# ANALYZING VALUES AND PEDAGOGICAL SKILLS IN PRE-SERVICE TEACHER EDUCATION OF PAKISTAN WITH REFERENCE TO THE TEACHER EDUCATION MODEL FOR THE 21st CENTURY


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A thesis submitted in partial fulfillment of the requirement for the degree of PhD Education

**DEPARTMENT OF TEACHER EDUCATION**

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# DEDICATION

*I dedicate this piece of work to my beloved parents Mr. & Mrs Ch. Muhammad Ishaq. Without their admirable support, this achievement would not have been possible.*

## SUPERVISOR'S CERTIFICATE

The thesis titled "Analyzing Values and Pedagogical Skills in Pre-Service Teacher Education of Pakistan with Reference to the Teacher Education Model for the 21st Century" submitted by Ms. Huma Kausar Reg. No. 158-FSS/PHDEDU/F19 in partial fulfillment of PhD degree in Education, has been completed under my guidance and supervision. I am satisfied with the quality of student's research work and allow her to submit this for further process as per IIUI rules and regulation.

Date: 14/3/2025

Supervisor: _____

# APPROVAL SHEET

## ANALYZING VALUES AND PEDAGOGICAL SKILLS IN PRE-SERVICE TEACHER EDUCATION OF PAKISTAN WITH REFERENCE TO THE TEACHER EDUCATION MODEL FOR THE 21ST CENTURY

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# AUTHOR'S DECLARATION

I, Miss. Huma Kausar Regd. No. 158-FSS/PHDEDU/F19 as a student of PhD in Education at International Islamic University, Islamabad do hereby declare that the thesis entitled "Analyzing Values and Pedagogical Skills in Pre-Service Teacher Education of Pakistan with Reference to the Teacher Education Model for the 21st Century", submitted for the partial fulfillment of PhD in Education is my original work, except where otherwise acknowledged in the text and has not been submitted or published earlier and shall not in future, be submitted by researcher for obtaining any degree from this or any other university or institutions.

Huma Kausar

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**Huma Kausar**

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# LIST OF ABBREVIATIONS

| | |
|---|---|
| AACTE | American Association of Colleges of Teacher Education |
| LCP | Learner-Centered Pedagogy |
| LCT | Learner Centered Teaching |
| MORE | Model of Research-Based Education |
| TE21 | Model of Teacher Education for the 21st Century |
| V1 | Learner Centered Values (Values set 1 according to Model TE) |
| V2 | Teacher Identity (Value set 2 according to Model TE21) |
| V3 | Service to the Profession and Community (Values set 3 according to Model TE21) |

# ABSTRACT

The purpose of this study was to investigate to what extent pre-service B.Ed (Hons) Elementary four years teacher education program of Pakistan is developing the 21st-century teaching values and pedagogical skills among prospective teachers with reference to the Teacher Education Model for the 21st Century. Philosophical assumption of pragmatism serves as a base line for this study as it emphasized on collecting data from both quantitative and qualitative evidences. Convergent parallel design model from mixed-methods research approach was applied to collect the data from the prospective teachers of B.Ed (Hons) Elementary teacher education program of the public institutes of Islamabad. Questionnaire and classroom observation sheet based on three points rating scale were designed to analyze the 21st century values and pedagogical skills among prospective teachers. Code book was designed for thematic analysis of B.Ed (Hons) curriculum. Thematic analysis was delimited to the professional, foundational, compulsory, and pedagogical courses. Philip Marrying deductive category model was applied for thematic analysis process. So, keeping in view the protocol of convergent parallel design model quantitative and qualitative data were analyzed separately and independently. Quantitative data were analyzed by using descriptive statistics techniques (Mean scores and Standard Deviation) through Statistical Package for the Social Sciences (SPSS) software version 25 and to analyze the qualitative data thematic analysis Maxqda software 2024 was applied. MAXMaps, hierarchical codes-sub codes model, and code variable statistics were applied to determine the results of curriculum analysis. Further, qualitative and quantitative results were compared to interpret the combined results of this study. Results revealed that coursework was moderately effective whereas the classroom teaching practices were not fully effective in developing the teaching values and pedagogical skills among prospective teachers. Likewise the results of documents analysis also determined that the content slightly covered the text related to these 21st century values and pedagogical skills, but not these themes were separately included in the curriculum. Moreover, quantitative and qualitative results of data were compared and correlated, the comparison of both (quantitative and qualitative) analysis showed the B.Ed (Hons) elementary program slightly integrated the development of 21st century teaching values and pedagogical skills among prospective teachers. In contrast, the teaching values and pedagogical skills (mentioned in TE 21 model) were not mentioned as themes distinctly in the content and the content related to innovative and entrepreneurship skills was entirely missing in the curriculum documents. Therefore, the teaching practices and curriculum of the B.Ed (Hons) elementary program need to be revised and overhauled to include a more robust and explicit emphasis on 21st-century teaching values and skills. Educational policies may mandate the inclusion of 21st-century teaching values and pedagogical skills in pre-service teacher training programs.



***Keywords*****:** *21st century, pedagogical skills, teaching values, prospective teachers, pre-service teacher education program*

# CHAPTER 1

# INTRODUCTION

The era of the 21st-century has put universal demands on teaching and the interest in teaching profession is being increased day by day. Many required changes have been happening to respond to the needs of 21st-century learners by recognizing more opportunities in teacher education programs (AACTE, 2010). Consequently, in the era of the information revolution, the role of educators has been changed; they need to adopt new teaching practices to satisfy the queries of 21st-century learners as knowledge workers (Almadani et al., 2011). Teacher education has grabbed the attention worldwide to build the society, individuals and the development of education systems and goals.

According to Hofny (2015), teacher is the backbone of education thus the quality of education depends upon the quality of teaching. Therefore, to meet the contemporary global trends of the 21st century an individual must have the ability to keep updating himself, and the quick entrance of knowledge, creativity, and technology (Alhariri, 2019). Consequently, quality based education systems are required to prepare the 21st-century learners for a prosperous future or workforce (Hofny, 2015), so that educators should have the command on the skills that are required to embed among learners (Zanartn et al., 2015). Despite the seemingly modern connotation of "21st century skills," it's noted that some of these skills have been recognized as significant for some time, with their importance being highlighted now more than ever (Sylva et al, 2020).

Bozalek et al. (2013) stated that there is dire a need to produce graduates with digital expertise, values, and knowledge to meet the genuine needs of the twenty-first

century. Therefore, the teaching profession must contain the features like intellectual skills, professional ethics, and the services required by the community that are related to the quality of education for enjoying the autonomy of the profession (Newlyn, 2015).

In addition, a teacher should possess the combination of capabilities, values, attitudes, traits, and skills to deal with global changes (Areshi & Burns, 2018). Teacher educators believe that problem-solving skills and critical thinking are the features of the twenty-first century because the practice of these skills improves learning outcomes. Prospective teachers should be able to make understanding and pedagogical practices that can help them in effective teaching and their learners to learn (Ismail & Jarrah, 2019).

According to UNESCO (2011), teacher preparation programs need to pay attention to the values that enable the prospective teachers as individual facilitators or guide in the development of values among learners. And, this is the responsibility of teacher educators to plan discussion sessions for 21$^{st}$ century values and model the same values in classrooms. Likewise, teacher educators also need to update and practice reflective pedagogies to embed the modern pedagogical competencies among prospective teachers. This is also a reality that teacher educators have lack of knowledge and values (Lunenberg et al., 2008).

Urbani et al. (2017) specified that teacher education should develop models of simultaneous integration of 21$^{st}$-century skills for new learning styles. Also, several models of pre-service teachers training and assessment have been developed to assess the competencies of prospective teachers (Lipton & Wellman, 2007), such as a model that has been developed to coach the pre-service elementary science teachers and

develop their learner-focused skills with the name of Model of Research-Based Education (MORE ) (Banilower et al., 2010).

However, it is globally accepted that the terminology of knowledge, skills and values were different between nations in past, now all nations have believed that the competencies and demands that learners need in the 21st century are different from the past as well. The knowledge-based economy world demands contemporary skills if students fail to depict the 21st-century competencies in higher education or the workforce. They will face the challenges to peruse their career (Girlando, 2013). Further, to improve the pedagogical competencies among prospective teachers, need to prepare them with relevant pedagogical practices and approaches before entering the profession (UNESCO, 2013).

Likewise, some international models of pre-service teacher education contain the elements of 21st-century teaching skills i.e. Finland, Malaysia, Saudi Arabia, Singapore's Model of Teacher Education for the 21st Century (TE21) (Alhothali, 2021), and the American Association of Colleges of Teacher Education (AACTE) also emphasis of 21st-century knowledge and skills in teacher education programs (Alahmad et al., 2021). In this context, the Model of Teacher Education for the 21st Century (TE 21) is an innovative and transformative teacher education model to incorporate the 21st-century skills, and values among prospective teachers. The TE21 Model is highly applicable in the Pakistani context in several aspects, as it aligns with national education policies, promotes the application of modern pedagogies, and encourages digital literacy and professionalism. However, the integration of this model in teacher education can assure Pakistan that teachers are equipped with the necessary competencies to meet the demands of modern education. The pictorial description of the selected model is given in Figure 1.1.

**Figure 1.1**

*Model TE 21 (NIE, 2010)*


Keeping in view the contemporary global trends, the major focus of the V3SK teacher preparation model is on the three main areas as teaching values (three main values such as V1- learner-centered values, V2- teacher identity and V3- service to profession and community), pedagogical skills and knowledge of teachers to improve the learners' outcomes (NIE, 2010). Keeping in view the title of the study, major variables were drawn from the value paradigm and skills component of this model. The research objectives and questions were designed based on these key components related to the teaching values (V1, V2, & V3) and skills of this model.

## 1.1 Background of the Study

The 21st-century teachers should be facilitators to prepare learners for a prosperous future workforce (Girlando, 2013). Therefore, it is crucial to equip teachers and learners with the contemporary competencies of the century (Alharby, 2013). However, the contemporary trends of education to equip the learners with 21st-century competencies raise the question do the teachers possess these competencies themselves? The teachers' training is a crucial component to develop desired

competencies among prospective teachers in present day world. In this regard, the several training programs have been executed across Pakistan but we are failed to achieve the desired outcomes so far (Siddiqui et al., 2021).

The modern rapid global changes are required for the major change and revision in pre-service teacher education programs to prepare the teachers for the modern era (Musleh, 2018). Shalabi (2014) suggested that the 21st-century teacher preparation programs should equip prospective teachers with innovative, self-learning and technological competencies. It can be achieved by prioritizing teacher development (Hofny, 2015) because any reform of education begins from teachers (Musa & Alhanan, 2013). To accomplish this, there is a call for teacher education programs to equip prospective teachers with 21st-century skills and make sure their implementation in educational settings (Michaels et al., 2015).

In the context of Pakistan, though various studies have been conducted with reference to 21st-century skills still there is scarcity of research studies in the field of pre-service teacher education programs with reference to the defined values and pedagogical skills of the 21st century. So, this study is a way forward toward bridging this gap. In addition, the study is an endeavor to analyze the perceptions of prospective teachers regarding the development of 21st-century teaching values and skills among them and the effectiveness of teaching practices and curriculum of existing pre-service B.Ed. Elementary (four years) teacher education program to incorporate the 21st-century values and skills among prospective teachers.

## 1.2 Problem Statement

For a few decades, Pakistan has accepted and tried its best to meet the universal standards of teachers' education. However, since 2009 there is no explicit

up-gradation of teacher education programs in terms of promoting 21st-century teaching values and pedagogical skills among prospective teachers, such as it is highlighted in the educational policy of 2017 that our youth lacks higher-order thinking skills which are required to meet the challenges of 21st century, these skills are reflective thinking, creative learning, empathy, contextualizing knowledge, equity, peace, justice, respect for the rights of all etc. (GoP,2017). It is endorsed by Khan, Jumani, and Gul (2019), there is a need to respond to the demands of the contemporary global world by producing graduates with 21st-century competencies.

As the standards for 21st-century learning have been raised, 21st-century teachers also need the right values, skills and knowledge to be effective practitioners. This gap raises the demand to prepare the teachers for a prosperous future with the right values and skills to be effective practitioners who will bring the desired outcomes of education keeping in view the contemporary needs of the 21st-century. So, this study contributes to narrowing the gap by analyzing the effectiveness of existing B.Ed. elementary program and pedagogical practices to incorporate the teaching values and pedagogical skills among prospective teachers with reference to the Teacher Education Model for the 21st Century.

## 1.3 Significance of the Study

The findings of this study would be a great source of useful and enriched knowledge about the 21st century teaching values and pedagogical skills. This study is a way forward towards bridging the gap in the teacher education literature, as it provides insight that how well pre-service B.Ed. (Hons) elementary teacher education program across Pakistan is developing defined 21st-century values and pedagogical skills among prospective teachers through course work and teaching practices.

The findings of the study would be a significant to all of its stakeholders, including teacher educators, prospective teachers, teacher training institutes, policymakers, curriculum developers, Higher Education Commission of Pakistan (HEC) and accreditation bodies such as the National Accreditation Council for Teacher Education (NACTE) Pakistan by driving their attention towards the needs of the twenty-first century teaching values and skills. This study would also be significant to provide the relevant information to the teacher educators as a guiding document in the selection of modern pedagogies, activities, resources, content selection and assessment practices to keep updating themselves. Moreover, this study not only contributes to the body of knowledge but also the findings of this study would be beneficial for teacher educators to review and improve their pedagogical practices to meet the future demands of teaching and learning by providing the insights into successful instructional strategies and improvement areas.

The findings of study would be helpful for prospective teachers to critically analyze the current scenario of existing B.Ed. program and prepare themselves to receive more robust education, improving their learning experiences to meet the challenges of modern classrooms. Moreover, the curriculum developers, policymakers, administrators of teachers training institutes, HEC, and NACTE could get a true picture of current scenario of B.Ed. elementary four years teacher education program's classroom practices and curriculum regarding the development of 21$^{st}$ century teaching values and skills among prospective teachers and what further is required to develop and promote. Besides, stakeholders can use the findings of the study as an evidence to make the informed decision regarding reconsideration of teacher education curriculum, teacher education policies, and professional standards of teaching, accreditation criteria, and continuous professional development of teacher

educators in the context of 21st century to include the more robust and explicit emphasis on 21st century teaching values and skills.

## 1.4 Objectives of the Study

Teacher Education Model for the 21st-century serves as a baseline of the study to analyze the effectiveness of existing B.Ed. (Hons) elementary program to incorporate 21st century teaching values (V1- learner-centered values, V2- teacher identity, and V3- service to the profession and community) and 21st century pedagogical skills (reflective skills, thinking dispositions, communication skills, self-management skills, people management skills, administration and management skills, pedagogical skills facilitative skills, technological skills, innovative and entrepreneurship skills, social and emotional intelligence) among prospective teachers. So, keeping in view the features of this model, the objectives of the study were to:

1. Analyze the effectiveness of coursework of B.Ed (Hons) elementary (4 years teacher education program) to promote the 21st-century teaching values (V1, V2, & V3) among prospective teachers.
2. Assess the effectiveness of coursework of B.Ed (Hons) elementary (4 years teacher education program) in developing the 21st-century pedagogical skills among prospective teachers.
3. Assess the effectiveness of B.Ed (Hons) elementary (four years teacher education program) pedagogical practices of teacher educators in developing 21st-century teaching values (V1, V2, & V3) among prospective teachers.
4. Evaluate the pedagogical practices of teacher educators in relation to strengthening the 21st-century pedagogical skills among prospective teachers.

5. Analyze the content of B.Ed (Hons) elementary (four years teacher education program) curriculum in terms of developing 21st-century teaching values (V1, V2,& V3) among prospective teachers.
6. Evaluate the content of B.Ed (Hons) elementary (four teacher education program) curriculum in terms of incorporating the 21st-century pedagogical skills among prospective teachers.

## 1.5 Research Questions

Research questions of the study were as follows:

1. How well the coursework of B.Ed (Hons) elementary four years teacher education program is promoting 21st century teaching values among prospective teachers? (based on objective one)
2. To what extent the coursework of B.Ed. (Hons) elementary four years teacher education program is effective in developing the 21st-century pedagogical skills among prospective teachers? (based on objective two)
3. How well the classroom practices of teacher educators are contributing in developing 21st-century teaching values among prospective teachers? (based on objective three)
4. To what extent the pedagogical practices of teacher educators are effective in developing the 21st-century pedagogical skills among prospective teachers? (based on objective four)
5. To what extent the content of B.Ed (Hons) elementary (four years teacher education program) curriculum is supportive in developing 21st-century teaching values among prospective teachers? (based on objective five)

6. To what extent the content of B.Ed (Hons) elementary (four years teacher education program) curriculum is contributing to incorporating 21st-century pedagogical skills among prospective teachers? (based on objective six)

## 1.6 Delimitations of the Study

The study was delimited to:

1. B.Ed (Hons) elementary four years teacher education program
2. Fifth and sixth semesters of B.Ed (Hons) elementary teacher education program
3. The foundational, compulsory, professional, and pedagogical courses of B.Ed (Hons) elementary program (courses for content analysis).
4. The higher educational institutes of Islamabad that are offering B.Ed (Hons) elementary four years teacher education programs in traditional mode

## 1.7 Operational Definitions of Major Terms

### 1.7.1 21st Century Teaching Values

The 21st-century teaching values comprise a set of beliefs to foster the professional competencies of prospective teachers, including a sense of teacher identity, commitment to serve the profession and community, and awareness about learner-centered teaching approaches to prepare them to meet the challenges of 21st-century classroom.

### 1.7.2 21st Century Pedagogical Skills

The 21st-century pedagogical skills are the core teaching competencies that are required to work in 21st-century classrooms. These skills involve complex cognitive processes and expertise such as reflective skills, thinking dispositions, communication

skills, self-management skills, people management skills, administration and management skills, pedagogical skills facilitative skills, technological skills, innovative and entrepreneurship skills, social and emotional intelligence.

### 1.7.3 Pre-service Teacher Education

Pre-service teacher education is the degree program at a university or teachers training institution where the education and training are provided to prospective teachers before they have undertaken any teaching.

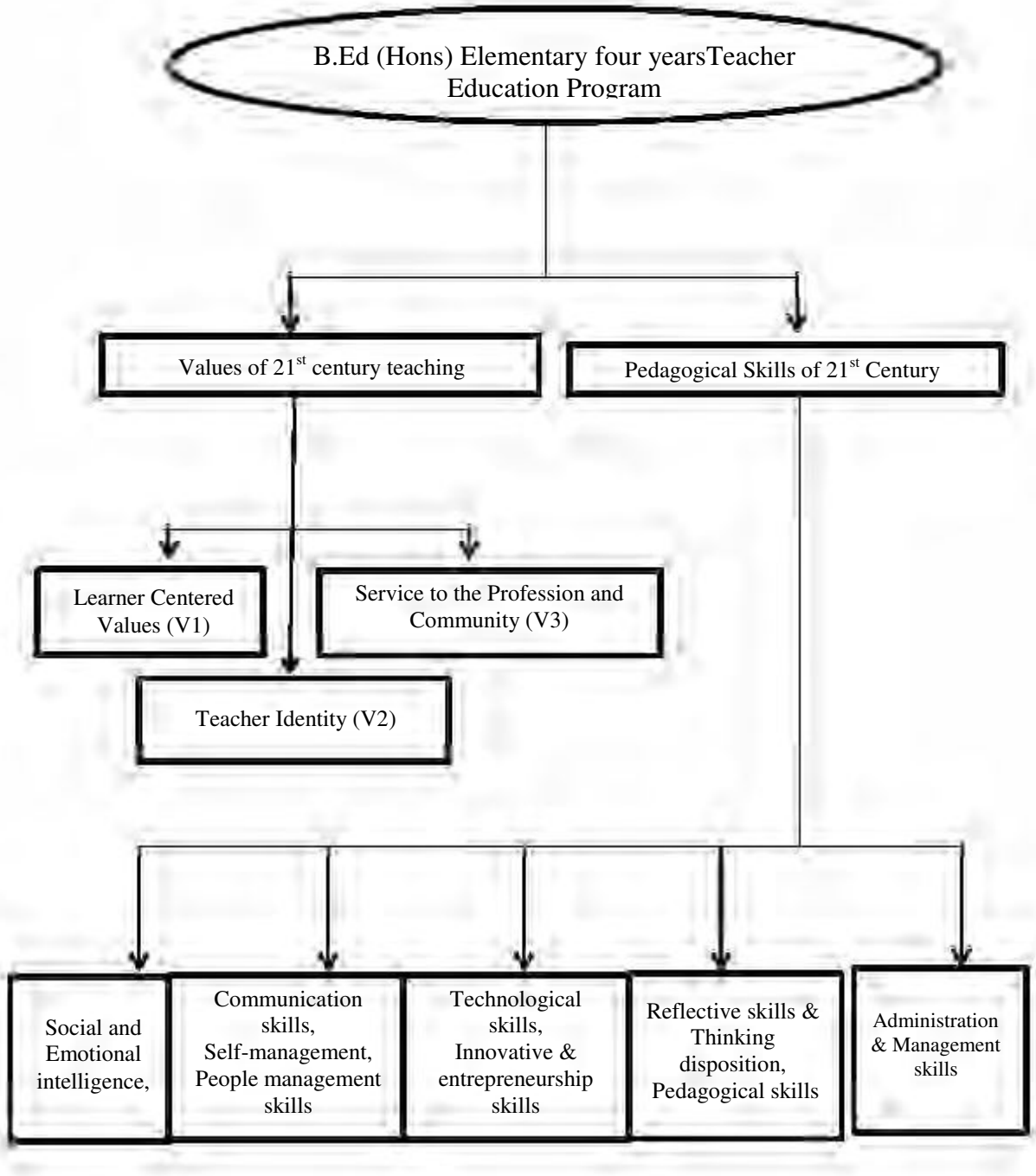
## 1.8 Theoretical Framework of the Study

The theoretical framework of the study is grounded in the Teacher Education Model for the 21st century (TE 21) (figure 1.1) and other relevant educational theories such as constructivist learning theory**,** humanistic learning theory**,** and Shulman's Pedagogical Content Knowledge (PCK) framework. The TE21 model emphasizes values-based education, learner-centered pedagogical skills, and reflective teaching. The constructivist theory highlights active knowledge construction, social interaction, and scaffolding in teacher preparation. Humanistic learning theory underscores personal growth, intrinsic motivation, and ethical decision-making in teacher education. Meanwhile, Shulman's PCK framework stresses the integration of subject knowledge with effective instructional strategies. Together, these theories provide a foundation for analyzing how pre-service teacher education programs in Pakistan equip future educators with essential pedagogical skills and professional values, ensuring they can adapt to diverse learning environments and 21st-century educational demands.

## 1.9 Conceptual Framework of the Study

**Figure 1.2**

*Conceptual Framework of the Study*




The conceptual framework (figure 1.2) provides a foundation for data collection and analysis by guiding the study's focus on analyzing the preparedness of pre-service teachers for the evolving demands of the 21st century. This study aims to

assess the extent to which existing B.Ed (Hons) Elementary four-year Teacher Education Program equips prospective teachers with 21st-century teaching values and pedagogical skills**.** The conceptual framework of the study is aligned with the Teacher Education Model for the 21st Century (TE21) and structured around its two key components: values of 21st-century teaching and pedagogical skills of the 21st century. These components further emphasize on the three major values: learner-centered values (V1), teacher identity (V2), and service to the profession and community (V3), and the sub-values under these categories and pedagogical skills as well.

## 1.10 Summary

This chapter introduces the topic of the study and highlights its significance in the context of 21st-century teaching values and pedagogical skills to meet the evolving demands of contemporary world. Teacher education Model for the 21st-century (TE 21) serves as the baseline for this study. This model is designed to ensure the quality and effectiveness of teacher preparation, enabling prospective teachers to meet the challenges of 21st-century classrooms. The background of the study provides the theoretical foundation and examines the relevant literature on pre-service teacher education and aligns it with the demand of 21st-century education. This section also provides a strong rationale for conducting this study by identifying the gaps in previously conducted studies. The research objectives and questions are derived from the two main components of this TE 21 Model, teaching values and pedagogical skills. The delimitations and conceptual framework of the study provide clear guidelines and a structured approach to achieve the objectives of the research and report the findings of the study.

# CHAPTER 2

# LITERATURE REVIEW

This study is based on the Teacher Education Model for the 21st Century (TE21), which is theoretically supported by constructivist learning theory, humanistic learning theory, and Shulman's Pedagogical Content Knowledge (PCK) framework (Triantafyllou, 2024; Juvova et al., 2015; Loughran et al., 2008). The TE 21 model is a well-known and established framework for 21st-century teaching and serves as the foundation for this study. The literature review was conducted thoroughly through the lens of its two components: teaching values and pedagogical skills. The visual representation of this model is provided in the first chapter (see Figure 1.1). Triantafyllou (2024) highlighted the significant influence of constructivist principles on adult education, particularly when integrated with the Technological Pedagogical Content Knowledge (TPACK) framework.

Further, Juvova et al. (2015) discuss how constructivist approaches have shaped contemporary educational practices, emphasizing the evolving roles of teachers and students. Likewise, Juvova et al. (2015) also elaborated on the impact of humanistic approaches on modern education, noting the shift towards more student-centered learning environments. According to Loughran et al. (2008), the application of Shulman's PCK framework in science teacher education demonstrates its influence on pre-service teachers' development. Baumert et al. (2010) examine the relationship between teachers' PCK and student progress in mathematics, underscoring the framework's significance in effective teaching.

## 2.1 Teaching Values of 21st Century

Teacher preparation programs must focus on enabling prospective teachers to serve as individual facilitators and must guide in the development of values among prospective teachers (UNESCO, 2011). Additionally, it is the duty of teacher educators to arrange debate on the topics related to 21st-century values and to set an example of these values in the classroom. Similarly, in order to impart contemporary pedagogical competences in aspiring teachers, teacher educators must likewise update and use reflective pedagogies. Lack of values and expertise among teacher educators is also a considerable element (Lunenberg et al., 2008).

The competencies of aspiring teachers in a variety of instructional domains must be recognized by teacher educators, cooperating teachers, and supervisors (Vecaldo et al., 2017). Additionally, the evaluation process fosters a sense of accountability and dedication among prospective teachers, while Eren and Soylemez (2021) discovered that the self-efficacy of these instructors influences their professional commitment, which in turn determines their ethical and unethical behaviors. All of these values are necessary for teaching in the twenty-first century.

### 2.1.1 V1- Learner Centered Values

Learner Centered Teaching (LCT) was initially adopted in the early 18th century. It was used as an alternative approach in addition to the traditional teaching model, hence this approach was formally designed in 1970s (Darsih, 2018; Kumar, 2020). Various terms like; Child Centered Approach, Learner Centered Pedagogy and Student-Centered Teaching were used to define the LCT in 1970s. This approach was enriched by students' participation which was aimed at increasing engagement and advancement of learning outcomes. In this approach, the teacher educators exhibit appropriate pedagogical methods for prospective teachers after assessing their

learning styles, skills, learning goals and needs (Kumar, 2020). Likewise, teacher training programs contribute to promoting learner-centered values by effectively preparing teachers for learner-centered teaching (Care et al., 2017; Darling-Hammond, 2016). Learner-centered approaches aim to boost students' enthusiasm for the learning process by focusing on their interests and incorporating active learning (Weimer, 2013).

LCT provides a comprehensive approach to enhancing prospective teachers' learning encounters by involving them in real-world challenges. The integration of inter-professional education within LCT is essential as it empowers prospective teachers with dynamic skills like collaboration and teamwork, which are essential in their professional journeys. Additionally, leveraging technological advancements and reorganizing prospective teachers' replacements can be employed to enhance educational outcomes within the LCT setting (Tzenios, 2022). LCT has the following four dominant characteristics:

Initially, LCT permits the prospective teachers to taking part in the rigid and disorganized efforts in the field of learning (Matmuratova, 2020, p. 1). According to Matmuratova, (2020), the teacher educators significantly take part in the learning process of the prospective teachers in traditional learning approach. The teacher educators have to ask questions, they also add additional information in the answers given by the prospective teachers and organize the outlines and add the expertise through their personal experiences. Hence, within the LCT technique, the prospective teachers get them involved in doing the same task as adopted by the teacher educators in traditional approach, consequently they became able to develop learning skills through their own participation.

Secondly, LCT incorporates explicit guidance on developing skills. The teachers Educators guide the prospective teachers in acquiring their skills like; problem-solving, argumentation, hypothesis generation, critical thinking, and evaluating the learning outcomes. Consequently, acquiring proficiency in these skills is vital for comprehending the learning material and is a prerequisite for aiming to become lifelong learners.

Thirdly, LCT promotes learners' reflection on their learning process and methodologies. Within LCT framework, teachers' educators engage the prospective teachers in informal discussions to inquire about their learning progress and challenge their preconceptions about learning. The aim of LCT is to nurture prospective teachers' self-awareness regarding their learning styles and to inspire them to cultivate their learning skills.

Fourthly, LCT empowers prospective teachers by granting them a degree of control over their learning, which enhances their motivation. Unlike the traditional approach where students are passive recipients of predefined learning methods and objectives, in LCT, prospective teachers are engaged in designing their own learning methodologies and goals. This active involvement fosters greater motivation and prevents dependency on external factors for learning (Matmuratova, 2020).

#### 2.1.1.1 Empathy Development

Empathy is frequently highlighted as a crucial trait among teachers' educators as it facilitates effective communication within the educational process. Emotional competencies play a pivotal role in effectively fulfilling the diverse professional responsibilities of teachers' educators.

