



RESEARCH PAPER

Promoting 21st-Century TVET Skills in Pakistan: Teachers' Perceptions

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ABSTRACT

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The purpose of this study was to understand and develop teachers' perceptions about implementing and promoting 21st-century learning skills in TVET Pakistan. The qualitative research design was used, and a focus group session was conducted with purposive sampling of 12 teachers belonging to the public, private, and NGO based TVET providers of the country. The results of the study highlighted that both institutions and teachers have a pivotal role to play in promoting the 21st-century TVET skills in Pakistan, specifically the 4Cs that include Communication, Critical thinking, Creativity, and Collaboration. Different perspectives and lived experiences were collected from TVET teachers regarding the promotion and implementation of 21st-century TVET skills in light of the best global practices, which helped to deem the research phenomena more deeply. This study provides a rich understanding of factors responsible for the successful implementation of 21st-century TVET skills in vocational institutes of Pakistan, which includes strong teachers' orientation and support from their institutes. It also suggests the need for effective and ongoing interventions for continuing teachers' capacity building to acquire and sustain these skills. This study provides useful insights for implementing a strong monitoring process that would help to evaluate the impact of implementing 21st-century TVET skills.

Introduction

Technical and Vocational Education and Training (TVET) is defined as a combination of education, training, and skills development that relate to multiple occupational fields (Dawe, Miller, & Diop, 2020). It involves formal, non-formal, and informal learning mechanisms that provide knowledge and skills for employment (Khan, Siddiqui, & Abbasi, 2020). Addition of skills to improve the existing TVET system promise to be advantageous for both developed and underdeveloped countries, which is otherwise difficult to achieve. These skills not only help students

but also assist teachers in enhancing their development and professional knowledge (Sarastuen, 2020).

In a developing country like Pakistani, where the TVET system is under reformation with quite substantial milestones achieved, including the outlining of the country's national skills strategy and the successful completion of the TVET Reform Support Programme (TRSP) between the years 2011-2016. Twenty reforms that are part of the four outlined reformation components have been achieved to emphasize its punch line, 'Skilling Pakistan' (Ansari & Wu, 2013). Pakistan Vision 2025 (Planning Commission, 2014) aims to achieve sustainable economic growth by focusing on twofold objectives; strengthening the TVET systems of the country, together with aligning TVET teachers' perspectives and understanding of 21st-century learning skills. This prospective sustainable economic development depends on multiple factors contributing to increasing exports, improving productivity, and maintaining quality standards to compete internationally (Sarastuen, 2020). The sustainable supply of trained and skilled human resources becomes a determining factor and a dominating key to achieving the guiding objectives.

With the dawn of the 21st-century, contemporary concepts emerged, including the phenomenon of a knowledge-based economy, which continues to be a challenge, particularly for under developing countries (Rijal, 2020). In order to strengthen TVET, a strong connection between training providers and industry is principally required for implementing desired future strategies. It is vital to understand, embed, and incorporate the 21st-century learning skills in existing TVET systems and practices, including teaching, learning, and assessment strategies. Hence, for acquiring a knowledge-based economy, it is equally significant for students as well as teachers to think critically, communicate efficiently, work collaboratively, and perform creatively (Rijal, 2020). Recent research studies have greatly helped in highlighting advantages and gains that a developing country like Pakistan could benefit from a streamlined and efficient TVET system. However, there is a critical need for the realization, awareness, and acceptance of implementing 21st-century TVET skills.

Literature Review

The last couple of decades have seen drastic changes in the economics of countries that are categorized as developed, resulting in consequences that are not restricted only to these nations but also within the underdeveloped part of the world. The newer economy demands a labor force, which is more flexible, highly-skilled, and creative. The equation asks for all stakeholders to plan coherently and proactively for a demand-driven TVET, especially the training providers and industry (Ekpo & Onweh, 2012). The evolution of a competitive TVET system and its dynamics, conceived and practiced by leading economies like the European Union (EU), has put vocational education in the spotlight (Dahlback, Olstad, Sylte, & Wolden, 2020). Not only does it mirror a lesson, but it could serve as a roadmap for developing countries across the globe to enhance their economic growth using developing and promoting 21st-century skills. Technical and Vocational institutes could optimize the benefits of the 21st-

century workplace by training their students who are compatible with their prospective work environments, whereas currently there hardly exists any collaborated venture that caters to strengthening the link between TVET institutes and industry (Oviawe, Uwameiye, Uddin, & Training, 2017).

