

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/333744108>

Teacher Education for Sustainable Development in Pakistan: Content Analysis of Teacher Education Curriculum and Standards

Article in SSRN Electronic Journal · January 2019

DOI: 10.2139/ssrn.3388457

CITATIONS

0

READS

342

2 authors, including:



Qudsia Kalsoom

Beaconhouse National University

14 PUBLICATIONS 40 CITATIONS

SEE PROFILE

Some of the authors of this publication are also working on these related projects:



teacher education for sustainable development [View project](#)

Teacher Education for Sustainable Development in Pakistan: Content Analysis of Teacher Education Curriculum and Standards

Qudsia Kalsoom¹, Naima Qureshi² & Afifa Khanam³

¹Beaconhouse National University, Pakistan

Email: qudsia.kalsoom@bnu.edu.pk

²University of Education, Lahore, (Corresponding Author)

Email: naima.qureshi@ue.edu.pk

³Lahore College for Women University

Email: dr.khanam.wattoo@gmail.com

Teacher education is a key space in the implementation of sustainability education. The current study aimed at investigating the status of education for sustainable development in teacher education of Pakistan. The study employed content analysis of the key teacher education documents developed during the United Nations Decade of Education for Sustainable Development (2005-2014). The documents included in the study were: National Accreditation Standards for Teacher Education Programmes; National Professional Standards for Teachers; and B.Ed. (Honours) Curriculum. The content analysis indicated that education for sustainable development had been only partially addressed in the national documents on teacher education. Only 5 % of the content of the B.Ed. curriculum deals with sustainability. Similarly, National Professional Standards for Teachers and Standards for Teacher Education Programmes were found deficient in terms of their focus on sustainability education. The study findings indicate a dire need for mainstreaming of education for sustainable development in teacher education of Pakistan. The study indicates that although teacher education reform in Pakistan occurred during the United Nations Decade of Education for Sustainable Development, it did not incorporate the elements of sustainability education. This raises questions about the implementation of international initiatives across all the countries.

Keywords: *education for sustainable development, teacher education, curriculum, status of ESD*

Introduction

Sustainability education or Education for Sustainable Development (ESD) has emerged as a key concept of education to address the problems of poverty, environmental destruction and social injustice (Biasutti & Frate, 2017; Dale & Newman, 2005; Kalsoom, Qureshi, & Khanam, 2018; O' Flaherty & Liddy, 2017). ESD has been viewed as a tool to transform the values, behaviours and lifestyles of people to ensure a sustainable future for all (UNESCO, 2005). Considering the importance of ESD, the United Nations declared 2005-2014 as the Decade of Education for Sustainable Development (DESD). As a leading organization for implementation of the DESD, UNESCO has organized numerous consultation meetings and conferences to

advocate an ESD agenda. UNESCO produced a range of publications including research articles, toolkits, reports, success stories, books etc. (McKeown, 2002; Rieckmann, 2017; UNESCO, 2014; Uvalic-Trumbic & Daniel, 2016; Wals, 2012) to advocate and advance ESD at the levels of policy, pedagogy and research. As a result of the DESD, many education systems across the world were re-oriented to include ESD (UNESCO, 2012; Buckler and Creech, 2014; McKeown & USTESD, 2013). For example, all higher education institutions in Sweden were mandated to teach sustainability; Finland reoriented school curricula to include sustainability content; and Manitoba (Canada) incorporated sustainability into the vision statement of education in the province (McKeown & USTESD Network, 2013).

One of the foci of the DESD was re-orientation of teacher education (Buckler & Creech, 2014; Cebrián & Junyent, 2015; McKeown & USTESD-Network, 2013; McKeown, 2002; Tilbury, 2011; UNESCO, 2005). Considering the vital role of teacher education in ESD, UNESCO and York University (Toronto, Canada) established a UNITWIN/UNESCO Chair in 1999. The purpose of the Chair was to develop guidelines and recommendations for reorienting teacher education and associated realms, issues of pedagogy and curriculum. The Chair established an international network of more than 30 teacher education institutions (UNESCO, n.d.). UNESCO Chair focused on strengthening the “capacity of educators, trainers and other change agents to become learning facilitators for ESD” (UNESCO, n.d.).