Empathy involves the natural and spontaneous ability to attune to another person's thoughts and feelings, regardless of their nature. It encompasses two primary elements; the initial component involves the cognitive aspect, which entails comprehending the feelings of others and being able to adopt their perspective, while the second element pertains to its affective component, which comprises an observer's proper emotional reaction to another person's emotional state (Baron- Cohen & Wheelwright, 2004). Based on the provided definitions, it is apparent why empathy is considered a vital personality trait for teacher's educators. It can be inferred that empathy plays a significant role in the execution of numerous professional responsibilities undertaken by teachers.

The quality of interactions between prospective teachers and teacher educators hinges on their capacity to grasp each other's intentions and emotions, commonly referred to as empathy. Teacher empathy specifically denotes the teacher's capability to comprehend and empathize with the feelings and viewpoints of their students (Sun et al., 2023). This involves the teacher's capacity to identify and tend to the emotional needs of their students, modifying their teaching methods and guidance accordingly. Teachers who demonstrate empathy are more skilled at recognizing a student's negative emotions, such as sadness due to a low grade or boredom with a specific learning task, by observing their facial expressions (Batson, 2009).

A teacher's ability to provide emotional support and classroom management so that a positive emotional learning condition should be provided to prospective teachers, responding them positively according to their academic, emotional and social needs keeping in view all the considerable elements of interactions between prospective teachers and teachers educators (Pianta & Hamre, 2009). Hence, empathy is the significant feature which determined the quality of interactions and

shaping a positive relationship between prospective teachers and teacher educators. According to Aldrup et al. (2022), empathy has a great influence on emotional intelligence and it showed a significant association with prevailing literature and learner's engagement. It has been evident by various researchers that teachers' empathy has its contributions towards prospective teachers' self-actualization, confidence, and motivation level. It also contributed in reducing their stress level which eventually leads to their level of engagement towards learning.

#### 2.1.1.2 Belief that All Students' can Learn

Teacher educators believe that prospective teachers' learning has a prominent role in shaping teacher educators' instructional behaviors, examining the features of prospective teachers' "what they want to learn" and shaping the content according to their needs of learning. Teacher educators' beliefs on prospective teachers' learning have an impact on venerable and enduring attitudes, their common sense, and long-lasting experience in contrast with their research-based knowledge. According to Nuthall (2004), educators gain an insight into the learning processes that occur in their students' minds and understand how their teaching interacts with those processes" (p. 276).

In an educational system, particularly one in which prospective teachers do not see themselves as fit or face problems in learning as anticipated by the teacher educator and the developers of the educational system, the change of belief plays a vital role in shaping the prospective teachers' abilities towards learning (Tuna, 2014). Teacher educators believe in prospective teachers' learning and accept the diversity of learning abilities, so both teacher educators' professionalism and prospective teachers' capability to learn might be achieved (Rocane, 2015).

Empowerment is connected with the advancement of the educational system. This might be achieved through prospective teachers' involvement in the learning process, adopting new and advanced learning methods, and believing in their own learning abilities. Teacher educators must create the learning conditions and opportunities for prospective teachers in order to accept change (Rocane, 2015). According to He and Zhao (2006), teacher educators themselves, teaching proficiency, pedagogy, discipline, and belief about prospective teachers are included in teacher's beliefs. Ravindran et al. (2005) stated that a teacher's belief has a great impact on a prospective teacher's cognitive engagement. It deals as a filter for acquiring and understanding new information. (Fives & Buehl, 2012).

#### 2.1.1.3 Commitment to Nurture the Potential in Each Child

As educational institutions reflect the broader societal dynamics, fostering educators extends beyond mere routines to ignite students' inner passion. Nurturing, in essence, satisfies humanity's craving for inspiration. This nurturing process flourishes on balanced and harmonious interactions between teachers and students, akin to the orchestration of a concert by a conductor. Educators grasp the significance of a nurturing spirit, one that actively involves individuals and wholeheartedly commits to cultivating an enriching learning environment, thereby fostering meaningful connections and purposeful engagement (Haapanen, 2014).

For a considerable time, there has been a persistent requirement for educational approaches that place emphasis on students' unique traits and skills as fundamental to their persistent growth. This frequently involves the guidance and support of guidance and counseling educators who foster students' talents to enable them to reach their highest potential. This type of guidance assists individuals in gaining insight into themselves and their surroundings, empowering them to optimize

their abilities (Willis, 2004 as cited in Yohana et al., 2020). However, it is affirmed by Khamzina et al. (2024) that teacher education programs under personalized learning engage prospective teachers more in realizing and committing to nurturing the potential in each child. It makes the teachers try their best to identify and build up the unique strengths and abilities of every child.

Considering the importance of being a better teacher educator, prospective teachers must have to develop the abilities, skills and capacities. By adopting these qualities they must change their opinion towards their profession, status and pupils. It was evident by the researcher that educational institutions are unable to prepare the prospective teachers to become progressive performers in order to accept the challenges of global needs of learning and workforce skills. The prospective teachers who equipped with intellectual skills may cope with life challenges (Eyre, 2016).

There is need of the day to produce the learners beyond the capacity of reading, writing and counting. Developing AP among all prospective teachers should not be an option except a moral responsibility. All the prospective teachers have the privilege to receive quality education which may (i) integrate their needs (ii) allow them to administer their learning expedition (iii) impel them to analyze and invent (iv) boost them in asking question (v) freed them to accept challenges and significantly (vi) accelerate them to nourish.

To effectively empower teachers in fostering academic potential within classrooms, it is essential to conduct thorough research to definitively pinpoint the contributing factors (Grosser, et al., 2021). Prospective teachers must cultivate competencies and aptitudes to enhance their teaching abilities. This necessitates a

shift in their mindset regarding their profession, prospective learners, and professional standing (Kelemen, 2014). Prospective teachers need to enhance their abilities, capacities, and skills to excel in their role as educators. This necessitates a shift in their perspectives concerning their future profession, their prospective students, and their professional status.

#### 2.1.1.4 Valuing of Diversity

The presence of diverse students is readily apparent in today's educational environment. The Global Education 2030 Agenda characterizes diversity as encompassing variations among individuals, including race, civilization, gender, sexual identity, language, culture, religion, mental and physical abilities, socioeconomic status, and immigration background (UNESCO, 2017). Diversity is described as the existence of variances within a specific environment, which can encompass gender, race, ethnicity, religion, nationality, sexual orientation, location of practice, and type of practice (Tan, 2019). Typically, the diversity of students is indicated by their underrepresentation, weakness, or exposure (Yadav, 2021). The diversity among prospective teachers is viewed as covering the beliefs, perceptions, and attitudes regarding discrimination or resemblance within various groups (Rissanen et al., 2023).

According to UNESCO (2017), numerous initiatives, approaches, and measures have been adopted internationally regarding student diversity with the aim of guaranteeing equitable participation in classroom settings. As an example, Goal 4 (specifically target 7) of the Global Agenda 2030 emphasizes the importance of education in accommodating the diversity of learners. There is also lack of understanding related to the nature of knowledge and intellectual intelligence by the

teachers' educators. The teacher educators have the limited knowledge about how to guide the prospective teachers to deal with diverse learners (Ryan, 2022).

It was recommended by the UNESCO (2017) that focus of instruction must be on dealing with the diverse learning needs of prospective teachers which might be acquired through changing anatomy and content, curricula, teaching methodologies and advancement of assessment techniques. Learner centered approach of teaching is recommended technique to get active classroom participation of the diverse prospective teachers. Through active participation the prospective learners enabled them to enhance their learning and formed their educational thrust according to interest, prior knowledge and active participation in gaining knowledge (Rugambuka & Mazzuki, 2023).

### 2.1.2 V2- Teacher Identity

Self-recognition is considered as individual or collective image as developed by the social and cultural life through interventions and reporting about experiences (Izadinia, 2014). The concept of a teacher's identity, which is integral to their lifelong perception and understanding of their profession, undergoes a continuous process of construction, reconstruction, formation, transformation, and development over time (Williams et al., 2012). The formation of identity is influenced by the quality of relationships and interaction dynamics among teachers, student teachers, and the broader community.

The development of teachers' educators identities is rooted in their personal backgrounds and initial training, extending through ongoing professional growth opportunities, such as in-service teacher professional development (TPD) (Beijaard, 2019). As Avalos (2011) stated, teacher education programs support the

development of professional identity, networking, and collaborative practices. However, teachers with well-developed identities are more successful in teamwork and collaborative tasks and contribute to a positive learning environment.

The uncertainties of teachers educators' experience regarding their knowledge, skills, tangible results, and the significance of their actions in terms of "what, how, and why they do" contribute to enriching their understanding, planning, and instructional approaches.

Teacher identity is characterized as the persona assumed within a specific setting, and the construction of teacher identity involves an ongoing process of development, learning, and adaptation while transitioning into the role of a teacher, embodying both present and potential identities. Central to this process is transformation, where teaching is viewed as fertile ground for exploration, prompting teachers to evolve into decision-makers, consultants, curriculum developers, analysts, activists, and educational leaders. Throughout this journey, teachers typically emphasize the concepts of "identity-in-practice" and "identity-in-discourse" (Mwamakula, 2023).

According to Mwamakula (2023), teacher training programs serve as promoters towards transforming teacher educators' identity by adopting consistency in teaching and cultivating alignment between teachers' roles and their acceptance thereof. Trent (2010) has put partial focus in his action research to exploring the potential of teaching practicum (TP) as a vital means of sustaining the student-teachers identities. By immersing student teachers in real school and classroom environments, the opportunity arises for them to elucidate theoretical concepts by engaging in the practical application of meaningful teaching and learning experiences.

Additionally, according to Erickson et al (2011), the study examined and reflected upon the farming of interpersonal relationships among student-teachers themselves, students, teacher mentors, and teacher educators. The community itself is also considered as an influencing factor in teachers' identity with a fact that teachers belongs to the community and provide their best to train students who are also the part of that community and they will also serve back to the community, hence their characteristics should reflect and observe community needs.

#### 2.1.2.1 Aims for Higher Standards of Teaching

The approach of assessing teachers counter to predetermined criteria or proficiencies was introduced in 1990s. This approach was aimed at representing the knowledge, capabilities and teacher educators' attitude which should be attributes of a professional teacher. There are also certain patterns which are developed for prospective teachers which facilitate them into professional entry and others for skilled and professional teachers for their career development (Reid, & Donoghue, 2004). Professional teaching standards enable prospective teachers to understand and meet high teaching standards by defining knowledge, skills, and professional behaviors required in teaching. The programs that work under these standards prepare prospective teachers for the challenges of modern classroom (EI & UNESCO, 2019).

According to Iqbal (2011), quality teaching and teachers competences are given a successive importance in recent years and various initiatives has been taken to improve quality teaching and emphases has been also given on teaching practices in educational policies globally. Kennedy (2006) explored that increasing global emphasis on quality teachers has gained the importance in execution of professional standards for better understanding of believe, knowledge and comprehension by the

teachers' educators. These practices are making them enable to enact as professional teachers in the field of teaching.

It was evident by the social media and mass media, scholarly reports, various international research originations, NGOs and other literature review that a little emphases has been on teacher training programs all over the Pakistan which is leading to unsatisfactory results of thousands of graduated prospective teachers' content delivery and professional knowledge (Sahito & Vaisanen, 2018).

In a report published by Government of Pakistan (2009) emphases was given on ten Professional Standard including; mastery on subject, understanding of Islamic values, human development and growth, teaching planning and strategies, assessment techniques, educational environment, effective use of information and communication technology, team work and mutual understanding, adopting code of conduct and professional development and adopting English Language Skills such as ESL / EFL. All these Standards were comprised on three components which are; knowledge, dispositions and performance.

These standards were formulated by the Ministry of Education in 2009 with the collaboration of UNESCO and USAID adopting national and provincial workshops so that these standards might be regulated and through teacher training preparations, program accreditation and certified procedures associated to National Professional Standards for professional teachers. According to Shaukat and Chowdhury (2020), these standards were mainly introduced to develop the linkage between the National Professional Standards for teachers and the curriculum developed for teacher education programs. Due to lack of association between teacher

education curriculum and National Professional Standards, the impact of these standards remained unachieved in Pakistan

However, as noted by Akram and Zepeda (2015) the adoption of these professional standards into teacher education programs has been limited, and their effective application in classrooms has not been fully recognized. It seems that the delayed integration of the National Professional Standards for Teachers into prospective teacher training programs may contribute to the sluggish implementation rate.

#### 2.1.2.2 Development of Enquiring Nature

According to Hill-Jackson et al. (2019), engaging in teaching inquiries enables teacher educators to assess, evaluate, and refine their teaching methods consistently. As endorsed by Supovitz et al. (2000) the inquiry-based teaching is an instructional approach focused on students, employing in-depth investigations situated within real-world problems. It serves to enhance student abilities while also providing teachers with valuable insights into student cognitive processes. It involves collaboration in constructing knowledge through engaging in problem-posing and problem-solving, facilitated by negotiation within the curriculum (Short, 2009).

Kauchak and Eggen (2003) highlighted that the engagement of prospective educators in inquiry based learning is essential for multiple reasons. Firstly, it proves to be a powerful method for delivering content, boosting motivation, and fostering the development of analytical thinking skills in students. It holds particular significance in providing students with opportunities to hone their skills in formulating informational questions, collecting data to address those inquiries, and enhancing their capacity to analyze and assess data. Mattew and Talbot (2021) stated that inquiry-based learning helps prospective teachers build critical thinking and problem-solving skills. Teacher

education programs vigorously enable prospective teachers by engaging them in research projects and reflective practices, encouraging them to ask questions, explore various solutions, analyze educational issues critically, and promote lifelong learning (Pottinger et al., 2019). In this way, teacher education programs prepare teachers by emphasizing professional curiosity, always seeking new knowledge, and continuously improving teaching practices through constant professional development and a call for involvement in educational research (Kabilan, 2013; Moorhouse & Harfitt, 2021).

Fostering a mindset of inquiry among prospective educators empowers them to serve as agents of change for the advancement of society. Encouraging teachers to pursue independent learning and engage actively in inquiry is crucial for achieving this objective (Joyce & Weil, 1996). Additionally, it supports the implementation of inquiry methodologies and promotes the fundamental values and attitudes associated with an inquisitive mindset, such as proficiency in procedural skills, self-directed learning, critical thinking, effective communication, and similar attributes. According to Kuter (2013), various literature reviews also revealed that numerous studies have been conducted on student teachers enrolled in pre-service education programs for elementary and secondary science teaching, as well as those studying subjects such as history, geography, chemistry, biology, and science.

#### 2.1.2.3 Passion for Teaching

Passion is essentially the display of a strong inclination and readiness to invest time and energy in an activity that one finds enjoyable or considers to be meaningful (Carbonneau et al., 2008). Day (2004) associates passion with hope, dedication, compassion, and eagerness, all of which are essential characteristics of successful teaching. Dedicated teacher educators who possess a deep commitment to their profession have the potential to significantly impact student success. Beyond serving

as a source of inspiration, passion can have a beneficial effect on both teaching and learning processes by generating enthusiasm and encouraging proactive engagement (Serin, 2017). According to Daskan (2023), passion plays a vital role in the future of education and schools.

According to Jang and Reeve (2021), passion can be cultivated through intrinsic teaching objectives. Passion is an instructional goal denotes the learning objective set by the teacher, integrated into the lesson plan to steer students' classroom participation throughout that specific lesson (Jang, 2019). An intrinsic instructional goal refers to the teacher's aim for students to utilize class time to pursue either a personal growth objective, such as acquiring a new skill, or a relationship growth objective, such as collaborating with a classmate. By embracing intrinsic instructional goals, educators provide chances for their students to encounter the satisfaction of needs, including autonomy, competence, and relatedness, during classroom teaching sessions (Niemiec et al., 2009).

Passion motivates and empowers teacher educators to focus on their profession. It enables them to make a meaningful impact on their students' lives. Unlike skills acquired through training, passion is innate and cannot be taught through formal education. Prospective teachers are fortunate when they encounter passionate teacher educators who help them connect their learning to real-life situations. Teacher educators, who embrace their passion from the core of their existence, serve as best mentorship and guidance services to their students (Celik, 2017).

The study of relationship between teachers' passion and job satisfaction suggested that the government should enhance teachers' passion by effectively addressing their financial worries, as insufficient compensation was found to

contribute to teachers' difficulty in maintaining their enthusiasm for teaching, resulting in diminished job satisfaction (Bi et al., 2023).

#### 2.1.2.4 Adaptability and Resilience

In the wake of the pandemic, there is a growing urgency for teacher education programs to focus on nurturing resilient educators. The examination of resilience from teachers' standpoint, particularly concerning training initiatives, is a relatively recent development in educational research (Potolea & Toma, 2023). This emerging field offers valuable insights into the factors that enable teachers to persevere amidst difficulties, providing a complementary perspective to studies on stress, burnout, and attrition (Beltman et al., 2011).

Day and Gu (2014) present another significant advancement in comprehending the concept of resilience as, efforts aimed at enhancing teaching quality and uplifting learning standards and achievements for all teacher educators should prioritize the formation, maintenance, and transformation of teacher resilience. These endeavors should be integrated into initial training programs. Internships and practicum placements play an important role in imparting adaptability and resilience among prospective teachers (Mansfield et al., 2016). Masten (2014) views resilience as the capability of a dynamic system to adjust successfully to disruptions that jeopardize system function, sustainability, and progress.

The competency of teacher resilience is not innate; rather, it must be acquired and cultivated through the engagement of all educational stakeholders, including universities, school administrators, and professional communities. Resilience needs to be integrated into the ethos of universities providing training programs for both pre-service and in-service teachers, as well as within the educational environments where

teaching practices are implemented. School leaders, mentors, and colleagues should be equipped to provide support to prospective teachers in developing resilience (Potolea & Toma, 2023).

Teachers' attitudes contribute significantly to their professional competence (Zaruba et al., 2021). According to Kara and Ada (2021), an individual's optimistic mindset and personal sense of happiness play a pivotal role in fostering resilience and encouraging positive behavior. Teaching involves continual change within a dynamic and unpredictable setting. The ability to adapt to address the new and evolving circumstances encountered in these fluctuating environments is a crucial skill for successful and effective educators. This concept is referred to as adaptability, which entails individuals' ability to modify their thoughts, emotions, and actions when faced with new, changing, or uncertain circumstances (Martin et al., 2012).

The adaptability displayed by teachers in their practice has been correlated with several positive outcomes for both teachers and students. In a recent study by Collie et al. (2018), it was shown that teachers who were more adaptable tended to experience lower levels of work disengagement. Loughland and Alonzo (2019) discovered that teachers who are more adaptable are inclined to employ teaching methods in the classroom that cater to the varying needs of their students.

Teacher education programs were aimed to equip prospective teachers with the necessary knowledge and skills to prepare them for their active participation in schools. Nonetheless, there may rarely exist a gap between the educational theories taught and their practical implementation (Vanderlinde & Braak, 2010). Hence, numerous teacher educators perceive themselves as unprepared for the practical

challenges of the classroom environment (Darling-Hammond, 2006). According to Le Fevre et al. (2006), adaptive functioning helps individuals effectively to cope with stress and direct towards goals that are beneficial to them. The study conducted by Bowles and Arnup (2016) found a significant correlation between resilience and adaptive functioning.

Resilience cannot be imparted directly like lesson planning; however, this research highlights a significant association between resilience and adaptability. According to Le Cornu (2009), pre-service education programs that incorporate hands on teaching of skills, knowledge, and competencies related to the application of the eight factors of adaptive change such as openness to opportunity, visualizing, planning, action taking, and task completion linked with support factors like managing social support, inner drive, and negative emotions, are likely to better prepare students to comprehend resilience.

#### 2.1.2.5 Teaching Ethics

Ethics refer to moral principles that govern the behavior of individuals (Prasad, 2019). Furtado and Saldanha (2023) explained that professional ethics can be described as a fundamental aspect of applied ethics, offering guidance and direction regarding honesty, responsibilities, and confidentiality in professional settings. It's important to recognize that every profession encounters various issues and challenges.

In the field of education, challenges like classroom issues, societal and community concerns, and school-related problems are among the factors that impact the efficacy of the teaching and learning process. These challenges can be effectively managed if educational institutions establish codes of conduct to direct both teachers and students. Lack of provision for moral values and ethical behavior in education can

hinder societal goals and development. Research has shown that the integration of professional ethics among teachers has a positive impact on the progress of prospective teachers within educational institutions and after they became successful graduate (Boon, 2011). In addition, Han et al. (2018) highlighted the importance of moral and ethical education for the 21st century in developing teaching values by integrating moral exemplars and virtue ethics within teacher education programs. Ethical teachers in school settings serve as exemplars, inspiring, guiding, and motivating their students toward both personal and academic achievements.

According to Sherpa (2018), ethical teachers establish positive visions, devise plans, and provide inspiration on how to fulfill their own needs as well as those of their students in the teaching profession. It is a reality that ethical teachers utilize professional ethics to address issues and challenges that may arise within the school community. For instance, Ng'ima and Simatwa (2013) explained that the absence of personal discipline among teachers can result in various unethical behaviors such as absenteeism, sexual abuse, and financial mismanagement. From this perspective, teachers are expected to understand, adhere to, and apply ethical principles in their profession.

Educational institutions require well-trained and competent teachers who are capable of imparting moral values and skills to guide students toward success in both behavior and academic achievement (Sherpa, 2018). Hence, higher education institutions should educate prospective teachers so that they acquire and adopt essential professional ethics, morals, and values before they involve in teaching profession in educational settings. This preparation will enable them to effectively plan, implement, and address the needs of their students.

#### 2.1.2.6 Professionalism

Teacher professional development offers chances for obtaining or refreshing fundamental knowledge and skills in specific professional and academic domains. Professional development encompasses more than mere training, as it involves workshops, seminars, monitoring, reflection, observation, and engaging in activities by teachers. These activities position teachers as learners in a continuous process, with future trainers guiding them to adopt new methods, techniques, and approaches in their practice (Çetin & Bayrakcı, 2019).

According to Samaddar and Sikdar (2023), teaching is an esteemed profession globally. Its main objective is the cultivation and hands-on utilization of knowledge and skills (Ray et al., 2023). The training of student teachers is influenced by various factors. The learning process and professional growth of student teachers depend on the support, mentorship, role modeling, and interaction patterns provided by teacher educators (Rose Ragins & Kram, 2007).

Ensuring that teachers remain up-to-date with the evolving dynamics of the world and aiding them in enhancing their performance requires not only fundamental teacher education programs but also ongoing teacher development initiatives (Nauman, 2018). Professional development entails teachers' acquisition of knowledge, learning skills, and their ability to apply this knowledge effectively to support the growth of their students (Avalos, 2011). Teacher education institutions play essential roles in the global education community; they have the ability to instigate changes within educational systems that will mold the knowledge and skills of upcoming generations (Çetin & Bayrakcı, 2019).

### 2.1.3 V3- Service to the Profession and Community

In the realm of teacher education, teacher commitment refers to the psychological connection that teachers have with professional institutions, the teaching profession itself, as well as their colleagues, students, and students' parents (Lee et al., 2011). Professional commitment entails a psychological connection or attachment to the teaching profession. This indicates that teacher commitment is diverse and encompasses various aspects of commitment, including students, the teaching profession, and educational institutions. There exist three categories of teacher commitment: professional commitment (commitment to the teaching profession), organizational commitment (commitment to the school) and commitment to students (Cheng & Zhao, 2023).

Prior researches indicated that professional commitment serve as the principal stimulus behind the perseverance and dedication of prospective teachers in their learning to teach, thus significantly influencing their professional growth. The higher their level of professional commitment, the more motivated pre-service teachers are to engage enthusiastically in learning to teach (Durksen & Klassen, 2012). Parkes (1989) examined the influence of professional commitment among British pre-service teachers on their performance in teacher education. The study revealed a positive correlation between professional commitment and performance.

In the Netherlands, as per the research conducted by Fokkens-Bruinsma and Canrinus (2015) prospective teachers with high levels of commitment were more inclined to successfully finish teacher education programs as compared to those with lower levels of commitment. Studies examining the professional commitment of prospective teachers are still inadequate, especially regarding the influence of

professional learning communities on the professional commitment of pre-service teachers (Cheng & Zhao, 2023).

#### 2.1.3.1 Collaborative Learning and Practices

Gratani and Giannandrea (2022) cited that students' involvement in classroom discussions through collaborative interaction during teaching and learning epitomizes the aspiration of 21st-century education delivery. According to Zeinstra (2023), classroom participation refers to students' active involvement in the classroom, demonstrated by their focused attention, active and intense effort, verbal contributions, persistence, and positive emotions.

Student engagement has been a significant focal point in teaching and learning across various levels of education (Ismail et al., 2023). Emphasizing the participation of student-teachers during teaching and learning is vital as it will prepare them to foster classroom interaction among students in their future teaching endeavors (Bergmark & Westman, 2018). Hence, it is important to emphasize that classroom participation, which fosters equality in learning, is crucial for students' learning outcomes. Bergmark and Westman (2018) suggested that teacher education programs should prioritize the active participation of student-teachers to promote it among students in the teaching profession.

The obstacles within classrooms to implementing learner-centered pedagogy (LCP) and students' inactive participation behaviors in the classroom could potentially lead to exclusionary practices among student-teachers at post-graduation level. Research indicates that there is a need for studies across education systems, including teacher education institutions such as universities, to assess the state of student-

teachers' classroom participation for the betterment of the teaching profession (Kennedy & Pek, 2023; Zeinstra, 2023).

#### 2.1.3.2 Building Apprenticeship and Mentorship

The apprenticeship and real-world experience of pre-service teachers are crucial in developing a professional demeanor (Michelini & Vidic, 2023). Samuel (2010) asserted that teaching practice resembles the original model of teacher education known as the apprenticeship model. In this model prospective teachers achieve optimal learning through observing and imitating the behaviors demonstrated by experienced teachers. Subsequently, teaching practice became linked with the experiential apprenticeship model, which not only enhances the professional development of aspiring teachers but also contributes to the continual professional growth of mentors (Saka, 2006).

Mentorship practice acts as a reflection for prospective teachers, offering insight into their level of mastery and application of theories and content knowledge, specifically "pedagogical content knowledge," as well as their practical experience in the teaching profession (Mwamakula, 2023). Likewise, mentors education is essential in teacher education because becoming a great teacher requires more than just grasping coursework (Ellis et al., 2020). As it is supported by Korucu (2011), mentorship programs enable prospective teachers to put their communication skills into place, especially within real classroom settings. The constructive feedback from more experienced teachers or their peers gives input on how the practice can be improved.

In Pakistan, mentoring responsibilities are undertaken by the regular teachers at the schools where prospective teachers engage in practicum experiences. University

tutors also visit schools to assist prospective teachers during their practicum. Mentoring plays a crucial role in teaching practice, providing prospective teachers with supervision and pedagogical as well as professional support from cooperating teachers. Mentoring during teaching practice is offered in nearly all institutions, though in various formats (Malik & Behlol, 2014).

#### 2.1.3.3 Social Responsibility and Engagement

High-quality university education fosters social change through student engagement, enthusiasm, sustainability, commitment, and critique of their socio-professional environment (Fernandez et al., 2015). These essential elements are suggested as a tactic for ongoing enhancement towards effectively fulfilling its social mandate through four processes: (1) Ethical and environmentally responsible management of the institution; (2) Cultivating responsible and supportive citizenship through training; (3) Generating and sharing socially significant knowledge; and (4) Active social engagement in fostering development that is both humane and sustainable (Mayorga et al., 2021).

Moreover, it is imperative to prioritize the attitudes, dedication, and social responsibility (SR) of students by implementing UNESCO's (2014) sustainability competencies and the guidelines from the Conference of Rectors of Spanish Universities (CRUE, 2021, as cited in Albareda et al., 2019). These competencies include: (i) Critical contextualization of knowledge, fostering connections among social, economic, and environmental issues at local and/or global levels (ii) Responsible and sustainable utilization of resources to prevent adverse impacts on the natural and social environment (iii) Active involvement in community initiatives promoting sustainability (iv) Integration of ethical principles associated with sustainability values into personal and professional conduct.

The sustainability of initial teacher training is crucial for the professional growth of prospective teachers. As stated by Biasutti et al. (2018), there is a need for transformative educational leadership from teachers to cultivate responsible citizens dedicated to fostering a sustainable environment. Despite the significant attention given to research on teaching social responsibility as a contemporary skill, effectively integrating social responsibility into foreign language teaching settings remains an area that has not been extensively explored, with the ESP (English for Specific Purposes) classroom being no exception.

Teachers regard social responsibility highly because of its ethical value and its significance for students' future career prospects. They also note that despite its perceived importance, social responsibility in ESP classrooms is typically managed at a moderate level, primarily due to the absence of a social responsibility perspective in certain pre-service teaching courses and in-service professional development programs. Additionally, there are perceived challenges related to time constraints, as well as the design and implementation of in-class and extracurricular activities. The results of this study add to the existing body of literature concerning the significance of social responsibility and suggest pathways for future developments aimed at enhancing the effectiveness of teaching and learning in this area (Al-Wahaibi & Tuzlukova, 2023).

#### 2.1.3.4 Stewardship

Teacher educators have the chance to demonstrate stewardship in their engagements with both prospective and practicing teachers. Their role involves imparting content, pedagogical, and professional knowledge, while also exemplifying the necessary dispositions for effective teaching (Bransford et al., 2005). Similarly, as candidates cultivate a disposition for stewardship, they have the chance to incorporate

this attribute into their practice. The creation of outstanding schools is essential for both the preparation and readiness of teachers. By aligning the efforts of teacher educators and candidates towards stewardship in our educational institutions, the quality of teacher preparation will enhance (Goodlad, 1994).

