; GoB & BTEVTA, 2011)

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TVET practices in Balochistan has relatively lingered behind for human capital optimization and employment increase in both the vocational and technical skill trades in contrast to the TVET practices and skill enhancement in other territories of Pakistan ([Ahmed & Khan, 2018](#)).

Balochistan Technical Vocational Education and Training Authority (BTEVTA) was established in 2006 to harmonize Technical Vocational Education and Training (TVET) with varying situations to construct powerful technical and vocational human capital in the territory to overcome unemployment and poverty issues and meet the demand of national and global labour markets.

Human capital is the stock of knowledge, habits, personality attributes, social attributes and creativity incorporated in the capacity to perform labor so as to produce economic value ([Kwon, 2009](#)). The concept of human capital optimization through Technical and Vocational Education is an important process for the enhancement of the China Pakistan Economic Corridor (CPEC) in Balochistan. The Balochistan Government is of the opinion that TVET is an imperative instrument that plays a key role in addressing the shortage of skilled workers in many sectors, especially in the CPEC enhancement and the economy. It is impossible to ignore its impact on both developments.

The best strategy for human capital optimization plays an important role in economic expansion and enhancement. [Heckman, Lochner, & Todd \(2003, 2006, 2008\)](#) and [Mello \(2008\)](#) identified the position of skilful and trained workers participating in overall economic expansion globally. Literature exhibits that the TVET system and its comparison among the territories have not been reviewed for evaluating the socio-economic impacts of TVET in Pakistan. There are only two research studies cited in the literature by [Ahmed and Muhammad \(2017\)](#) and [Ahmed and Khan \(2018\)](#), and studies conclude that Balochistan's TVET system is unsatisfactory to meet the skills needed for CPEC projects in Balochistan.

The primary objectives of the Balochistan TVET institutions should be to overwhelm the issues of dependency on external technical human support by creating and developing profoundly specialized and trained technical manpower, as well as providing the province with specialized engineers in different technical disciplines in various sectors of the economy relating to their distinct requirements and needs.

The volume of labour force in Balochistan is 2.61 million as per civilian labour force survey 2017-2018, Pakistan Bureau of Statistics. To keep in view the position of Balochistan and its shift towards industrialization, it needs more experienced and skillful labour; consequently, Balochistan is attracting labour towards it from other parts of the country, but the Government of Balochistan fails to provide any kind of support or social security to such experienced and skillful labours. Holistically, there is a pretty severe circumstance in Balochistan for labours. However, the role of TVET is widely missing in most policy/strategy papers; hence the requirement is of good governance.

Key Study Constructs

Government Strategies and Policies

[Joy-Matthews et al. \(2004\)](#) stated that the aim of strategy and policy is to empower individuals, groups and organizations to learn and recognize their full potential to work for capacity building through individual settings and specific settings. Human capital must be controlled and assessed in the setting of organizational policies and strategies. Human Capital Optimization strategy has to concentrate on the development of knowledge and accomplishment (Garavan et al. 2001). The role of human capital optimization is to evaluate and discuss the difference between expertise and knowledge in the system according to its strategy ([Luoma, 2000](#)).

Curriculum Design

The aim of the curriculum at TVET is to develop a competent and skilled human resource with experience and abilities who are versatile and high productive (Kaiser et al. 2004). The curriculum of technology and engineering science has an essential and significant role in the enhancement of professional technicians and engineers ([Bohmann et al. 2007](#)).

Curriculum Delivery

There have been many important studies on the development of new ways of delivering TVET

programs. These include workplace-based learning (WBL) ([Sobiechowska and Maisch, 2007](#)), problem / project-based learning (PBL), distance or e-learning (DL) ([Bohmann et al. 2007](#)) and learning agreements ([Minton, 2007](#)). The basic premise of the PBL is that learning begins by dealing with issues in white-collar media ([Stojcevski and Du 2008](#)). WBL defines workplace-related learning opportunities as it helps learners to employ the educational and work-related knowledge, skills, and acquaintances they had received in the classroom ([Bragg and Reger, 2000](#)).