Recognizing and contextualizing the best global practices, policies, and standards are equally required in the Pakistani context. The existing TVET system is under improvement in phases; the successful completion of the TVET Reform Support Programme led to the current phase of the TVET Sector Support Programme (Nooruddin, 2017). Besides other major issues and problems that economies of developing countries encounter for them to prepare their TVET systems for the future, rapid change in technology remains one phenomenal issue. It gets obsoleted every 18 months, whereas TVET experts are engaged with continuous teaching. Unless teachers and trainers donot upgrade themselves simultaneously alongside industry, the preparation of TVET in developing countries remains weaker (Obwoye, 2016).

Moreover, technology has not only reshaped workplaces but has also transformed the required skill sets and criteria for various job roles. What is direly demanded is the continuous lifelong learning programs to enable skilling and reskilling of TVET teachers. This becomes even more evident since it is believed that the conventional approach of formal training does not meet the pace to cope with the rapid evolution in the present era of emerging technologies. There is a strong argument for integrating both informal and non-formal learning utilizing and customizing the teaching methodologies. The contemporary paradigm relating the work-based learning can become a catalyst for attaining lifelong learning across the globe (Kanwar, Balasubramanian, & Carr, 2019).

The need for training novice and in-service teachers in TVET remains a topmost priority for attaining higher quality standards for meeting future expectations. Incorporating ICT in teachers' training programs will allow teachers to upgrade their skills continuously in combating issues of outdated curriculum. The approach needs to be followed at three levels; an explicit national policy at the macro level, well-integrated technical support and consultation within the public and private sector of TVET at the meso level, and application of effective practices within TVET institutes that incentivize and motivate teachers, at micro-level (Ahmed, 2011).

The curriculum is certainly one major factor that contributes the most to the success and sustainability of the desired TVET teacher development program. It could ensure participating teachers can meet the expectations of the industry as well as the philosophy of education for a nation. Ideally, the curriculum for training TVET teachers has to be conducive enough to cater to the needs of current times, which becomes even more challenging for developing countries (Hamdan, Yunos, & Sern, 2019).

Vocational education and training also provide fundamental support for skilled labor productivity and mobility to assist in balancing the labor market trends (Khan, 2005). Most notably, the success of any educational initiative is highly

dependent on the training provider professionals who carry it out in classroom situations. In consideration of this backdrop, it becomes important to train teachers and develop their competencies following prominent elements of the 21st-century learning skills. Among these elements, the 4Cs of learning cannot be ignored. The first 'C' is for 'Critical thinking,' which is defined as the ability to solve problems, design projects, and make effective decisions through different tools and resources (Muslim, Kusumawati, Ismayati, Rahmadyanti, & Lukmantoro, 2019). It addresses the challenge of designing educational experiences to answer real-world problems, which could lack absolute solutions. This skill requires students to collect, process, integrate, rationalize, and then critically analyze large information for making effective decisions. The process of critical thinking supports digital tools and resources, particularly for creating a relevant learning experience that assists TVET students to discover, design, and use new knowledge. The academic world is currently moving towards higher-order thinking skills: the ability to think logically and to solve an ill-defined problem. Subsequently, acquisition of this skill in the existing TVET system will enable students to analyze information critically, formulate creative solutions, and then take actions appropriately (Azid, Rawian, Shaik-Abdullah, & Kiong, 2019). The second 'C' among the 4Cs of 21st-century TVET skills is for 'Communication.' In the context of the 21st-century, Communication is not only confined to the ability to write or speak, but it also includes effective listening skills. Advanced technology and digital tools have knitted an altogether new era of interaction in which the ability to communicate effectively is a mandatory ingredient for success. Effective communication requires productive interaction between TVET teachers and students, using formal as well as relatively informal mediums, including social media. The inclusion of the English language as a necessary source in the curriculum of the TVET system in Pakistan is an essential part of the current development strategy in developing nations (Jalaludin & Inkasan, 2014). Other than Critical thinking and Communication, 'Collaboration' represents the next 'C' in the context of 21st-century TVET skills. It requires working in teams, learning from others and then contributing to their work, and demonstrating empathy to work with diverse groups. Collaboration also requires developing collective knowledge and then constructing useful insights from the experiences of both parties. New skills and knowledge could be developed through digital collaborations and then contribute to the collective knowledge base. Knowledge constructed from Collaboration may be an outcome of shared physical space or through working remotely. Leadership Skills & Team Management could also be developed from collaborative interventions. Without posing any dominating restrictions, collaborations connect international and national bodies, public and private sector organizations, and VET practitioners (Siddiky & Uh, 2020). Lastly, the 4th 'C' signifies 'Creativity' and innovation. This skill is responsible for providing specific as well as augmented support to graduates for competing in the real world and generating economic growth, particularly in the context of vocational education. Innovation is often defined as "something unique and new from the usual routine" (Tan & Seet, 2020). Additionally, Creativity is described as "the pursuit of new ideas, concepts, or products that are a need of the world" (Tan & Seet, 2020). Developing a problem-solving attitude is the biggest byproduct of Creativity and innovation. It also