As custodians of knowledge, teachers bear a responsibility to society and the broader culture to facilitate the learning of skills and concepts from the vast array of existing knowledge by all students. Prospective teachers in teacher preparation programs should possess a robust understanding across three main domains: general education or liberal arts, specific content areas aligned with state standards, and professional pedagogical knowledge as outlined in state developmental standards (Yontz, 2013), .

Stewardship encompasses many effective leadership qualities, which are distinct from traditional leadership roles. The distinction between stewardship and leadership is primarily in the scope and extent of involvement with others. For instance, leadership typically involves the actions of an individual or a small group of administrators, while stewardship encompasses the collective efforts of everyone involved in preserving what is valuable within our schools. School administrators who practice stewardship in schools recognize their roles as leaders of the institution but strive to involve everyone in preserving the valuable aspects of the school (Yontz, 2013).

Becoming a leader typically involves receiving support or approval from others, such as a constituency, an executive, or a governing board, whereas being a steward entails an inherent motivation to promote collaborative norms of engagement internally (Chrislip, 2002). According to Chrislip (2002), leadership roles are

frequently earned through formal academic or performance accomplishments, whereas stewardship simply necessitates a readiness and capacity to engage in protecting what is valuable. Every member of the school staff has the chance to act as stewards by protecting the school, its procedures, and fellow members, even if they do not hold formal leadership roles. School administrators who practice stewardship comprehend their leadership responsibilities within the institution while striving to engage all stakeholders in preserving what is valuable in the school community.

Chrislip (2002), further highlighted that becoming a leader involves attaining support from various parties such as a community, an executive, or a governing board, whereas stewardship necessitates an intrinsic motivation to promote collaborative engagement norms. Typically, leadership roles are acquired through formal academic or performance accomplishments, while stewardship merely demands a readiness and capacity to engage in safeguarding valuable resources. According to Yontz (2013), the entire school staff can act as stewards by protecting the school, its procedures, and all fellow colleagues, even if they don't hold any leadership roles in the school.

## 2.2 Pedagogical Skills of 21st Century

In the 21st century, the role and duties of educators stand out as vital components of this educational advancement. Teacher education encompasses the training process focused on acquiring teaching abilities such as proficient classroom management, effective use of instructional materials, and communication proficiency. It also includes the development of professional aptitudes like soft skills, counseling abilities, interpersonal proficiency, computer literacy, information retrieval, management skills, and crucially, lifelong learning capabilities and pedagogical theory. These elements provide teachers with a solid foundation for applying teaching skills effectively in the classroom (Laxmi & Gure, 2016). Effective teacher education

programs have always been noted to strike a balance between theoretical knowledge and practical exposure at the same time. The prospective teachers will, therefore, be equipped with a holistic knowledge of how teaching works in reality, such as lesson planning and necessary feedback mechanisms (Spalding & Wilson, 2020).

According to Rahayu and Bandjarjani (2021), educators in the modern era face innovative challenges and expectations, demanding adaptations in their teaching methodologies to align with their students' needs. Currently, teachers must possess the up to date preparation of subject matter, training, and skill set to successfully navigate these challenges and deliver effective education in the twenty-first century. These changes have led to a transition towards interactive learning environments that promote collaboration between teachers and students, as well as student-centered teaching approaches.

### 2.2.1 Reflective Skills and Thinking Dispositions

The growing transition from traditional teacher-centered classrooms to learner-centered environments brings forth new theories and models within the education sector. Consequently, reflective teaching practices have emerged as a relatively recent concept in education (Zulfqar et al., 2022). As pointed out by Filippello et al. (2020), in the 21st century, there is an emphasis on developing learning skills, not just for lifelong learners but also for teachers. Consequently, teacher preparation programs have increasingly redirected their emphasis from theoretical knowledge to analytical and reflective abilities.

Moreover, reflective practices play a very significant role in the professional development of pre-service teachers. Reflective journals, peer evaluations, and feedback mechanisms enhance the reflective skills of prospective teachers (Rodgers,

2002; Ward & McCotter, 2004). A study conducted by Cornford (2002) demonstrated that both prospective teachers and teacher educators expressed keen interest and provided positive feedback regarding the utilization of self-reflection to enhance teaching practices. Reflective teaching also fosters positive transformations in teaching performance and professional development.

According to Hatton and Smith (1995), evaluating the development of reflective skills among prospective teachers is very complex but necessary. Reflection assists the teacher in gaining insights not only about themselves but also about their students and their learning processes. It helps them understand what motivates their students and which teaching strategies are most engaging for them (Kheirzadeh & Sistani, 2018). Reflection aids teachers in improving the caliber of teaching and learning, thereby bolstering their confidence and competence in classroom engagements (Loan, 2019). There exist multiple methods for reflecting on performance, professional growth, feedback from prospective teachers, peer evaluations, and input from school administration (Ashraf & Zolfaghari, 2018).

Dispositions refer to habitual and voluntary patterns of thinking and behavior. Teacher dispositions significantly contribute to improving students' academic performance and educating and nurturing aspiring teachers (Cline & Necochea, 2006). According to Apriliaswati and Fitrianingrum (2022), Dewey previously characterized teacher dispositions as exemplars of moral conduct. Fostering the development of teachers' dispositions from their pre-service training to ongoing professional development is a crucial responsibility for teacher educators and a primary emphasis of teacher education programs (Dottin, 2009; Hunzker et al., 2009). Teacher dispositions greatly impact teachers' identities, shaping the type of educators they appear to be.

Literature shows that thinking dispositions like open-mindedness and inquisitiveness enhance effective teaching. Critical thinking exercises, problem-based learning, and reflective discussions in teacher preparation programs support nurturing these traits, enabling prospective teachers to develop a mindset focused on continuous improvement and evidence-based teaching strategies (Spalding & Wilson, 2020).

The role and duty of educators in the 21st century represent a critical aspect of this educational transformation. Rahayu and Bandjarjani (2021) noted that teachers in the 21st century are facing unique challenges and prospects, compelling adjustments in their teaching approaches to meet the needs of their students. Teachers now need to be equipped, trained, and skilled to effectively navigate these challenges and provide effective education in the modern era. These changes have led to a transition towards dynamic learning environments that encourage collaboration between teachers and students, along with instruction focused on meeting students' needs.

### 2.2.2 Administrative and Management skills

The responsibility of teacher is not merely convening knowledge to the students but bringing real world experiences through the outcomes based efforts. However, to fulfill this responsibility, teachers themselves need to pay attention to continuously enhance their skills and personal development. The managerial skill is one of these competencies in this context (Gore & Begum, 2012).

According to Gore and Begum (2012), management is a practical skill that is necessary for the functioning efficiently and effectively in all kind of organizations including educational institutions. Management comprises of two aspects; one is learning management as a subject and producing efficient mangers is the second aspect. Whereas, its significance is universally acknowledged in corporate sectors but in

educational context it differs from the pure management practices. In the past, educators have concentrated only on developing curriculum, evaluation, pedagogies, and assigning homework to students, but the role of teacher has been changed nowadays and much more complex. Besides the basic skills, teachers increasingly required expertise in areas including the teaching and learning process, addressing pedagogical issues, use of technology in classroom practices, classroom management and use of various electronic devices.

Likewise, to become the efficient managers, teachers must update their management practices. A manager's personality consists of a combination of management traits and characteristics which help him to manage the organization efficiently. These abilities support in the growth of individual, team members, and other personnel within the organization. When it comes to teaching, it defines as how teachers collaborate with colleagues, deal with students during class activities, and carry out the administrative duties (Abila, 2014).

Moreover, Gore and Begum (2012) highlighted the administrative role of academicians; they denoted that academicians manage the work beyond the delivery of content, which by definition is management in educational institutes. Obviously teachers are not the trained managers but the talented experts who have the exceptional multitasking abilities and uphold positive public relations frequently assigned such executive roles. In addition, within the institutional settings, it has been observed that the academics that perform the managerial roles frequently become unfocused from their academic activities (Gore & Begum, 2012).

Effective classroom management is one of the elements of effective teaching. As controlling students conduct and social environment of classroom considered crucial in

students development. As well as, students' classroom experiences facilitate them in the development of their academic, social, and behavioral skills (Vu, 2009). It is endorsed by Durrant (2010) a constructive and encouraging discipline is necessary for this, as this principle is also applicable to fixing students mistakes. Unintentionally, the process of receiving students' school corrections may have a negative impact on students' attitudes and its personnel, their perceptions regarding safety and schools, and academic aspirations (Scaggs, 2011).

However, it is important for academicians to understand that managerial skills practices in non-educational institutions not directly are not directly related to the classroom management but these skills helps teachers in an indirect way in teaching process (Tojibaeva, 2019). Teachers are managers in need to perform managerial roles, they need right resources. In order to push the classrooms to be responsive, globalization forces teachers to have the essential contemporary 21st century skills. So they can continually responsive to the classrooms. Herewith, in order to prepare the students effectively for the challenging world, essential 21st century skills must be incorporate into the teaching and learning process as classrooms become more globally connected (Fisher, 2019).

### 2.2.3 People Management Skills

Effective leadership has the ability to raise the satisfaction and productivity in the classrooms for everyone. The thorough awareness of the goals and requirements of an institution is prerequisite managerial proficiency. However, effective management requires the certain elements of effective management (Magbojos, 2012). As Ranade (2009) stated that structure, shared identity, and common goals of people within an institute are essential for a team to work efficiently. These common interests serve as the common basis and goals to encourage the positive connections

and build trust, ultimately establishing team interdependency. The sense of unity among team members can be achieved by placing the strong emphasis on team building activities that improves interpersonal skills among multicultural team members. Team building plays a significant role to through the communication among team members in order to achieve the goals team. Teachers are the ideal examples of technically equipped people in schools because they are experts to manage discipline and others and are viewed as authority in their profession. They have the ability to supervise others as well.

Traditionally, the school heads has developed some expertise in a certain subject or area of study. The chairperson of departments must be expertise in pedagogies, performance evaluation, people management, to organize the group, resource procurement to successfully run the administration of an academic department. Human skill is another aspect of management, including the ability to understand, inspire, motivate and collaborate with others (Silva, 2021). The primary role of a teacher is to manage the classroom and control the conduct of students. As a result, in order to avoid the classroom boredom teacher should have expertise to employ a variety of instructional strategies. This highlights the importance of human skills, gaining human skills is beneficial for building relationship with students from diverse background. In addition, the teacher capacity to think abstractly is prerequisite for the people management skills (Javier, 2016).

According to Koula (2015), teacher educators by improving their communication skills feel more productive and help students learn more through gaining the deeper understanding of their subject knowledge. Maughan (2012) stated that if educators have people management skills, they will be able to manage the change more effectively within the institute or classroom. No doubt, the teachers'

management traits how they respond to the change influence their characteristics. It is endorsed by Stronge et al. (2011) classroom management skills are the prerequisite for the effective teaching, whereas those teachers who have the poor managerial skills face the behavioral disruptions in their classroom three times more frequently than the proficient ones.

Similarly, the active engagement in classroom learning is strongly related to the academic success, the ability to control the students conduct in classroom is the primary prerequisite for effective teaching (Gest & Gest, 2005). Having said that, literature revealed that educators feel untrained for the challenges of managing students' disruptive behavior in classrooms because they do not receive the proper training in classroom management before starting their teaching career (Chesley & Jorden, 2012).

Freeman et al. (2014) reported a significant gap exists in literature on effective classroom management and its requirements for teacher training. Besides, they found that majority of prospective teachers may not be prepared to deal with students' behavior after graduating from teacher preparation program due to the lack of content on classroom management in teacher education curriculum. So, they have not been exposed to class management material. This gap has been repeatedly pointed out in literature on the content related to classroom management in pre-service teacher education programs (Lavay et al., 2012; Oliver, Wehby, & Reschly, 2011; Stough, 2006). Likewise, studies have also exposed the concern regarding the lack of consistency in philosophical approaches to teaching classroom management through teacher education programs (Banks, 2003).

### 2.2.4 Self-Management Skills

There are several definitions to define the self-management; the three different ways have been discussed in the subsequent text.

i. Self-direction is the ability to set goals for learning, assess one's learning and any output arising from the learning, and one's ability to manage time and efforts (Burkhardt et al., 2003).

ii. Applying knowledge, skills, tools, and techniques to project operations to achieve the predetermined objective is known as project management (OECD, 2005).

iii. Partnership for the 21st Century Skills (2011) describes this as a set of goals that have both tangible and intangible success criteria. These goals include managing workload and time efficiently, striking a balance between tactical and strategic goals, and defining prioritizing and completing tasks without direct supervision of authority.

Numerous scientific advancements have been mad to better understand the term self-management. According to Toma (1992), the self-management approach views educators as skilled decision maker. Consequently, there are the three ways have been identified to accomplish this goal: increasing one's visibility, creating opportunities, and asking for advice.

Therefore, self-management is referred as the proactive behavior of educators that they exhibit in their professional lives as teachers. Along the same vein proactive networking, asking for guidance, and self-positioning may all help with efficient self-management skills. Despite, realizing the importance of soft skills in teaching

profession, educators are still unprepared when it comes to interpersonal and self-management skills (Ngang, 2015).

### 2.2.5 Communication Skills

The efficacy of teaching pivots on proficient communication abilities. Teachers' aptitude in verbal and oral communication is vital for effective classroom management, facilitating clear and concise instruction delivery to students (Cavanagh et al., 2019; Fukkink et al., 2019). However, this is not only beneficial for classroom management but also creates a positive learning environment where students feel appreciated and valued (Rodriguez et al., 2020). A teacher's diverse communication proficiency, encompassing listening, relational, written, and verbal skills, plays a crucial role in improving students' comprehension of educational material. Research conducted in Pakistan demonstrated a prevailing pattern among future teachers, regardless of gender, indicating a tendency not to prioritize communication skills significantly.

Malik et al. (2017) emphasized the need for teacher education planners in Pakistan to reconsider and update the teacher education curricula to meet the changing demands of the contemporary world. Additionally, similar to any other abilities, communication skills can be enhanced through regular practice (Khan et al., 2017). Teaching practices enable prospective teachers to improve their communication skills in real classroom settings. Practical experience makes sure that either students or prospective teachers are well prepared for effective communication in diverse educational settings (Korucu, 2021). According to Halimah and Sukmayadi (2019), proficiency in verbal communication can be attained through classroom presentations, starting from basic tasks and advancing to more complex ones.

### 2.2.6 Technological Skills

According to Tzenios (2022), technology plays a crucial role in enhancing learner engagement and promoting active learning. Guraya and Abdalla (2020) exemplify online practice problem banks and peer-assisted learning programs as technological resources that can be utilized to aid student learning. Van Laar et al. (2018) emphasized that Information and Communication Technology (ICT) skills are fundamental to teaching in the 21st century. ICT is considered both as a standalone learning goal and as a tool to support the development of other 21st-century skills. These skills enrich learning possibilities and foster collaboration, problem-solving, and creativity, as outlined by (Voogt & Roblin, 2012).

In the modern era, technology serves as a tool that shapes teaching methodologies, aiding in the education and professional growth of educators (Hebert et al., 2021; Hu et al., (2021). Teacher education programs provide the course "ICT in Education" to equip aspiring teachers with the necessary skills for teaching in the broader field of pedagogy, preparing them to become future educators. Effective and inclusive interaction with students requires properly equipped teachers in digital communication. Teachers who have good digital communication skills can interact with their students more interactively and inclusively (Vincent-Lancrin et al., 2022).

Ciolan (2014) observes that the present younger generation primarily utilizes ICT for social media engagements, frequently allocating substantial amounts of time unproductively on platforms such as YouTube, Facebook, and Twitter. Conversely, Cheong (2002), as referenced in Zaidieh (2012), suggested that social networking provides convenient and rapid access for reviewing, updating, and editing learning materials, offering the flexibility to do so from any location at any time.

Moreover, Boholano (2017) suggested that aspiring teachers can employ different applications accessible on social media platforms for their projects. Effective use of social networking requires critical thinking abilities and the capacity to analyze and evaluate real-life scenarios. This method also demands authentic learning abilities to ensure the credibility of information and resources. Social networking platforms aid pre-service teachers in incorporating technology into teaching and learning practices. Furthermore, these platforms assist educators in developing a better understanding of their students' social concerns. Electronic social networking services, notably Facebook and similar platforms such as MySpace, have rapidly gained prominence in this regard.

According to Zaidieh (2012), social networking sites primarily focus on forming online communities based on shared interests or activities. Within the domain of e-learning, these platforms can be utilized for communication and discussions on diverse subjects. Existence of ICT doesn't automatically improve teaching and learning. Rather, it's the active involvement of teachers that motivates students. The efficacy of the teaching-learning process depends on the methods and strategies employed by educators (Boholano, 2017). Agrati (2021) supported the importance of instilling digital literacy in teachers, as this will allow them to offer innovative teaching methods and improve student engagement.

Digital tools and platforms are part of training in teacher education programs nowadays to gain new insights and strategies in communication. Educational content and resources are generated through virtual classrooms, educational software, and social media. Effective and inclusive interaction with students requires properly equipped teachers in digital communication (Vincent-Lancrin et al., 2022). Video reflections assist in improving teaching practices and self-awareness as well (Larrives

(2000). Interactive e-textbooks, web conferencing, and virtual laboratories have become prominent in ensuring personalization, engagement, and self-paced study (Szymkowiak et al., 2021). Alamri and Alfayez (2023) stated that video-based classroom observation is effective in fostering reflective skills among pre-service teachers.

The study by Timms et al. (2018) on the influence of STEM education in developing 21st-century skills for pre-service teachers showed that the incorporation of project-based and problem-based learning in STEM education resulted in very high involvement of students in the learning process and the learning outcomes. Studies have also shown that the framework of technological pedagogical content knowledge (TPACK) is significant when preparing prospective teachers to tap into the application of technology in the teaching process. TPACK encompasses the interactions of technological, pedagogical, and content knowledge to support effective modern education. Effective modeling and hands-on experience with digital tools are paramount in fostering technological skills (Hew et al., 2019; Tondeur et al., 2019).

### 2.2.7 Innovation and Entrepreneurship Skills

In the modern era, creativity and entrepreneurship are both essential and interconnected competencies influencing educational achievements and career paths, playing a vital role in the personal development and social advancement of young generation (Edwards et al., 2015). These skills are not separate entities; indeed, creativity is intimately connected with entrepreneurial abilities. Entrepreneurial endeavors, whether in services, solutions, or products, serve as a foundation for fostering creativity (Del Campo, 2017).

These competencies are interrelated; specifically, creativity is strongly associated with entrepreneurial skills. Conversely, aspiring teachers often find themselves ill-prepared for market demands, typically lacking significant theoretical understanding and practical expertise. This assessment is based on the outcomes of the Importance Performance Analysis, suggesting that the cultivation of entrepreneurial competencies has not reached an ideal level (Sukardi, 2023). In addition, Venesaar et al. (2021) suggested that entrepreneurial competence should be integrated at all levels of education to inculcate a culture of innovation and continuous improvement among the teachers. Nonetheless, there remains a distinct need for substantial enhancement in fostering skills related to initiative-taking and personal accountability.

### 2.2.8 Social and Emotional Intelligence

In the last two decades, literature highlighted the significance of teachers' social and emotional skills in enhancing their effectiveness in teaching. Despite this acknowledgment, there is still a need for more programs dedicated to enhancing these competencies within teacher education (Dung & Zsolnai, 2021). In the school setting, emotional intelligence relates to the emotional dimensions of teaching, which involve the ability to recognize, comprehend, and regulate students' emotions, as well as manage interpersonal interactions within the classroom (Polak et al., 2015).

Hence, the abilities to identify, manage, and particularly understand emotions and social interactions are essential. Therefore, in order to foster emotional competence among students, it is imperative for prospective teachers to receive training in emotional intelligence to effectively regulate both their own emotions and those of their students. Emotional intelligence holds equal significance for teacher educators and students due to its pivotal role (Spilt et al., 2011).

Frameworks concerning social-emotional competencies emphasize the significance of self-awareness, self-regulation, social awareness, communication abilities, empathy, and the capacity to make responsible decisions (MGIEP, 2020). Recent analyses have highlighted that teacher education programs do not place significant emphasis on the social-emotional competencies of teachers (Reichl, 2017).

## 2.3 Role of Teacher Educators in Developing 21st Century Teaching Values and Skills among Prospective Teachers

In developing nations, there has been considerable discussion regarding teacher education, as the perceived status of the teaching profession is believed to rely, to some degree, on the professional expertise of university teacher educators and the quality of the training they undergo (Shaukat & Chowdhury, 2020). Teacher educators and in-service teachers have the responsibility of assisting student teachers in developing confidence and a sense of commitment to reinforce their identities (Korthagen, 2017).

Trilling and Fadel (2009) outlined that the transformative paradigm has altered the roles of educators and learners. Educators are now required to adopt learner-centered pedagogies in the classroom, enabling learners to actively engage and acquire expertise in communication, problem-solving, critical thinking, creativity, teamwork, technology use, and innovation.

In the context of current era, the role of a teacher has not only become more complicated but also involves shared responsibilities with the learner, given the active role of the learner (Lopez et al., 2018). Nevertheless, teachers must be adequately prepared to fulfill their roles effectively. Teaching practice serves as a crucial element of teacher education programs aimed at enhancing the abilities of future teachers

(Zeichner, 2002). Urbani et al. (2017) suggested that teacher education programs should adopt 21st-century models to develop 21st-century skills among prospective teachers. His proposed model focuses on personal development, applied development (application in multiple contexts), and continuous professional growth. It focuses on creativity, critical thinking, communication skills, collaboration information, media, and technology skills.

A study conducted by Hernandez (2021) endorsed that prospective teachers are being prepared to adopt critical 21st-century pedagogical skills such as critical thinking, collaboration, communication, and technological proficiency to meet the demands of the contemporary world. Professional development programs enhance teaching effectiveness to a great level through workshops and reflective practices. There is an imperative need for professional development programs to inculcate 21st-century collaboration skills, critical thinking, and technological proficiency (Meneses et al., 2023).

## 2.4 Role of Pedagogical Courses and Teaching Practices

Pedagogical courses are instrumental in fostering comprehensive understanding and mastery in specific content domains. Research studies have revealed that in many countries, teacher educators commonly advocate for the demonstration and utilization of a diverse range of pedagogical approaches during coursework, as opposed to relying solely on the lecture method (Girlando, 2013). According to Sadaf et al., (2022), teaching encompasses a variety of activities, including aspects such as institutional organization, instructional strategies, planning, and the selection of learning materials.

The success of teaching practice on the other hand relies on the personal and interpersonal attributes of prospective teachers, including their ability to effectively manage the classroom, address learner discipline, and implement pedagogical strategies while considering learner diversity (Mazo, 2015). Shoaib and Khalid (2017) noted that teacher educators with advanced academic and professional qualifications demonstrate greater commitment to their profession compared to those with lower qualifications. Additionally, older teacher educators tend to exhibit higher levels of commitment in comparison to younger educators.

However, in any teacher education program, teaching practices and training of prospective teachers are viewed as two sides of same coin. As, teaching practices offer the opportunities to prospective teachers to, gain the professional skills, learn instructional strategies, and a variety of teaching methodologies through their teaching experiences. Teaching practices are the key component in preparing the prospective teachers to be professionally motivated and effective educators (Mahmood et al., 2023). Training experiences during teacher education programs are substantial for the professional development of a prospective teacher. This is an opportunity to observe, practice, and even give feedback on basic instructional strategies. Indeed, this is the source of learning and self-improvement for high-quality instructional practices among prospective teachers (Hiebert & Wearne, 1993). Practicum is said to develop such skills as teaching, confidence in oneself, and abilities in classroom management that help in a smooth transition from a student to a professional teacher (Jones & Brown, 2019). Experiential opportunities are crucial for prospective teachers to transform theoretical knowledge into practice and receive constructive feedback. Teaching practice ensures preparedness to handle the challenges of the classroom (Cavanagh et al., 2019).

According to Badenhorst and Badenhorst (2010), prospective teachers always in favor of learner centered teaching and interactive classroom environment. Most teacher training programs emphasize questioning strategies, effective discussion facilitation, and positive language to engage all learners. The studies conclude that the interactive approach nearly doubles student participation and fosters an inclusive classroom atmosphere (Darling et al., 2017). As Beck and Kosnik (2002) and Mutemeri and Chetty (2011) suggested that there are a number of factors to assess the perceptions of prospective teaching regarding teaching practices such as class size, interaction of students and teachers, and the attitudes of teaching staff.

Additionally, Mahmood et al. (2023) claimed that the numerous studies have been conducted to determine how prospective teachers perceive the challenges and stress during their teaching practice experience. Whereas, literature highlighted that only a limited number of studies have been conducted to determine the causes of negative attitudes and unfavorable experiences towards teaching practices (Marais & Meier, 2004; Ngidi & Sibaya, 2003).

According to Akbar (2002), the primary focus of teaching practices in any institution is to facilitate the development of professional competencies, personal attributes, comprehension, knowledge, and essential skills for teaching among prospective teachers. Further, he suggested that every institution should design its teaching practice keeping in mind the following goals:

i. To offer a chance for students to become familiar with the school environment, community, and available resources.
ii. To exchange existing ideas and obtain new concepts and materials for the teaching-learning process.

iii. To offer prospective teachers the chance to establish suitable teacher-student relationships.

iv. To foster understanding among teachers, students, parents, and administrators.

v. To offer prospective teachers the opportunity to evaluate themselves and identify their strengths and weaknesses.

## 2.5 Pre-service Teacher Education in Pakistan

Since Pakistan's inception as an independent state in 1947, the quality of teacher education has consistently been a subject of policy discussion, initially drawing heavily from the British model of post-academic training programs. During the 1980s, various formal teacher education institutions were established in Pakistan, including the Provincial Institutes of Teacher Education (PITE), along with informal training opportunities offered through distance learning platforms such as the Allama Iqbal Open University (AIOU) (Shaukat & Chowdhury, 2020).

However, the most significant developments in teacher education in Pakistan occurred in the mid-2000s with the introduction of certification and diploma programs such as the Primary Teaching Certificate (PTC) and Certificate in Teaching (CT). In the present context of teacher training, pre-service teacher education programs were initiated through a partnership with USAID, providing credentials like the Associate Degree in Education and Bachelor of Education (Honors), along with various advanced diplomas and certificates in teacher education (Shaukat & Chowdhury, 2020).

In Pakistan, the training of pre-service teachers is somewhat ineffective as it fails to cater to the contextual and situational requirements of prospective teachers

(UNESCO, 2014; Azad, 2014). Mason (2013) identified three primary factors that adversely affect the quality of teacher preparation: insufficient competence to address students' learning requirements, insufficient alignment between teacher education and professional training with school needs, and a deficiency in well-organized and systematic induction programs for pre-service teachers. As per the National Educational Policy of 2017, teacher education curriculum ought to encompass modern content knowledge, along with specific skills and attitudes in accordance with the Professional Standards, to effectively cater to students' learning requirements (Government of Pakistan, 2017).

The Education Policy (2017) Government of Pakistan highlights the enhancement of quality teacher education as one of its top priorities (Shaukat & Chowdhury, 2020). Teacher education in Pakistan has frequently faced criticism from various stakeholders and interest groups (Akram & Zepeda, 2015). Academic researchers have proposed that the Pakistani Government is inadequately preparing teachers for the challenges of school environments, contending that teacher training initiatives lack alignment with school contexts, curricula, adequate resources, and universally applicable entry standards into teacher education programs (Ali, 2011).

Significantly, present teacher education programs often prioritize theory and content, but fail to connect theory with practical application (Ahmed, 2008). In essence, teacher education programs have not tailored the professional competencies of teachers to meet the requirements of schools. This leads to teachers demonstrating inadequate application of teaching skills and pedagogical approaches, ultimately resulting in a deficiency in understanding how students learn, how to plan effectively, and how to execute successful teaching programs (Iqbal & Shams, 2012).

## 2.6 Critical Summary

This chapter critically examines the existing literature related to the 21st-century teaching values and skills through the lens of TE 21 Model. This provides a comprehensive overview of the empirical studies and key concepts related to the 21st-century teacher preparation and essential teaching values and pedagogical skills. The numerous studies on teacher education were explored and reviewed in detail. The theoretical assumptions of literature related to the key concepts such as learner-centered values, teacher identity, service to the profession and community, and pedagogical skills were discussed which highlights the significance of these key aspects within the context of 21st-century teaching.

Literature indicates that these values and skills are essential to prepare effective practitioners to cater the needs of 21st-century learners. Literature provides valuable insights, gaps and limitations in the context of 21st-century pre-service teacher education. However, previously conducted studies emphasize the importance of the values related to learner centered, teacher identity, service to the profession and community, and essential pedagogical skills but do not provide evidences of how can inculcate these values among prospective teachers, which strategies can be used to cultivate these 21st-century competencies among prospective teachers. Likewise, limited studies were conducted on the ethical values, facilitative skills, self-management skills, innovation and entrepreneurship skills, and social and emotional intelligence skills development among prospective teachers.

Studies indicated that universities in Pakistan are not effectively fostering essential 21st-century skills like creativity, communication, problem-solving, and collaboration among their graduates. Choudhary et al. (2021) demonstrated that science teachers in formal education settings lack essential 21st-century skills,

specifically critical thinking, collaboration, communication, and creativity. Besides, they suggest that teachers should engage in the regular practice of 21st-century teaching and learning skills to instill these abilities in their students.