As teacher education is a key space in ESD, it is imperative to investigate how far teacher education of a country is oriented towards ESD. A search of the literature by the authors indicated that no research had reported the current state of ESD in teacher education of Pakistan. Though some researchers have tried to investigate the impact of ESD-pedagogy on preservice teachers’ sustainability consciousness (Kalsoom & Khanam, 2017) and the role of ESD in higher education of Pakistan (Khan & Khan, 2018), there is no study reporting the place of ESD in policy documents of teacher education in Pakistan. The study of Kalsoom et al. (2017) provided motivation for the study. They had noticed that the sustainability consciousness (complex of knowledge of sustainability issues and pro-sustainability attitudes and behaviours) of the preservice teachers in Pakistan was very low. Moreover, it was lower than that of Swedish upper high school students. In another study, researchers found that research scholars, from the field of education in Pakistan, had naïve perceptions about ESD (Kalsoom, Qureshi

& Khanam, 2018). The current study was an attempt to investigate the status of ESD in Pakistan to understand the reasons for lower sustainability consciousness of the preservice teachers and naïve perceptions of research scholars about ESD. The study findings contribute towards the literature on the status of ESD in teacher education in different countries. The study also contributes to knowledge about the factors that interfere or influence the implementation of international initiatives in a developing country. The study has addressed the following questions.

1. To what extent has ESD been addressed in the National Professional Standards for Teachers?
2. To what extent has ESD been addressed in the National Standards for Accreditation of Teacher Education Programs?
3. How far ESD has been addressed in the curriculum of the B.Ed. (Honours) programme?

Study Context

Teacher education in Pakistan had undergone profound reform in the past decade. Teacher education reform in Pakistan occurred during the DESD. This reform was initiated to address the issues of lack of standards for teachers’ professional development; a plethora of different teacher education programmes (like: Certificate of Teaching, Diploma in Teaching, Bachelor of Education, Master of Education); no policy of accrediting teacher education programmes, poor social status of teachers; poor quality of teacher education programmes; poor subject knowledge of teachers; and no licensing of teachers (Jamil, 2004; UNESCO, 2006). It is also important to note that although reform started during DESD, there was no mention of education for sustainable development in the reform recommendations provided by UNESCO (2006).

Another factor that guided teacher education reform in Pakistan was the state of conflict/ unrest and security

(Government of Pakistan, 2013). Security challenges became more serious since 2007 (Afzal, 2015). To address the challenges of militancy, re-orientation of education was considered important among other efforts. Researchers (e.g. Hussain, Saleem, & Naveed, 2011) noticed that the government of Pakistan (in 2006) took serious steps to reform country's educational curricula and teach tolerance and respect for diversity. Similarly, Kronstadt (2004) maintain that it was in the interests of Pakistan to reform education in Pakistan to curtail the teaching of militant/extremist values. Literature indicates that although educational reform in Pakistan occurred during DESD, its main focus was on promoting the values of peace and diversity.

Reform initiatives

The Pakistan National Commission for UNESCO launched a project 'Strengthening Teacher Education in Pakistan (STEP) in 2005. The United States Agency for International Development (USAID) also supported the program by providing technical assistance (US Mission to UNESCO, n.d.). With the support of USAID and UNESCO, the Policy and Planning Wing of the Ministry of Education developed National Professional Standards for Teachers (Ministry of Education, 2009). Another initiative regarding teacher education reform was the establishment of National Accreditation Council for Teacher Education (NACTE) in 2007. NACTE developed standards for accrediting teacher education programs across the country (NACTE, 2009).

The introduction of four-year B.Ed. programme was another initiative taken in 2006. The program is offered after 12 years of education. Previously, the B.Ed. was a one-year degree offered to the students after 14 years of education. For the four-year degree program, the process of curriculum development was initiated at the Higher Education Commission (HEC)

of Pakistan with assistance from the USAID. Teacher education reform in Pakistan was supported by the United States Agency for International Development (USAID). In the first phase of the project Strengthening Pre-service Teacher Education in Pakistan (Pre-STEP), Michigan State University provided support in developing new curriculum and in planning new teacher education policy (Pre-STEP, 2009). In the second phase of the project named as 'USAID Teacher Education Project', Columbia University's Teachers College became a partner (USAID, 2012). It is important to note that ESD is not a dominant theme in teacher education in the US. Mckeown and USTESD Network (2013) found that "the United States lags behind in creating policy to promote ESD" (p. 4).