includes concepts of economic and social entrepreneurship and leadership for action. The current TVET sector of developing nations could be improved by emphasizing Creativity and innovation (Samani & Rahmadian, 2017).

The success of the TVET sector in any country primarily depends on the skills and competencies of teachers and their delivery methods. Being an amateur, best global practices could inspire and reiterate successful TVET systems. Malaysia provides a unique example of a system where several national-level agencies and ministries work cohesively to generate TVET professionals and experts who teach technical and vocational qualifications at multiple levels of education. With the growing number of aspirant young fellows who take the vocational route of education, the desirable number of teachers is also increased over the years. ICT is among the top of the agenda list to train Malaysian teachers for 21st-century TVET skills. Although the recent emphasis on cognitive skills has had an effective impact, yet the Ministry of Human Resources in Malaysia is now aiming at creating a balance to develop all three learning domains among teachers; knowledge, skills, and attitude as required for the 21st-century (Hassan, 2010).

Quality of training, specifically teachers' performance, is considered a nuclear factor in TVET enhancement of Malaysia. The government agencies work together with the sole agenda of producing TVET graduates who can perform as per 21st-century workplace requirements. Although knowledge is generally considered to be highly important among the most impactful competencies required by teachers, yet it is dominantly claimed to emphasize all three learning domains for TVET teachers to acquire for optimizing training results. This results in developing students' cognitive and psychomotor skills, together with the right attitude to deal with future workplace environments. The ultimate gain is desirable job markets for TVET graduates locally and globally (Omar, Zahar, & Rashid, 2020).

On the other hand, South Africa portrays an example of a country that initially lacked a coherent TVET system at the national level that could provide a compatible workforce. Among other notable causes, not being able to develop a concrete and result-oriented training need assessment for TVET teachers pooled its consequences in the form of weaker training skills as well as weaker management and leadership skills of TVET practitioners. It is assumed that an integrated and systemized leadership framework at the national level that allows the institutional ownership could fix the issue. Collaboration among all stakeholders is considered to be a key factor for crafting a shared leadership vision at the institutional level for effectively pursuing the desired higher quality of TVET graduates (Badenhorst & Radile, 2018).

There is a need to identify and highlight existing gaps in TVET institutes, their administrative and academic systems, and ways that are practiced while training students. The successful implementation of 21st-century TVET skills in developed nations has offered several learning practices for developing nations. In the EU, for instance, assessors are trained enough to deliver 21st-century skills with particular attention to the 4Cs mentioned above. The delivery mechanism and adoption of skillful approaches encourage the VET sector there to set standards for others.

Therefore, continuous improvement is necessary to build the TVET sector according to global requirements (Muslim, 2019). Countries like Pakistan need reforms in a holistic framework to improve the current structure, teaching mechanisms, curriculum of the study, and methods of delivery in the technical educational centers ((Muslim et al., 2019; Nooruddin, 2017).

Conceptual framework

The central framework of the study is constructed using the 4 Cs of 21st-century learning skills (including Critical thinking, Creativity, Collaboration, and Communication). It analyzed the essence of the pivotal 21st-century skills that offer practical advice and comprehensive knowledge for the collection of skills, knowledge, and attitudes. It would also help educators and policymakers to design and implement strategies for the existing TVET system by adding the framework of 21st-century skills (Trilling & Fadel, 2012). In this background, it is important to develop the competencies according to the 4Cs of 21st-century skills and what is even more significant is to analyze how teachers perceive promoting and implementing these skills in TVET institutes of Pakistan.