Problem Statement

The extreme shortage of skilled manpower in Balochistan has been a serious issue. A network of TVET institutions is established in Balochistan to strengthen the supply of skilled workforce needed for the provincial socio-economic enhancement schemes. The scarcity of trained workforce such as skilled workers, technicians and engineers, is substantially ascribable to the collapse of TVET to provide the province with its demand for a trained and skilled workforce. The presumption in back of this study is that Higher Education Institutions (HEIs) generally and Technical Vocational Education and Training (TVET) particularly suffer from an inadequacy of pertinent devising system and process to link TVET with provincial socio-economic enhancement schemes.

The international conference paper on “Academia and Optimization of Human Capital for Emerging Socioeconomic Challenges in Balochistan”, conducted at the University of Balochistan on May 2, 2018, disclosed that Balochistan being an extensive, slightest evolved, wealthy in reservoirs and minerals, is still the most poverty-stricken territory of Pakistan. However, the trade opportunities afforded by international borders with Iran and Afghanistan and provincial borders with Punjab, Sindh and Khyber Pakhtunkhwa, the human capital of the province has remained backwards and deprived. The socio-economic condition of the province is expected to improve quickly, and if human capital development is ignored right now, the region will face a great loss. This research study seeks to address the linkages between vocational training institutions as well as processes and challenges of human capital optimization in Balochistan. This study would also explore the significance of technical education and vocational training in order to produce skilled manpower in Balochistan for the future needs of CPEC.

Objectives of the Study

To lead the current research, the following research objectives are identified:

1. To investigate that Technical Vocational Education and Training (TVET) programs/practices are capable of developing required human resource in Balochistan
2. To explore the extent to which Technical Vocational Education and Training (TVET) programs/practices contribute to face the human capital challenges for CPEC in Balochistan.

Research Questions

1. Are Vocational and Technical Education Institutions’ policies and practices synchronized to optimize human capital in Balochistan?
2. Is the curriculum appropriately designed and delivered as per the requirements of TVET in Balochistan?
3. Do TVET institutions develop human capital for upcoming socio-economic challenges of CPEC?

Research Methodology

Research Design

A quantitative research design has been used to collect data through questionnaires. The purpose of questionnaires was to know students' opinion about knowledge and skills they were gaining throughout their academic in various Balochistan's Technical Vocational Education and Training (TVET) institutions and the Instructors/Engineers/Technicians performing their duties in different sectors of Balochistan about the education and training they acquired before connecting to the

organizations. The nature of this research was descriptive. Descriptive statistics were used to analyze the data collected in all public sector functional technical and vocational institutions of Balochistan.

Research Instrument (Questionnaire)

Primary data were mainly acquired in this study throughout opted and amended questionnaires (Triki Nuri M. M., 2010) based on the following key constructs Government policies and strategies, curriculum design and curriculum delivery. Both questionnaires were employed to assemble data to study the link between Balochistan's industries and its TVET institutions for the aim to collect the basic notions that the national policy of education in vocational and technical training skills to practice is one way of venturing to get the closest possible facts of Balochistan's culture and strive to find gaps between strategies and what really transpires in practice. Students and instructors/engineers/technicians were requested to state their views and beliefs on this problem and the respective solutions they would recommend. Since the questionnaires were primarily based on the six-point Likert scale format style, most of the questions were written as statements of attitudes. This format allows students and instructors/engineers/technicians to maintain a consistent attitude to continue each statement. Respondents were also requested to signify the 'degree of importance of each element in a list as Strongly Disagree, Disagree, Slightly Disagree, Slightly Agree, Agree, Strongly Agree (Oppenheim, 1992).

Sampling

The sample sizes of students and instructors/engineers/technicians were determined on the basis of Purposive sampling techniques at the initial stage to select the targeted/operational institutions from all over Balochistan. In the second phase, proportional sampling was conducted to collect data from academic staff and students of male and female technical/vocational institutes. As pointed out earlier, the total students' and instructors' / engineers' / technicians' population at the 37 sampled TVET institutes were 4,425 and 270, respectively. The larger the sample size, the more likely it is to interpret the population (Fraenkel and Wallen, 1990; Smith and Hall 1999), and it is suggested to use the largest sample size for an exploratory research study (Gay, 1987; Gall et al. 1996; Smith and Hall 1999).