Conceptual Framework of the Study

This section includes a brief discussion of the study's conceptual framework. Educational change is a complex phenomenon and influenced by a number of factors including policy, people, and socio-political contexts (Fullan, 1994). Research indicates that in many cases, change was included in policy documents but it was not implemented or there was a gap between policy and practice (Fullan, 2001). Though initiatives of educational change at the policy or regulatory levels are not a guarantee towards successful implementation of the planned change, they are the first stage towards implementation of the educational change. The current study was built upon the assumption that ESD is fully incorporated in teacher education only if ESD is part of regulatory frameworks of teacher education; embedded in the teacher education curriculum; and is a research priority. The study assumption was primarily rooted in the objectives identified by UNECE (2005) for the member states. Some of the guiding objectives are:

- Ensure that policy, regulatory and operational frameworks support ESD;
- Equip educators with the competence to include sustainable development in their teaching;
- Promote research on and development of ESD;

Relevant policy initiatives and development of regulatory frameworks are essential to introduce any educational reform such as the implementation of ESD.

Buckler and Creech (2014) contend that:

Professional standards for teachers, and the accreditation of teacher education institutions [TEIs], can be powerful tools for implementing change in teacher education programmes. Changes in accreditation standards serve to mainstream ESD across all TEIs or teacher-preparation programmes in a country and further influence how ESD is approached in classrooms. (p. 96)

Similarly, Ferreira, Ryan, and Tilbury (2007) suggest that initial teacher education programmes should incorporate ESD philosophy, content and activities to such an extent that ESD becomes embedded within all policies and practices. Many countries have included ESD in teacher education. UNECE (2016) reports that 33 member states of the United Nations Economic Commission of Europe (UNECE) have made ESD part of initial training programs of teachers. Countries like Denmark, Sweden, France and Georgia brought legislative changes and developed standards to re-orient teacher education programmes to support ESD (UNECE, 2016). Similarly, Scotland has made *Learning for Sustainability* a key

teaching standard to teach at a Scottish school (Buckler & Creech, 2014).

Like standards, curriculum of academic programmes also needs to be reoriented to implement ESD (Biasutti, Makrakis, Concina, & Frate 2018; Tilbury, 2011). UNECE (2016) reported that most of the member states of the UNECE had incorporated ESD in the national curriculum frameworks including primary, secondary, upper secondary schools. Similarly, Evans, Stevenson, Lasen, Ferreira and Davis (2017) found that the Scottish curriculum and the Welsh curriculum focused on sustainability issues like active citizenship, wealth and poverty, climate change and consumption and waste. Re-orientation of teacher education curriculum has also been widely suggested in literature to prepare teachers for implementing ESD in schools (UNESCO, 2005; Ferreira, Ryan, & Tilbury, 2007; Fien & Maclean, 2000). In the past decade, many countries have reoriented their teacher education curricula to incorporate ESD (UNECE, 2016).

Education for Sustainable Development as a Concept

While the need of ESD has been stressed in literature, there is no consensus on what constitutes ESD. It has been described as a vision; as a theme; as a process; as a perspective; or as a set of different values (McKeown, 2002; Nolet, 2016; Smith, 2010; Sterling, 2010; Tedesco, Opertti, & Amadio, 2011; Tilbury, 2011; UNESCO, 2005). It is also important to note that different conceptualizations of ESD have been built upon three key dimensions of sustainable development i.e. society, economy and environment (UNESCO 2005; Sachs 2012).

Tilbury (2011) views ESD as a set of ESD-content, ESD-processes, and ESD-learning outcomes. ESD content includes knowledge of sustainability issues i.e. knowledge of society, economy and environment and their interconnectedness. ESD processes are the processes of collaboration, dialogue, inclusion,

processes of engaging ‘whole system’; curriculum and pedagogical innovation; and processes of active and participatory learning (Tilbury, 2011). ESD learning refers to learning to use information and communication technologies; “learning to ask critical questions; learning to clarify one’s own values; learning to envision more positive and sustainable futures; learning to think systemically [systems thinking]; learning to respond through applied learning; and, learning to explore the dialectic between tradition and innovation” (Tilbury, 2011, p.13). The current study has employed Tilbury’s (2011) conceptualization of ESD as a framework of content analysis.