Material and Methods

To explore the needs and promotion of 21st-century TVET skills in Pakistan, a basic qualitative research design is used by the researchers. The qualitative research design helps in developing in-depth analysis from respondents' thoughts and viewpoints. The shared experiences from respondents help to develop knowledge of the research phenomena. It helps from the way they describe their experiences and the meaning given to those experiences (Merriam & Tisdell, 2016).

The researcher collected data from a focus group discussion, engaging 12 participants who currently teach in public and private sector TVET institutes of Lahore. Purposive sampling technique was employed by selecting participants who had some personal experiences or direct interaction about the research phenomena, supported by a comprehensive introduction of the phenomena shared by the researcher through a PowerPoint presentation at the beginning of the focus group session, which facilitated a focus group discussion (Creswell & Poth, 2018; Patton, 2015). All efforts were put in to ensure creating a balance focus group demographics by considering important factors like gender, public and private employer affiliation, varied experiences, and the subject of specialism, as well as incorporating teachers from minority institutions. The researcher developed a semi-structured focus group guide followed up by probing questions to reveal maximum data about the phenomena under discussion.

Twelve teachers responded through a focus group discussion after accepting the volunteer offer and getting approval from their organizations. All efforts were put in to have an evenly balanced population for the activity. Five participants represented the two largest public-sector TVET providers, five participants represented private sector TVET providing institutions, including two from an oldest Christian institute to

represent minorities, and two participants worked in the NGO sector TVET providers. Teachers had varied work experiences ranging from 2 to 22 years and varied subject specialism from Information Technology to Auto mechanics, Beauty therapy to Dressmaking, and Auto CAD to soft skills. Altogether five female and seven male participants constituted the focus group. Formal permission was taken to record the whole activity after briefing them about the aims and objectives of the session.

The interview guide was designed on some definite pattern surrounding the objectivity of major research questions. The range of varied exposure and different experiences of focus group participants helped in analyzing TVET teachers' perspectives. Additionally, questions in the focus group guide were carefully gathered to deeply understand participants' perspectives about factors responsible for successful implementation of 21st-century skills, methods for teachers' capacity building, and solutions for monitoring these skills in TEVT Pakistan.

Consent from employer organizations was taken before arranging the focus group session. Data were transcribed verbatim. The assertion development method (Erickson, 2012; Miles, Huberman, & Saldaña, 2020) was used to analyze data: Data analysis started with a tentative, working assertions about patterns whose generalizations were checked within the data corpus. The next step involved "testing the evidentiary warrant for the assertion that is explicitly stated or is implicit in the narrative account. Such testing requires searching the entire corpus of information sources for any information that might bear on the working assertion" (Erickson, 2012, p. 1459). The corpus of focus group materials was searched repeatedly in order to generate assertions and establish evidentiary warrants for the assertions. All the verifying confirming and disconfirming evidence were assessed to support assertions (Erickson, 2012). Finally, quotations from the response of the participants were selected to support assertions (Creswell & Poth, 2018). Following ethical considerations and protecting participants' privacy, actual names have been substituted with participants' numbers (Pietilä, Nurmi, Halkoaho, & Kyngäs, 2020). Findings and transcriptions of data are shared with participants for validation purposes (Creswell & Poth, 2018; Lune & Berg, 2017).

Results and Discussion

Based on the structure of the focus group guide, participants responded to each question categorized under the four main themes: Basic knowledge about 21st-century TVET skills, factors responsible for the implementation of 21st-century TVET skills in Pakistan, methods for capacity building of teachers, and monitoring the implementation of 21st-century TVET skills in Pakistan. Each of these themes is described.

Basic knowledge about 21st-century TVET skills in the context of Pakistan

Regardless of public or private sector affiliation, almost all participants did have some basic yet vague understanding of 21st-century TVET skills. Different skills were highlighted by them, which were directly or indirectly related to the phenomena. Most teachers tend to connect 21st-century skills with meeting industry expectations.