Descriptive Analysis

Data Analysis of TVET Students

Theme One: Strategies and Policies

Table 1. Students' Perception about Strategies and Policies

Questions Asked	Responses	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Q 1: Before deciding to apply to this institute, I got complete information about the institute.	Numbers	82	84	76	71	234	78
	Percentage	13.1	13.5	12.1	11.4	37.5	12.4
Q 2: I gained complete information about my intended programme of study and potential job opportunities after graduation.	Numbers	86	67	83	74	229	86
	Percentage	13.8	10.7	13.2	11.8	36.7	13.8
Q 3: I am interested in playing an active part in the Institution's Committees and participate in shaping the strategies and policies of the Institution.	Numbers	153	143	75	66	111	77
	Percentage	24.5	22.8	12.0	10.6	17.8	12.3
	Numbers	217	120	93	34	111	50

Q 4: My voice is always heard and respectfully considered by the institute's management.	Percentage						
	34.7	19.2	14.9	5.4	17.8	8.0	

Table 1 (Q.No.1) illustrates that the majority, 61.3%, of the students who responded that they had got full information about the institute before applying to it, but a greater number 38.7% of the respondents stated that they had not gained any type of information and neither is this information sufficient or inadequate.

Table 1 (Q.No.2) illustrates that the majority, 62.3%, of respondents mentioned that they had gotten some information about the required study program and the potential job opportunities after their graduation. Moreover, the details provided to potential students in this regard might be limited or may not lead them in the proper direction.

Most students (59.3% of the sample) were either had no interest in playing an active part in institute committees or were indecisive about this issue (Table 3.1, Q.No.3). But 40.7% showed their positive interest in this perspective.

Table 3.1 (Q.No.4) illustrates that a minority (31.2%) of students agreed with the statement regarding their voice being heard and respected by the institutes' administration (Q.4), while the remaining majority, 68.8% of students, opposed the statement. Disagreeing with the statement creates an alarming situation because a key stakeholder has not been taken into account in the learning process.

Table 2. Students' Perception about Reason to Study Vocational or Technical Education/Engineering

Q 5: My decision to study technical/Engineering Education was based on following									
Responses	My Personal Interest	Parents Pressure	Good social status for graduates of engineering	Good pay for Vocational Education graduates	Easy to find a job	allowed me to Baccalaureate results	What my National	Easy to work abroad	Others
Numbers	281	48	94	49	89	121		27	6
Percentage	45.0	7.7	15.0	7.8	14.2	19.4		4.3	1.0

Table 2 (Q 5) illustrates that personal interest was found 45% to be the most important reason for students to study technical/engineering education. This is a good sign that these students want to study technical/engineering education, possibly for a number of reasons behind, such as the prestige of the technical/engineering profession, easy to find a well-paying job after academia. More than half (55% of the respondents) have chosen other reasons for pursuing technical/engineering education, probably due to some problems related to the policy of admission in TVET institutions in Balochistan.

Theme Two: Curriculum Design

Table 3. Students' Perceptions about the Designing of Curriculum

Questions Asked	Responses	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Q 6: I can relate my studying subjects to my future career as graduates of vocational education.	Numbers	43	46	84	117	263	72
	Percentage	6.9	7.4	13.4	18.7	42.1	11.5

Questions Asked	Responses	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Q. 7: The extent of skills and knowledge offered by my studying subjects qualifies me to be a successful instructor/engineer/technician.	Numbers	39	56	112	122	224	72
	Percentage	6.3	9.0	17.9	19.5	35.8	11.5
Q. 8: The balance between theory-oriented and practical oriented sessions is suitable.	Numbers	89	81	119	77	185	74
	Percentage	14.2	13.0	19.0	12.3	29.6	11.8
Q. 9: The course assessment strategy is adequate.	Numbers	71	84	115	123	195	37
	Percentage	11.4	13.4	18.4	19.7	31.2	5.9
Q. 10: The courses of the study are conscientiously associated and adequately progressed from one level to the other.	Numbers	42	61	123	103	222	74
	Percentage	6.7	9.8	19.7	16.5	35.5	11.8
Q. 11: The curriculum covers all employability matters and career guidance.	Numbers	66	95	131	130	169	34
	Percentage	10.6	15.2	21.0	20.8	27.0	5.4