Research Methodology

The study employed descriptive research design. Key documents (Standards for Teacher Education Programmes; B.Ed. Honours Curriculum and National Professional Standards for Teachers) were used as data source. Contents of the documents were analyzed systematically to understand the status of ESD in teacher education of Pakistan. Document analysis is a systematic procedure for reviewing or evaluating documents. It includes data examination and interpretation in order to elicit meaning, gain understanding, and develop empirical knowledge (Corbin & Strauss, 2008). Krippendorff (2004) believes that document analysis generates replicable and valid inferences from the analysis of the texts.

Educational researchers have used document analysis as a research method to evaluate professional development programmes (Speering, 2016); to analyze learning outcomes in educational policy documents (Prøitz, 2015); and to trace discourses of professionalism through textbook analysis (Tummons, 2014). Levander and Mikkola (2009) used core curriculum analysis (analysis of curriculum documents) as a tool to analyze the degree programmes from the level of individual courses to the level of the whole programme. Similarly, Jóhannesson,

Norðdahl, Óskarsdóttir, Pálsdóttir, and Pétursdóttir (2011) analyzed the school curriculum for early childhood, compulsory and upper secondary school to investigate how the curriculum deals with education for sustainable development. The current study employed document analysis as research method to generate inferences about the status of ESD in teacher education of Pakistan.

To answer the study questions, all those documents were included in the study which were directly related to teacher education in Pakistan and were developed during the DESD. The following documents fulfilled the mentioned criteria.

- National Professional Standards for Teachers (Ministry of Education, 2009);
- National Standards for Accreditation of Teacher Education Programs (NACTE, 2009);
- Curriculum for B.Ed. (Honours) Elementary (Higher Education Commission, 2012).

Study Procedure

To answer the questions, the first author of the paper conducted content analysis of the curriculum of B.Ed. (Honours), National Professional Standards for Teachers, and the Standards for Accreditation of Teacher Education Programmes. The first author shared her findings with other researchers who validated the findings after reading the aforementioned documents.

Framework of Data Analysis

The study employed content analysis as a method of data analysis. Content analysis was done in a deductive way as the structure of analysis was operationalized on the basis of previous knowledge (Elo & Kyngas, 2008). Aforementioned documents were initially analysed to see if ESD term had been included in them. They were further analyzed in terms of their focus on ESD content, ESD processes and ESD learning. These themes were selected

from the literature on sustainability education (Tilbury, 2011).

Results

Initial analysis of the documents indicated that none of the three documents contained the terms ‘sustainable development’, ‘education for sustainable development’ or ‘education for sustainability’. Detailed analysis of the three documents is as follows.

Analysis of the National Professional Standards for Teachers (NPST)

Ten standards have been identified as the National Professional Standards for Teachers (NPST). They are: 1) Subject Matter Knowledge; 2) Human Growth and Development; 3) Knowledge of Islamic ethical values/ social life skills; 4) Instructional Planning and Strategies; 5) Assessment; 6) Learning Environment; 7) Effective Communication and Proficient use of information communication technologies; 8) Collaboration and partnerships; 9) Continuous professional development and code of conduct; 10) Teaching of English as second/ foreign language (ESL/ EFL) etc. Each standard has three components i.e. knowledge and understanding related to the standard; dispositions; and skills.

Analysis of the ten standards indicated that there was no separate standard for teachers to demonstrate knowledge and understanding of sustainability issues; concern for sustainability and pro-sustainability behaviours. However, knowledge of peace, equality, justice, brotherhood and tolerance has been included in the standard 3. ESD processes like collaboration, dialogue and active and participatory learning have also been mentioned under various standards. Moreover, the use of ICTs (standard 7); collaboration (standard 8); and continuous professional development (standard 9) have also been included which are part of lifelong learning skills. UNESCO (2005, p.22) identifies following as repertoire of lifelong learning skills: “creative and critical thinking, oral and written

communication, collaboration and cooperation, conflict management, decision-making, problem-solving and planning, using appropriate ICTs, and practical citizenship”. As lifelong learning has also been included as a component of ESD (Tilbury, 2011) therefore, it is assumed that NPST has incorporated some aspects of ESD learning.

Though some ESD processes and ESD learning can be seen in the NPST, two key components of sustainable development i.e. environment and economy are completely missing in the whole document. Besides, the competences of systems thinking, asking critical questions, exploring the dialectic between tradition and innovation have also not been included. Mirza (2015, p.98) also noticed that the NPSTs were “deficient in many ways on ESD”.

