



Sources of Teacher Educators' Professional Craft Knowledge: Ways and Processes

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Abstract: Research on teacher educators' professional craft knowledge portrays a grim picture across the world. The question of what knowledge teacher educators have and how they acquire it, becomes a core question for researchers aiming to explore various areas of teacher education. In this study, we employed a qualitative research approach and interviewed fifteen teacher educators from university teaching departments and teacher education colleges in the northern Pakistan to explore sources of professional craft knowledge of teacher educators. We initially transcribed the interview data and followed set rules of qualitative approaches for the analysis. Findings solicited that teacher educators' professional craft knowledge is tacit and personal. Learning from the experiences as classroom teachers (in their earlier career), reflective practices, engagement in research work, and participation in various professional networking, emerged as key sources of teacher educators' professional knowledge. Findings have key implications for policy making in teacher education in Pakistan and elsewhere in alike setting.

Keywords: Learning by doing, Professional craft knowledge, Tacit knowledge, Teacher education, Teacher educators

I. INTRODUCTION

In the recent studies, various aspects of teacher educators' knowledge landscapes have been highlighted (Khan, 2011; Loughran & Menter, 2018; Rowan, Brownlee & Ryan, 2019); however, the notion of teacher educators' craft knowledge is yet to be defined. There have been studies on school teachers' craft knowledge (Brown & McIntyre, 1993); therefore, it can provide some basis for the development of the body of teacher educators' craft knowledge. According to Brown and McIntyre (1993) teachers' professional craft knowledge is:

"That part of their [teachers'] professional knowledge, which teachers acquire primarily through their practical experiences in the classroom rather than their formal training, which guides their day to day actions in classrooms, which is for the most parts not articulated in words and which is brought to bear spontaneously, routinely and sometimes unconsciously on their teaching". (p.17)

Studies have shown that teachers' professional craft knowledge is contextualized, that is, it is different for different contexts. Any two teachers teaching the same subjects, are likely to have different professional craft knowledge. Likewise, teacher educators' professional craft knowledge is generally tacit and private. It can only become explicit when teacher educators begin to share their experience of teaching with each other. Peer observation of classroom teaching and post observation discussions become instrumental to make the tacit knowledge explicit and public.

Teacher educators generally begin to develop their knowledge about the courses they teach, about the organisation where they work, and about the larger society. It is a gradual process based on individuals' interactions with human beings and the surroundings. As practitioners, teacher educators begin to develop the content and ways of teacher education. In doing so, they begin to do and learn the pedagogies, which they had not been doing earlier (Elijah, 1996; Khan, 2009; Khan, 2011; Murray, 2005).

According to Kremer-Hayon and Zuzovsky (1995) teacher educators develop the repertoire of their knowledge in the process of their role learning. The process is reflective, gradual, and learning through trial and error. There are several approaches of teacher educators' learning and construction of their professional knowledge involving reflections, peer feedback, attending seminars and conferences, and research work (Smith, 2003).

As classrooms showcase complex environments where critical incidences or misconceptions are likely to arise any time, which need clarifications, explanation and appropriate representations. Therefore, if a teacher educator is not equipped with professional craft knowledge then it becomes difficult to cope up

with such situations. Hence, teacher educators' professional craft knowledge brings immediacy and smoothness in the teaching.

Nevertheless, the questions are: what is teacher educators' professional craft knowledge? and what repertoire of knowledge do teacher educators develop over the period of time? Thus, the professional craft knowledge of teacher educators is still in its infancy stage and there is a lot to do in this regard. This research article comes from a qualitative research study aiming to make sense and explore the professional craft knowledge of teacher educators in northern Pakistan. The article highlights some primary foundations for the development of literature on the very notion of teacher educators' knowledge.

II. LITERATURE REVIEW

Educational researches have been carried out to observe the obvious classroom practices, what the children and the teachers are doing or how the learning process is going on in a particular class. Based on those obvious classroom observations, researchers draw conclusion or generalize the findings (Brown & McIntyre, 1993; Khan, 2009; Kremer-Hayon and Zuzovsky, 1995). However, it is vital to know what is there in the teachers' minds, or on what basis they take their decisions. Thus knowing about what is there in the teachers' mind, enables us to access the craft knowledge of the teachers.