Also, existing teacher preparation programs lack sufficient content quality to align with the National Professional Standards (Raza et al., 2016). The literature emphasizes the importance of preparing both teachers and learners to address the demands of the 21st-century. It is endorsed by the 2017 educational policy by highlighting the alarming situation as the youth of Pakistan lack modern-age skills. Therefore, there is an urgent need to cultivate teachers who can assume greater responsibilities as they play a crucial role in educating the youth. Additionally, there is a need for more studies to assess all the existing pre-service teacher education programs in the context of 21st-century teaching and learning needs.

# CHAPTER 3

# RESEARCH METHODOLOGY

This section provides an in-depth overview of the research method. It includes the detail of overall design of the proposed study, description of the research population, sample selection technique, sample size, instruments development, data collection procedures, and data analysis techniques.

## 3.1 Research Paradigm

Philosophical assumption of pragmatism serves as a baseline for this study as it emphasized on collecting data from both quantitative and qualitative evidences (O'Neil & Koekemoer, 2016). Creswell and Creswell (2018) highlighted that pragmatism underpins the mixed methods philosophical paradigm and embraces the quantitative and qualitative designs. It allows the researcher to use multiple methods to understand the research problem. It acknowledges that there may be one or multiple realities that are susceptible to scientific inquiry (Creswell & Clark, 2011).

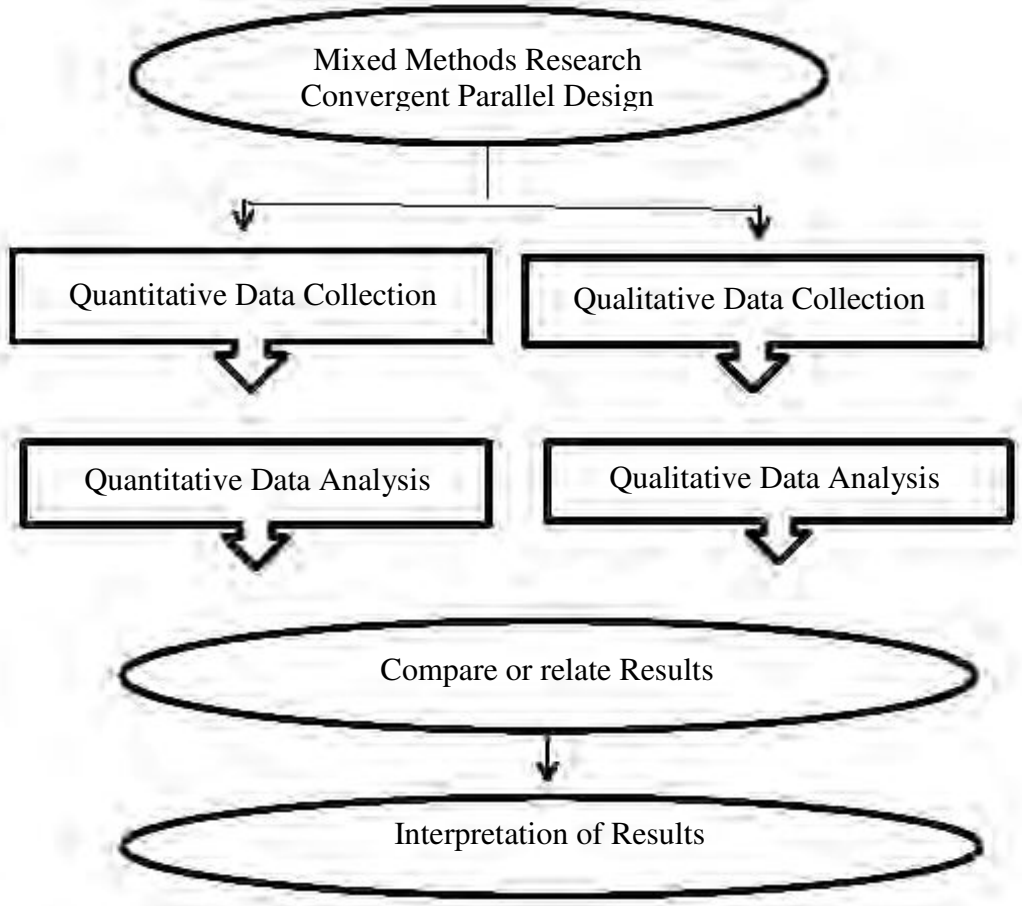
The basic underpinning of pragmatic philosophy is that the knowledge and reality are built on socially constructed beliefs and habits (Yefimov, 2004). Pragmatist epistemology emphases that knowledge is always based on experiences. It doesn't see knowledge as reality. According to pragmatists all knowledge in our world is socially constructed, although some of these social constructions more closely reflect individuals' experiences than others (Morgan 2014). Goldkuhl (2012) stated that the foremost purpose of inquiry is to create the knowledge for the sake of improvement and change in reality.

## 3.2 Research Design

A mixed-methods research design based on a convergent parallel strategy was applied to carry out this study. The convergent design provides the opportunity for researchers to give equal ascendency to both quantitative and qualitative methods by direct comparing or contrasting the finding of the quantitative and qualitative for the validation purpose (Creswell & Plano Clark, 2011). The details of the research design are given in figure 3.1.

**Figure 3.1**

*Research Design*



## 3.3 Population of the Study

The population of the study was all the teacher educators (74) and prospective teachers (2293) of the public and private higher education institutes of Islamabad Capital Territory (ICT) having the faculty/Department of Education (Appendix-I).

**TABLE 3.1**
*Population of the study*

| Sr. No. | Higher Education Institutes | Teacher Educators | Prospective Teachers |
|---|---|---|---|
| 1 | University 1 | 21 | 744 |
| 2 | University 2 | 23 | 900 |
| 3 | University 3 | 5 | 47 |
| 4 | University 4 | 5 | 23 |
| 5 | Institute 1 | 8 | 544 |
| 6 | Institute 2 | 12 | 35 |
| Total | 6 | 74 | 2293 |

## 3.4 Target Population of the Study

The target population of the study consisted of teacher educators and prospective teachers of four higher education institutes in Islamabad (Appendix-II) that offer a B.Ed (Hons) elementary 4-year teacher education program. Only four public higher education institutes in Islamabad (see Table 3.2) offer the B.Ed (Hons) elementary four-year program.

**Table 3.2**

*Target population of the study*

| Sr. No. | University Name | Teacher Educators | Prospective Teachers |
|---|---|---|---|
| 1 | University 1 | 4 | 14 |
| 2 | University 2 | 4 | 29 |
| 3 | Institute 1 | 6 | 61 |
| 4 | Institute 2 | 5 | 13 |
| Total | 4 | 19 | 117 |

## 3.5 Sampling

The sample of the study was consist of all the teacher educators who are teaching the 5th and 6th semester batch Fall 2023 and those prospective teachers who are enrolled in 5th and 6th semester (Fall-2023) under B.Ed (Hons) elementary four years teacher education program at the time of data collection at above-mentioned higher education institutes of Islamabad. Universal sampling technique was applied to draw the sample. The universal sampling technique is used when population size is small and all the individuals are taken as sample of the study (Ramoso & Ortega-Dela, 2019).

## 3.6 Research Instruments

Various self-developed instruments were employed for data collection purpose from the sample of the study including questionnaire, classroom observation sheet, and a code book for content analysis.

### 3.6.1 Questionnaire

A self-developed questionnaire was utilized for quantitative data collection from the prospective teachers. It was designed on the three point Likert scale from fully extent to the not at all. The questionnaire was consisted of the demographic information, purpose statement, and two major variables 21st century teaching values and pedagogical skills of 21st-century to meet the global trends.

The 21st-century teaching values has further the three sub values or categories such as learner-centered values (V1), teacher identity (V2), and service to the profession and community (V3) to measures the effectiveness of B.Ed (Hons) elementary program. While, the variable pedagogical skills contains the ten teaching skills which including reflective skills and thinking dispositions, pedagogical skills, people management skills, self-management skills, administrative and management skills, communication skills, facilitative skills, technological skills, Innovation and entrepreneurship skills, and skills of social and emotional intelligence. The number of statements falling under each variable varies, it depending on how many statements are required to measure the one factor. The total thirty eight (38) statements were finalized to include in this instrument (Appendix-V). Following is the detail of major variables (21st- century teaching values and pedagogical skills) which were inspected through the questionnaire:

#### 3.6.1.1 21st-Century Teaching Values

The 21st-century teaching values further carry the three main teaching values or sub variables namely learner centered values (V1), teacher identity (2), service to the profession and community (V3). So, this variable is divided into three main sections related to these values. One main question was structured under each section

and this section carries the total eighteen (18) statements, number of statements under each value varies. The first question of learner centered values consisted of four (4) statements and second question of teacher identity values contained the eight (8) statements. The third question of service to the profession and community carries the six (6) statements as well.

#### 3.6.1.2 21st-Century Pedagogical Skills

This section was based on the one main question which comprises on twenty (20) statements, to evaluate the 21st-century pedagogical skills among prospective teachers.

### 3.6.2 Classroom Observation Sheet

A classroom observation sheet was designed to record the observation of B.Ed (Hons) program teaching practices in natural settings. The observation sheet consisted of the demographic information i.e. institute name, timing, course, class size, observation setting, and the two major factors 21st-century teaching values (learner-centered value, sense of identity, and professional commitment) and pedagogical skill (ten teaching skills which including reflective skills and thinking dispositions, pedagogical skills, people management skills, self-management skills, administrative and management skills, communication skills, facilitative skills, technological skills, Innovation and entrepreneurship skills, and skills of social and emotional intelligence). The above mentioned 21st-century teaching values and pedagogical skills were rated on three points rating scale from fully extent to not at all (Appendix-VI).

### 3.6.3 Codebook for Content Analysis

A code book was developed to analyze the pedagogical and theoretical courses of B.Ed (Hons) elementary teacher education program to explore the 21st-century teaching values and skills and to what extent these courses are up to date to incorporating the 21st-century teaching values (learner-centered value V1, teacher identity V2, and service to profession and community V3) and pedagogical skill (ten teaching skills which including reflective skills and thinking dispositions, pedagogical skills, people management skills, self-management skills, administrative and management skills, communication skills, facilitative skills, technological skills, Innovation and entrepreneurship skills, and skills of social and emotional intelligence) among prospective teachers. The curriculum documents of Higher Education Commission of Pakistan for B.Ed (Hons) elementary four years teachers education program were selected for content analysis purpose. The list of courses B.Ed (Hons) Elementary 4 years teacher education is as follows (Appendix-III):

1. **Compulsory courses**

   Functional English I

   English II (Communication Skills)

   English III (Technical Writing and Presentation Skills)

   Computer Literacy

   General Mathematics

   Pakistan Studies

2. **Foundation courses**

   Child Development

   General Methods of Teaching

Classroom Management

Classroom Assessment

School Community and Teaching

Foundations of Education

Curriculum Development

Educational Psychology

3. **Professional courses**

Teaching Literacy Skills

Instructional and Communication Technology (ICT) in Education

Teaching of Mathematics

Teaching English

Teaching of Social Studies

Contemporary Issues and Trends in Education

Comparative Education

Introduction to Guidance and Counseling

Research Methods in Education

School Management

Test Development and Evaluation

Research Project

4. **Pedagogical Courses**

Teaching of Mathematics (Pedagogy)

Teaching English (Pedagogy)

Teaching of General Science (Pedagogy)

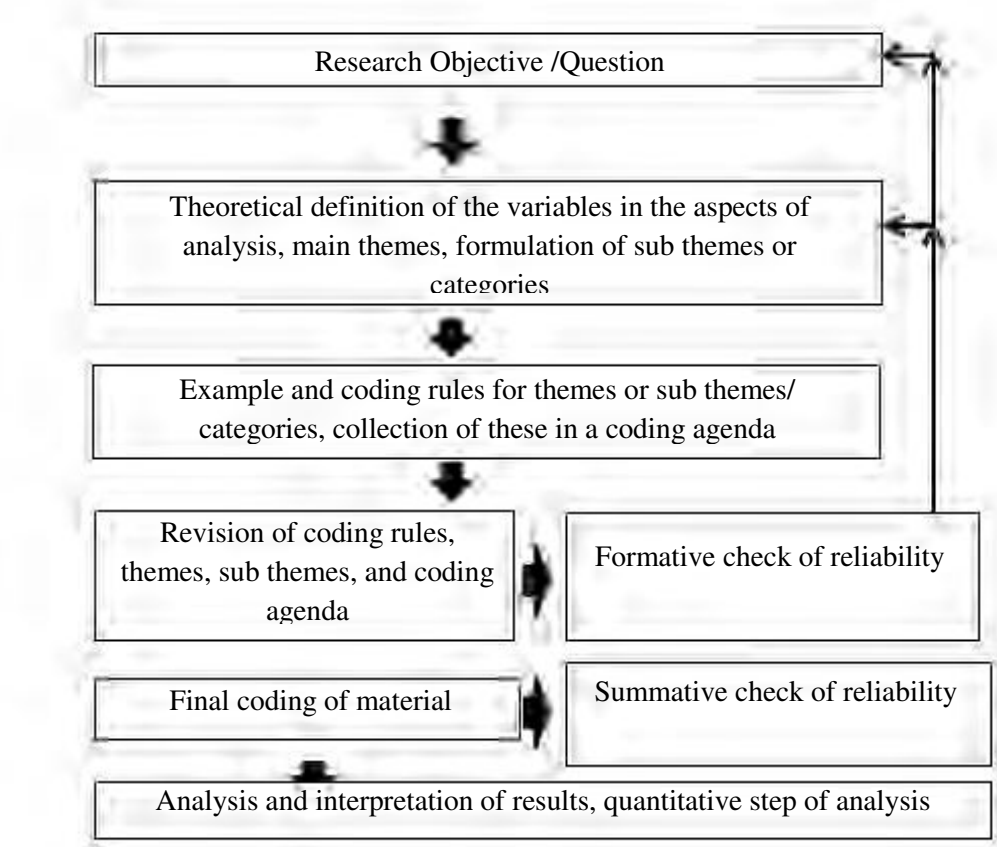
Teaching of Social Studies (Pedagogy)

Teaching Practicum I & II

Philip Mayring' deductive category model (see figure. 3.2) was adopted for qualitative content analysis to answer the fifth and sixth research objective. This model provide a road map to analyze the already existed content and formulation of themes and concept from existing content to explore and analyze the association between the analyzed text and generated themes. This model provides the step by step procedure of content analysis and rules to analyze to the text by employing the category system.

**Figure. 3.2**

*Model of Deductive Category Application (Mayring, 2014)*




Accordingly, the code book was designed keeping in view the step of deductive category model of Philip Mayring. Firstly the variables were defined as major themes or categories in the aspects of analysis. Initially, the four main themes

were stated in coding agenda namely values learner centered values V1, teacher identity V2, service to profession and community V3, and pedagogical skills. In next step, the sub themes were stated in front of each main theme and theoretical based definitions of sub themes were formulated. The coding abbreviations, descriptors, coding rules, and examples were the part of coding agenda to analyze the text (Appendix-VII).

### 3.7 Validity of the Research Instruments

Content and face validity of tools was confirmed by getting experts opinions. The initial draft of questionnaire was consisted of forty three statements. Taking into consideration the experts' opinion; instruments were improved by removing the repeated statements. Five statements were closely linked to each other that's why those statements were deleted from the questionnaire so thirty eight statements were finalized to include in the research tool to collect the data from prospective teachers. Likewise, based on experts' opinion total thirty statements were finalized for classroom observation sheet, which were initially thirty eight.

### 3.8 Pilot Testing

After ensuring the validity of research instrument, pilot study was conducted to test the feasibility of research instrument. The questionnaire was administered to 25 prospective teachers for pilot testing and these participants were not included in final data collection process.

### 3.9 Reliability of the Research Instrument

In order to check the reliability of questionnaire, value of Cronbach's alpha was calculated and it was 0.923 which depicts the appropriateness of questionnaire for

data collection. The following table depicts the detail of Cronbach's alpha for each variable:

**Table 3.3**

*Cronbach's alpha coefficient*

| Sr. No. | Variables | No. of items | Cronbach's alpha Value |
|---|---|---|---|
| 1 | Learner centered values | 4 | .614 |
| 2 | Teacher identity | 8 | .798 |
| 3 | Service to the profession & community | 6 | .849 |
| 4 | 21st century pedagogical skills | 20 | .886 |
| | Total | 38 | .923 |

### 3.10 Procedure of Content Analysis

The subsequent text provides the detail of content analysis procedure. The content analysis was done to for the 5th and 6th research objective as to analyze the content of B.Ed (Hons) elementary program's curriculum in terms of developing 21st-century teaching values among prospective teachers; to evaluate the content courses of teacher education program to incorporate the 21st-century pedagogical skills. Keeping in view the purpose of study Philipp Mayring suggested model of deductive category application was adopted for content analysis (see figure 3.2).

This model involves content analysis of already existing, formulated, and theory driven themes/concepts; explores the existing association between the analyzed text and these themes. This model determines the condition/circumstances under which a passage of text would be coded with a category and provides a definition of

each category in the coding agenda. The detail of each step of this model followed for the study is discussed in the subsequent text.

### 3.10.1 Formulation of research questions

Two following questions of this study directly require extensive content analysis to answer them: To what extent the content of B.Ed (Hons) curriculum is supportive in developing 21st-century teaching values (V1, V2, V3) among prospective teachers? (based on objective five) To what extent the content of B.Ed (Hons) elementary (4 yearteacher education program) curriculum is contributing to incorporating 21st-century pedagogical skills? (based on objective six)

### 3.10.2 Definition of each category

The theoretical definition of main themes or categories is defined in the codebook. Each them was grounded in the extensive literature (see Appendix-IV). These categories are nominal as they all are independent categories and belong to the same key themes of 21st-century teaching values and skills.

### 3.10.3 Coding guidelines/agenda

Keeping in view the coding structure and guidelines a code book was developed by following the format suggested by Philipp Mayring (2014). The detailed codebook based containing a table of five columns category label, the themes, subthemes, definition of each category, anchor examples and coding rules. The detail of this codebook is provided in subsequent text:

### 3.10.4 Codebook for thematic analysis

Keeping in view the coding guidelines of deduction category application model a code book was developed by following the Philip Marying's qualitative content analysis approach to analyze the curriculum documents (see Appendix-V). Initially, the codebook contained the five main parts as per the guidelines of the model:

1. a list of key themes/categories (learner centered values, teacher identity, service to the profession and community, pedagogical skills);

2. subthemes/subcategories of these key themes (empathy, believe that all students can learn, commitment to nurture the potential in each child, valuing of diversity, higher standards of teaching assigned, development of enquiring nature, quest for learning, strive to improve, adaptive and resilient, ethical, professional, collaborative learning and practice, building apprenticeship and mentorship, social responsibility and engagement, stewardship, reflective skills, thinking dispositions, pedagogical expertise, people management skills, self-management, administration and management skills, communication skills, facilitative skills, technological skills, innovative and entrepreneurship skills, and social and emotional intelligence ;
3. theoretical definitions of these categories;
4. rules of the coding of each category which were completed step by step and revised during the analysis process.

### 3.10.5 Units for Analysis

The central component of the content analysis is unit of analysis. The text is divided in the segments rather than interpreted as a whole and the categories are assigned to the already defined segments (Mayring, 2014). Every aspect of the curriculum was analyzed by considering as context unit for analysis, including its sub part; 1) SLOs, 2) content/themes, 3) teaching strategies, and 4) assessment strategies. Moreover, these units of analysis were determined in the study for analysis of all selected courses of curriculum documents, considering of all words, sentences, phrases, and paragraphs.

### 3.10.6 Coding rules

The content of all curriculum documents was determined by using the coding rules outlined in the codebook. The detail of these coding rules is mentioned in the codebook Column with the title of coding rules such as all of the related words, synonyms and text reflected in SLOs, content/themes, teaching strategies, and assessment strategies in the curriculum documents related to each category and assign it to respective code. Moreover, the coder has to keep in mind that the coded text reflects the prospective change in prospective teachers' cognitive, behavioral and competencies with regards to any aspects of teaching 21$^{st}$-century teaching values and pedagogical skills which are determined into various sub themes.

### 3.10.7 Revision of coding guidelines

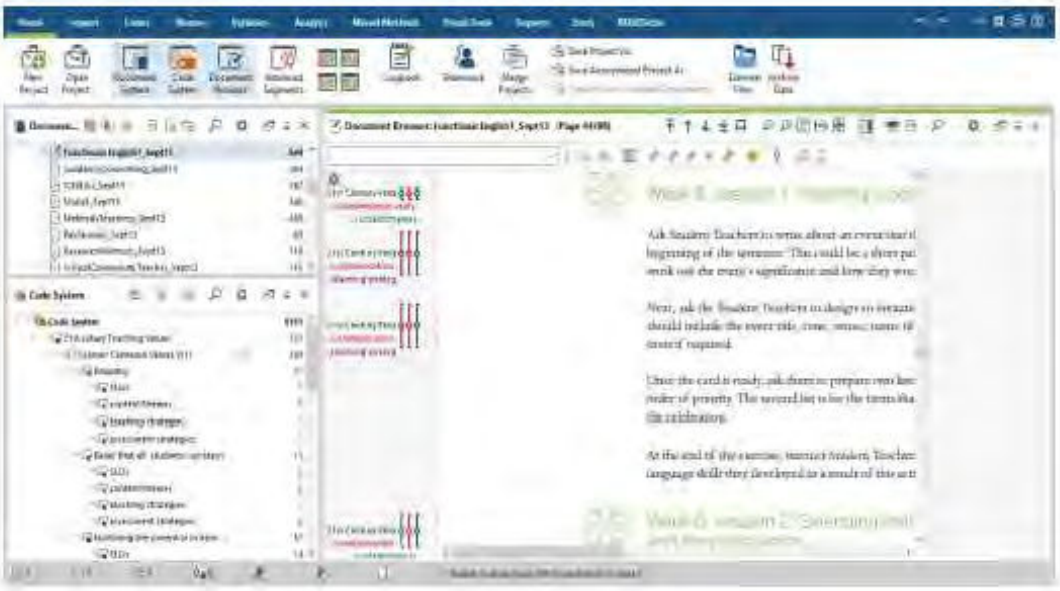
For the revision of coding guidelines or rules document analysis check list was sent to experts to make sure the validity and accuracy of the coding rules and changes were incorporated.

### 3.10.8 Coding procedure

The coding procedure was conducted using MAXQDA software. This software provides a variety of tools and techniques to analyze the all type of data such as text, images, videos, audios, survey responses, interviews, document analysis, and group discussions. As a text analysis tool it allows researcher to automated coding of specified codes, words and co-occurring themes and investigate the relationship between codes and themes (Kuckartz & Radiker, 2019). Initially, the curriculum documents were imported in the toolbar of document system window and already generated codes or themes were inserted along with relevant subcodes (e.g., SLOs, content/themes, teaching strategies, and assessment strategies) and organized the coding framework in hierarchal order for analysis in MAXQDA toolbar of coding system window. Different colors were assigned to the themes and codes to make the visualization of coding system more attractive and symptomatic. In the next step the formal coding was started of content by intensive analysis of document and relevant codes were allocated to the related text (see figure 3.3).

**Figure 3.3**

*Coding of Related Text in Curriculum Document of Functional English I*



### 3.10.9 Revision

After conducting the 15% of analysis of curriculum content, the researcher realized that the coding guidelines and rules are working smoothly and can be continued for further comprehensive content analysis of curriculum documents.

### 3.10.10 Final work presentation through the text

Initially, coding was assigned by highlighting the related text as presented in the following figures 3.4 and 3.5. These figures illustrate the screenshots of coding process that was performed during the analysis of curriculum documents. As the assigned codes depicts the highlighted on the left side of figures. Likewise, different segments are depicted by different colors and results are presented following these color patterns. Each document was coded and revised twice to avoid missing any significant text related to the categories.

**Figure 3.4**

*Coding of Related Text in Curriculum Document of Child Development*

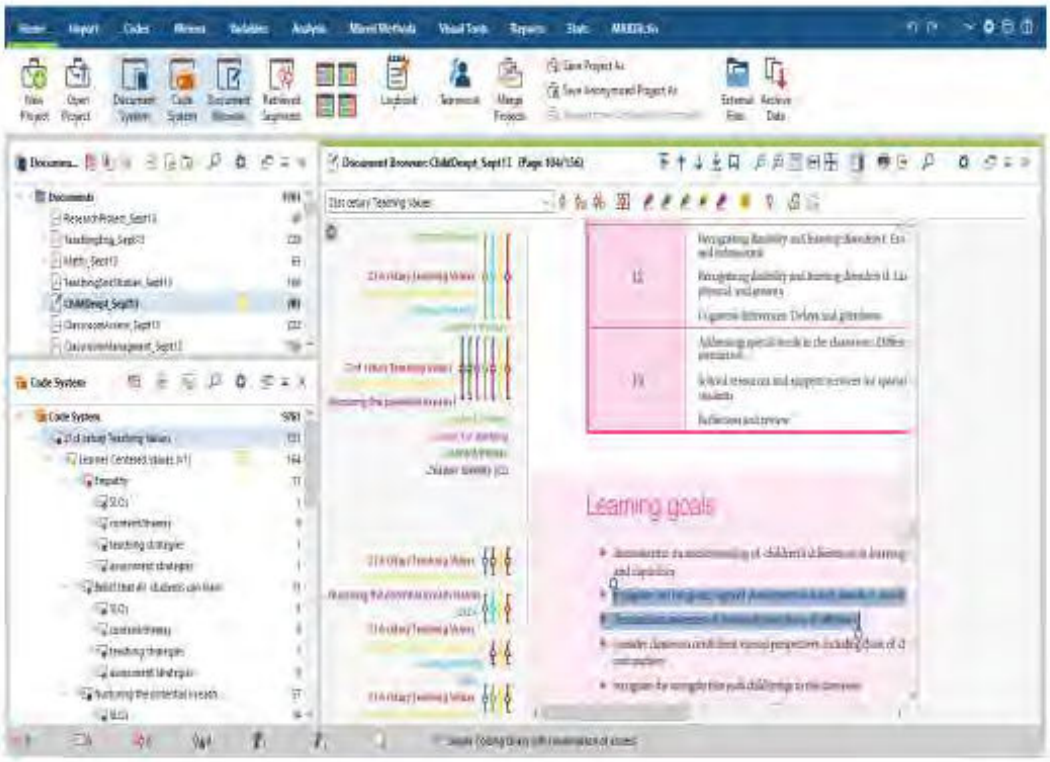
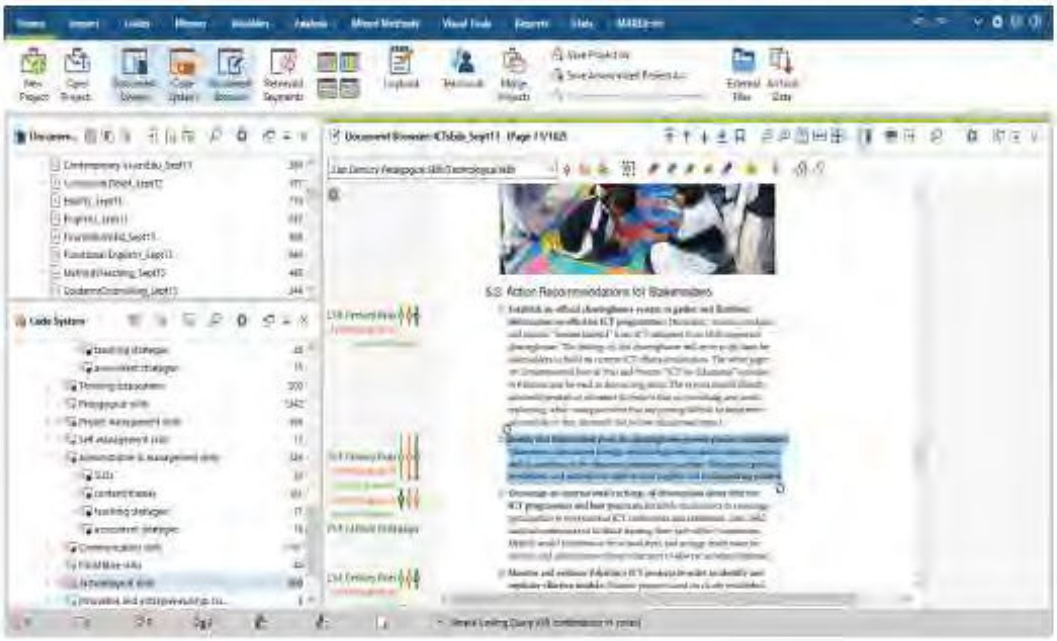


**Figure 3.5**

*Coding of Related Text in Curriculum Document of Instructional and Communication Technology (ICT) in Education*



### 3.10.11 Analysis of coded text

After conducted the intensive analysis of all document various MAXQDA data analysis tools ware applied to present the results such as MaxMap, hierarchal cod-subcode model, code variable statistics, moreover the distributed coded segments frequencies were statistically analyzed and presented in chapter four.

### 3.10.12 Validity and Reliability of Codebook

The validity of the content analysis can be ensured by focusing on the three main areas of the text: the accuracy of the text, including words, phrases, paragraphs, and pages; the extent to which the categories of analysis are pertinent to the actual text; and the accuracy of the adopted categories or analytical construct, which reflects the true meaning of text in the chosen context (Chiappetta & Fillman, 2007). So, keeping in view these three major areas the validity of content analysis was determined by the help of experts; opinions and extensive literature review.