Analysis of the National Standards for Accreditation of Teacher Education Programs (NSATEP)

National Accreditation Council for Teacher Education (NACTE) developed seven NSATEP “to be evidenced through 154 indicators” (Mirza, 2015, p. 100). Standards are: 1) Curriculum and Instruction; 2) Assessment and Evaluation System; 3) Physical Infrastructure, Academic Facilities and Learning Resources; 4) Human Resources; 5) Finance and Management; 6) Research and Scholarship; 7) Community Links and Outreach.

The programme ethos states that “the program has developed a knowledge-based shared vision to prepare committed and competent teachers and educationists” (NACTE, 2009, p.2). The programme ethos expects teacher education programmes to prepare competent teachers. However, it does not explicitly require the prospective teachers to be competent in economic vitality, ecological integrity, and social justice (Michigan State University, 2010). There is no indicator regarding teacher educators’ knowledge of sustainability issues.

Indicator 1.5 followed by 7 sub-indicators, is about Teaching Practice and Internship. None of the sub-indicator requires prospective teachers to demonstrate ecological integrity by re-using the teaching resources or demonstrating behaviours favourable for conservation. Indicator 1.4.3 requires that “teacher educators use teaching-learning strategies that develop desirable values among prospective teachers”. This indicator is vague as “desired values” would have different interpretations. Moreover, ESD learning requires clarification of own values and dialectic between tradition and

innovation. These elements are also missing in the NSATEP.

Out of the seven mentioned standards, standard 1, 4 and standard 7 have included few indicators related to sustainability knowledge, ESD processes and ESD learning. Mirza (2015, p.101) listed 17 out of total 154 indicators which are related to ESD generally. However, the researcher found only nine indicators relevant to the themes of ESD content, ESD processes and ESD learning. The indicators relevant to ESD have been listed in Table 1. **Table 1: ESD Relevant Indicators in NSATEP**

Indicator #	Indicator	Key Words	ESD Relevance (ESD Content, ESD Processes or ESD Learning)
1.2.5	Curriculum content is compatible with the changing and emerging needs of the society.	Emerging needs	Sustainability knowledge
1.2.10	The program includes a mandatory course on the application of Information and Communication Technology [ICT].	ICT	ESD learning
1.2.11	Information and Communication Technology is integrated into the curriculum.	ICT	ESD learning
1.4.2	Teacher educators use innovative and relevant pedagogical approaches to promote analytical/critical thinking and problem-solving skills of prospective teachers.	Critical thinking, Problem-solving	Pedagogical Innovation & ESD learning
4.3.3	Demonstrate competence and knowledge of recent educational trends, and resources in teaching	Educational trends	
4.3.4	Teacher educators participate in the professional development programs.	Professional development	Applied learning
7.1.2	Evidence of activities involving community members in planning and implementation of projects.	Involving community	Collaboration & engaging whole system

7.1.3	Staff, Teacher educators, and prospective teachers [i.e. university people] have active roles in the community development and outreach projects.	University people, community development	Collaboration & engaging whole system
7.2.1	Institution follows clearly defined policies and procedures regarding gender issues for selection, promotion, retention, and other matters that affect teacher educators, staff, and prospective teachers.	Policies on gender issues	Inclusion
7.2.2	The program is conducted in a conducive, open and harmonious environment, free of discrimination.	Free of discrimination	Inclusion

ESD Relevant Indicators in NSATEP

Table 1 shows that three kinds of ESD learning i.e. learning to use information communication technologies; developing critical and problem-solving skills; and applied learning have been emphasized in the NSATEP. Three ESD processes i.e. collaboration; engaging whole system; pedagogical innovation and inclusion have also been addressed in NSATEP. Knowledge of sustainability issues has not been explicitly included in the standards. Though indicator 1.2.5 requires a curriculum whose content is compatible with the changing and emerging needs of the society, it does not explicitly require the inclusion of ESD content. Similarly, indicator 4.3.3 requires teacher educators to “demonstrate competence and knowledge of recent educational trends, and resources in teaching”. Though the indicator requires knowledge of recent trends in education, it does not clearly mention that teacher educators should be knowledgeable about ESD. The data indicates that ESD processes and some kinds of ESD learning have been included in the NSATEP but ESD content is negligible in the entire document.