It is a fact that teacher educators' knowledge is tacit and their knowledge base is underdeveloped. Their knowledge is nested in their practices in terms of what they do and how they do. A study carried out by Khan (2011) provides a basic framework for teacher educators' practices. According to him, teacher educators' practices overlap both school and university contexts. Thus, a teacher educator needs to know about schooling and about the academic work at the higher education. Teacher educators, upon assuming their roles feel that they need to enhance their knowledge; as the exiting repertoire of knowledge was not enough for their role as teacher educators. It is because their role demands expertise knowledge about schooling as well as about academic work at the higher education (Khan, 2011; Murray, 2005; Murray and Male, 2005). As a result, they need to learn certain discourses of academics and develop skills to carry out research work. Therefore, the teacher educators' subject knowledge encompasses knowledge of schooling that they had developed based on their experiences. Such knowledge is called a 'tacit knowledge' developed on the bases of reflections, personal beliefs, and perceptions, and based on the engagement in the field. That means teacher educators' subject knowledge is actually their pedagogical knowledge. As they are involved in teacher education through their personal pedagogical practices (Keazer & Maher, 2021; Murray, 2008). Therefore, their body of knowledge is situational and contextual (Todd, 2002).

Teacher educators not only need to know how to conduct research studies but also develop the skills to put the research findings into practice (Cochran-Smith, 2005). Their body of knowledge encompasses both procedural and declarative knowledge. They need to know about research, be able to do research, and also be able to disseminate to the public (Khan & Butt, 2018). They need to know about schooling in terms of how children learn, what is schooling, what is a curriculum and how to develop and enact it, what is assessment and how to assess the students' learning in schools. At the same time, they also need to know the academic work, course development, assessment practices, community services, and research and dissemination in the context of higher education.

John (2002) came up with four diminutions of teacher educators' knowledge including intentionality, ability of practical actions, the tacit subject matter knowledge, and knowledge about ethical concerns. He further stated that ethical dimension includes pluralistic ethic, professional ethic and ethics of caring. Researchers have identified five competencies of teacher educators which include: content, pedagogical, organisational, communicative, and personal growth competencies (Khan, Batool & Deeba, 2021; Koster & Dengerink, 2001). These competencies are generic and may not satisfy the needs of various types of teacher educators including school-based, university-based, in-service or preservice teacher educators. Such categories are likely to have different competencies related to the nature of their roles.

Cole's (1999) found that teacher educators spend 60% on teaching, 20% on research and scholarship, and another 20% on administrative work. She found that the nature of the institutions, availability of resources, leadership motives and culture of the institutions are likely to influence what the teacher educators should do and thus what they should know.

In addition, teacher educators are expected to have knowledge of research and be able to carry out research work (Cochran-Smith, 2005; Elijah, 1996; Murray, 2005). They can carry out a variety of research work including the self-study research (Bashiruddin, 2006; Delamont, Fitz & Pugsley, 2005; Kitchen, 2005; Zeichner, 2005). The self-study research enables them to make sense of their roles and nature of work, be able to abreast with the contemporary knowledge, and bring about changes in their practices (Hordvik, MacPhail, & Ronglan, 2020; Meihami, 2021; Sahoo & Panda, 2021).

Since teacher educators generally move to teacher education colleges from the school contexts; therefore, in their transition they face challenges and dilemmas and face a reality shock (Khan, 2011; Murray, 2005; Murray & Male, 2005). With the passage of time, they develop their professional craft knowledge, which is tacit and personal. Thus, the tacit knowledge developed on the basis of personal experiences makes the professional craft knowledge of the teacher educators.

III. METHODOLOGY

We employed a qualitative approach to carry out the study. The characteristics of qualitative approach including: the systematic nature, openness, researcher being the data generator, naturalistic viewpoint, and the focus on understanding (Rossman & Rallis, 1998; Denzin, 1989) enabled us to make sense of the phenomenon.

We used purposive sampling technique to select participants for the study. Thus, we selected participants who were involved in the in-service teacher education in the university departments and colleges of education in the northern part of Pakistan. A total fifteen participants voluntarily participated in the study. For the data collection purposes, we employed interview method with open-ended questions (Rossman & Rallis, 1998). We engaged the participants to a reflective dialogue whereby enabling them to think, reflect and share their views about their professional craft knowledge. The open-ended phenomenological questions enabled us to generate in-depth data for the study. All the interviews were audio recorded with the permission of the participants, and transcribed for the analysis purposes. We interviewed all the participants once for about 45 to 60 minutes' durations. In some case, we also conducted follow-up interviews on the phone when we needed some additional information. This enabled us to clarify confusions and get the actual essence of the interviews.