Table 3 (Q.No.6) illustrates that the data collected in response to the statement “subjects’ studies are related to a future career as instructors/engineers/technicians.” explored that 53.6% of the respondents exposed the expressions of agreement. In comparison, approximately 14.3% of these respondents exposed expressions of disagreement. However, the remaining 32.1% of the respondents were indecisive in their responses (slightly disagreeing / slightly agreeing) with the statement.

Responses of students against Q.No.7 (Table 3) distinctly show that 47.3% of students conveyed their attitude towards agreeing on the statement. In comparison, there was a great percentage of students (i.e. 37.4% of respondents) who were either slightly agreed or slightly disagreed, and very few of them (i.e. 15.3% of respondents) were not agreeing with it.

The results of the study also showed that many respondents who were asked about the balance between practical and theoretical sessions (Table 3, Q.No.8) indicate that their curriculum is more theoretical than practical, i.e. 41.4% of respondents expressed their agreement with this statement. 27.2% of the students disagreeing with it, and 31.3% of them were slightly agreed or slightly disagreed, i.e. indifferent. This type of expressions may indicate some flaws in the curriculum design.

Table 3 illustrates that 37.1% of the students agreed with the statement, course assessment strategy is appropriate (Q.No.9); In contrast, 24.8% of them disagreed with it. Whereas among these respondents, 38.1% were indecisive in response (i.e. slightly disagree / slightly agree).

Table 3 (Q.No.10) illustrates that when respondents were asked if the courses of the study are associated from one level to the other, a bit less than half (i.e. 47.3% of the respondents) were agreeing with it, while approximately 36.2% of the students responded in a decisive way (i.e. slightly disagree / slightly agree), and the remaining 16.5% of the students disagreed with the statement.

Respondents were asked if their curriculum covers all employability matters and career guidance (Q.No.11, Table 3), the majority but less than half of the respondents, i.e. 41.8%, were indecisive

(slightly agree / slightly disagree). 32.4% of the sample expressed agreement with it. Furthermore, the remaining 25.7% of the respondents expressed disagreement with the statement.

Theme Three: Curriculum Delivery

Table 4. Students' Perceptions about the Delivery of Curriculum

Questions Asked	Responses	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Q 12: My need is appropriately accommodated in the designing of time table.	Numbers	138	162	63	46	119	97
	Percentage	22.1	25.9	10.1	7.4	19.0	15.5
Q 13: My Instructors/Engineers,/ Technicians are always available to assist me when I need them.	Numbers	74	65	59	70	219	138
	Percentage	11.8	10.4	9.5	11.2	35.0	22.0
Q 14: Tutorial sessions are adequately distributed.	Numbers	125	110	124	93	147	26
	Percentage	20.0	17.6	19.8	14.9	23.5	4.2
Q 15: All essential and required study material relating to my studies are available in the institutes' library.	Numbers	143	159	85	76	124	38
	Percentage	22.9	25.4	13.6	12.2	19.8	6.1
Q 16: Instructors/Engineers/Technicians use the latest technologies in the delivery of their lectures.	Numbers	122	94	79	60	174	96
	Percentage	19.5	15.1	12.6	9.6	27.8	15.4
Q 17: The well-equipped laboratory, to deliver the practical part of the course, is available in the institute.	Numbers	153	93	100	92	136	51
	Percentage	24.5	14.9	16.0	14.6	21.8	8.2

Table 4 illustrates that when respondents were asked if the design of the timetable accommodates their needs (Q.No.12), the majority of them (i.e. 58.1% of the students) disagreed with it. In contrast, only 41.9% of them expressed agreement with the statement.

When students were asked if their instructors are available to assist them (Q.No.13, Table 4), more respondents agreed, i.e. 68.2%, than disagreed, i.e. 31.8% of the statement.