Besides lack of focus on ESD under three themes i.e. ESD content; ESD processes and ESD learning, there is lack of emphasis on ESD research too. Standard 6 states that “the program has a knowledge generation/research plan that covers a wide range of relevant local, national and international issues”, however, no indicator requires research in the area of ESD. The NACTE (2015) annual report (2014-2015) states that NSATEP were “aligned with National Professional Standards for Teachers [NPST]” (p. 5). As the themes of environment and economy are missing in the NPST, they are missing in the NSATEP too. Similarly, NPST does not require systems thinking, clarification of own values, the dialectic between tradition and innovation. It is reflected in NSATEP too.

Analysis of B.Ed. (Honours) Elementary Curriculum

There are 45 courses in the B.Ed. (Honours) elementary programme (HEC, 2012) of four years. However, there is no standalone course on Education for Sustainable Development (ESD). The course on “Teaching of Social Studies” has included content on global warming, cultural diversity, human rights, cultural diversity, pluralism, peace education and production, distribution and consumption of wealth. Nearly 70% of the course content is devoted to the concepts related to sustainable development. Moreover, the course intends to help the preservice teachers “recognize the interrelatedness of geography, economics, culture, belief systems, and political systems within history”. The course also aims at helping the learners to recognize “diversity and differences as assets and learn to evaluate different perspectives and biases” (HEC, 2012, p. 216). The course has identified inquiry and critical thinking as a key focus of the course strategies and activities.

Course on ‘Pakistan Studies’ has also included some content on environmental problems in Pakistan, population and its effects on the economy, movement and human interactions, economic systems and sectors of the economy. The course also intends to develop “critical thinking, decision making, problem-solving, communication and presentation skills; and to explore values and dispositions such as commitment to the common good and justice, to social responsibility” (HEC, 2012, p.117).

The course entitled “School, Community and Teacher” has mentioned recognition of “diverse cultural, traditional and religious values and learning needs of their students in school as well as in their community” as one of the expected learning outcomes of the course. The course has also included content regarding the role of the teacher as a community

mobilizer, or social activist (HEC, 2012, p. 207-212).

A number of courses like ‘Teaching of Science’, ‘Teaching of Social Studies’, ‘Research Methods in Education’ have included inquiry-based learning as a learning method. Similarly, collaboration and problem-solving skills have also been mentioned as outcomes of different courses. For example, the course on “Computer Literacy” intends to develop “collaboration, higher-order thinking, problem-solving, and self-direction” (HEC, 2012, p. 94) among the preservice teachers.

Analysis of the B.Ed. (Honours) curriculum indicates that content related to sustainability issues has been included in three of the courses. Similarly, ESD processes like collaboration, active, participatory learning have also been suggested. However, none of the courses mentioned ESD learning i.e. “ask critical questions; envision more positive and sustainable futures; clarify own values; think systemically; and, to explore the dialectic between tradition and innovation; and lifelong learning”, as outcomes of the courses.

Discussion

The study aimed at exploring the status of Education for Sustainable Development (ESD) in teacher education in Pakistan as it was reformed during the UN Decade of Education for Sustainable Development (DESD). The study focused only on analyzing three documents. It has not included any data from teacher educators to see if they were integrating ESD content, processes or learning in their courses. Despite of the mentioned limitations, this study has implications for Pakistan in terms of addressing ESD in teacher education. Study findings also have implications for the teacher educators interested in implementing ESD. The findings of the study have been discussed in terms of the study context and prior researches on ESD.

Content analysis of the key teacher education documents shows that ESD has

not been addressed in key documents of teacher education in Pakistan. There could be two reasons for this lack. First, the research reports (Jamil, 2004; UNESCO, 2006) which contributed towards the teacher education reform in the country did not emphasize upon ESD. They were more directed towards technical aspects of teacher education like: uniform nomenclature of teacher education programmes; standards and certifications; teachers’ pedagogical skills and subject knowledge; and classroom delivery (UNESCO, 2006).

Teacher education reform in Pakistan was directed towards producing pedagogically more skilful teachers along with an understanding of the subjects they teach. This priority reflects in the standards 1,2,4,5,6 and 10 of NPST. Though subject knowledge and teaching skills (lesson planning, questioning, classroom management, assessment, time management, resource development etc.) are important to be effective with the classroom instruction, they do not automatically lead to social transformation, an important role of education. Role of teachers as ‘agents of sustainability’ were not highlighted in the situation analysis (UNESCO, 2006) or in the position paper on teacher education in Pakistan (Jamil, 2004). Similarly, these documents have not included the terms ESD, EfS, or SD or provided any suggestions for developing teachers’ competence in systems thinking, learning to clarify own values, dialogue between tradition and innovation or knowledge of economy or environment.