We used a thematic approach to analyse the data. The analysis began with preparing the data; thus, we initially transcribed the audio recordings. Listening to the audio records during the transcribing enabled us to identify areas that needed further clarifications. Thus, we also went back to the respective research for further clarifications. Once the transcripts were ready, we began coding them under various merging themes. The themes were further categorised into sub themes. The analysis remained a to-and-fro process, where we were running between the data and the merging themes in connection with cross verifications. Our own experience as teacher educators were also key for triangulation of the data.

We carefully followed the research ethics throughout the study (Darlington & Scott 2002; Denzin, 1989; Rossman & Rallis, 1998). For instance, we got informed consents, addressed issues of any misrepresentation through cross validation of the data. Likewise, we strictly followed privacy and confidentiality concerns and maintained the accuracy through cross verifications and consulting the primary sources for clarifications.

IV. FINDINGS

Findings showed that experienced teacher educators develop their professional craft knowledge based on their experiences as prospective and classroom teachers, based on reflections on their practices, and their engagement with research work as academics. Findings also reinforced the tastiness of the craft knowledge, which becomes explicit when individuals began to share with others.

Findings have been presented under the various themes below:

Earlier experience as classroom and prospective teachers

As discussed earlier, teacher educators mostly come from schools; as a result, they possess the repertoire of knowledge as classroom teachers. In addition, their own experiences as prospective teacher also emerged as a source for learning as teacher educators.

A teacher educator reflected, "my indirect or unconscious learning as a teacher educator as a prospective teacher in my M.Ed. program. As a prospective teacher, I learnt how our teachers [teacher Educators] were teaching, observing lesson during practicum, and giving feedback." (interview extract)

Likewise, another teacher highlighted and mentioned:

My learning as a teacher educator began when I was doing my B.Ed. and later on during my classroom teaching in a school. My role as a teacher educator is to develop effective teachers. Thus, the experiential knowledge developed as a prospective teacher as well as a classroom teacher becomes the key element of my craft knowledge (interview extract).

Reflecting on development of professional knowledge as a classroom teacher, a teacher educator highlighted:

Our knowledge encompasses knowledge as a school teacher in terms of how children learn, what is a curriculum like, how to assess the students etc. Hence, all this knowledge was practically developed during the days when I was a classroom teacher. (interview extract)

It was found that teacher educators' knowledge was experiential and nested in their practices pre-induction and post-induction period. Therefore, the experiential and tacit knowledge developed as a classroom teacher, ultimately became their part of the repertoire of knowledge as a teacher educator. a teacher educator explained:

The knowledge as a classroom teacher always helps me as a teacher educator. It is a fact that there is no any particular prescribed course of studies to become a teacher educator. Therefore, our knowledge is experiential starting from our own schooling, teaching and current practices. (interview extract)

In addition, learning from their own teacher educators, considering them as role models, also enabled the teacher educators to develop their professional knowledge during their pre-service teacher education programs. A teacher educator, for example, explained, "One of my teacher educators was my role model, I learnt from him a great deal of knowledge about teacher education." (interview extract).

Given the nature of their transition into the role of teacher educators, individuals already have developed a great deal of professional craft knowledge about their roles as teacher educators. Since, most of the teacher educators move into their role from their roles as classroom teachers; therefore, the knowledge developed in the schools, becomes part of their knowledge as teacher educators. It is a fact that knowledge of teacher educators involve knowledge about schooling, about curriculum, children's learning and assessment as well as research and dissemination; therefore, the experiential knowledge as a classroom teacher was an essential element of their knowledge as teacher educators.

Learning by doing and reflections on routine practices

Reflecting on the routine practices also emerged as a source of developing the professional craft knowledge of teacher educators. A research participant mentions, "Most of my learning the craft of my knowledge is based on my reflections. We as human beings consciously and unconsciously reflect on our actions. These reflections help us develop the required knowledge for our profession." The tastiness of teacher educators' knowledge required reflection as a key toll for learning. A participant highlighted, "Teacher educators' knowledge seems to be personal and implicit based on our reflections on the actions. We develop the personal knowledge through our actions and experience. Reflections help us develop the knowledge."