To determine the reliability of content analysis inter-coder and intra-coder reliability both were applied. The reliability of the content analysis can be measured to determine its stability and reproducibility (Marying, 2015). The stability of the content is measured by the application of the coding rules over the time to the same content and is denoted the as intra-coder agreement that measure the reliability in traditional sense e.g. test-retest reliability. Hence, this method of reliability is highly recommended due to its easy application within content analysis (Krippendorff, 2013). To determine the intra-coder reliability coder repeats the coding of same text from the beginning without consulting the previous coding over time and at last compare of the two results. However, the reproducibility determines the level of consistency/to extent to which the same results are produced under the different situation or the same value achieved by multiple coders. This process known as inter-coder reliability, assess the accuracy and explicitness of the analysis process.

The Cohen's Kappa Coefficient (K) is calculated to determine the reliability of the content analysis for this study. According to Gwet (2008) Cohen's Kappa Coefficient (K) is a statistics measure used to calculate both inter-coder and intra-coder reliability for qualitative content analysis. It offers a most robust measure as compared to just presenting the simple agreement that could occur by chance. The literature showed the range of reliability score for agreement on the same text, analyzed using the following same coding guidelines to determine the appropriateness of content analysis tool (codebook). For example, a coefficient score between 0-0.2 indicates the slight agreement, 0.21-0.40 represent the fair agreement, and 0.41- 0.60 moderate agreement, 0.61-0.80 depicts the substantial agreement, 0.81-1.0 shows the perfect agreement (Batdi, 2017). The content analysis intra-reliability calculated using Cohen's Kappa coefficient (k) was 0.81, while the inter-reliability coefficient was

0.78. The obtained both values of Cohen's Kappa Coefficient (K) demonstrate the substantial to almost perfect agreement of intra and inter reliability.

### 3.11 Data Collection

Keeping in view the protocol of the convergent parallel design model quantitative and qualitative data were collected separately and independently from the participants in a single phase. Initially, a formal permission letter (Appendix-II) was obtained from the supervisor and visits to the field. In next step, prior permission was taken from the concerned authorities to launch the research instruments on the sample of the study via email. After getting permission, a meeting was arranged with the program coordinator via call.

After getting the required information about B.Ed (Hons) program such as courses, teachers and timetable, a request was made to launch the questionnaire on the prospective teachers who are enrolled in the 5thor 6th semester of B.Ed (Hons) four years teacher education programs, and data were collected. The traditional paper-pencil survey method was utilized to collect the data from the sample. The data were collected by the personal visit of the researcher, so the resulting return rate was hundred percent.

Likewise, prior permission was taken to the concerned teacher educators to observe their classes. After getting the consent of teachers, observations were recorded in three settings from each class. Meanwhile, the curriculum documents were analyzed by using the Philipp Mayring's qualitative content analysis approach.

### 3.12 Data Analysis

Qualitative and quantitative collected data were analyzed separately and independently. Initially, the collected data were organized to analyze the collected

information. Further, quantitative data were analyzed separately by using descriptive statistics techniques Mean scores, standard deviation, and percentage through SPSS version 25. There were no outliers in the collected data, and all the questionnaires were filled completely. The curriculum documents were analyzed by using the Philipp Mayring's qualitative content analysis approach following the deductive category application. MAXQDA software was used for content analysis purpose systematically and comprehensively. The content was analyzed and results were generated using different tools of MAXQDA software such as MaxMap, hierarchal cod-subcode model, code variable statistics, moreover the distributed coded segments frequencies were statistically analyzed and presented in chapter four. Moreover, the final results of documents analysis were presented and interpreted in the form of tables, graphs, and maps. In the final stage of the analysis, both qualitative and quantitative results were compared and contrast to report the findings of the study. Lastly, findings and conclusions were drawn based on analyzed data. Moreover, recommendations were made keeping in view the results of the study.

**Table 3.4**

*Analysis Summary Table*

| Sr # | Research Objective | Research Question | Research Method & Instrument |
|---|---|---|---|
| 1 | To analyze the effectiveness of course work of B.Ed (Hons) elementary (4 years teacher education program) to promote the 21st-century teaching | How well the course work of B.Ed (Hons) elementary 4 years teacher education program is promoting 21st-century teaching values (V1, V2, & V3) among prospective teachers? | ➢ Quantitative data analysis<br>➢ Questionnaire for prospective teachers |

| | | | |
|---|---|---|---|
| | values(learner-centered values V1, teacher identity V2, and service to the profession and community V3)among prospective teachers. | | |
| 2 | To assess the effectiveness of course work of B.Ed (Hons) elementary (4 teacher education program) in developing the 21st-century pedagogical skills. | To what extent the course work of teacher education program is supportive in developing the 21st-century pedagogical skills? | ➢ Quantitative data analysis<br>➢ Questionnaire for prospective teachers |
| 3 | To assess the effectiveness of B.Ed (Hons) elementary teaching practices in developing teaching values (V1, V2, & V3) among prospective teachers. | How well the classroom teaching practices of B.Ed (Hons) elementary program are contributing in developing 21st century teaching values among prospective teachers? | ➢ Quantitative data analysis<br>➢ Classroom Observation Sheet |
| 4 | To evaluate the teaching practices of teacher educators | To what extent the classroom | ➢ Quantitative data analysis |

| | | | |
|---|---|---|---|
| | in relation to strengthening the 21st-century pedagogical skills. | practices of B.Ed (Hons) elementary program are effective in developing the 21st-century pedagogical skills among prospective teachers? | ➢ Classroom Observation Sheet |
| 5 | To analyze the content of B.Ed (Hons) teacher education program curriculum in terms of developing 21st-century teaching values (V1, V2, V3) among prospective teachers. | To what extent the content of B.Ed (Hons) elementary (teacher education program) curriculum is supportive in developing 21st-century teaching values among prospective teachers? | ➢ Qualitative Analysis<br>➢ Content Analysis<br>31 curriculum documents of HEC for B.Ed (Hons) elementary program were analyzed by following the Philip Mayring approach. |
| 6 | To evaluate the content of B.Ed (Hons) teacher education program curriculum is contributing to incorporate the 21st century pedagogical skills among prospective teachers. | To what extent the content of B.Ed (Hons) elementary (teacher education program) curriculum is | ➢ Qualitative Analysis<br>➢ Content Analysis<br>31 curriculum documents of HEC for B.Ed (Hons) elementary program |

| | | | |
|---|---|---|---|
| | contributing incorporating 21st-century pedagogical skills? | to | were analyzed by following the Philip Mayring approach. |

### 3.13 Ethical Consideration

All ethical considerations were followed during the study such as ensuring the originality of the work, and seeking the formal consent of concerned participants who were involved as part of the study. All efforts were made to ensure the confidentiality of the obtained data from the participants.

### 3.14 Research Progression Timeline

**Table 3.5**

*Research Progression Timeline*

| **Research Activity** | **Timeframe** |
|---|---|
| Literature review | January - April 2023 |
| Development of research instruments (survey questionnaire, classroom observation sheet, and codebook for thematic analysis) | May – August 2023 |
| Pilot testing | May 2023 |
| Finalization of codebook for thematic analysis | September 2023 |
| Data collection | September- November 2023 |
| Content analysis | December 2023 - March 2024 |
| Data analysis | April - May 2024 |
| Report writing | June - July 2024 |
| Submission of thesis | August 2024 |

# CHAPTER 4

# DATA ANALYSIS AND INTERPRETATIONS

This study was designed to analyze the effectiveness of the existing B.Ed (Hons) 4 years elementary teacher education program to incorporate 21st-century teaching values (student-centered, teacher identity, and service to the profession and community) and pedagogical skills (reflective skills, thinking dispositions, communication skills, self-management skills, people management skills, administration and management skills, pedagogical skills facilitative skills, technological skills, innovative and entrepreneurship skills, social and emotional intelligence) among prospective teachers with reference to Teacher Education Model (TE 21) for 21stcentury. So, this chapter provides a detailed picture of data analysis and interpretation of collected data via using various data collection tools, i.e., questionnaires, classroom observations, and content analysis. The quantitative collected data were analyzed by applying the descriptive statistics in SPSS while MAXQDA software 24 version was used for qualitative data analysis purpose via thematic analysis technique. The results are given below.

## 4.1 Quantitative Data Analysis

The quantitative data were obtained via a self-developed questionnaire to obtain the opinions of prospective teachers and observe pedagogical practices about the effectiveness of course work of B.Ed (Hons) elementary teacher education program to promote the 21st-century teaching values, namely learner-centered values, teacher identity, and professional commitment among prospective teachers and pedagogical skills. The following tables are presented in line with the related objectives of the study (objectives 1 & 2), and the obtained mean scores are

interpreted following the rage “Not at all= 1.0-1.66; Moderate extent= 1.67-2.33; Full extent=2.34-3.00 (Pimentel, 2019) which express the opinions of participants regarding the effectiveness of course work of B.Ed (Hons) elementary teacher education program to promote the 21st-century teaching values and pedagogical skills among prospective teachers.

**Table 4.1**

*Development of Learner Centered Values among prospective teachers*

| Item No. | Statement | Responses | Percentage | Mean | Std. Deviation |
|---|---|---|---|---|---|
| 1. | Empathy | Not at all | 6.8 | 2.32 | .597 |
| | | Moderate extent | 54.7 | | |
| | | Fully extent | 38.5 | | |
| 2. | Believe that all students have the diverse abilities of learning | Not at all | 5.1 | 2.47 | .596 |
| | | Moderate extent | 42.7 | | |
| | | Fully extent | 52.1 | | |
| 3. | Believe that all students have the capacity to learn and meet the learning expectations | Not at all | 6.0 | 2.32 | .582 |
| | | Moderate extent | 56.4 | | |
| | | Fully extent | 37.6 | | |
| 4. | Self-commitment to nurture the desired potential of each student | Not at all | 17.9 | 1.99 | .594 |
| | | Moderate extent | 65.0 | | |
| | | Fully extent | 17.1 | | |
| Total Score | | | | 2.27 | .299 |

Table 4.1 shows that 54.7% of prospective teachers responded that the B.Ed (Hons) teacher education program has been moderately successful in developing empathy; 38.5% believe these values are fully incorporated, whereas only 6.8% expressed a negative response. The obtained mean value of the data is 2.32.

52.1% of respondents affirmed that the program was fully successful in fostering the belief in diverse learning abilities, and 42.7 % indicated a moderate level of success in developing the belief that all students possess diverse learning abilities through the B.Ed (Hons) teacher education program. In contrast, only 5.1% expressed that the program does not contribute at all to developing beliefs regarding learning diversity among them. The mean value of data was 2.47, and the calculated standard deviation was .596.

56.4% of respondents showed that the B.Ed (Hons) program has been moderately successful in developing the belief that all students can learn and meet the learning expectations, and 37.6% think coursework remained fully successful. In comparison, only 6% responded negatively, i.e., the coursework does not contribute at all to developing the belief that all students can learn. The mean value of the data was 2.32, and the calculated standard deviation was .582. In the response of self-commitment among prospective teachers to nurture the desired potential of each student, 65% of respondents agreed that the B.Ed (Hons) teacher education program moderately remained successful, 17.1% of respondents were in favor of the full extent, and 17.9% expressed that the program didn't encourage them to be committed. However, the mean value of the data was 1.99, and the calculated standard deviation was .594.

The computed mean score is 2.27 and falls within the range of 1.67-2.33 (moderate extent), which indicates a moderately positive perception of prospective teachers about the development of learner-centered values among them. However, interesting insight from the data has been observed that the program's effectiveness

in developing self-commitment among prospective teachers to nurture the desired potential of each student is notably lower.

**Table 4.2**

*Development of Teacher Identity values among prospective teachers*

| Item No. | Statement | Responses | Percentage | Mean | Std. Deviation |
|---|---|---|---|---|---|
| 1. | Aims to meet the higher standards of teaching profession | Not at all | 20.5 | 2.00 | .643 |
| | | Moderate extent | 59.0 | | |
| | | Fully extent | 20.5 | | |
| 2. | Investigative nature to explore the new ideas | Not at all | 27.4 | 1.93 | .691 |
| | | Moderate extent | 52.1 | | |
| | | Fully extent | 20.5 | | |
| 3. | Quest for learning | Not at all | 29.9 | 1.85 | .660 |
| | | Moderate extent | 54.7 | | |
| | | Fully extent | 15.4 | | |
| 4. | Self-commitment to improve personal abilities | Not at all | 32.5 | 1.87 | .714 |
| | | Moderate extent | 47.9 | | |
| | | Fully extent | 19.7 | | |
| 5. | Self-commitment to improve professional abilities | Not at all | 17.9 | 2.08 | .659 |
| | | Moderate extent | 56.4 | | |
| | | Fully extent | 25.6 | | |
| 6. | Passion to become an effective teacher | Not at all | 17.1 | 2.15 | .686 |
| | | Moderate extent | 51.3 | | |
| | | Fully extent | 31.6 | | |
| 7. | Carefulness to adhere institutional ethical code of conduct | Not at all | 8.5 | 2.44 | .649 |
| | | Moderate extent | 38.5 | | |
| | | Fully extent | 53.0 | | |
| 8. | Development of professional identity | Not at all | 29.1 | 1.89 | .679 |
| | | Moderate extent | 53.0 | | |
| | | Fully extent | 17.9 | | |
| Total Score | | | | 2.02 | .319 |

Table 4.2 illustrates the views of prospective teachers on the effectiveness of the B.Ed (Hons) teacher education program in shaping the values of teacher

identity. Regarding meeting higher teaching standards, 59% of respondents showed a moderate commitment, and 20.5% replied that the program remained fully successful. Likewise, 20.5% expressed no commitment at all. The mean value for this statement was 2.00, with a standard deviation of 0.643. Regarding the investigative nature of exploring new ideas, 52.1% reported a moderate interest, while 20.5% were in favor of being fully successful.

Conversely, 27.4% indicated a negative interest. While the mean value for this statement was 1.93, and the calculated standard deviation was 0.691. In terms of a quest for learning, 54.7% of respondents were in favor of moderate success and 15.4% in favor of complete success, whereas 29.9% expressed that the program wasn't successful at all in developing the quest for learning them. The mean value for this statement was 1.85, and the calculated value of the standard deviation was 0.660.

For self-commitment to improve personal abilities, 47.9% reported a moderate commitment, and 19.7% were fully committed. Conversely, 32.5% expressed no commitment, and the mean value for this statement was 1.87, with a standard deviation of 0.714. Concerning self-commitment to improve their professional abilities, 56.4% of prospective teachers indicated a moderate commitment, 25.6% were fully committed, and only 17.9% expressed no commitment. The mean value for this statement was 2.08, and the standard deviation was 0.659. Regarding the passion to become an effective teacher, 51.3% of respondents showed a moderate passion, and 31.6% affirmed that they are fully committed to becoming passionate teachers.

In contrast, 17.1% expressed no passion. The mean value for this statement was 2.15, and the calculated standard deviation was 0.686. For carefulness to

adhere to the institutional ethical code of conduct, 38.5% indicated that they are moderately careful, while 53% were fully careful, and only 8.5% expressed no carefulness. The mean value for this statement was 2.44, and the calculated standard deviation was 0.649. Lastly, for the development of professional identity, 53% of respondents were in favor of the moderate success of the program, and 17.9% were in favor of coursework that was fully success in developing the professional identity. Only 29.1% expressed that the program needed to develop a professional identity among them. The mean value of this statement was 1.89, and the standard deviation was 0.679.

As the computed mean score of 2.02 falls within the range of moderate extent 1.67-2.33 and illustrates a moderately positive perception of prospective teachers about the development of teacher identity-related values among them. This indicates that coursework effectively fosters values related to teacher identity. However, values such as the development of a quest for learning, investigating nature, and development of professional identity were observed as potential improvement areas. The interesting aspect was that the program was moderately succeeded by the majority of respondents in fostering the urge to meet the higher standards of teaching among prospective teachers.

**Table 4.3**

*Development of Profession and Community Service values among prospective teachers*

| Item No. | Statement | Responses | Percentage | Mean | Std. Deviation |
|---|---|---|---|---|---|
| 1. | Urge to become a better practitioner to benefit in the teaching community | Not at all | 17.9 | | |
| | | Moderate extent | 58.1 | 2.06 | .647 |
| | | Fully extent | 23.9 | | |
| 2. | Active collaborative learning practices to foster the teamwork in teaching profession | Not at all | 7.7 | | |
| | | Moderate extent | 33.3 | 2.51 | .638 |
| | | Fully extent | 59.0 | | |
| 3. | Apprenticeship | Not at all | 9.4 | | |
| | | Moderate extent | 54.7 | 2.26 | .621 |
| | | Fully extent | 35.9 | | |
| 4. | Mentorship skills | Not at all | 47.0 | | |
| | | Moderate extent | 44.4 | 1.62 | .641 |
| | | Fully extent | 8.5 | | |
| 5. | Social responsibility and engagement | Not at all | 34.2 | | |
| | | Moderate extent | 47.9 | 1.84 | .707 |
| | | Fully extent | 17.9 | | |
| 6. | Stewardship | Not at all | 29.9 | | |
| | | Moderate extent | 45.3 | 1.95 | .741 |
| | | Fully extent | 24.8 | | |
| Total Score | | | | 2.03 | .323 |

Table 4.3 depicts how well the B.Ed (Hons) program was successful in developing professional commitment values among prospective teachers. The table comprises various statements, corresponding responses, percentage distributions,

mean values, and standard deviations for each statement. Regarding the urge to become a better practitioner and benefit the teaching community, 17.9% expressed no urge, 58.1% had a moderate extent of urge, and 23.9% were fully committed. The mean value for this statement was 2.06, and the standard deviation was 0.647. Concerning collaborative learning practices to foster teamwork, 59% affirmed that the program remained fully successful, 33.3% had a moderate extent, and 7.7% reported that the program did not pay attention to fostering collaborative learning. At the same time, the mean value for this statement was 2.51, with a standard deviation of 0.638.

Regarding apprenticeship involvement, 9.4% had no engagement, 54.7% had a moderate extent, and 35.9% were in favor of fully extent. The mean value for this statement was 2.26, and the calculated standard deviation was 0.621. In terms of the development of mentorship skills, 47% of respondents expressed that the program failed to develop the mentorship skills among them, 44.4% had a moderate extent, and 8.5% were in favor of a fully extent. The mean value for this statement was 1.62, and the calculated standard deviation was 0.641. 47.9% of respondents were in favor of moderate extent, and 17.9% were fully extent, whereas 34.2% indicated that the program did not remain successful in developing a sense of social responsibility and engagement among prospective teachers. The calculated mean for this statement was 1.84, and the reported standard deviation was 0.707. In the case of stewardship, 45.3% of respondents were in favor of moderate extent, and 24.8% were fully extent, whereas only 29.9% reported not at all. The mean score for this statement was 1.95, and the calculated standard deviation was 0.741.

The computed mean score is 2.03, illustrating a moderately positive perception of prospective teachers about the development of service to the

profession and community-related values among them. This indicates that coursework is moderately developing the values related to the profession and community among prospective teachers. However, mentorship skills, social responsibility, and engagement require significant attention.

The second objective of the study was to assess the effectiveness of the B.Ed (Hons) elementary teacher education program in developing 21st-century pedagogical skills, namely reflective skills, thinking dispositions, communication skills, self-management skills, people management skills, administration and management skills, pedagogical skills facilitative skills, technological skills, innovative and entrepreneurship skills, social and emotional intelligence among prospective teachers. The table comprises various statements, corresponding responses, percentage distributions, mean values, and standard deviations for each statement.

**Table 4.4**

*Development of 21st century Pedagogical Skills among prospective teachers*

| Item No. | Statement | Responses | Percentage | Mean | Std. Deviation |
|---|---|---|---|---|---|
| 1. | Reflective teaching skills | Not at all | 13.7 | | |
| | | Moderate extent | 52.1 | 2.21 | .664 |
| | | Fully extent | 34.2 | | |
| 2. | Creativity | Not at all | 28.2 | | |
| | | Moderate extent | 52.1 | 1.91 | .689 |
| | | Fully extent | 19.7 | | |
| 3. | Resilience | Not at all | 23.1 | | |
| | | Moderate extent | 61.5 | 1.92 | .618 |
| | | Fully extent | 15.4 | | |
| 4. | Problem solving skills | Not at all | 23.9 | | |
| | | Moderate extent | 56.4 | 1.96 | .662 |
| | | Fully extent | 19.7 | | |
| 5. | Critical thinking skills | Not at all | 42.7 | | |
| | | Moderate extent | 37.6 | 1.77 | .759 |
| | | Fully extent | 19.7 | | |
| 6. | Ability of self-motivation and to motivate others | Not at all | 17.1 | | |
| | | Moderate extent | 57.3 | 2.09 | .651 |
| | | Fully extent | 25.6 | | |
| 7. | Pedagogical skills to cope with instructional | Not at all | 17.1 | | |
| | | Moderate extent | 48.7 | 2.17 | .698 |
| | | Fully extent | 34.2 | | |

| | | | | | |
|---|---|---|---|---|---|
| | challenges | | | | |
| 8. | Pedagogical skills to implement modern pedagogies | Not at all<br>Moderate extent<br>Fully extent | 18.8<br>51.3<br>29.9 | 2.11 | .692 |
| 9. | Skills to develop positive and interactive learning environment for learners | Not at all<br>Moderate extent<br>Fully extent | 16.2<br>58.1<br>25.6 | 2.09 | .643 |
| 10. | People management skills | Not at all<br>Moderate extent<br>Fully extent | 23.1<br>49.6<br>27.4 | 2.04 | .712 |
| 11. | Skills to maintain class discipline | Not at all<br>Moderate extent<br>Fully extent | 10.3<br>47.9<br>41.9 | 2.32 | .652 |
| 12. | Skills to manage learning resources | Not at all<br>Moderate extent<br>Fully extent | 7.7<br>36.8<br>55.6 | 2.48 | .638 |
| 13. | Administrative and management skills | Not at all<br>Moderate extent<br>Fully extent | 19.7<br>49.6<br>30.8 | 2.11 | .704 |
| 14. | Verbal communication skills | Not at all<br>Moderate extent<br>Fully extent | 44.4<br>40.2<br>15.4 | 1.71 | .720 |
| 15. | Non-verbal communication skills | Not at all<br>Moderate extent<br>Fully extent | 35.9<br>48.7<br>15.4 | 1.79 | .689 |
| 16. | Facilitative skills | Not at all<br>Moderate extent<br>Fully extent | 26.5<br>54.7<br>18.8 | 1.92 | .672 |
| 17. | Technological skills | Not at all<br>Moderate extent<br>Fully extent | 14.5<br>50.4<br>35.0 | 2.21 | .676 |
| 18. | Innovation and entrepreneurship skills | Not at all<br>Moderate extent<br>Fully extent | 29.1<br>55.6<br>15.4 | 1.86 | .655 |
| 19. | Social intelligence | Not at all<br>Moderate extent<br>Fully extent | 33.3<br>54.7<br>12.0 | 1.79 | .641 |
| 20. | Emotional intelligence | Not at all<br>Moderate extent<br>Fully extent | 22.2<br>52.1<br>25.6 | 2.03 | .694 |
| Total Score | | | | 2.02 | .234 |

Table 4.4 presents a detailed examination of the development of pedagogical skills among prospective teachers. 52.1% of respondents affirmed that they had a moderate extent of reflective teaching skills, 34.2% were in favor of the full extent,

and only 13.7% of respondents reported no such skills, with a mean value of 2.21 and a standard deviation of 0.664. Concerning creativity, 52.1% expressed moderate extent, 19.7% were fully creative, and 28.2% expressed they were not creative, with a mean value of 1.91 and a standard deviation of 0.689. In terms of resilience, 61.5% reported that the program remained moderately successful in developing resilience, 15.4% were in favor of the fully extent, and 23.1% reported no resilience at all. The mean value of the data was 1.92, and the calculated standard deviation was 0.618. For problem-solving skills, 23.9% lacked such skills, 56.4% had a moderate extent, and 19.7% were fully equipped, resulting in a mean value of 1.96 and a standard deviation of 0.662.

Regarding critical thinking skills, 42.7% reported no skills, 37.6% had a moderate extent, and 19.7% were fully equipped, with a mean value of 1.77 and a standard deviation of 0.759. For the ability of self-motivation and to motivate others, 17.1% had no such ability, 57.3% had a moderate extent, and 25.6% were fully equipped, resulting in a mean value of 2.09 and a standard deviation of 0.651. In the case of pedagogical skills to cope with instructional challenges, 17.1% reported no such skills, 48.7% had a moderate extent, and 34.2% were fully equipped, with a mean value of 2.17 and a standard deviation of 0.698. Pedagogical skills to implement modern pedagogies saw 18.8% lacking such skills, 51.3% with a moderate extent, and 29.9% fully equipped, with a mean value of 2.11 and a standard deviation of 0.692. Skills to develop a positive and interactive learning environment for learners were reported as lacking by 16.2%, with 58.1% having a moderate extent and 25.6% being fully equipped. The mean value was 2.09, with a standard deviation of 0.643.

People management skills were reported as lacking by 23.1%, with 49.6% having a moderate extent and 27.4% being fully equipped. The mean value was 2.04, with a standard deviation of 0.712. Skills to maintain class discipline were reported as lacking by 10.3%, with 47.9% having a moderate extent and 41.9% being fully equipped. The mean value was 2.32, with a standard deviation of 0.652. Skills to manage learning resources were reported as needing more than 7.7%, with 36.8% having a moderate extent and 55.6% being fully equipped. The mean value was 2.48, with a standard deviation of 0.638. Administrative and management skills were reported as lacking by 19.7%, with 49.6% having a moderate extent and 30.8% being fully equipped. The mean value was 2.11, with a standard deviation of 0.704. Verbal communication skills were reported as lacking by 44.4%, with 40.2% having a moderate extent and 15.4% being fully equipped. The mean value was 1.71, with a standard deviation of 0.720.

Non-verbal communication skills were reported as lacking by 35.9%, with 48.7% having a moderate extent and 15.4% being fully equipped. The mean value was 1.79, with a standard deviation of 0.689. Facilitative skills were reported as lacking by 26.5%, with 54.7% having a moderate extent and 18.8% being fully equipped. The mean value was 1.92, with a standard deviation of 0.672. Technological skills were reported as lacking by 14.5%, with 50.4% having a moderate extent and 35.0% being fully equipped. The mean value was 2.21, with a standard deviation of 0.676. Innovation and entrepreneurship skills were reported as lacking by 29.1%, with 55.6% having a moderate extent and 15.4% being fully equipped. The mean value was 1.86, with a standard deviation of 0.655. Social intelligence was reported as lacking by 33.3%, with 54.7% having a moderate extent and 12.0% being fully equipped. The mean value was 1.79, with a standard deviation

of 0.641. Emotional intelligence was reported as lacking by 22.2%, with 52.1% having a moderate extent and 25.6% being fully equipped. The mean value was 2.03, with a standard deviation of 0.694.

The computed mean score is 2.02, which illustrates prospective teachers' moderately positive perceptions of the development of pedagogical skills among them. It indicates that coursework moderately develops these pedagogical skills among prospective teachers. However, results revealed that critical thinking, social intelligence, and innovative and entrepreneurial skills are highlighted as potential improvement areas.

The following tables are presented in line with the related objectives of the study (objectives 3 & 4), and the calculated percentages are interpreted following the range “Not at all= 1% - 33%; Moderate extent= 34% - 66%; Full extent= 67% - 100%, which reflect the effectiveness of classroom observations regarding the pedagogical practices of teacher educators in B.Ed (Hons) elementary teacher education program to strengthen the 21st-century teaching values and pedagogical skills among prospective teachers.

The third objective was to assess the effectiveness of teaching practices in developing teaching values among prospective teachers. To assess the effectiveness of teaching practices, classroom observations were conducted and reported on to what extent classroom practices ensure the development of 21st-century teaching values. The following tables consist of various statements, corresponding response percentages, mean values, and standard deviations for each statement.

**Table 4.5**

*Development of Learner centered values among prospective teachers through pedagogical practices of teacher educators*

| Item No. | Statement | Not at all | % | Moderate extent | % | Fully extent | % |
|---|---|---|---|---|---|---|---|
| 1. | Empathy | 31.3% | | 56.3% | | 12.5% | |
| 2. | Believe in diversity of learners | 50% | | 31.3% | | 18.8% | |
| 3. | Efforts to design the exclusive learning environment to nurture the potential in each learner | 56.3% | | 43.8% | | 0% | |
| Total | | 45.8% | | 43.8% | | 10.4% | |

Table 4.5 depicts that 56.3% of teacher educators moderately practiced empathy during their class, 12.5% were fully empathetic, whereas 31.3% reported a lack of empathy. Regarding the belief in the diversity of learners, 50% of teacher educators did not show the belief, 31.3% showed a moderate extent, and 18.8% fully believed in the diversity of learning during class. 43.8% of teacher educators were observed to have moderate efforts to design an exclusive learning environment to nurture the potential of each learner, and 56.3% did not make any more effort to fully engage the learning environment to cater to the needs of all students.

The calculated percentages illustrate that only 10.4% of teacher educators fully encourage learner-centered values in the classrooms, whereas 43.8% moderately extent support these values in classrooms, and 45.8% of pedagogical practices do not support learner-centered values in the class. It indicates that

pedagogical practices moderately encourage the development of these values. However, the unusual aspect was observed in that teacher educators did not make any inclusive efforts to design an exclusive learning environment to nurture the potential in each child, which stresses aligning the pedagogical practices with learner-centered values.