Table 4 (Q.No.14) illustrates the data collected from the students in response to the adequate distribution of tutorial sessions; 37.6% of them agreed with it, whereas 27.7% disagreed. The remaining 34.7% of the students were indecisive in their expressions (i.e. slightly disagreeing or slightly agreeing). Hence the data represents that tutorial sessions have not been adequately distributed.

In the very next question (Q.No.15, Table 4), students were asked about their responses about the availability of study materials in institutes' library; more students, i.e. 61.9%, disagreed than 38.1% agreed.

Table 4 (Q.No.16) illustrates that when respondents were asked regarding the usage of the latest technologies while delivering lectures by the instructors, the majority 52.8% of the students agreed, whereas 47.2% of them showed expression of disagreement.

Data illustrated in Table 4 indicates that when students were asked if laboratories are well equipped for practical classes (Q.No.17), 39.4% seemed disagreement with the statement. In contrast, 30.0% showed agreed expressions. The remaining 30.6% responses were not decisive, i.e. slightly disagreed / slightly agreed.

Data Analysis of TVET Instructors/Engineers/Technicians

Theme One: Strategies and Policies

Table 5. Instructors/Engineers/Technicians' Opinion Regarding Strategies and Policies

Questions Asked	Responses	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Q 1: The organization's aims, objectives and priorities are appropriately conveyed to us.	Numbers	12	28	20	13	53	11
	Percentage	8.8	20.7	14.3	9.1	39.0	8.1
Q 2: The role of my section/department within the institute is very clear.	Numbers	11	10	16	9	64	27
	Percentage	7.9	7.6	11.5	6.7	46.5	19.8
Q 3: I am well aware of my roles, duties and responsibilities in the institute.	Numbers	2	6	22	9	65	33
	Percentage	1.5	4.4	16.1	6.4	47.4	24.2
Q 4: All the organization's policies and strategies are well communicated to us.	Numbers	30	31	19	24	27	6
	Percentage	21.7	22.6	14.1	17.5	19.7	4.4
Q 5: I am interested to play an active part in the committee of the institute and also participate in shaping the strategies and policies of the institute.	Numbers	38	43	17	13	23	3
	Percentage	27.8	31.4	12.3	9.5	16.8	2.2
Q 6: Institutes' management listens to my voice and considers it respectfully.	Numbers	49	42	16	15	15	0
	Percentage	35.8	30.7	11.5	11.0	11.0	00.0

Table 5 (Q.No.1) illustrates that when respondents (Instructors / Engineers / Technicians) were asked if the aims, objectives and priorities were appropriately communicated to them, more than half, i.e. 56.2% agreed while 43.8% of them disagreed with the statement.

The role of section/department within the institute is very clear (Q.No.2, Table 5); the majority, 73% of the respondent (Instructors / Engineers / Technicians), manifested their agreement with the statement. This affirmative behavior of the respondents is probably due to the direct communication of the employees with their respective sections and departments within the organizations. In comparison, 27% of the respondents (Instructors / Engineers / Technicians) disagreed with the above statement.

Regarding their roles, duties and responsibilities (Q.No.3), most (78%) of the respondents (Instructors/Engineers/Technicians) mentioned that they are well aware of their duties, roles and responsibilities, as illustrated in Table 5. In contrast, a very small number (22%) of respondents disagreed.

Data shown in Table 5 illustrates that responses of the instructors/engineers/technicians regarding communication of institutes' policies and strategies (Q.No.4) were found negative in nature, i.e. 44.3%; from strongly disagree to disagree. Nonetheless, large percentage of respondents, i.e. 31.6%, were indecisive, and only 24.1% of them agreed on the statement.

When respondents (instructors/engineers/technicians) were asked if they were interested in playing an active part in the committee of the institute and in participating in shaping its strategies and policies (Q.No.5), 71.5% of them showed expressions of disagreement illustrated in Table 3.5.

Table 5 (Q.No.6) illustrates that when respondents (Instructors / Engineers / Technicians) were asked whether institutes' management listen to their voices and consider them respectfully, the majority 78.0% of respondents showed expressions of disagreement with the statement. These responses were found similar in the pattern of the previous statement.