It came up from the analysis that given the unavailability of prescribed knowledge for teacher educators, reflection was the key source for developing professional knowledge on the field. She expressed, "Unlike other professions, I never attended a specialized program to become a teacher educator. Thus, most of my knowledge about teaching was developed in the school and in the department through reflections on my experiences." Another participant echoed the same and mentioned, "It is interesting to know that teacher educators do not seem to have any set of developed standards for their knowledge. However, studies on this are underway. Thus, at the moment, learning from personal reflections seems to be the best source."

It surfaced that the exertional nature of knowledge of teacher educators needed reflective practice as a key learning source. A participant, in this regard explained, "I can say that my knowledge is experiential, developed based on my reflections. I, as a teacher educator, reflect during teaching, after the teaching and during my engagement in various activities in the department." The importance of reflection in the professional craft knowledge has also convinced the teacher educators to further explore the concept through empirical studies. a participant said, "I am currently working on a paper exploring the types of reflections of teacher educators. It seems that most of our learning is from reflections."

During the routine practices, teacher educators come across different situations whereby they reflect on those experiences. They try to solve issues through different approaches based on their reflections. Likewise, during planning, teaching, discussing with colleagues, and attending various meetings, seminars and conferences they become engaged in reflections and thus establishing their repertoire of the experiences. This professional craft knowledge comes into play when the teacher educators come across certain situations. Although the teacher educators take the routine events for granted, yet this knowledge seems to be very powerful and overarching.

Engagement with research work

Learning from research engagement also surfaced from the analysis. It was found that teacher educators, mostly in the university departments, were engaged in the various types of small scale and large research projects. They mentioned learning by doing research was a key component of their professional craft knowledge.

Analysis of the data showed that as academics in the university departments or in the higher education institutions, research was a core component of teacher educators' work. A participant mentioned:

It is a global phenomenon that comparatively faculty members of education have lesser publications. There are many reasons behind it. Now, the HEC has considered publication as the key element for promotions. Thus, it is like do or die. Nevertheless, research has expanded my knowledge to a greater extent. (interview extract)

Another participant also expressed the same when he said:

As a classroom teacher in the school, I never conducted research studies. However, upon moving to the College of Education, there was a demand to conduct research work. So, I had to learn conducting research. Learning about research and doing research also enhanced my knowledge as a teacher educator. (interview extract)

As a result, research became an important source of developing the professional craft knowledge. A research participant, for example, highlighted:

In the university, it is mandatory to conduct research and disseminate it. Thus, as part of the university faculty, I conduct research work. I have noticed that involvement of research activities is key element of my learning and knowledge repertoire as a teacher educator. (interview extract)

The research participants explained how the research work helped them learning the professional craft knowledge. A participant mentioned,

“Doing research becomes instrumental to a multipronged learning in terms of reading current literature, analysis of data, conclusion drawing and dissemination. Thus, a huge learning opportunity!” Another participant expressed, “Due to the newly introduced BS programs in our colleges, now it is also mandatory for us to conduct research and supervise students’ these work. I have noticed that due to engagement in research work, my learning has expanded manifolds.”

The analysis also exhibited that teacher educators not only conducted researches, but also reviewed articles from various research journals. A participant mentioned, “As part of university faculty, I do research and also review research papers for various journals. This has been a great source of learning for me.” Analysis also highlighted the engagement of teacher educators in terms of thesis supervision. This also became instrumental for the development of professional craft knowledge. A participant expressed, “Engagement in the research work and supervision of theses enables me to understand about the new developments in my filed. I have realised that research is a multipronged approach to expand our knowledge span.” The importance of research work was also seen through the importance of developing informed knowledge. A participant highlighted, “Research work helps us develop an informed knowledge. It also helps us rectify our misconceptions and stereotypes.”

To conclude, as part of the higher education faculty, the role of teacher educators is also seen from the research perspectives. They are supposed to conduct research and disseminate the findings. As researchers, they conduct research, review research articles, and supervise theses work. As a result of the engagement in the research work, teacher educators saw its importance in terms of a key source for developing professional knowledge.

Learning from professional network

Professional network in terms of membership of various professional for attending seminars, conferences and colloquia also came up as a source of developing professional craft knowledge.