However, the concept of the 4Cs of learning skills was not systematically identified. Some identified skills included industry requirements, on-the-job training skills, Creativity, digitization, technological improvement, adaptability of trainees, standardization in the curriculum, and effective Communication. The English language particularly was identified as a major missing link when it comes to comparing the Pakistani training standards with regional international counterparts. Contrary to the emphasis on teachers' lexical expertise, it was also strongly pointed that teachers have to come to the level of students for them to comprehend teaching, which leaves teachers little choice of completely practicing the English language as a medium of instruction but the basic subject terms and technical jargons must be taught in the English language. During brainstorming on identifying basic knowledge of 21st-century TVET skills, one of the teachers deemed the phenomena as,

Besides meeting the employer's requirements of technical skills, I believe our graduates lack good proficiency in English language skills not only for job placements internationally in the Middle East but sometimes at the national level too. I would rank innovation and Creativity as supplementary strengths, which could be gained through a rich training curriculum. (Teacher 2)

Another one commented,

There exists room for improvement in every situation, but if we want to implement and sustain these global practices, we must motivate teachers, and their capacity must be built to align with the 21st-century learning skills. Teachers' motivation is a must thing. (Teacher 3)

On asking about prioritizing the 4Cs of TVET learning skills, i.e., Communication, Collaboration, Creativity, and Critical thinking, there were mixed responses. However, the majority ranked Communication as the topmost important area, and slightly lesser than half gave priority to Critical thinking. The Collaboration was considered mostly at number three, followed by Creativity to be the last in the order.

Factors responsible for the implementation of 21st-century TVET skills in Pakistan

Although all participants marked 4Cs of 21st-century learning skills to be extremely relevant and significant for the Pakistani TVET sector, yet participants prioritized these skills differently as per their institutional needs. Interestingly, participants from the public sector showed quite a similar pattern. They did not weigh Collaboration to be a pressing issue, unlike the participants from the private sector. Almost everyone viewed less space for teachers to promote the element of Creativity. Inflexible curriculum and tight training schedules did not allow teachers to highlight creative issues as it requires extensive R&D, which was also found to be a lacking element, considering the general capacities of most teachers. However, everyone agreed TVET sector of Pakistan could only compete internationally if we stress Creativity and innovation to be our training outcomes. One of the teachers shared his views as,

We have to work in all four areas. Unfortunately, we do claim that we work on developing Creativity among students, but it is not the way it should be. Our instructional and assessment methodologies do not give any concession to teachers to think out of the box or compel trainees to employ unusual and unconventional means or thoughts. Having said that, I strongly feel all four are necessary and sort of urgency for us to work on. (Teacher 9)

While participants highlighted general problems in the country's TVET sector, they also mentioned specific challenges faced by their institutes. A lot of these challenges were not purely administrative but related to teachers' mindsets and general attitudes, including their willingness, adaptability, motivation, standardization, and orientation with digitization in their areas of teaching. While describing the most significant factors for the successful implementation of 21st-century TVET skills in Vocational Institutes in Pakistan, one of the teachers commented,

I think international standards should be implemented here. But then we need a standardized curriculum according to professional and global standards, and most importantly, we need upgraded labs as a topmost requirement and then upgraded teachers' skills at the second most important requirement. (Teacher 3)

Institutional management's clear vision and their continuous support to teachers were also agreed as a mandatory factor by all participants.

Methods for Capacity Building of Teachers

Participants identified different methods for capacity building of teachers that are currently in practice in their institutes, together with some good practices being followed around the world. The role of the institute head was considered the most important. The human resources/staff training departments were emphasized to be streamlined in this regard as it was considered critically important to identify specific gaps among teachers on an individual basis for planning their training activities. This is to ensure teachers' capacity building is carried out in specific areas where actual need improvements are required instead of training them all on generic issues. Participants also identified some barriers within their institutes and among their co-workers, which restricted the process of teachers' capacity building. These barriers included the ego factor of teachers in mid-career to senior levels, lack of time and interest, an authoritative and non-participatory attitude of senior management, and the unwillingness of teachers themselves. These obstacles aside, all TVET institutes represented in the focus group had their own mechanism to counter these issues and tackle the capacity building of their teachers. Comments from the participants, in this regard, succinctly followed as,

We have an annual plan of training sessions and a fixed number of learning days.

We have a report-based system to decide teachers' potential capacity building activities.