**Table 4.6**

*Development of Teacher Identity values among prospective teachers through pedagogical practices of teachers educators*

| Item No. | **Statement** | Not at all | % | Moderate extent | % | Fully extent | % |
|---|---|---|---|---|---|---|---|
| 1. | Activities to meet the high standards of teaching | 50% | | 43.8% | | 6.2% | |
| 2. | Inquiry based learning | 56.3% | | 25% | | 18.7% | |
| 3. | Guide and assist students by customizing instructions to maximize students learning | 25% | | 62.5% | | 12.5% | |
| 4. | Encourage and guide students for self-commitment to improve their personal abilities | 62.5% | | 31.3% | | 6.2% | |
| 5 | Encourage and guide students for self -commitment to improve their professional abilities | 60.1% | | 37.9% | | 2% | |
| 6. | Interactive and joyful learning environment to develop passion among students towards teaching profession | 60.5% | | 39.5% | | 0% | |
| 7. | Building of adaptive and resilient capacity among students by providing challenging learning situations | 75% | | 25% | | 0% | |
| 8. | Ethical code of conduct | 37.5% | | 62.5% | | 0% | |
| 9. | Commitment to Professional Development | 60.5% | | 34.5% | | 5% | |
| 10. | Teach and show the respect and dignity for teaching profession | 31.3% | | 37.5% | | 31.2% | |
| Total | | 52% | | 39.9% | | 8.1% | |

Table 4.6 shows that 43.8% of classrooms were observed moderately planned, 6.2% were fully planned, and 50% of classrooms were observed lacking planning to

meet the purpose of meeting the high standards of teaching. Only 18.7% of teacher educators were observed to be fully able to practice inquiry-based learning, 25.0% with moderate extent, and in contrast, 56.3% of teaching practices did not use inquiry-based learning. In the statement regarding guiding and assisting students by customizing instructions to maximize the students' learning, 25% reported no customization to guide and assist the students, 62.5% had a moderate extent, and 12.5% of teachers made full efforts to maximize students learning. However, only 6.2% of teachers fully encourage and guide students for self-commitment to improve their personal abilities, 62.5% reported no encouragement, and 31.3% observed a moderate extent. In terms of encouraging and guiding students' self-commitment to improve professional abilities, 60.1% of classroom pedagogical practices do not encourage self-commitment at all, and 37.9% of teacher educators moderately encourage it. In comparison, only 2% fully support the development of these values.

The statement about creating an interactive and joyful learning environment to develop passion among prospective teachers towards the teaching profession observed not at all with 62.5% and 37.5% reflected the moderate extent, whereas, 0% were rated on fully extent. In the context of building adaptive and resilient capacity among students by providing challenging learning situations, 75% reported no challenging environment, 25% moderate extent, and 0% observed against fully extent. For adherence to an ethical code of conduct, 62.5% moderately extent practices were observed, 37.5% no practice, and 0% were calculated against fully extent. In terms of commitment to professional development, 60.5% reported no commitment, 34.5% practiced moderate extent support, and 5% were calculated against fully extent. However, 31.3% of teacher educators were not observed to show respect and dignity

for the teaching profession, and similarly, 31.2% reported related practice, but 37.5% observed a moderate extent.

The total calculated percentages indicate that only 8.1% of pedagogical practices fully support strengthening the values related to teacher identity, whereas 39.9% moderately support these values. In comparison, 52% of classroom practices observed did not fully promote the values of teacher identity in B.Ed (Hons) classrooms. It indicates that pedagogical practices moderately extent inculcate these values among prospective teachers. However, the ethical code of conduct, building adaptive and resilient capacity, passion for the teaching profession, development of self-commitment to improve personal and professional abilities are indicated as potential areas for improvement.

**Table 4.7**

*Development of service to the profession and community related values among prospective teachers through pedagogical practices of teacher educators*

| Item No. | Statement | Not at all | % | Moderate extent | % | Fully extent | % |
|---|---|---|---|---|---|---|---|
| 1. | Collaborative learning practices | 68.8% | | 18.7% | | 12.5% | |
| 2. | Prepare for the role of stewardship | 37.5% | | 50% | | 12.5% | |
| 3. | Engage learners in social learning responsibility | 67.8% | | 25% | | 7.2% | |
| Total | | 58% | | 31.2% | | 10.8% | |

Table 4.7 shows the effectiveness of teaching practices and the development of professional commitment values among prospective teachers. 68.8% of classroom practices are not supportive of fostering collaborative learning activities,

18.7% had a moderate extent, while 12.5% were observed to a full extent. Regarding preparation for the role of stewardship, 37.5% reported a lack of activities to develop the stewardship, 50% had a moderate extent, and 12.5% were fully supportive classrooms. For engaging learners in social and learning responsibility, 67.8% reported no engagement, 25% had a moderate extent, and 7.2% were fully engaged.

The calculated percentages illustrate that 58% of pedagogical practices do not encourage serving the profession and community, which reflects the negligence of focusing on this area, whereas 31.2% of pedagogical practices moderately support it. In comparison, only 10.8% of classroom pedagogies were observed to support the development of values related to service to the profession and community among prospective teachers, which shows minimal focus. It illustrates that classroom pedagogical practices do not effectively promote these values among prospective teachers.

The forth objective of the study was to examine the classroom practices of teacher educators in relation to strengthening the 21st-century pedagogical skills.

**Table 4.8**

*Development of 21st century pedagogical skills among prospective teachers through pedagogical practices*

| Item No. | Statement | Not at all | % | Moderate extent | % | Fully extent | % |
|---|---|---|---|---|---|---|---|
| 1. | Reflective teaching practices | 68.8% | | 18.7% | | 12.5% | |
| 2. | Creative thinking practices | 37.5% | | 50% | | 12.5% | |
| 3. | Resilience building practices | 42.2% | | 37.7% | | 20.1% | |
| 4. | Problem based learning exercises to develop the problem solving skills | 52.5% | | 37% | | 10.5% | |
| 5 | Development of critical thinking skills by practicing open discussion sessions, teaching reasoning, and encouragement of divers perspectives | 43.8% | | 37.4% | | 18.8% | |
| 6. | Encourage students for self-motivation and to motivate others | 43.7% | | 56.3% | | 0% | |
| 7. | Encouragement self-management practices/ self-organization | 43.8% | | 51.2% | | 5% | |
| 8. | Classroom management practices/discipline practices | 62.5% | | 25% | | 12.5% | |
| 9. | Design and practices the activities for verbal communication skills | 58.7% | | 31.3% | | 10% | |
| 10. | Design and practices the activities for non-verbal communication skills | 87.5% | | 12.5% | | 0% | |
| 11. | Utilization of technology and different media resources | 62.5% | | 25% | | 12.5% | |
| 12. | Practice of innovation and entrepreneurship skills | 68.8% | | 25% | | 6.2% | |
| 13. | Providing opportunities to engage students in social and emotional tasks | 68.7% | | 31.3% | | 0% | |
| Total | | 57.1% | | 33.7% | | 9.2% | |

Table 4.8 interprets the observed practices in terms of the cultivation of 21st-century pedagogical skills among prospective teachers. In reflective teaching

practices, 68.8% were not practiced, 18.7% observed moderate extent being practiced, and 12.5% full extent was recorded. In terms of creative thinking practices, 37.5% observed not at all, 50% to a moderate extent, and only 12.5% of teachers did fully practice. Concerning resilience-building practices, 42.2% reported not at all, 37.5% had a moderate extent, and 20.1% reported against fully extent. Regarding the practice of problem-based learning exercises to develop problem-solving skills, 52.5% of classrooms reported no practice at all, 37% had a moderate extent, and 10.5% was fully extent. In the realm of developing critical thinking skills through open discussion sessions, teaching reasoning, and encouragement of diverse perspectives, 43.8% reported no practice at all, 37.4% to a moderate extent, and 18.8% were observed fully practicing the critical skill during class.

Encouraging students to self-motivate and motivate others resulted in 43.7% reporting no encouragement, 56.3% illustrating a moderate extent, and 0% being fully encouraged. In self-management practices, 43.8% reported not practicing the activities at all, 51.2% had a moderate extent, and 5% was observed against fully extent. Classroom management practices observed 62.5% against not at all, 25% a moderate extent, and 12.5% fully extent promoting classroom management skills. Designing and practicing activities for verbal communication skills led to 58.7% reporting no verbal communication practices, 31.3% a moderate extent, and 10% fully extent. In designing and practicing activities for non-verbal communication skills, 87.5% reported not at all, 12.5% had a moderate extent, and 0% was observed against fully extent.

Utilization of technology and different media resources: 62.5% reported not at all, 25% had a moderate extent of knowledge of the integration of technology in classrooms, and only 12.5% recorded full extent use of technology. Practicing innovative and entrepreneurship skills 68.8% were reported not at all, 25.0% moderate extent, and 6.3% fully extent. Providing opportunities to engage students in social and emotional tasks resulted in 68.8% reported against the not at all, 31.3% moderate extent, and 0% against fully extent.

The calculated percentages illustrate that only 9.2% of pedagogical classroom practices fully support the development of 21st-century teaching skills, whereas 33.7% moderately support, while 57.1% of classroom practices are not observed to support these skills among prospective teachers. It illustrates that 33.7% of recorded practices support the pedagogical skills among prospective teachers, which is nearly 34% of the range of moderate development of these skills. Some success was observed in fostering critical thinking, creative thinking, and self-motivation. On the other hand, non-verbal communication, social and emotional intelligence, and innovation and entrepreneurship skills are the highly neglected areas in pedagogical practices.

## 4.2 Qualitative Data Analysis

This section provides the results and interpretation of qualitative analysis related to the fifth and sixth objectives of the study. MAXQDA software was used to analyze the documents of B.Ed (Hons) elementary courses. The curriculum of the B.Ed (Hons) Elementary four-year teacher education program was thoroughly analyzed to determine the integration of 21st-century teaching values, specifically learner-centered values (V1), teacher identity (V2), service to the profession and

community (V3), and 21st-century pedagogical skills. Initially, the thirty-one (31) documents were examined to evaluate the content of the B.Ed (Hons) curriculum by using MAXQDA software, and results were subsequently exported and presented.

To achieve the fifth objective of the study, "analyze the content of teacher education program in terms of developing 21st-century teaching values Learner-centered (V1), Teacher identity (V2), and Profession and Community (3) among prospective teachers" above mentioned list of courses was analyzed following the content analysis codebook considering the main themes and various sub-themes (Appendix-IV). B.Ed (Hons) elementary curriculum documents analysis is presented in the forms of MAXMaps, hierarchical codes-sub codes model, code variable statistics, and code matrix browser. Considering the objectives' requirements, the subcode statistics feature was used to create a diagram for the frequencies of the subcodes and code segments.

**Figure 4.1**

*Hierarchical Code and Subcodes Frequency Model of 21st Century Teaching Values (V1, V2, V3) in B.Ed (Hons) Elementary Curriculum*

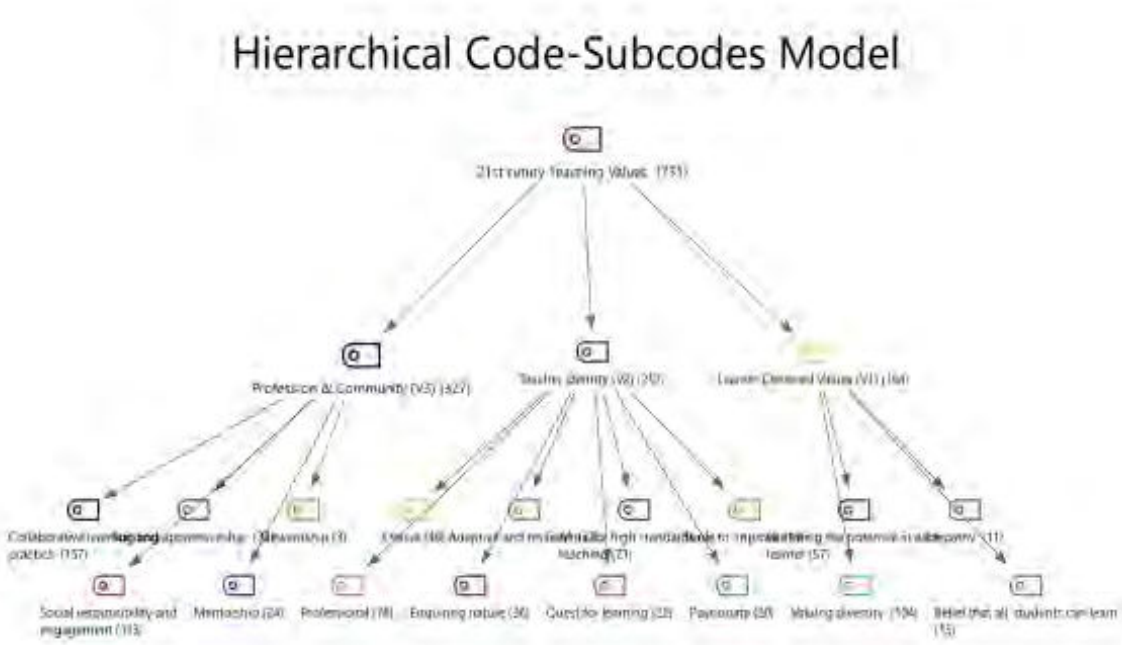


Figure 4.1 illustrates the visual representation of the hierarchical arrangement and occurrence frequencies of parent codes and subcodes. Code size reflects the frequency of each code, indicating the extent of emphasis allocated to each theme. The hierarchical code and subcode model reflected that the content related to 21st-century teaching values is not reflected as a substantial part of curriculum documents. The content related to service to the profession and community (V3) coded 327 segments, which is the largest portion. The content related to the teacher identity (V2) total allocated codes 257, whereas the learner-centered values (V1) reflected 164 allocated codes that indicate the less emphasized area compared to V3 and V2 in the curriculum documents.

Additionally, it is observed that the most frequently occurring coded segment is “collaborative learning and practice,” which is allocated 157 coded segments under the subcode of service to profession and community. In contrast, the least frequently allocated coded segment was “stewardship,” the subcode of V3, which allocated only 3 coded segments in the selected curriculum documents. The following table 4.9 depicts comprehensive details of each code and related subcode occurrences within overall curriculum documents.

**Table 4.9**

*MAXQDA Generated Coded segments Frequencies of 21st Century Teaching Values (Learner-centered, Teacher identity, & Service to the Profession and Community in Curriculum Documents*

| | Color | Parent code | Sub code | Code. Seg. (all documents) | Total assigned codes |
|---|---|---|---|---|---|
| Learner Centered Values (V1) | | Empathy | SLOs | 1 | 11 |
| | | | Content/themes | 9 | |
| | | | Teaching strategies | 1 | |
| | | | Assessment strategies | 0 | |
| | | Belief that all children can learn | SLOs | 5 | 15 |
| | | | Content/themes | 9 | |
| | | | Teaching strategies | 1 | |
| | | | Assessment strategies | 0 | |
| | | Nurturing the potential in each learner | SLOs | 14 | 57 |
| | | | Content/themes | 33 | |
| | | | Teaching strategies | 4 | |
| | | | Assessment strategies | 6 | |
| | | Valuing of diversity | SLOs | 19 | 104 |
| | | | Content/themes | 64 | |
| | | | Teaching strategies | 11 | |
| | | | Assessment strategies | 10 | |
| Teacher Identity (V2) | | Aims for higher standards | SLOs | 4 | 21 |
| | | | Content/themes | 11 | |
| | | | Teaching strategies | 6 | |
| | | | Assessment strategies | 0 | |
| | | Enquiring nature | SLOs | 6 | 36 |
| | | | Content/themes | 11 | |
| | | | Teaching strategies | 15 | |
| | | | Assessment strategies | 4 | |
| | | Quest for learning | SLOs | 4 | |

| | | | | | |
|---|---|---|---|---|---|
| | | | Content/themes | 14 | 22 |
| | | | Teaching strategies | 2 | |
| | | | Assessment strategies | 2 | |
| | | Strive to improve | SLOs | 7 | |
| | | | Content/themes | 10 | 19 |
| | | | Teaching strategies | 2 | |
| | | | Assessment strategies | 0 | |
| | | Passionate | SLOs | 1 | |
| | | | Content/themes | 11 | 20 |
| | | | Teaching strategies | 3 | |
| | | | Assessment strategies | 5 | |
| | | Adaptive and resilient | SLOs | 13 | |
| | | | Content/themes | 9 | 22 |
| | | | Teaching strategies | 0 | |
| | | | Assessment strategies | 0 | |
| | | Ethical | SLOs | 4 | |
| | | | Content/themes | 37 | 48 |
| | | | Teaching strategies | 2 | |
| | | | Assessment strategies | 5 | |
| | | Professionalism | SLOs | 11 | |
| | | | Content/themes | 60 | 76 |
| | | | Teaching strategies | 2 | |
| | | | Assessment strategies | 3 | |
| **Service to Profession & Community (V3)** | | Collaborative learning and practice | SLOs | 10 | |
| | | | Content/themes | 30 | 157 |
| | | | Teaching strategies | 111 | |
| | | | Assessment strategies | 6 | |
| | | Building apprenticeship | SLOs | 2 | |
| | | | Content/themes | 24 | 32 |
| | | | Teaching strategies | 3 | |
| | | | Assessment strategies | 3 | |

| | | | | |
|---|---|---|---|---|
| | Mentorship | SLOs | 2 | |
| | | Content/themes | 14 | 24 |
| | | Teaching strategies | 8 | |
| | | Assessment strategies | 0 | |
| | Social responsibility and engagement | SLOs | 15 | |
| | | Content/themes | 83 | 113 |
| | | Teaching strategies | 6 | |
| | | Assessment strategies | 9 | |
| | Stewardship | SLOs | 0 | |
| | | Content/themes | 2 | 3 |
| | | Teaching strategies | 1 | |
| | | Assessment strategies | 0 | |

Table 4.9 illustrates the MAXQDA generated codes and related subcodes frequencies within all documents. This table provides an overview of 21st-century teaching values (V1, V2, & V3) related to parent codes and their associated subcodes insertion into all analyzed curriculum documents. There are four parent codes, namely empathy, belief that all children can learn, nurturing the potential in each learner, and valuing diversity. Each code is further categorized into four subcodes: SLOs, content/themes, teaching strategies, and assessment strategies. Colors have been assigned to each code, representing the specific parent code.

Learner-Centered Values (V1): The first parent code was “empathy,” which was assigned a total of 11 coded segments. The subcode of this parent code content/themes’ was assigned only nine (9) codes, while SLOs and teaching strategies have been coded in the same frequency with the least number (1). Conversely, assessment strategies of empathy did not appear a single time in documents. The second parent code was the “belief that all children can learn,” which contained a total of 15 coded segments, mostly in its subcode content/themes that

coded (9) text segments, and SLOs coded 5 segments, whereas teaching strategies were coded only once (1). The curriculum documents did not contain text related to assessment strategies. The third parent code, "nurturing the potential in each child," contained a total of 57 coded segments with 33 content/themes, 14 SLOs, 4 teaching strategies, and 6 assessment strategies. The "valuing of diversity" as parent code contained the maximum numbers of V1 with 104 code segments throughout the analysis of all documents with subcode SLOs 19, content/themes assigned 64 coded text, teaching strategies and assessment strategies were coded almost same frequency (11,10).

Sub-themes of Teacher Identity (V2) related values: The parent code aims for higher standards of teaching and assigned a total of 21 coded segments, and its subcodes, such as SLOs, had 4 coded segments. The content got 11 coded texts. Teaching strategies were assigned 6 coded segments, and assessment strategies were not assigned any text throughout the document analysis. The development of "enquiring nature" as a parent code assigned a total of 36 coded segments: its subcodes like SLOs assigned 6 coded text, content got 11number coded text, teaching strategies had assigned 15 coded text being the major theme, and assessment strategies assigned 4 coded segments. Similarly, "quest for learning" as a parent code assigned a total of 22 code segments with a notable presence in subcode content codes 14 SLOs reflected 4, and the same frequency 2 for teaching and assessment strategies.

The parent code "strive to improve" assigned a total of 19 coded segments with a primary appearance in SLOs 7, content/themes 10, and 2 in teaching strategies. In contrast, the text has not been found against the assessment strategies. The parent code "passionate" assigned a total of 20 coded segments; the subcode SLOs assigned only 1 coded segment: content/themes contained 11 coded text; teaching strategies

assigned 3 coded segments; assessment strategies were assigned 5 coded text. The "adaptive and resilient" as a parent code assigned a total of 22 coded segments, mainly in SLOs with 13 times appearance and content/themes with 9 coded text. The "ethical" as a parent code assigned a total of 48 coded segments with the most frequent occurrences in content 37 coded texts, SLOs 4, assessment strategies assigned 5 coded texts, and the least occurrence of coded text was teaching strategies with 2 frequencies. The last parent code of V2 is professionalism, which was assigned a total of 76 coded segments, primarily in content/themes, 60 coded segments; SLOs-related text was 11 coded texts; teaching strategies coded only 2 codes; and assessment strategies assigned only 3 coded texts in curriculum documents.

Service to Profession & Community (V3): Collaborative learning and practice, building apprenticeship and mentorship, social responsibility and engagement, and stewardship are the major themes of V3. The "collaborative learning and practice" was assigned total 157 coded segments. The subcodes of this parent code, like SLOs, coded 10 texts; the content and assessment strategies were coded 30 and 6, respectively, whereas the subcode teaching strategies appeared in most of the content with 111 coded segments. The next parent code is "building apprenticeship," which contains a total of 32 coded segments, mainly in content/themes, assigned 24 coded texts in its subcode; the subcode SLOs assigned only 2 coded texts; the teaching strategies and assessments strategies were coded the same frequency 3 in the curriculum documents. The parent code "mentorship" contained a total of 24 coded segments, whereas its subcodes, such as SLOs, assigned only 2 text segments; the content/themes subcode was coded 14 text segments; the teaching strategies did not contain any coded text.

Social responsibility and engagement as a parent code were assigned a total of 113 coded segments, and its subcodes, such as SLOs, had 15 coded segments; teaching strategies and assessments strategies were coded 6 and 9, respectively, whereas content/themes were assigned 83 coded segments. The last parent code of V3 was stewardship, which was the least coded theme with 3 coded segments, mainly in content/themes text coded 2 times and assigned 1 coded text in teaching strategies in all through the curriculum documents. In analyzing curriculum documents, on the one hand, content/themes receive much attention, with assessment strategies and SLOs often overlooked with respect to key values such as empathy and stewardship. However, the most striking aspect is that the overriding emphasis on collaborative learning is through teaching strategies; nonetheless, this lack of mentorship and adaptive practices within them indicates they have room for growth.

**Figure 4.2**

*Coded Segments Percentage% of 21st Century Teaching Values (V1,V2,V3) in Documents of B.Ed (Hons) Elementary Curriculum*


Figure 4.2 illustrates the graphical representation of segments of the three main values in the form of percentages. The graph showed that the “service to the

professional and community (V3)" contained the moderately extent content in documents, with 42.6%, and "Teacher identity (V2)" 34% less emphasized value compared to V3. In contrast, the least emphasized values were "learner-centered values (V1)", with 23.4% content allocation in the documents of the B.Ed (Hons) curriculum. It illustrates the V2 and V1 slightly extent content covered in the documents.

To achieve sixth objective, content analysis of B.Ed (Hons) teacher education program documents was conducted to incorporate 21st-century pedagogical skills.

**Figure 4.3**

*Hierarchical Code Subcodes Frequency Model of 21st Century Pedagogical Skills in B.Ed (Hons) Elementary Curriculum*

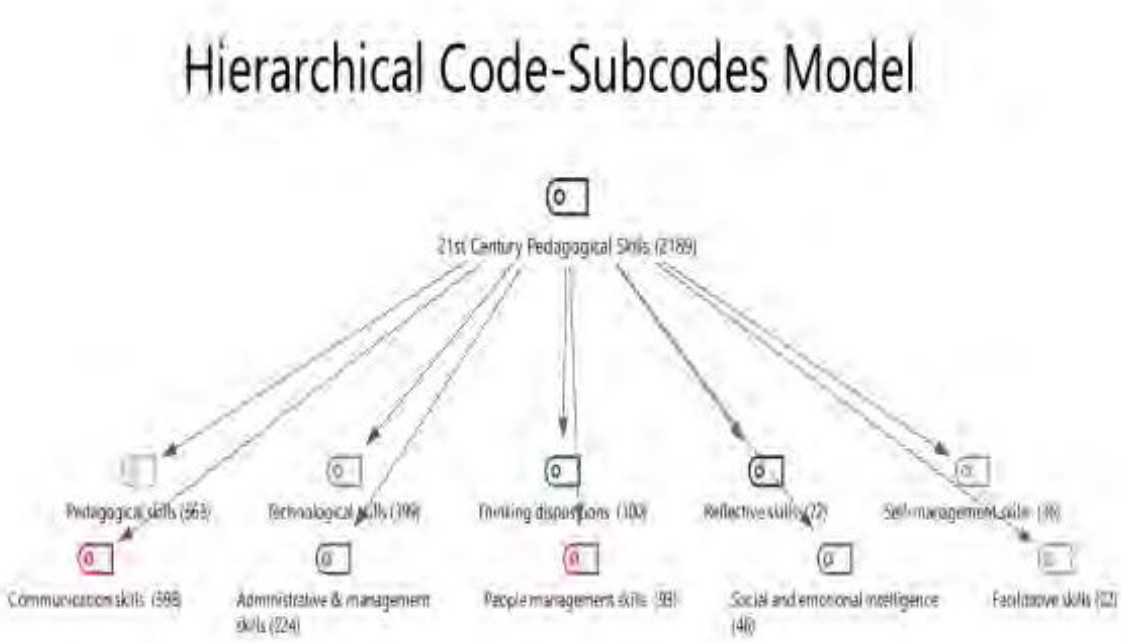



Figure 4.3 depicts a visual representation of the hierarchical code and subcode model, showing the occurrence frequencies of parent codes and subcodes and highlighting the most frequently mentioned codes. Each code size in the figure corresponds to its coded frequency. The "pedagogical skills" (663 occurrences) and "communication skills" (598 occurrences) have the highest frequencies among all

categories, indicating a prominent emphasis on these codes in the curriculum documents. While “technological skills” (399 occurrences) are also significantly emphasized, these are less prioritized with the lower frequency compared to pedagogical and communication skills. Similarly, “administration and management skills” (224 occurrences) received insubstantial emphasis, whereas the “people management skills” (93 occurrences) had relatively low frequency, indicating the lesser emphasized area in documents. “Reflective skills” (72 coded text) and “social and emotional intelligence” (46 occurrences) showed the minimal representation of these skills in the curriculum. In contrast, “self-management” related content (36 occurrences) and “facilitative skills” (22 occurrences) also showed limited emphasis and low frequencies. The following table 4.9 depicts a comprehensive picture of each parent code and related subcode segment occurrences within overall curriculum documents.

**Table 4.10**

*MAXQDA Generated Coded Segments Frequencies of 21st Century Pedagogical Skills in Curriculum Documents*

| Color | Parent code | Subcode | Code. Seg. (all documents) | Total assigned codes |
|---|---|---|---|---|
|  | Reflective skills | SLOs | 7 | |
| | | Content/themes | 24 | 72 |
| | | Teaching strategies | 26 | |
| | | Assessment strategies | 15 | |
|  | Thinking dispositions | SLOs | 22 | |
| | | Content/themes | 67 | 100 |
| | | Teaching strategies | 10 | |
| | | Assessment strategies | 1 | |
|  | Pedagogical skills | SLOs | 67 | |
| | | Content/themes | 179 | 663 |
| | | Teaching strategies | 353 | |
| | | Assessment strategies | 64 | |
|  | People management skills | SLOs | 11 | |
| | | Content/themes | 65 | 93 |
| | | Teaching strategies | 6 | |
| | | Assessment strategies | 11 | |
|  | Self-management skills | SLOs | 7 | |
| | | Content/themes | 23 | 36 |
| | | Teaching strategies | 1 | |
| | | Assessment strategies | 5 | |
|  | Administrative and management skills | SLOs | 30 | |
| | | Content/themes | 161 | 224 |
| | | Teaching strategies | 17 | |
| | | Assessment strategies | 16 | |
|  | Communication skills | SLOs | 64 | |
| | | Content/themes | 333 | 598 |
| | | Teaching strategies | 140 | |
| | | Assessment strategies | 61 | |
|  | Facilitative Skills | SLOs | 2 | |
| | | Content/themes | 16 | 22 |

| | | | | |
|---|---|---|---|---|
| | | Teaching strategies | 1 | |
| | | Assessment strategies | 3 | |
| | Technological skills | SLOs | 53 | |
| | | Content/themes | 263 | 399 |
| | | Teaching strategies | 52 | |
| | | Assessment strategies | 31 | |
| | Innovation and | SLOs | 0 | |
| | entrepreneurs-hip | Content/themes | 1 | 4 |
| | skills | Teaching strategies | 3 | |
| | | Assessment strategies | 0 | |
| | Social and emotional | SLOs | 10 | |
| | intelligence | Content/themes | 24 | 46 |
| | | Teaching strategies | 7 | |
| | | Assessment strategies | 5 | |

Table 4.10 illustrates a detailed overview of the distribution and emphasis of various skills in curriculum documents, with specific colors assigned to each code representing the respective parent code. The table reflects the total frequency of occurrence and frequency of subcode segments such as SLOs, content/themes, teaching strategies, and assessment strategies. The first parent code was “reflective skills,” which was assigned a total of 72 coded segments, with minimal representation. The subcodes of this parent code are SLOs that are reflected with 7 coded segments, and the content and teaching strategies are coded almost the same frequencies, 24 and 26, respectively. The assessment strategies were assigned coded text only 15, which shows the limited focus on reflective practices.