Table 6. Instructors/Engineers/Technicians' Perception about Reasons to work in this Company

Q 7: My decision to apply to this institute is based on the following						
Responses	Nearness to Home	Institutes' Reputation	Good Salary	Good Promotion & Incentive Opportunity	Availability of Professional Enhancement Programmes	Others
Numbers	74	23	13	8	52	10
Percentage	54.0	16.8	9.5	5.8	38.0	7.3

Table 6 (Q.No.7) illustrates that nearness to home was found the main reason to apply to the institute (i.e. 54% of the respondents) when respondents (Instructors / Engineers / Technicians) were asked about their decision of applying to the institute. Availability of professional enhancement programmes was found next priority (i.e. 38%), followed by institutes' reputation (i.e. 16.8%).

Theme Two: Curriculum Design

Table 7. Instructors/Engineers/Technicians' Perceptions about Designing of Curriculum

Questions Asked	Responses	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Q 8: My academia equipped me well with the skills and knowledge required by my job	Numbers	11	10	19	26	61	10
	Percentage	8.0	7.3	13.9	19.0	44.5	7.3
Q 9: The skills and knowledge I acquired during my academia equipped me well to be a professional Technician / Trainer / Instructor.	Numbers	7	10	20	30	57	13
	Percentage	5.1	7.3	14.6	21.9	41.6	9.5
Q 10: I found on-job-training enormously productive than learning through theory-oriented academic institutes.	Numbers	3	4	12	21	56	41
	Percentage	2.2	2.9	8.8	15.3	40.9	29.9
Q 11: I can relate all my studied material and stuff to my current job practices.	Numbers	5	9	39	23	51	10
	Percentage	3.6	6.6	28.5	16.8	37.2	7.3

When respondents (Instructors / Engineers / Technicians) were asked whether their job was relevant to the study they acquired (Table 3.7, Q.No.8), 52% of them were agreed with it. In contrast, the remaining were either disagreed (i.e. 15.3%) or indecisive (i.e. 32.9%) in responses.

Data illustrated in Table 3.7 indicates the responses of Instructors / Engineers / Technicians regarding 'skills and knowledge gained during their study (Q.No.9). 51.1% of the respondents agreed that the skills and knowledge they acquired during their studies prepared them well to be a professional instructor/engineer/technician in comparison to 36.5% who were indecisive (slightly disagree / slightly agree). The remaining 12.4% disagreed with the statement.

On-the-job training is enormously productive to enhance once knowledge and skills than learning through theory-oriented academic institutes responses given by the majority of respondents (i.e. 70.8%) in answer to Q.No.10 (Table 3.7).

When Instructors / Engineers / Technicians were asked about the subjects and material they studied in their academic tenure relate to their current job practices (Table 3.7, Q.No.11), 44.5 % of them responded agree to the statement. Whereas 45.3% of them were indecisive in response (slightly disagree / slightly agree).

Theme Three: Curriculum Delivery

Table 8. Instructors/Engineers/Technicians' Opinions Regarding the Delivery of Curriculum

Questions Asked	Responses	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
Q 12: The delivery techniques of the curriculum I studied assisted me to be autonomous apprentices.	Numbers	6	12	31	25	51	12
	Percentage	4.4	8.8	22.6	18.2	37.2	8.8
Q 13: E-learning or distance learning over the internet could be more efficient and effective to gain most of the skills and knowledge needed for the workplace.	Numbers	2	4	6	18	57	50
	Percentage	1.5	2.9	4.4	13.1	41.6	36.5
Q 14: Workplace-based Learning is an efficient and effective way to acquire skills and knowledge needed for workplace practices.	Numbers	0	6	7	26	68	30
	Percentage	0.0	4.4	5.1	19.0	49.6	21.9
Q 15: Industrial placement for acquiring employability skills is very beneficial.	Numbers	0	0	5	16	76	40
	Percentage	0.0	0.0	3.6	11.7	55.5	29.2
Q 16: Short courses offered by Higher Education Institutions are effective and modernizing my knowledge and skills.	Numbers	1	5	7	23	61	40
	Percentage	0.7	3.6	5.1	16.8	44.5	29.2

Data are shown in Table 8 (Q.No.12) illustrates that 46.0% of the respondents (Instructors / Engineers / Technicians), when asked if the delivery techniques of the curriculum they studied, assisted them to be autonomous apprentices, agreed. Whereas 34.2% were indecisive (slightly disagree / slightly agree). The remaining 13.2% disagreed with the statement.