We have our internal training system mostly catering to the needs of newly inducted teachers.

We arrange a strong orientation for teachers on a periodic basis for the capacity building of teachers.

One of the participants from the public sector unhappily shared:

A major obstacle to a fair staff development process is the practice of favoritism. Unless I'm not in the good books of my principal, I would have fewer chances to be nominated for a promising external training activity. A lot of this is also to do with the TA (travel allowances) amounts that trainees receive, and principals use these as an opportunity to reciprocate their closer ones instead of deciding on merit. (Teacher 1)

Monitoring the implementation of 21st-century TVET skills in Pakistan

The house seemed to unanimously agree on the need for close monitoring while implementing these skills in their institutes. It was felt and explicitly expressed that without having a compact system of monitoring, these practices would not be sustained. Some participants were also encouraged to follow benchmarking and favored adopting the best international procedures for monitoring and evaluating the implementation of 21st-century TVET skills in Pakistan. Yet, some negated and believed monitoring to be applied in a customized manner to meet individualized requirements in specific organizational contexts. Participants also shared the methods that were currently practiced in their institutes and what needed to be done next for further improvement. It was also agreed to include specified pieces of evidence relating to these 4Cs while designing the monitoring and evaluation processes since each of these four skills would have specified evidence to be produced by trainees and recorded by teachers. While describing the current practices of monitoring in the public sector, one participant commented,

It's a pity we are provided with minimum financial support, but we are expected to recruit students to meet the target, and this becomes our most prominent evaluation. What and how we train in classrooms are of secondary importance and sometimes, even not important at all. Despite all efforts, there are times when we are not able to find students for absolutely free or government-sponsored training courses. This shows the quality and perception of our training system. It is in really bad shape, and we must find a way to focus on quality rather than quantity. Working together and aligning with the industry could help a lot. (Teacher 7)

Another participant seconded,

At one time, the government instructed institutions to train 4000 skilled labor in a specific trade, and every institute was even paid for it, but in the end, the target was still not achieved. Covid-19 proved a deep blow resulting in massive issues of not

training 'enough' students this year. We are still not ready for any digital solution. (Teacher 5)

While proposing thoughts about the prospective monitoring activities to calculate the impact of 21st-century TVET skills, it was also suggested that each institute could assign teachers to keep a log of portfolios to be maintained by teachers. This could help in ensuring teachers are continuing to sustain these good practices for improving the quality of training.

Conclusion

This study has investigated the importance of aligning the existing TVET sector of Pakistan with 21st-century learning skills, particularly the 4Cs of Communication, Critical thinking, Collaboration, and Creativity. After analyzing the first research question, it could be concluded that teachers certainly give due importance to incorporating these 4Cs of 21st-century learning skills in their TVET teaching practices in their respective training institutes. The previous section highlighted some key points, thoughts, and practices presented in the literature but in a completely different context. Ideas including on-job-training, market-orientation, technological advancement, and digitization emerged as success reasons as well as potential outcomes of implementing the 21st-century TVET skills in vocational institutes (Oviawe et al., 2017).

On the contrary, there exist salient barriers towards adopting the global practices specifically for the underdeveloped part of the world, similar to what existed in the literature of studying different contexts (Obwoye, 2016). Authoritative attitude and management styles of teachers, for instance, have similar implications in any culture, which is evident from the present literature (Ertesvåg, 2011). Concerning the 4Cs of 21st-century learning skills, Communication tops the list, yet it is found that not even teachers are fully ready to take up the challenge. Only with trained teaching capacity, an institute can lay down a sustainable strategy to enhance trainees' lexical skills for competing within the international markets. Secondly, the current lack of orientation and understanding among teachers is critically slowing down the cascading of these 21st-century skills. It is also understood that the role of institutes' management in adhering to these global practices could play a catalyst to trigger the phenomena. Thirdly, the quality of input in terms of students who are recruited in TVET also play their weight to assess the smooth implementation of these skills. Vocational institutions strive to meet the huge recruitment targets, which compel them to shift from quality to quantity. Based on the experiences and input by the participants, it would be enlightening for policymakers and top management of TVET institutes to observe competent criteria for recruiting trainees. A basic level of skills must not be compromised while recruiting students to undergo their careers.