“Thinking dispositions” were assigned a total of 100 coded segments; its subcodes, like SLOs, contained 22 coded text; the content/themes were coded 67; the teaching strategies were assigned 10 text segments; the assessment strategies assigned only 1 coded text. The third parent code, “pedagogical skills,” enjoyed the maximum number of coded text throughout the analysis of all documents with 663 coded

segments; its subcode, such as SLOs, is coded 67 times; content/themes are assigned 179 text segments; teaching strategies contained 353 coded segments; assessment strategies were coded 64 times. The "communication skills" as a fourth parent code is also one of the most coded themes, containing a total of 598 coded segments. The subcodes of this parent code included 64 occurrences in SLOs, 333 in content/themes, 140 in teaching strategies, and 61 in assessment strategies.

The parent code "technological skills" assigned a total of 399 coded segments, and its subcodes, such as SLOs, had 53 coded segments; content/themes, had 263 coded text; teaching strategies were assigned 52 coded segments; and assessment strategies were coded 31 times in various curriculum documents. The next parent code was "administration and management skills", with a total of 224 coded segments; its subcodes, like SLOs, contained 30 coded text, content/themes 161, and teaching strategies and assessment strategies contained almost the same coded text 17 and 16, respectively. The parent code "people management skills" assigned a total of 93 coded segments; its subcodes contained the same coded segments like SLOs and assessment strategies 11; content/themes were assigned 65 coded segments.

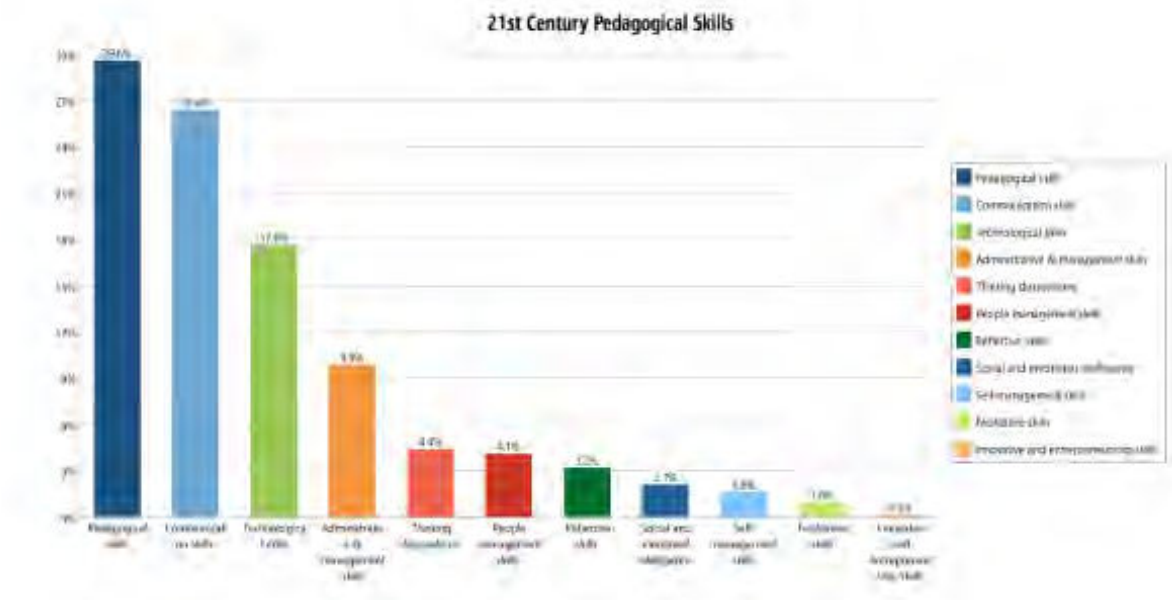
"Self-management skills as a parent code assigned total 36 coded segments. The subcodes included coded text 7 in SLOs, 23 in content/themes, 5 in assessment strategies, and only once the related text appeared in teaching strategies. The parent code "social and emotional intelligence" assigned a total of 46 coded segments; its subcodes, i.e., SLOs, contained 10 coded texts; the content/themes coded 24 times; teaching strategies contained 7 coded segments; assessment strategies contained only 5 coded segments. "Facilitative skills" as parent code is the less emphasized coded segment. This parent code assigned a total of 22 coded segments, and its subcodes, such as SLOs, had only 2 coded segments; content/themes got 16 coded text; teaching

strategies were assigned only 1 coded segment; the subcode assessment was assigned 3 coded text. The last parent code, "innovative and entrepreneurship skills," is the least coded segment, with only 4 total occurrences. Subcodes like SLOs and assessment strategies were not shown occurrences, whereas content/themes were assigned only 1 coded text, and teaching strategies were assigned 3 coded segments in the various curriculum documents. This reflects a negligible emphasis on fostering innovation and entrepreneurship.

The analysis highlights strengths in the emphasis on pedagogical and communication skills, particularly teaching strategies and content/themes**.** However, significant gaps exist in fostering innovative, entrepreneurship, and facilitative skills**.** The limited focus on assessment strategies suggests a need for better integration of measurable outcomes in skill development. These findings indicate an uneven alignment with the goals of cultivating comprehensive 21st-century teaching competencies.

**Figure 4.4**

*Coded Segments Percentage% of 21st Century Pedagogical Skills in B.Ed (Hons) Elementary Curriculum*



The extensive analysis of the B.Ed (Hons) Elementary Curriculum exposed the varied emphasis on different skills, as indicated by the percentage distribution of occurrences across the curriculum content. Figure 4.4 illustrates the graphical representation of segments of 21st-century pedagogical skills in the form of percentages. Pedagogical skills and communication skills did not show substantial emphasis in documents, which indicates the slightly integrated content related to these themes within all the documents. Technological skills and administration and management skills reflected the limited emphasis of these skills in the curriculum. However, thinking dispositions, people management skills, and reflective skills are reflected with a minimal emphasis in the curriculum documents, including Research Methods in Education, Research Project, Functional English I, Computer Literacy, General Mathematics, Pakistan Studies, General Methods of Teaching, Classroom Assessment, Curriculum Development, Educational Psychology, Instructional and Communication Technology (ICT) in Education, Teaching of Mathematics, Teaching English, Teaching of Social Studies, Contemporary Issues and Trends in Education, Introduction to Guidance and Counseling, Test Development and Evaluation, Teaching of Mathematics (Pedagogy), Teaching English (Pedagogy), Teaching of General Science (Pedagogy), Teaching of Social Studies (Pedagogy), and Teaching Practicum I & II.

Furthermore, reflective skills, self-management skills, facilitative skills, social and emotional intelligence, and innovation and entrepreneurship skills are notably underrepresented within all the foundational, compulsory, professional, and pedagogical courses of B.Ed (Hons) Elementary program. The absence of innovative and entrepreneurship skills highlights potential areas for curricular enhancement to develop a more comprehensive and well-rounded skill set among learners.

# CHAPTER 5

# SUMMARY, FINDINGS, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Chapter five presents the summary, key findings and discussions based on the data analysis, conclusion, and recommendations.

## 5.1 Summary

The major focus of this study was to analyze pre-service B.Ed (Hons) Elementry (four years teacher education) program of Pakistan with reference to the Teacher Education Model for the 21st Century. The study was delimited to the teaching values and skills based on Teacher Education Model for the 21st Century proposed by the National Institute of Education (NIE); because this model is very comprehensive and innovative teacher education model to incorporate the 21st-century skills, and values among prospective teachers. The study was also delimited to the B.Ed (Hons) Elementary four years teacher education program 5th and six semester and compulsory, foundational, professional, and pedagogical courses. Also it's delimited to the public institutes of Islamabad that are offering B.Ed (Hons) elementary 4 years teacher education programs in traditional mode. The convergent parallel design model from mixed-methods research approach was adopted. The population of study was comprises of 5th and 6th semesters prospective teachers of B.Ed (Hons) elementary teacher education program. Universal sampling technique was applied for data collection purpose. Various self-developed instruments were employed for data collection purpose including questionnaire, classroom observation sheet, and a code book for content analysis. The reliability and validity of the questionnaire were determined by the pilot testing and experts' opinion. The

calculated Cronbach's alpha coefficient reliability was 0.923 found which depicts the appropriateness for further data collection. However, the study also intended to perform the qualitative content analysis of selected B.Ed (Hons) curriculum documents to explore the integration of 21st century teaching values and skills. Philip Marrying deductive category model was applied to analyze the content of curriculum documents. To determine the reliability of code book inter-coder and intra-coder techniques were applied. The intra-reliability calculated using Cohen's Kappa coefficient (k) was 0.81, and the inter-reliability coefficient was 0.78. Data were collected by the personal visit of the researcher. Initially, a formal permission letter obtained from the supervisors and visit to the field. Moreover, the collected data were analyzed by applying the descriptive statistics. The quantitative data were analyzed by calculating percentage, mean score and standard deviation through SPSS software. The analysis of the documents was carried out systematically and comprehensively using the detective category model for thematic content analysis. The content was analyzed and results were generated using MAXQDA software. The results of the study of the documents are presented and interpreted in the form of tables, graphs, and maps.

## 5.2 Findings

The findings section presents the key finding of the detailed results of data analysis and interpretation of the study. These key findings have been discussed in the subsequent text in line with the research objectives and research questions.

1. The first objective of the study led to a single research question "How well the coursework of B.Ed (Hons) elementary 4 years teacher education program is effective in developing 21st-century teaching values (V1- learner centered values, V2- teacher identity, and V-3 service to the profession and

community) among prospective teachers?", to answer this question, prospective teachers' perceptions were taken through a questionnaire, and related results are presented in the subsequent section. The data revealed that B.Ed (Hons) elementary 4 years teacher education program moderately supported the development of 21st century teaching values. These values include 1) learner centered values (V1), 2) teacher identity (V2), and 3) service to the profession and community (V3) among prospective teachers.

Specifically, the results showed that the learner centered values (V1), such as empathy, believe that all students can learn, and commitment to nurture the potential in each child, obtained Mean score 2.27 which falls within the range of 1.67-2.33. It indicates coursework of B.Ed. program moderately developed the learner-centered values among them among prospective teachers (table 4.1).

However, results indicated that the teacher identity values (V2) such as the higher standards of teaching, development of enquiring nature, quest for learning, strive to improve, adaptive and resilient, ethical, and professionalism computed mean score 2.02 falls within the range of moderate extent= 1.67-2.33 and illustrate a positive perception of prospective teachers about the development of teacher identity related values among them. This indicates that coursework is moderately encouraged these values among prospective teachers (table 4.2).

The results revealed that service to the profession and community values (V3) contain collaborative learning and practice, building apprenticeship and mentorship, social responsibility and engagement, and stewardship. The obtained Mean score of these values was 2.03 and illustrate a positive

perception of prospective teachers about the development of service to profession and community related values among them. This indicates that coursework moderately developed the values related to profession and community among prospective teachers (table 4.3).

2. The second objective of the study leads the single research question "To what extent the coursework of B.Ed (Hons) elementary education is supportive in developing the 21st-century pedagogical skills? The results to answer this question are presented in the subsequent text. The 21st pedagogical skills comprise reflective skills, thinking dispositions, pedagogical expertise, people management skills, self-management, administration and management skills, communication skills, facilitative skills, technological skills, innovative and entrepreneurship skills, and social and emotional intelligence.

   Results revealed that almost all skills computed mean score was 2.02 which illustrate a positive perception of prospective teachers about the pedagogical skills development among them. It indicates that coursework moderately developed these pedagogical skills among prospective teachers (table 4.4).

3. The third research question based on the third objective was "How well the classroom pedagogical practices of teacher educators are contributing in developing 21st century teaching values (learner centered values (V1), teacher identity (V2), and service to the profession and community (V3) among prospective teachers?" The results to answer this question are presented in the subsequent text.

   Results revealed that classroom pedagogical practices moderately incorporated the learner centered values, and values of teacher identity, as

their calculated percentages falls within the range of moderate extent= 34% -66% (table 4.5, 4.6).

In contrast, the V3- service to the profession and community and their related values' calculated percentage was less than 33% that indicates pedagogical practices was not effectively inculcating V3 among prospective teachers (table 4.7).

4. The findings related to fourth question "To what extent the classroom practices of teacher educators are effective in developing the 21st-century pedagogical skills among prospective teachers?" (based on the fourth objective) are presented in subsequent text:

   Results revealed that classroom pedagogical practices moderately incorporated 21st-century pedagogical skills such as reflective skills, thinking dispositions, pedagogical expertise, people management skills, self-management, administration and management skills, communication skills, facilitative skills, technological skills, innovative and entrepreneurship skills, and social and emotional intelligence among prospective teachers. The calculated percentage was 33.7%, which is close to 34% of the range of moderate extent and shows the moderate extent of the development of these pedagogical skills among prospective teachers (Table 4.8).

The content analysis of B.Ed (Hons) elementary courses was conducted by applying the qualitative analysis approach.

5. The findings related to fifth question "To what extent the content of B.Ed (Hons) teacher education curriculum is supportive in developing 21st-century

teaching values (V1, V2, V3) among prospective teachers?" (based on fifth objective) are presented in subsequent text:

The results revealed that the content of the B.Ed (Hons) curriculum slightly extent emphasis to incorporate the 21st-century teaching values among prospective teachers, such as learner-centred values (V1) 23.4%, "Teacher identity-related values (V2)" 34% and service to the professional and community (V3)" 42.6% were observed in the text (figure 4.2). Only the theme of collaborative learning and practices was more emphasized in the curriculum (table 4.9). It indicates that the curriculum moderately emphasized the V3- service to the profession and community throughout the documents, whereas V1 and V2 slightly integrated these values.

6. The findings related to sixth question "To what extent the content of B.Ed (Hons) teacher education curriculum is supportive to incorporate the 21$^{st}$-century pedagogical skills?" (based on sixth objective) are presented in subsequent text:

   The results exposed that the content of B.Ed (Hons) elementary curriculum slightly extent supported to incorporate the 21st century pedagogical skills among prospective teachers such as pedagogical skills with 29.6%, communication skills 26.4%, technological skills 17.6%. However, 9.9% of administration and management skills, thinking dispositions 4.4%, people management skills 4.1%, reflective skills 3.2%, and social and emotional intelligence 2.1% showed minimal integration of these skills within all the curriculum documents. Whereas, self-management skills reflected 1.6%, facilitative skills 1%, and innovative and entrepreneurship skills 0.2% in text (figure 4.4). This indicates the least emphasis on these pedagogical

skills within all documents. However, there is a noticeable underrepresentation in reflective skills, self-management skills, facilitative skills, and social and emotional intelligence are notably underrepresented within all the documents of foundational, compulsory, professional, and pedagogical courses of B.Ed (Hons) Elementary program. Nonetheless, the lack of innovative and entrepreneurship skills indicated the possible areas for curricular enhancement to develop a more comprehensive and well-rounded skill set among prospective teachers (see table 4.10).

### 5.2.1 Triangulation of Data

Keeping in view the protocol of convergent parallel design model, the results of qualitative and quantitate data analysis have been merged. The detailed comparison of these results is presented in subsequent text.

The quantitative data revealed that the B.Ed (Hons) elementary 4 years teacher education course work and classroom practices moderately developed the 21st-century teaching values, learner-centred values (V1), teacher identity (V2), and service to the profession and community (V3). In contradiction, only classroom pedagogical practices were ineffective in strengthening the V3 among prospective teachers. Similarly, the findings revealed that coursework and pedagogical practices moderately supported to strengthen the pedagogical skills among prospective teachers, such as reflective skills, thinking dispositions, pedagogical expertise, people management skills, self-management, administration and management skills, communication skills, facilitative skills, technological skills, innovative and entrepreneurship skills, and social and emotional intelligence. To generate the quantitative results, prospective teachers' perspectives were collected through a survey questionnaire, and classroom observations were conducted.

On the other hand, qualitative document analysis of the B.Ed (Hons) program curriculum revealed that the content moderately integrated the V3-service to the professional and community with 42.6% text throughout the curriculum. At the same time, a slight extent of emphasis was reflected in V1- learner-centred values and V2-teacher identity by covering related content 34% and 23.4%, respectively. The content minimally integrated 21st-century pedagogical skills in curriculum documents. The quantitative results revealed that the coursework and classroom practices moderately developed the pedagogical skills among prospective teachers. Although, the qualitative results revealed the contradict results to quantitative study. The content of the B.Ed (Hons) curriculum is insufficient to incorporate 21st-century pedagogical skills among prospective teachers. Slightly emphasis was observed specifically on pedagogical skills, communication skills, and technological skills, with 29.6%, 26.4%, and 17.6%, respectively. Additionally, the rest of the skills were underrepresented and were minimal emphasized areas in curriculum documents (see figure 4.4).

## 5.3 Discussion

Based on the research findings, the following discussions have been generated in line with the research objectives:

The first objective of the study was to "analyze the effectiveness of course work of B.Ed (Hons) elementary (4 years teacher education program) to promote the 21st-century teaching values, V1- learner-centred values, V2- teacher identity, and V3- service to the profession and community among prospective teachers." Based on survey data analysis, it is concluded that the coursework remained moderately extent effective in developing 21st-century values. Weimer (2013) reported that learner-centred teaching practices significantly contributed to students' enthusiasm for the

learning process. Attention to students' interests, as well as making provisions for active learning, enabled educators to create a much more vibrant and dynamic classroom environment.

Likewise, Darling-Hammond (2016) reported that the primary influence of teacher preparation programs is to advance learner-centred values. Further, her study found that the inclusion of training in learner-active learning strategies and techniques for promoting student engagement and reflective teaching practices was most successful in preparing teachers to employ learner-centred approaches in their classrooms. Moreover, a study conducted by Avalos (2011) revealed that teacher education programs supported the development of professional identity and enabled teachers to establish strong and viable professional networks and collaborative practices. The study also found that trained teachers with well-developed identities were more effective in working with colleagues and contributing to a positive school culture.

Hence, practical teaching experiences during teacher education programs are significant for the professional development of a prospective teacher. Practicum is said to develop such skills as teaching, confidence in oneself, and abilities in classroom management that help in a smooth transition from a student to a professional teacher (Jones & Brown, 2019). Additionally, these results are also endorsed by the work of Hiebert and Wearne (1993), who demonstrated that the most critical opportunities among pre-service teachers lie in collaborative settings that involve practising fundamental teaching practices. This was an opportunity to observe, practice, and even give feedback on basic instructional strategies. Indeed, this cycle becomes the source of learning and self-improvement for high-quality instructional practices among prospective teachers.

The second objective of the study was to "assess the effectiveness of course work of B.Ed (Hons) elementary (4 teacher education program) in developing the 21st-century pedagogical skills." Results revealed that coursework was moderately effective in developing 21st-century pedagogical skills. As all skills such as reflective skills, thinking dispositions, communication skills, self-management skills, people management skills, administration and management skills, pedagogical skills, facilitative skills, technological skills, innovative and entrepreneurship skills, social and emotional intelligence obtained Mean score was 2.02 which falls within the range of moderate extent 1.67-2.33. It indicated that coursework was moderately effective in inculcating these pedagogical skills among prospective teachers.

Similarly, the recently conducted study showed that prospective teachers are now being equipped to adopt critical 21st-century skills towards their pedagogical practices, along with critical thinking, collaboration, communication, and technological proficiency that students need to develop to stay relevant to the changing global economy (Hernandez, 2021). As endorsed by Care et al. (2017), it has been observed that the effectiveness of the teacher education programs has improved in making the prospective teachers capable of developing various engaging, student-centred learning environments. According to Ward and McCotter (2004), reflective practice played a very significant role in the professional development of pre-service teachers. Reflective journals, peer evaluations, and feedback mechanisms enhanced the reflective skills of prospective teachers. Educators who engaged in structured reflection were able to analyze their methods of teaching more easily and critically and to adapt these for better student learning outcomes. Studies have also revealed that critical thinking dispositions such as

open-mindedness and inquisitiveness enable one to teach effectively. Critical thinking exercises, problem-based learning, and reflective discussions directly impact how programs for teacher preparation nurture such dispositions. So, prospective teachers develop a mindset in which they continuously improve and are evidence-driven concerning their teaching strategies (Spalding & Wilson, 2020). Additionally, effective teacher education programs have been noted to strike a balance between theoretical knowledge and practical exposure at the same time. The prospective teachers will, therefore, be equipped with a holistic knowledge about how teaching works in reality, such as lesson planning and necessary feedback mechanisms.

This integration helps them develop essential communication skills that are crucial for managing classroom interactions and engaging students effectively (Fukkink et al., 2019). Thus, the training of prospective teachers in social-emotional competencies further prepares them for better communication with others. Training that includes components of empathy, active listening, and conflict resolution helps teachers build stronger relationships with their students. This is not only beneficial for classroom management but also creates a positive learning environment where students feel appreciated and valued (Rodriguez et al., 2020). As it is endorsed, the practical experience of school-led training and mentorship programs enables prospective teachers to put their communication skills into practice, especially within natural classroom settings. It is this feedback from more experienced teachers or their peers that will further develop these skills. Practical experiences make sure that either students or prospective are well prepared for effective communication in diverse educational settings (Korucu, 2021).

However, reflection practices, such as self-assessment and mindfulness techniques, significantly raise the self-management skills of future teachers. Teachers need to maintain a positive learning environment and regulate their emotions while managing the stress in these processes. Such reflective practices, including self-assessment and mindfulness techniques, increase prospective teachers' self-management skills. These practices support teachers in managing stress, self-regulating emotional expression, and fostering a positive learning environment as well (Schonert, 2017). Besides that, a study conducted by Venesaar et al. (2021) has shown that entrepreneurial competence should be integrated at all levels of education to inculcate a culture of innovation and continuous improvement among teachers.

The third objective of the study was to "assess the effectiveness of B.Ed (Hons) elementary teaching practices in developing teaching values among prospective teachers." Based on the classroom observation sheet, results revealed that teaching practices were not fully up to the mark in incorporating 21st-century teaching values. However, classroom pedagogical practices moderately developed the V1- learner-centered values and values of V2- teacher identity among prospective teachers, as the calculated percentages of these values fall within the range of moderate extent= 34%-66%. In contradiction, the V3- service to the profession and community and their related values' calculated percentage is less than 33%, which indicates pedagogical practices were not effective in inculcating V3 among prospective teachers.

However, studies affirmed that teacher education programs under individualized instruction and student-centred learning engage prospective teachers more in realizing and committing to nurturing the potential in each child. It makes the

teachers try their best to pinpoint and build up the unique strengths and abilities of every student. Likewise, a study recently conducted by Nayan et al. (2025) revealed that prospective teachers generally exhibit modest knowledge, attitudes toward professionalism, and innovative teaching practices, including information and communication technology (ICT) and pedagogical skills.

However, educational authorities play a key role in enhancing teachers' literacy in 21st-century education, which, in turn, improves their instructional practices. Moreover, experiential learning through internships and mentorships puts into practice some personalized teaching strategies by these prospective teachers, thereby contributing to the actualization and nurturing of potential in each student (Khamzina et al., 2024). The value of the V2 enquiring nature is endorsed by Mattew and Talbot (2021), who demonstrated that the inquiry-based learning strategy that is available to teacher education programs helps to build critical thinking and problem-solving skills among prospective teachers.

In addition, these teacher education programs offer opportunities to prospective teachers to engage in research projects and reflective practices, encouraging them to ask questions and explore various solutions to analyze educational issues critically. In this way, it helps to prepare teachers by emphasizing a program for lifelong learning and professional curiosity, always seeking new knowledge and continuously improving teaching practices through constant professional development and a call for involvement in educational research. This is achieved through the continuous provision of professional development opportunities and encouragement to participate in education research (Kabilan, 2013; Moorhouse & Harfitt, 2021).

Teacher education programs that match the professional teaching standards enable prospective teachers to understand and meet high teaching standards. These standards define what teachers need to know and be able to do, as well as the professional behaviours called for in teaching. The programs that work under these standards make it possible to prepare prospective teachers to enter modern classroom situations (EI & UNESCO, 2019). Having said that, practical teaching experiences, including internships and practicum placements, are critical in imparting adaptability and resilience among prospective teachers.

Such practicums expose these prospective teachers to the classroom realities that are very important in developing effective coping strategies and methods of adaptive teaching (Mansfield et al., 2016). Furthermore, it is important to put ethics education in the teacher preparation curriculum to develop ethical behaviour among prospective teachers. Besides case studies, role-play exercises, and discussions related to moral dilemmas, the content of courses should motivate prospective teachers to understand the importance of professional ethics and prepare them for possible ethical issues during their teaching careers (Gocen & Bulut, 2024).

Studies in favour of V3 have shown that internships, practicum placements, and mentorship program exposures offer experiential learning in the practical aspects of teaching that would be beneficial in developing higher standards of teaching practice. Experiential opportunities such as these allow prospective teachers to transform theoretical knowledge into practice by being in a classroom setting and receiving constructive feedback, thereby developing an all-rounded teaching practice. Such experiences are necessary at the level of bridging the gap between theory and practice and ensure preparedness to handle the challenges of the classroom (Cavanagh et al., 2019).

The fourth objective of the study was to "examine the teaching practices of teacher educators in relation to strengthening the 21st-century pedagogical skills." To achieve this objective, results were generated by analyzing the class observation scores. Findings revealed that the teaching practices of teacher educators were not effectively incorporating the pedagogical skills among prospective teachers. Urbani et al. (2017) proposed a model that a teacher education program should adopt to develop 21st-century skills; the focus of the model is on personal development, applied development (application in multiple contexts), and continuous professional growth. Their model specifically focused on creativity, critical thinking skills, communication skills, collaboration information, media, and technology skills. Additionally, the impact of reflective teaching practices discussed by Larrives (2000), as well as the effect of reflective teaching practices and video-based classroom observations on the professional development of pre-service teachers,

The study highlighted that video reflections provided a few crucial benefits in improving teaching practices and self-awareness. This further makes digital communication skills imperative with the growing integration of technology in education. Digital tools and platforms are part of training in teacher education programs to gain new insights and strategies in communication. Educational content and resources are generated through virtual classrooms, educational software, and social media. Effective and inclusive interaction with students requires properly equipped teachers in digital communication. Teachers who have good digital communication skills can interact with their students more interactively and inclusively. For instance, teachers are now being trained to handle technology-enabled tools such as class software, virtual classrooms, and social media that can be used to

communicate with their students appropriately (Vincent-Lancrin et al., 2022). It is affirmed by Alamri and Alfayez (2023) the effectiveness of video-based classroom observation in fostering reflective skills among pre-service teachers.

Results established that the method facilitates critical reflection and teaching skills enhancement. It is encouraged by Rodgers (2002) that reflective practice directly impacts classroom management and instructional strategies. Teachers who frequently reflect can employ innovative teaching methods, be responsive to the diverse needs of students, and guarantee an inclusive learning environment. The study also found that reflective teachers could change their teaching strategies more often, taking into account student feedback and other assessment information. In short, these studies point to the fact that reflective practices, video-based observations, communication, and critical thinking exercises are key components in pre-service teacher education toward the development of 21st-century pedagogical skills.

The fifth objective of the study was to "analyze the content of B.Ed (Hons) elementary teacher education program curriculum in terms of developing 21st-century teaching values among prospective teachers." Based on intensive content analysis, it is concluded that the content of the B.Ed curriculum slightly extent emphasized the integration of 21st-century teaching values among prospective teachers, such as the V1- learner-centred values and V2- teacher identity reflected less focus in the content, whereas the V3- service to the profession and community observed frequently throughout the curriculum. More emphasis was placed on the V3 set of values, like the collaborative learning and practice weightage, which was higher than other themes. However, the text regarding these themes is not separately mentioned in the curriculum. Consequently, the importance of curriculum reforms was highlighted by Boonsena et al. (2019), who stressed that

curriculum reforms and professional development are significant in aligning teacher education with 21st-century educational goals.

The study focused on experiential learning and critical analysis of the curriculum materials that enabled prospective teachers to form a sophisticated understanding of educational contents and pedagogy. It emerged that cooperative work between universities and schools is crucial for the coherence and effectiveness of teacher education programs. Similarly, it is endorsed by Meneses et al. (2023) emphasized the imperative need for professional development programs to inculcate 21st-century collaboration skills, critical thinking, and technological proficiency. These programs enhance effectiveness in teaching to a great level through workshops and reflective practices.

Additionally, another study in this context highlighted the significance of 21st-century values as the faculty of the incorporation of reflective practices in the curriculum nurtures a habit of self-assessment and improvement in prospective teachers. Reflective journals, peer appraisal, and mentorship programs are practical tools for fostering a quest for learning among the trainees (Pottinger et al., 2019). Szymkowiak et al. (2021) further ascertained the importance of modern technologies in the crafting of a student-centric learning environment. Interactive e-textbooks, web conferencing, and virtual laboratories have become prominent in ensuring personalization, engagement, and self-paced study.

Such tools are essential for teachers in designing more interactive and practical learning experiences (Szymkowiak et al., 2021). Such is the case of the works by Han et al. (2018), who highlighted the importance of moral and ethical education for the 21st century in developing teaching values. Their study has

similarly pointed out the importance of integrating moral exemplars and virtue ethics within teacher education programs. It is from their research that a cross-cultural perspective about moral education was considered; the Western approach for developing the future teachers' reasoning of what is good or bad and the associated behaviour is more liberal than the Eastern perspectives, as they argue.

On the other hand, Akpan and Kennedy (2020) found that community service projects organized within teacher preparation programs result in more social responsibility and civic engagement by prospective teachers. Such projects expose prospective teacher to the needs of their communities and equip them with practical skills to deal with social issues.