Like the research work, becoming member of various professional communities and groups, also surfaced as a role of teacher educators, which in turn, became source of the development of the professional knowledge. A participant expressed, “as a university teacher, my job requires to become a member of a national, regional, and international communities of teacher educators. Through such opportunities, I enhance my learning about my profession.” Another participant mentioned, “I have attended a number of conferences and seminars, which have added to my knowledge about teaching to a great deal.”

Becoming member of various professional groups also enabled the teacher educators to interact with global counterparts and learn from them as peers. A participant mentioned:

I think, I cannot deny the importance of professional networking for my learning. This enables me to interact with my counterparts from all-around the world. I have attended various conferences and seminars, which have become sources of my learning. (interview extract)

Another participant reinforced the same and said, “since my university education, I have been member of some professional fora. I attend meetings and seminars arranged by them. I have met with some inspirational personalities in those fora who have inspired me by their professionalism.”

Becoming member of professional groups and attending conferences and seminars also enabled the teacher educators to present their work to a wider community across the globe. Such opportunities became instrumental to give confidence to the teacher educators about their work and to get feedback from experts. A participant explained, “Participation in seminars and conferences not only enables me to develop my

knowledge about my profession, but also enables me to share my experiences with the global communities and receive feedback.”

Teacher educators not only join various professional fora, but also encourage their students to establish learning forums. A participant mentioned, “Knowing the importance of professional fora, I have also encouraged my students to establish various fora and arrange seminars on various themes. In one of such seminars, I was one of the speakers. These are the ways for us to grow professionally.”

Thus, it is surfaced that teacher educators enhance their knowledge based on their engagement in various educational fora. Such fora provide them with opportunities to enhance their professional craft knowledge. As academics, teacher educators need to become members of various professional fora. These fora provide them with opportunities to attend conferences, seminars and colloquia, which become instrumental to learning and developing the professional knowledge.

V. DISCUSSION

From the analysis of the data, it came up that teacher educators' professional craft knowledge is tacit, personal, private, and situational. It develops over the period of time and brings immediacy in the classrooms. As a result of the professional craft knowledge, teacher educators can make quick decisions and make their lessons effective and understandable. Such knowledge is developed over the years based on experiences (Brown & McIntyre 1993).

Four sources of teacher educators' professional craft knowledge emerged as a result of this study. Those elements include the following:

- Earlier experiences as perspective teachers and classroom teachers;
- Learning by doing and reflective practice
- Engagement in research work; and
- Becoming member of professional network.

It was surfaced that the research participants developed their knowledge-base through various ways. These findings also echo those found by Smith (2003) in terms of learning from experiences. We found that teacher educators' development of knowledge about teacher education begins right from their own attendance of teacher education programs as prospective teachers through entry into the profession and continuation of their jobs as teacher educators. Thus, through reflections and interactions, teacher educators develop their knowledge about the pedagogy of teacher education.

As highlighted earlier, teacher educators' knowledge was found as tacit, personal, and experiential (Murray, 2005; Murray & Male, 2005). This development of knowledge seems to be a continuous process through multiple means and sources. The process of teacher educators' professional knowledge development seems to be in the classroom, institutional, local, national, and international contexts. Thus, teacher educators seem to develop their craft knowledge through their personal efforts (Khan, 2009). Their knowledge base seems to be situational, contextualised, and personal (Todd, 2002).

The analysis showed that due to the nature of their work both at the higher education and school level teacher educators' craft knowledge involves knowledge about schooling in terms of how children learn, as well as knowledge of teaching at higher education in terms of adult learning, andragogy, and research work. Other researchers also found that teacher educators' knowledge encompassed both school and university contexts (Murray, 2005; Murray & Male, 2005; Swennen, Volman & Essen, 2008). In this regard, their knowledge about schooling seems to be nested in their earlier practices as school teachers.

In the absence of any particular knowledge-base for teacher educators' craft knowledge seems to be based on work-based learning (Khan, 2011, Murray, 2008). Such work-based learning is often informal and based on trial-and-error. Thus, the only ways for the development of professional craft knowledge involve learning from previous practices, learning from reflections, learning from research work, and learning from professional networking. In other words, teacher educators enhance their craft knowledge through learning by doing, learning by peer interactions, learning by research work, and learning from their participation in professional networks.