Moving on to the second research question, this research focused on providing a better understanding of the most effective methods for capacity building of teachers to acquire 21st-century TVET skills while also studying the resisting factors. Although, findings of this research do show some existing commendable practices that are being

adopted by current TVET institutes in Pakistan to enable a standardized capacity of teachers, which is attained from the ongoing TVET Sector Support Programme, followed by the prior TVET Reform Support Programme, yet there seems a long way for TVET Pakistan to go for competing globally. The TVET sector in Pakistan needs to focus on the benefits that might be achieved by adopting globally recognized benchmarks like the European practices to deal with the issue. Moreover, the existing research has developed a rich understanding of those effective methods that might be helpful for the TVET sector in developing teachers' competencies in the developing nations (Obwoye, 2016). These methods include, but are not limited to, the existing report-based system, annual plans of the training session, internal training system, and strong teachers' orientation (Sajjad, 2010). On the other hand, there also exist some resisting factors for the capacity building of the teachers. These include the bureaucratic structure of organization dominantly prevailing in the public sector TVET providers, practices of nepotism and favoritism from the upper management especially while nominating teachers for any capacity building activities and standardization, and lack of technical resources. These problems prominently play their roles in decreasing the capacity of the teachers to adopt new skills and knowledge. Unless the basic infrastructure is not adequately provided in the form of equipped laboratories and training workshops, teachers will continue to passively plea for upgrading their skills to enhance their current roles.

The problems that are highlighted for adopting the best practices and implementing the most suitable strategies for capacity building of teachers create a critical need for a strong monitoring and evaluation process. This leads towards our third and last research question of having a strong monitoring system that would assess the impact of 21st-century TVET skills in the country. It is understandably agreed that the TVET sector in developing countries is not strengthened enough to compete for heads on with the established and developed economies of the world. This not only demands the best approaches and processes for the TVET sector but also strong monitoring and evaluation process that would help the TVET sector of developing nations to compete with the TVET sector of the emerging economies. The study revealed that TVET teachers are definitely, the key players to help in providing novel solutions and in playing a crucial role in implementing the global TVET practices in developing nations. Monitoring needs to be rigorous as well as outcome-based instead of producing mere documents. The evidence-based standardization activities could excel the notion of evaluation where all teachers keep on producing the output from their students to indicate the implication of these 4 Cs. The SMART approach is required for teachers at the micro-level and institution heads at a macro level to attain the challenges of acquiring and sustaining these skills. A motivated, enthusiastic, and clear-headed teaching force can certainly excel in the process of effective and efficient monitoring systems.

Implications of the Study

Following are some main recommendations suggested by this study:

Firstly, technical and vocational teachers must acquire the missing or weaker competencies for enabling them to implement the 21st-century TVET skills in their institutes. Senior teachers and institutional heads ought to take up responsibilities of delivering and imparting the required level of knowledge to junior or novice TVET teachers about the 21st-century TVET skills. The continuing learning and development initiatives for teachers, chalked down and owned by institutions, are paramount in sustaining the required input level. These initiatives must include comprehensive engagement of teachers for further developing their communication skills, critical thinking, creativity in getting unusual outputs from trainees, and synergistic approaches that could lead to efficient collaboration within a TVET institute and outside with industry.

Secondly, TVET institutes belonging to developing countries like Pakistan should adopt best practices from the world. Prudent customization, as well as efficient contextualization of these best global practices, would greatly help in the successful implementation of 21st-century TVET skills. Additionally, institutes must also try to eliminate the obstacles, which are responsible for restricting its implementation. This demands not only a temporary facelifting through the ongoing activities but planning and implementing TVET teachers' appraisal systems that push towards opting for the right paradigm. This will only work if the senior management and institution heads agree to ensure fair chances for everyone to excel through building capacities and to develop the right perspectives.

Lastly, it is mandatory for TVET institutes to not only strive for implementing these 21st-century learning skills, but they also affirmatively need to implement a strong monitoring and evaluation system in place. With the ongoing up-gradation of technologies and management perspectives, one cannot stand still after achieving a milestone. A rigorous and holistic approach towards continuing to add values has to be the underlined focus of this monitoring approach. Evidence-based performance of teachers could help improving not only their individual professional goals, but it would certainly impact the overall TVET fraternity towards the progress that aligns them globally.

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