The majority, 78.1%, of respondents were agreed when they were asked if e-learning or distance learning over the internet could be more efficient and effective to gain skills and knowledge needed for the workplace (Q.No.13, Table 8).

A large number of respondents (i.e. 71.5% of instructors/engineers/technicians) showed expressions of agreement when asked if workplace-based learning is an efficient and effective way to gain skills and knowledge needed for their work practices (Q.No.14, Table 8).

Data illustrated in table 8 (Q.No.15) indicates the responses of instructors/engineers/technicians regarding the usefulness of industrial placement for gaining employability skills. A large number (i.e. 84.7% of respondents) showed expressions of agreement, whereas the remaining 15.3% were indecisive in response. Interestingly, none of the Instructors / Engineers / Technicians disagreed and strongly disagreed with the asked statement.

A great majority of Instructors / Engineers / Technicians (i.e. 73.7% of the sample) agreeing with the statement when asked if the short courses offered by higher education institutes were effective and updating their skills and knowledge (Q.No.16, Table 8).

Conclusions

It is determined that In Balochistan, there is still a significant relationship between the higher educational (Technical) institutes and the industry, while there is very limited coordination between these two bodies to equip the industry with the desired trained labour. A significant number of research findings showed that the Higher education system in Balochistan generally and TVET particularly lack arbitrary and proper planning techniques and procedures. This situation has created chaos between the TVET graduates and the technology industry's demand while planning in the higher education system, and TVET appears to be based on theoretical rather than on practical approaches. In other words, it is frequently based on traditional goals rather than on problem-solving strategy. The overall performance of the higher education system generally and TVET particularly has been affected by the deficiency of planning tools and procedures. As a result, TVET consumer service appears to be very weak. Additionally, this type of education/training was not in a state to develop skilled graduates that are required in the market. Similarly, the increasing ascendancy of the humanities and social sciences disciplines has been observed. Presumably, this situation has helped create a lasting correlation between Higher education Institutions' results and the skills needed in the national labour market. Despite significant improvements in Balochistan's TVET system, the national development plan lacks the alignment of strategic vision and human capital optimization strategies. The curricula in TVET institutes are designed to isolate stakeholders' input and is practically flawed, as well, as most of the curricula have been carried from other international institutions without taking into account the regional needs of Balochistan. Moreover, curriculum delivery is largely based on traditional classroom practice, and very little efforts have been made to enhance modern curriculum delivery techniques.

Recommendations

The following recommendations are proposed for further research that would assist with the implementation mechanism.

1. The Technical Vocational Education and Training (TVET) institutes and engineering colleges should review their curriculum and provide these curricula to meet the needs of the industries.
2. Staff and students of TVET institutes and engineering colleges should be given maximum approach to the technological advancement and internet in their professional area to improve their understanding and enhance their abilities.
3. High-quality services should be offered to students so that the relevant industry can be equipped with the required knowledge and skills.
4. Technical organizations should provide financial benefits to workers who usually reside away from organizations. This will inspire more job aspirants to join the institutions, and it will also improve the mobility of the workforce during work.
5. Universities and TVET institutions in Germany and the UK regularly consult with companies to cope with the changing requirements of the industry. It helps them to outline their courses and curriculum that would be effective for workers and companies. This practice should also be adopted in Balochistan to cope with changing needs of CPEC.
6. Visits, apprenticeships and internships should be the compulsory part of the curriculum with dignified credit hours in order to gain practical exposure to industry for students.
7. It is proposed that aspects of gender, academic disposition and entrepreneurial abilities may be considered as important constructs in further studies.
8. This study has been carried out as a descriptive analysis due to some data availability constraints. It is proposed that future research on a similar topic may be conducted with some detailed data to perform quantitative techniques in order to know the variations in results.

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