The teacher educators' professional craft knowledge grows along with their experiences. In other words, the more experiences the greater learning. As a result of the empirical learning, teacher educators develop expertise in teaching and research and fully grasp on the pedagogy of teacher education. Shulman (1987) argues that “At base; however, we believe that scholars and expert teachers are able to define, describe, and reproduce good teaching” (p. 12). Thus, the gradual and incremental knowledge of teaching about teaching makes the teacher educators as expert teachers.

Other researchers have also found that given their job requirements, teacher educators spend more time in schools than those of any other group of higher education faculty (Husen & Postlethwaite, 1994). Therefore, their work seems to be more operational and lesser on scholarly activities. For instance, teacher educators

tend to work in two different settings: a) in the higher education institutions and b) in schools during the prospective teachers' teaching practices (Khan, 2009; Maguire, 1994; Todd, 2002; Sahoo & Panda, 2021). Thus, their work encompasses teaching, research, and administrative services (Harrison & McKeon, 2008) as result having implications for their professional craft knowledge.

VI. CONCLUSIONS

Teacher educators' professional craft knowledge is the knowledge acquired through experiences. This knowledge increases with the increase in the experience and helps teacher educators to grow and develop professionally. Thus, competencies for teacher educators' knowledge can be developed considering the nature of their work nested in the school and university contexts (John, 2002).

The study has highlighted that teacher educators' practice is dual in nature: school and university based; therefore, giving breath and width to their professional craft knowledge. In this regard they develop their professional craft knowledge based on their earlier experiences as prospective or school teacher, their learning by doing and reflection on the practices as teacher educators, their involvement in research activities, and their participation in various professional networks.

VII. RECOMMENDATIONS

The following recommendations are suggested based on the findings of the study:

1. There is a need to further explore the parameters of teacher educators' knowledge through empirical studies. On the basis of the research findings, standards for teacher educators' knowledge may be defined.
2. Since, the teacher educators' craft knowledge is tacit and experiential; therefore, there is a need to explore what individuals need to know in order to become teacher educators.
3. Studies have shown that teacher educators' publications are comparatively lesser than those in other fields (Khan, 2009; Maguire, 1994). It could be due to the dual nature of their practices. It is; therefore, vital to provide platform for teacher educators to be research active. In this regard, professional trainings and relevant resources may be provided to teacher educators.
4. A close coordination between the university-based teacher educators and college-based teacher educators is a dire need in the country. Such collaborations will yield better results in terms of conducting and dissemination of research work.

REFERENCES

1. Bashiruddin, A. (2006). A Pakistani teacher educator's self-study of teaching self-study research. *Studying Teacher Education*, 2(2), 201 - 112.
2. Brown, S. & McIntyre, D. (1993). *Making sense of teaching*. Buckingham: Open University Press.
3. Cochran-Smith, M. (2005). The educators as researchers: Multiple perspectives. *Teaching and Teacher Education*. 21(2), 219 - 225.
4. Cole, A. L. (1999). Teacher educators and teacher education reform: Individual commitments, institutional realities. *Canadian Journal of Education*. 24(3), 281 - 295.
5. Darlington, Y., & Scott, D. (2002). *Qualitative research in practice: Stories from the field*. Buckingham: Open University Press.
6. Delamont, S., Fitz, J., & Pugsley, L. (2005). Teaching teachers - Studies into the expertise of teacher educators: An introduction to this theme issue (Editorial). *Teaching and Teacher Education, Special Issue*, 107 - 115.
7. Denzin, N. K. (1989). *Interpretive biography*. London: Sage Publications Inc.
8. Elijah, R. (1996). *Professional lives in context: Teacher educators' pedagogies*. Unpublished doctoral dissertation, University of Michigan, USA.
9. Harrison, J., & McKeon, F. (2008). The formal and situated learning of beginning teacher educators in England: Identifying characteristics for successful induction in the transition from workplace in schools to workplace in higher education. *European Journal of Teacher Education*, 31(2), 151 - 168.
10. Hordvik, M., MacPhail, A., & Ronglan, L. T. (2020). Developing a pedagogy of teacher education using self-study: A rhizomatic examination of negotiating learning and practice. *Teaching and Teacher Education*, 88, 1- 11.
11. Husen, T., & Postlethwaite, T. N. (1994). *The international encyclopedia of education* (2nd ed.). Oxford: Pergamon.