Another potential reason for ESD not being a visible theme in teacher education reform in Pakistan could be the technical assistance from the US-based experts. ESD has not been mainstreamed in the US. As “awareness of education for sustainable development (ESD) is low in the teacher education community in the United States” (Mckeown & USTESD Network; 2013, p. 4), it impacted the status

of ESD in teacher education of Pakistan too.

It is important to note that although the content analysis of NPST, NSATEP and B.Ed. (Honours) elementary curriculum has indicated that ESD has not been prioritized in teacher education reform, some aspects of social dimension like peace, equality, justice, brotherhood and tolerance have been included in the standard 3 of NPST. They have also been emphasized in the B.Ed. (Honours) curriculum. These findings may be associated with the country's context when NPST and NSATEP and B.Ed. (Honours) curriculum were developed. 'Peace' was the key element of the national narrative. It clearly reflects in the mission statement of the Education Sector Reforms i.e. "Developing human resources in Pakistan as a pre-requisite for global peace, progress and prosperity" (Government of Pakistan, 2004). As National Professional Standards for Teachers (NPST) were developed at the time when tolerance and peace became part of the educational narrative in the country, therefore they have also included peace and tolerance as part of standards. The study findings support Fullan's (1994) argument that educational change is influenced by the socio-political contexts. As the subjects of tolerance, peace, conflict resolution were part of the socio-political context of the time when educational reform occurred in Pakistan, therefore, they influenced the reform as well (Kronstadt's (2004).

The finding that the courses of 'Teaching of Social Studies', 'Pakistan Studies' and 'School, Community and Teacher' (HEC, 2012) have included some ESD content and ESD learning, indicates the multidisciplinary nature of ESD. UNESCO (2005, p.24) maintains that "sustainable development must not be added as yet another subject or item on the timetable, but as an organising principle and cross-cutting theme". Though ESD has appeared as a cross cutting theme in the B.Ed. curriculum, ESD content makes less

than 5 % of the overall content of the programme. This is in line with the findings of Buckler and Creech (2014, p. 30- 31) who reviewed official curriculum documents of many countries and noticed that sustainability and/or environmental themes were part of the general goals of education. However, "efforts to prepare teachers to deliver on these objectives have not advanced to the same extent. More work still needs to be done to reorient teacher education to approach ESD 'in content and learning methods'" (p. 30-31).

Teacher education is a key space for ESD because "many educators form their views about what it means to be an educator during initial teacher education" (UNECE, 2013, p. 40). Teacher education programmes need to help preservice teachers become ESD educators. The findings of the study indicate that currently teacher education standards and curricula are only narrowly in line with suggested ESD-content, ESD-processes, and learning. This narrow focus on ESD seems a major reason for lower sustainability consciousness of preservice teachers in Pakistan (Kalsoom et al., 2017) and naïve perceptions of research scholars regarding ESD (Kalsoom et al., 2018).

Conclusion

The study leads to important conclusions regarding implementation of ESD in teacher education of Pakistan. The study indicates that the UN Decade of Education for Sustainable Development was not successful in making ESD a part of teacher education of Pakistan. This shows that international initiatives or developments do not necessarily influence all countries globally. Contextual factors like quality of education, level of teachers' skills, and societal conditions influence an educational reform more as compared to international initiatives. It is also important to note that educational discourse of a developing country is influenced by the countries which provide technical consultancy. Teacher education reform in

Pakistan was greatly influenced by teacher education preferences of the US.

The findings of this research have implications for the Higher Education Commission of Pakistan as well as for the international organizations like UNESCO. In Pakistan, UNESCO had been a key partner in developing NPST (Ministry of Education, 2009) and NSATEP (NACTE, 2009) but ESD did not get a focus in these two key documents. This indicates that UNESCO Pakistan could not achieve the target of working “with ministries of education to include sustainable development as a cross-cutting theme in teacher training institutions” (UNESCO, 2005).

Absence of ESD or a weaker focus on ESD in teacher education may result in absence of ESD in schools too. Mirza (n.d) recommended in her study conducted in an earlier period of the DESD that “UNESCO Commission [in Pakistan] should urge the universities through the HEC to constitute committees on ESD and launch degree programs in the areas. This will further motivate and encourage teacher education institutions to engage in training teachers in ESD”.