The sixth objective of the study was to "evaluate the content of B.Ed (Hons) elementary teacher education program curriculum to incorporate the 21st-century pedagogical skills." Based on content analysis, it was concluded that the content of the B.Ed (Hons) curriculum was slightly extent integrated to strengthen 21st-century pedagogical skills. As pedagogical skills, communication skills, and technological skills have often been observed in text with separate themes. In contrast, the text related to innovation and entrepreneurship skills was completely missing. As the study by Timms et al. (2018) on the influence of STEM education in developing 21st-century skills for pre-service teachers, the incorporation of project-based and problem-based learning in STEM education resulted in very high involvement of students in the learning process and the learning outcomes.

These are active learning strategies whereby students were given the opportunity to apply conceptual knowledge to real-life problems, hence leading to improved skills in critical thinking and problem-solving. It is also encouraged by

the framework of technological pedagogical content knowledge (TPACK), which is critical when preparing prospective teachers to tap into the application of technology in the teaching process.

Some studies have shown that TPACK encompasses the interactions of technological, pedagogical, and content knowledge to support effective modern education. Effective modeling and hands-on experience with digital tools are paramount in fostering these skills. (Hew et al., 2019; Tondeur et al., 2019). The infusion of digital tools and resources in teaching has been highly emphasized. The curriculums of teacher education programs are therefore being revised to include training in the effective use of technology to enhance learning. This includes instilling digital literacy in the teachers, as through this, they can offer innovative teaching methods and improved student engagement (Agrati, 2021).

A study conducted by Darling et al. (2017) established the increased levels of interactive communication strategies employed by prospective teachers. Most of the education programs in the teacher training institutions accord for aspects about questioning strategies, effective facilitation of discussions, and application of positive language to ensure that every learner is participating and is positively valued. The research concludes that the interactive approach has a higher percentage, almost double increasing the number of students participating as well as developing an all-inclusive classroom atmosphere (Darling et al., 2017).

Hatton and Smith (1995) suggested that the evaluation can be complex and is seen to be a necessary way to understand prospective teachers' development of reflective thinking skills. Besides that, the study identified the specific criteria for measuring depth and the content of reflective thinking to categorize areas in which

teachers required support. The outcomes established a mechanism for critique and feedback to foster reflective skill development among prospective teachers. Thus, the results of this study further suggest that quite a good consensus can be achieved on sensitizing prospective teachers towards a broad range of skills and values necessary for 21st-century education. A more holistic training approach is required to enhance the professional competencies of prospective teachers and teacher educators to prepare them and their students for future challenges effectively.

This study is significant as it contributes to the conversation around teacher education by comparing Pakistan's teacher education programs with Singapore's TE 21 model, which is recognized worldwide for developing skilled educators. By evaluating the pre-service teacher education program of Pakistan against TE 21, the study points out both the strengths and weaknesses in teaching values and pedagogical skills, providing important insights for curriculum development and policy changes. While much of the existing literature focuses on teacher training models from Western and East Asian countries, this study offers a necessary viewpoint on how a high-performing framework can meet the unique needs and challenges of teacher education in Pakistan.

The findings highlighted critical areas where improvements are needed in Pakistan's teacher education programs, especially in developing 21st-century teaching skills, incorporating evidence-based teaching methods, and balancing theoretical knowledge with practical application. Additionally, this research has important implications for policymakers, curriculum developers, and teacher educators, as it provides empirical evidence to guide the restructuring of teacher training programs to prepare professionals better. By pinpointing gaps in pedagogical skills and teaching values, this study offers practical recommendations to enhance teacher education in

Pakistan, making it more aligned with future educational demands. Ultimately, this research serves as a useful resource for connecting global best practices with local educational needs, contributing to ongoing efforts to improve teacher education in Pakistan.

## 5.4 Conclusions

The study aimed to assess the extent to which the pre-service B.Ed (Hons) elementry four-year teacher education program of Pakistan is developing the 21st-century teaching values and pedagogical skills among prospective teachers with reference to the Teacher Education Model for the 21st Century. Findings revealed that the B.Ed (Hons) elementary teacher education program was not fully satisfactory in terms of integrating 21st-century teaching values and skills. As prospective teachers believed that the B.Ed (Hons) coursework was moderately effective in fostering 21st-century teaching values (learner-centred values, teacher identity, and service to the profession and community) and pedagogical skills (reflective skills, thinking dispositions, pedagogical expertise, people management skills, self-management, administration and management skills, communication skills, facilitative skills, technological skills, innovative and entrepreneurship skills, and social and emotional intelligence) among them.

The pedagogical practices of B.Ed (Hons) elementary classrooms were moderately effective in incorporating the learner-centred values and values related to teacher identity, whereas the pedagogical practices of teacher educators were ineffective in developing the values related to service to the profession and community among prospective teachers. Moreover, the pedagogical practices were not fully supportive of inculcating essential pedagogical skills among prospective teachers.

Conversely, the B.Ed (Hons) elementary program curriculum showed a slight emphasis on learner-centred and teacher-identity-related themes in the documents, whereas the content moderately supported the integration of the values related to service to the profession and community. Likewise, the study indicated that the B.Ed (Hons) elementary curriculum slightly integrated pedagogical skills, communication skills, and technological skills. While, administration and management skills, thinking dispositions, people management skills, reflective skills, social and emotional intelligence, self-management skills, and facilitative skills were found to have the least emphasis on these skills within all documents of the B.Ed (Hons) elementary curriculum. Moreover, the curriculum does not contain these themes distinctly in the content. The content related to innovation and entrepreneurship skills was entirely missing in the curriculum documents.

The findings of this study highlighted the critical need for substantial reforms in the B.Ed (Hons) elementary (4-year teacher education) program. Findings exposed that the B.Ed (Hons) elementary coursework and classroom teaching practices significantly lack the integration of 21st-century teaching values and pedagogical practices among prospective teachers. It indicates a need to reconsider and overhaul the B.Ed (Hons) program classroom pedagogies and curriculum by including a more robust and explicit emphasis on the mentioned 21st-century teaching values and pedagogical skills. By addressing these gaps, the findings of this study can serve as document evidence for teacher educators to improve and update their pedagogical practices to prepare the next generation of educators better to foster an inclusive, innovative and interactive teaching and learning environment. So, serious attention is required to produce compassionate,

skilled, and adaptable educators who can have a great impact on students' learning and make significant contributions to the teaching profession.

## 5.5 Limitations of the Study

1. The study was limited to the B.Ed. (Hons) elementary four-year education program, so its findings are not applicable to generalizing to other teacher education programs in Pakistan.
2. The study was conducted with limited geographical and institutional diversity in the sample.
3. The quantitative data (survey questionnaire) relied on limited geographical reported data, which may be influenced by social desirability bias and limit the objectivity of responses.
4. The study focused only on the document analysis of foundational, compulsory, professional, and pedagogical courses of the B.Ed (Hons) elementary program available on the HEC website. However, it did not include content courses, which may have contributed to the development of 21st-century teaching values and pedagogical skills. This exclusion limits the comprehensiveness of the findings, as subject-specific pedagogies and interdisciplinary learning approaches were not examined.

## 5.6 Recommendations

Following recommendations have been derived keeping in view the major findings and conclusion of the study.

1. As it was concluded that the course work of the B.Ed. (Hons) elementary teacher education program moderately developed the necessary 21st-century teaching values and pedagogical skills among prospective teachers, so it is

recommended that the educational institutes/ teachers training institutes, educational policies, curriculum developers, NACTE, and HEC may establish clear and measurable goals for teacher education programs in the context of 21st-century teaching values (learner-centered values, values related to teacher identity, commitment to serve the profession and community) and skills to incorporate these competencies among prospective teachers. It is also recommended that educational policies may target personalized learning, teacher identity and preparation of teachers for social and professional commitment with the collaboration of social engagement and demanding 21st-century pedagogies to better prepare the future generation of educators with fully equipped 21st-century teaching competencies.

2. The research evidence indicated that classroom teaching practices (B.Ed Hons elementary 4 years teacher education program) did not fully develop 21st-century teaching values and skills. So, it is recommended that teacher educators need to emphasize hands-on practice, reflective teaching exercises, technological integration, and innovative teaching methods (inquiry-based learning, blending learning, microteaching, reflective teaching through the digital portfolio, and interactive learning strategies, and scenario-based learning) to ensure more comprehensive development of these critical pedagogical skills to better prepare prospective teachers for the future demands. However, educational policies, NACTE, and HEC need to design the 21st-century targeted modules for the professional development of teacher educators to enhance their teaching practices and better incorporate 21st-century values and skills. The training workshops, seminars, and continuous professional development programs can be instrumental in achieving this.

There is also a need to reconsider the professional teaching standards in the context of 21st-century teaching values and skills. To ensure these updates, a continuous monitoring and evolution program may be launched to identify the teaching gaps and areas for improvement.

3. As the findings highlighted, the B.Ed (Hons) elementary program slightly emphasized the targeted 21st-century teaching values and pedagogical skills. So, it is recommended that the stakeholders (teacher educators, teacher training institutes, Policymakers, curriculum developers, NACTE and HEC) may take into consideration the mentioned lacking areas in the curriculum. Also, the curriculum needs to be revised and overhauled to include a more robust and explicit emphasis on 21st-century teaching values and skills. Educational policies may mandate the inclusion of 21st-century teaching values and pedagogical skills in pre-service teacher training programs.

## 5.7 Recommendations for Future Researchers

1. The study was delimited in its scope and analyzed the two components of Teacher Education Model for the 21st century teaching values and pedagogical skills. Hence, future researchers may work on its third component "Knowledge".
2. This study was delimited to the compulsory, foundational, professional, and pedagogical courses; future studies can be conducted covering all the courses, including content courses.
3. As this study was delimited only to B.Ed (Hons) elementary four years teacher education program, so future researchers may go one step ahead and

analyze all the pre-service teacher education programs such as B.Ed. 1.5 years, B.Ed. 2.5 years, and BS Education,

4. As for data collection only questionnaires and classroom observations were used; future researchers may use other data collection instruments, such as semi-structured interviews and focused group discussions to analyze the opinions of teacher educators, prospective teachers, and NACTE council members about 21st-century teaching skills and how these skills can be developed among future educators.

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# APPENDICES

## Appendix -I

### Population of the Study

| Sr. No. | University Name | Teacher Educators | Prospective Teachers |
|---|---|---|---|
| 1 | International Islamic University Islamabad (IIUI) | 21 | 744 |
| 2 | National University Of Modern Languages, Islamabad (NUML) | 23 | 900 |
| 3 | Al-Hamd Islamic University, Islamabad | 5 | 47 |
| 4 | Preston University, Kohat, Islamabad | 5 | 23 |
| 5 | Federal College of Education Islamabad (affiliated with University of Punjab, Lahore) | 8 | 544 |
| 6 | *Quaid-e-Azam Academy for Educational Development Islamabad* (affiliated with Fatima Jinnah Women University, Rawalpindi) | 12 | 35 |
| Total | 6 | 74 | 2293 |

**Appendix -II**

## Target Population of the Study

| Sr. No. | University Name | Teacher Educators | Prospective Teachers |
|---|---|---|---|
| 1 | International Islamic University Islamabad (IIUI) | 4 | 14 |
| 2 | National University Of Modern Languages, Islamabad (NUML) | 4 | 29 |
| 3 | Federal College of Education Islamabad | 6 | 61 |
| 4 | Qauid-*e-Azam Academy for Educational Development* Islamabad | 5 | 13 |
| Total | 4 | 19 | 117 |

## Appendix-III

The list of B.Ed (Hons) Elementary (4 year teacher education program) curriculum courses for content analysis

1. **Compulsory courses**

Functional English I

English II (Communication Skills)

English III (Technical Writing and Presentation Skills)

Computer Literacy

General Mathematics

Pakistan Studies

2. **Foundation courses**

Child Development

General Methods of Teaching

Classroom Management

Classroom Assessment

School Community and Teaching

Foundations of Education

Curriculum Development

Educational Psychology

3. **Professional courses**

Teaching Literacy Skills

Instructional and Communication Technology (ICT) in Education

Teaching of Mathematics

Teaching English

Teaching of Social Studies

Contemporary Issues and Trends in Education

Comparative Education

Introduction to Guidance and Counseling

Research Methods in Education

School Management

Test Development and Evaluation

Research Project

**4. Pedagogical Courses**

Teaching of Mathematics (Pedagogy)

Teaching English (Pedagogy)

Teaching of General Science (Pedagogy)

Teaching of Social Studies (Pedagogy)

Teaching Practicum I & II

**Appendix-IV**

# Data Collection Permission Letter

**INTERNATIONAL ISLAMIC UNIVERSITY ISLAMABAD-PAKISTAN**

**FACULTY OF EDUCATION**

**(Female Campus)**

**P.O.BOX.1243 Telegram. ALJAMIA Telex. %4068 IIU PK, Tel: 051- 9258008**

Dated: 2nd October, 2023

## TO WHOM IT MAY CONCERN

It is stated that **Ms. Huma Kausar** (Regd No. 158-FSS/PHDEDU/F19) student of PhD. Education, Faculty of Education, IIUI is working on thesis titled "**Analyzing Values and Pedagogical Skills in Pre-Service Teacher Education of Pakistan with Reference to the Teacher Education Model for the 21st Century**". For this purpose she needs to collect data from the following respondent at your department:

Classroom observations of teacher educators who are teaching 5th and 6th semester B.Ed. elementary four years teacher education program.
Questionnaire from students of 5th and 6th semester B. Ed. Elementary program

It is therefore requested to facilitate her in this regard. The collected information will only be used for research purpose.

Your cooperation shall be highly acknowledged

Best regards

Supervisor: _____

**Dr. Fouzia Ajmal**

**Assistant Professor**

**Department of Teacher Education**

**Faculty of Education**

**International Islamic University Islamabad**

**Appendix-V**

## Questionnaire for Prospective Teachers

### Purpose Statement

This study is intended to look upon the effectiveness of existing B.Ed. (Hons) elementary 4 years teacher education program to incorporate 21st-century values and pedagogical skills among prospective teachers keeping in view the Teacher Education Model for the 21st century. You are requested to fill this questionnaire in this regard, which will take your 5 to 10 minutes. It is ensured that collected data will be kept confidential and only used for research purposes.

### Demographic Information

Name (Optional): _____ Semester: _____

Gender: _____ Name of Institute: _____

Please tick the most appropriate response from following options.

| Not at all =1 | Moderate extent =2 | Fully extent =3 |
|---|---|---|

| Sr. No | Items | 1 | 2 | 3 |
|---|---|---|---|---|
| | **Learner Centered Values**<br>To what extent the B.Ed. (Hons) elementary teacher education program is successful to develop the following learner centered values of 21st century teaching in you? Rate the following values. | | | |
| 1 | Empathy (understand and care about feelings and emotions of students) | | | |
| 2 | Believe that all students have the diverse abilities of learning | | | |
| 3 | Believe that all students have the capacity to learn and meet the learning expectations | | | |
| 4 | Self-commitment to nurture the desired potential of all students | | | |
| | **Teacher Identity**<br>To what extent the B.Ed. (Hons) elementary teacher education program is successful to develop the values of teacher identity in you? Rate the following values. | | | |
| 1 | Aims to meet the higher standards of teaching profession | | | |
| 2 | Investigative nature to explore the new ideas. | | | |
| 3 | Quest for learning (ability to guide and assist students by customizing instructions to tailor the students learning styles) | | | |
| 4 | Self-commitment to improve personal abilities | | | |
| 5 | Self-commitment to improve professional abilities | | | |
| 6 | Passion to become an effective teacher | | | |

| | | | | |
|---|---|---|---|---|
| 7 | Carefulness to adhere institutional ethical code of conduct | | | |
| 8 | Commitment to Professional Development (gaining skills through continuing education and training to advance your career) | | | |
| **Service to the Profession and Community**<br>To what extent the B.Ed. (Hons) elementary teacher education program is successful to develop the following values related to service to the profession and community in you? Rate the following values. | | | | |
| 1 | Urge to become a better practitioner to benefit the teaching community | | | |
| 2 | Active participation in collaborative learning practices to foster the teamwork in teaching profession | | | |
| 3 | Commitment to become reflective practitioner by providing the internship/ Apprenticeship opportunity (practicum period to gain the practical training of planning, designing and delivery of skills) | | | |
| 4 | Mentorship Skills (ability to give constructive feedback) | | | |
| 5 | Social responsibility and engagement of teachers towards society | | | |
| 6 | Stewardship (ability to supervise and forefront the group of students) | | | |
| **Pedagogical Skills of 21st Century**<br>To what extent the B.Ed. (Hons) elementary teacher education program is successful to developing the following 21st century Pedagogical Skills in you? Rate the following pedagogical skills. | | | | |
| 1 | Reflective teaching skills | | | |
| 2 | Creativity | | | |
| 3 | Resilience | | | |
| 4 | Problem solving skills | | | |
| 5 | Critical thinking skills | | | |
| 6 | Ability of self-motivation and to motivate others | | | |
| 7 | Pedagogical skills to cope with instructional challenges | | | |
| 8 | Pedagogical skills to implement modern pedagogies | | | |
| 9 | Skills to develop positive and interactive learning environment for learners | | | |
| 10 | People management skills (Skills to interact and coordinate effectively with colleagues) | | | |
| 11 | Skills to maintain class discipline | | | |
| 12 | Skills to manage learning resources | | | |
| 13 | Administrative and management skills | | | |
| 14 | Verbal communication skills | | | |
| 15 | Non-verbal communication skills | | | |
| 16 | Facilitative skills (provide guidance and facilitation to | | | |

| | | | | |
|---|---|---|---|---|
| | maximize the learning process) | | | |
| 17 | Technological skills to utilize technology as teaching and learning tool effectively for professional growth | | | |
| 18 | Innovation and Entrepreneurship skills (creation and utilization or putting new ideas into action to maximize the teaching and learning process) | | | |
| 19 | Social intelligence (ability to interact and build connections with teachers and colleagues) | | | |
| 20 | Emotional intelligence (ability to manage your own emotions and emotions of others in any learning situation without distracting the learners) | | | |

**Thank you So Much for Your Participation in this Research**

**Appendix-VI**

# Classroom Observation Sheet

**Demographic Information**

Name of Institute:_____ Program: _____
Semester: _____ Course: _____
Time Duration: _____ Class Size:_____
Observation Setting:_____

| Not at all =1 | Moderate extent =2 | Fully extent =3 |
|---|---|---|

| Sr. No | **Items** | 1 | 2 | 3 |
|---|---|---|---|---|
| | **21st Century Teaching Values** | | | |
| 1. | To what extent teacher educators carry out the following learner centered values during teaching: | | | |
| i. | Empathy | | | |
| ii. | Believe in diversity of learners | | | |
| iii. | All learners' have the ability to learn | | | |
| iv. | Efforts to design the exclusive learning environment to nurture the potential in each learner | | | |
| 2. | To what extent teacher educators play their role in developing the sense of identity among prospective teachers to carry out the following activities: | | | |
| i. | Design teaching activities to meet the high standards of teaching | | | |
| ii. | Inquiry based learning | | | |
| iii. | Guide and assist students by customizing instructions to maximize the students learning | | | |
| iv. | Encourage and guide students for self-commitment to improve their personal abilities | | | |
| v. | Encourage and guide students for self -commitment to improve their professional abilities | | | |
| vi. | Interactive and joyful learning environment to develop passion among students towards teaching profession (open discussion, role paly activities, sharing success stories) | | | |
| vii. | Building of adaptive and resilient capacity among students by providing challenging situations | | | |
| viii. | Ethical code of conduct (moral and ethically conversation or activities) | | | |
| ix. | Commitment to Professional Development (gaining skills through continuing education and training to advance your career) | | | |
| x. | Teach and show the respect and dignity for teaching profession | | | |
| 3. | To what extent the teacher educators practice the following teaching strategies to develop the professional commitment towards profession and community among prospective teachers: | | | |
| i. | Collaborative learning practices | | | |
| ii. | Prepare for the role of stewardship (ability to supervise and | | | |

| | | | | |
|---|---|---|---|---|
| | forefront the group of students) | | | |
| iii. | Engaging learners in social and learning responsibility | | | |
| **21st Century Pedagogical Skills** | | | | |
| 4. | To what extent teacher educators are focusing to strengthen the following 21st-century pedagogical skills among prospective teachers: | | | |
| i. | Practice of reflective teaching | | | |
| ii. | Creative thinking practices (brainstorming, metacognition activities) | | | |
| iii. | Resilience building exercises | | | |
| iv. | Problem based learning exercises to develop the problem solving skills | | | |
| v. | Development of critical thinking skills by practicing open discussion sessions, teaching reasoning, and encouraging divers perspectives. | | | |
| vi. | Encouraging for self-motivation and to motivate others | | | |
| vii. | Encouraging self-management practices | | | |
| viii. | Class room management and discipline | | | |
| ix. | Design and practices to improve the verbal communication skills | | | |
| x. | Design and practices to improve the non-verbal communication skills | | | |
| xi. | Utilization of technology and different media resources | | | |
| xii. | Practice of innovation and entrepreneurial skills | | | |
| xiii. | Assigning tasks to develop social and emotional skills among prospective teachers | | | |

**Appendix-VII**

## Code Book for Curriculum Document Analysis

| Theme | Sub Themes | Definition | Examples | Coding Rules |
|---|---|---|---|---|
| **Learner Centered Values (V1)** | Empathy | Empathy is an ability of a teacher to understand students' social and emotional situations, both negative and positive emotions. It involves concerns and care for students through behaviour communication. | "Develop empathy and consideration for others" (Child development, p.60) | All of the related words, synonyms and text reflected in SLOs, content, teaching and assessment strategies will be observed in the B.Ed (Hons) elementary teacher education curriculum documents of respective subjects. Coders have to keep in mind that the coded text should reflect the prospective change in prospective teachers' cognitive, behavioral and competencies with regards to any aspects of teaching 21st century teaching values and pedagogical skills which are determined into various sub themes. |

| | | | | |
|---|---|---|---|---|
| | Valuing of diversity | Valuing children's diversity refers to understanding and appreciating the various social and individual differences, including ethnicity, social and economic differences, geographical and religious differences, gender differences, and differences in student's age, physical, mental and learning abilities. | "Divide the class into small groups. (You may want to mix groups according to background and experience, so that you have maximum diversity in the groups.)" ( School Management,p.34) | Same as above |
| | Belief that all students can learn | It refers to the development of the belief that every student can learn and set high expectations for students. Students learn best in a welcoming atmosphere, and when they have some control of their educational experiences to make the learning process more engaging and meaningful. | "Self-efficacy is a person's belief in his or her ability to succeed in a particular situation." (Child Development,p.15) | Same as above |
| | Nurturing the potential in each learner | Keeping in view the diversity of learning, to provide individualized and active learning to nurture the needs of each learner. | "To change such views, it is important to help teachers re-evaluate their position on multigrade teaching so that they see it as a potential to teach students differently." (Classroom Management, p.52) | Same as above |
| **Teacher Identity (V2)** | Aims for higher standards | Development of self-commitment to improve the quality of teaching and setting goals to achieve the higher standards of teaching. | "The assessment standard in the National Professional Standards for Teachers in Pakistan" (Classroom Assessment, p.32) | Same as above |
| | Enquiring nature | Development of an inquiring nature is | "Encourage and promote inquiry and a constructive | Same as above |

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| | | defined as exploring new ideas, encountering the facts, developing inquiry skills, nurturing the inquiry mindset, attitudes and habits. | critical approach in<br>teaching practice"(Teaching Social Studies, p.10) | |
| | Quest for learning | Quest for learning is an ability to guide and assist students by customizing instructions to tailor the students' learning styles or maximize the students' engagement. | "Apply learning principles to their teaching to help students maximize their<br>Learning" (Educational Psychology, p.19) | Same as above |
| | Passionate | Developments of enthusiasm among learners to become effective practitioners. | "Give each class member an index card. When everyone has one, give them less than<br>a minute to write on the card one thing about teaching that they most want to learn." (General Methods of Teaching, p.27) | Same as above |
| | Strive to improve | Development of self-commitment and awareness to improve personal and professional abilities. | "Analyze the methods of teaching, the ways of learning, and the ways of grooming" (Foundations of Education, p.17) | Same as above |
| | Adaptive and resilient | Ability to adapt the change and cope with instructional challenges. | "Understand the challenges you are likely to face as a teacher in a classroom, and offer some strategies and examples of<br>best practices to deal with these." (Classroom Management, p. 17) | Same as above |
| | Ethical | Development of moral values and institutional ethical code of conduct. | "These values should foster respect<br>for each other and each other's property, opinions, beliefs, and cultures." (Classroom Management, p.25) | Same as above |
| | Professionalism | Ability to perform the role as a responsible teacher, meeting the | "Deficiency of professional teachers<br>One of the chronic threats to our education system | Same as above |

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| | | certain national professional standards for teachers in Pakistan | is the shortage of teachers, in part because merit criteria are ignored." (Foundations of Education, p. 88) | |
| **Service to the Profession & Community (V3)** | Collaborative learning and practice | Students working together in groups and team to achieve shared academic goals, enhancing their understanding through discussions and cooperation. | "Cooperative working relationships are central examples of cooperative working relationships" (General Methods of Teaching, p. 15) | Same as above |
| | Building apprenticeship and mentorship | A commitment to become a reflective practitioner by offering the internship/ apprenticeship opportunity (practicum period to gain practical training in planning, designing and delivery of skills). Mentorship skills involve the ability to provide guidance and constructive feedback to help others develop their professional skills. | "Recitation of scripture and learning trades through apprenticeships" (Classroom Management, p.44) | Same as above |
| | Social responsibility and engagement | By engaging individuals in social tasks to develop the sense of social responsibility among them as teachers and members of community. | "Citizens in a democratic society have a fundamental responsibility to engage in public life. Teachers and students have an obligation to promote equality, justice, respect for others, and democratic participation" (Teaching Social Studies, p.17) | Same as above |
| | Stewardship | Stewardship is an ability to supervise and forefront/ lead the group of students and organization. | "Before the activities you should encourage them in their leadership roles and stress the importance of their work for their teammates" (Classroom Management, p.49) | Same as above |

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| **21st Century Pedagogical Skills** | Reflective skills | Ability to think critically or analyze one's own experiences to improve their skills for effective teaching. | "To act as self-reflective professionals and independent learners" (Research Project, p.13) | Same as above |
| | Thinking dispositions | Thinking dispositions are the development of self-motivation, critical thinking skills, problem solving skills, creative thinking, and resilience. | "Teaching students to think critically about information and how to make informed decisions that affect their lives." (General Mathematics, p53) | Same as above |
| | Pedagogical skills | Competencies to plan, design, implement the instructional strategies to strengthen the teaching and learning process. | "Apply techniques and methods based on your experience and knowledge.<br>The techniques outlined below are not exclusive and, therefore, other effective techniques and methods can be used. Suggested techniques include the following:<br>• Interactive lectures<br>• Discussions<br>• Group and individual work sessions<br>• Individual reading and self-assessment exercises" (Foundations of Education, 64) | Same as above |
| | People management skills | The abilities and competencies that educators need to effectively interact with students, colleagues, and parents include classroom discipline, time management, and managing the disruptive behavior to create an organized and functional learning environment. | "Students are clear about the teacher's expectations regarding classroom rules and behavior". (Classroom Management, p.20)<br><br>"Team leadership and self-managed teams" (School Management, p.25) | Same as above |
| | Self-management | Proactively manage one's personal | "Tend to develop independent work habits and | Same as above |

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| | skills | and professional life with confidence and aim to achieve the goals. These personal abilities include self-discipline, stress and time management, to regulate ones behavior to maintain well-being and performance. | self-study skills." (Classroom Management, p.33) | |
| | Administrative and management skills | These include the managerial traits required for setting goals, planning, decision-making, managing resources for teaching and learning, maintaining records, organizing educational events, and understanding and adhere school policies and budgeting. | "Choose any subject/discipline and class, and create a classroom management plan.<br>Your plan should highlight the following:<br>• details of your classroom management philosophy (e.g. your ideas about what a well-managed classroom is, what it should look and feel like)<br>• the physical layout of your classroom (Explain why you chose this layout and whether you will vary it during the day or week.)<br>• rules and student responsibilities<br>• routines/rituals and procedures" (Classroom Management, p.15) | |
| | Communication skills | Include verbal and non-verbal communication skills such as listening, speaking, reading and writing to transmit and understand the knowledge, information messages, and sharing the kind gesture. | "Invite people to functions by sending letters or invitation cards and through oral communication" (Functional English I, p.36) | Same as above |
| | Facilitative Skills | Facilitative skills include abilities to guide, assist students to build a | The multigrade teacher's role is to be able to motivate students to learn and to | |

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| | | supportive and engaging learning environment, where students feel comfortable and motivated. | guide them through their learning materials as a facilitator on a group level and on a one-to-one basis. (Classroom Management, p. 53) | |
| | Technological skills | Technological skills to utilize different tools, learning webs/platforms, software and online social and instructional communities, digital content creation, data management tools and online communication forums effectively for teaching and learning. | "Connect the topic back to the 'Most commonly used computer applications' and ask the learners about the main points that were covered during that session." (Computer Literacy, p.33) | Same as above |
| | Innovative and entrepreneurship skills | Creation and utilization or putting new ideas into action to maximize the teaching and learning process | "Creativity in the classroom" (Educational Psychology, p. 40) | Same as above |
| | Social and emotional intelligence | Ability to aware one's own emotions and emotions of others in any learning situation without distracting the learners, and manage this information to maintain the relationship. | "Social and emotional development I: Erikson and development of self-identity" (Child Development, p.12) | Same as above |