12. John, P. D. (2002). The teacher educator's experience: Case studies of practical professional knowledge. *Teaching and Teacher Education*, 18, 323 – 341.
13. Keazer, L. M., & Maher, E. M. (2021). Teacher educators: Finding relevant mathematics in our (their) lives learning with prospective teachers. *Networks: An Online Journal for Teacher Research*, 23(1), 1-21.
14. Khan, H. K. & Butt, M. N. (2018). Knowledge-based Language Teaching and its Implications on Teacher Education: Perceptions of Teacher Educators in Pakistan. *Journal of Humanities and Social Sciences*, 14(1), 33 – 51.
15. Khan, H. K. (2009). Becoming a teacher educator in public sector institutions in Pakistan: Stories from personal and professional lives. Unpublished Doctoral Dissertation submitted to the Aga Khan University, Institute for Educational Development, Karachi, Pakistan.
16. Khan, H. K. (2011). Becoming teacher educators in Pakistan: Voices from the Government Colleges of Education. *Journal of Education for Teaching*, 37(3), 325 - 335.
17. Khan, H. K., Batool, Y., & Deebea, F. (2021). Transforming perspective teachers' beliefs about teaching: What teacher educators do in a teacher education institution in Pakistan? *Sir Syed Journal of Education & Social Research*, 4(1), 545-554.
18. Kitchen, J. (2005). Looking backward, moving forward: Understanding my narrative as a teacher educator. *Studying Teacher Education*, 1(1), 17 – 30.
19. Koster, B., & Dengerink, J. (2001). Towards a professional standard for Dutch teacher educators. *European Journal of Teacher Education*, 24(3), 343 – 354.
20. Kremer-Hayon, L., & Zuzovsky, R. (1995). Themes, processes and trends in the professional development of teacher educators. In T. Russell & F. Korthagen (Eds.), *Teachers who teach teachers: Reflection of teacher education* (pp. 155 – 171). London: Falmer Press.
21. Loughran, J., & Menter, I. (2018). The essence of being a teacher educator and why it matters. *Asia-Pacific Journal of Teacher Education*, 47(3), 216–229.
22. Maguire, M. (1994). *The job of educating teachers*. Unpublished doctoral dissertation, Kings College, University of London.
23. Meihami, H. (2021). A narrative inquiry into Iranian EFL teacher educators' voice about challenges of CALL teacher education. *Teaching English with Technology*, 21(2), 92-111.
24. Murray, J. (2005). Readdressing the perspectives: New teacher educators and induction into higher education. *European Journal of Teacher Education*. 28(1), 67 – 85.
25. Murray, J. (2008). Teacher educators' induction into Higher Education: Work-based learning in the micro communities of teacher education. *European Journal of Teacher Education*, 31(2), 117 – 133.
26. Murray, J., & Male, T. (2005). Becoming a teacher educator: Evidences from the field. *Teaching and Teacher Education, Special Issue*, 125 – 142.
27. Rossman, G. B., & Rallis, S. (1998). *Learning in the field: An introduction to qualitative research*. Thousand Oaks: Sage Publications.
28. Rowan, L., Brownlee, L. J., & Ryan, M. (2019). Teaching teachers: What [should] teacher educators “know” and “do” and how and why it matters. *Asia-Pacific Journal of Teacher Education*, 47(3), 210–215.
29. Sahoo, S., & Panda, B. N. (2021). Factors affecting teacher educators' technological usage in teaching learning process at secondary level. *Pedagogy of Learning*, 7(1), 31-38.
30. Shulman, L. S. (1987). Knowledge and teaching: Foundation of the new reform. In *Harvard Education Review*, 57(1), 1–22.
31. Smith, K. (2003). So, what about professional development of teacher educators? *European Journal of Teacher Education*, 26(2), 201 – 215.
32. Swennen, A., Volman, M., & Essen, M. V. (2008). The development of the professional identity of two teacher educators in the context of Dutch teacher education. *European Journal of Teacher Education*, 31(2), 169 – 184.
33. Todd, D. (2002). *Towards a theory of teachers becoming teacher educators*. Paper presented at the Annual Meeting of the American Educational Research Association. New Orleans, LA.
34. Zeichner, K. (2005). Becoming a teacher educator: A personal perspective. *Teaching and Teacher Education, Special Issue*, 117 – 124.