References

- Afzal, M. (2015). *Education and Attitudes in Pakistan: Understanding Perceptions of Terrorism*. Retrieved from: www.usip.org/sites/default/files/SR367-Education-and-Attitudes-in-Pakistan.pdf (30th December, 2015).
- Biasutti, M. & Frate, S. (2017). A validity and reliability study of the Attitudes toward Sustainable Development scale. *Environmental Education Research*, 23(2), pp.214-230.
- Biasutti, M., Makrakis, V., Concina, E. & Frate, S. (2018). Educating academic staff to reorient curricula in ESD. *International Journal of Sustainability in Higher Education*, 19(1), pp.179-196.
- Buckler, C., & Creech, H. (2014). *Shaping the Future We Want: UN Decade of Education for Sustainable Development (2005-2014)*. France: UNESCO.
- Cebrián, G., & Junyent, M. (2015). Competencies in education for sustainable development: Exploring the student teachers' views. *Sustainability*, 7(3), 2768-2786.
- Corbin, J. & Strauss, A. (2008). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). Thousand Oaks, CA: Sage.
- Dale, A. & Newman, L. (2005). Sustainable development, education and literacy. *International Journal of Sustainability in Higher Education*, 6(4), pp.351-362.
- Elo, S., & Kynga's, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107-115.
- Evans, N., Stevenson, R.B., Lasen, M., Ferreira, J.A. & Davis, J. (2017). Approaches to embedding sustainability in teacher education: A synthesis of the literature. *Teaching and Teacher Education*, 63, pp.405-417.
- Ferreira, J.-A., Ryan, L., & Tilbury, D. (2007). Mainstreaming education for sustainable development in initial teacher education in Australia: a review of existing professional development models. *Journal of Education for Teaching: International research and pedagogy*, 33(2), 225-239.
- Fien, J. & Maclean, R. (2000). Teacher Education for Sustainability. In *Education for a Sustainable Future* (pp. 91-111). Springer, Boston, MA.
- Fullan, M. (1994). *Change Forces: Probing the Depths of Educational Reform*. School Development and the Management of Change Series: 10.

- Fullan, M. (2001). *The new meaning of educational change*. Routledge.
- Government of Pakistan (2004). Economic Survey. Islamabad: Printing Corporation of Pakistan Press.
- Government of Pakistan (2013). *Pakistan Millennium Development Goals Report*. Islamabad: Planning Commission.
- Higher Education Commission (2012). *Curriculum of Education*. Islamabad: Higher Education Commission.
- Hussain, A., Salim, A., & Naveed, A. (2011). *Connecting the Dots: Education and Religious Discrimination in Pakistan: A Study of Public Schools and Madrassas*. Washington, DC: United States Commission on International Religious Freedom.
- Jamil, B. (2004). *From Teacher Education to Professional Education Development in Pakistan: A Position Paper*. Retrieved from ITA: http://itacec.org/document/Teacher_Education_in_Pakistan.pdf (February 18, 2016)
- Jóhannesson, I. Á., Norðdahl, K., Óskarsdóttir, G., Pálsdóttir, A., & Pétursdóttir, B. (2011). Curriculum analysis and education for sustainable development in Iceland. *Environmental Education Research, 17*(3), 375-391.
- Kalsoon, Q., & Khanam, A. (2017). Inquiry into sustainability issues by preservice teachers: A pedagogy to enhance sustainability consciousness. *Journal of cleaner production, 164*, 1301-1311.
- Kalsoon, Q., Khanam, A. & Quraishi, U. (2017). Sustainability consciousness of pre-service teachers in Pakistan. *International Journal of Sustainability in Higher Education, 18*(7), pp.1090-1107.
- Kalsoon, Q., Qureshi, N. & Khanam, A. (2018). Perceptions of the Research Scholars Regarding Education for Sustainable Development (ESD) in Pakistan. In *Sustainable Development Research in the Asia-Pacific Region* (pp. 165-179). Springer, Cham.
- Khan, S., & Khan, A. M. (2018). A Phenomenological Study of Education for Sustainable Development in Higher Education of Pakistan. *Pakistan Journal of Education, 35*(2), 117-136.
- Krippendorff, K. (2004). Reliability in content analysis. *Human communication research, 30*(3), pp.411-433.
- Kronstadt, K. A. (2004). *Education Reform in Pakistan*. Washington, DC: Congressional Research Service.
- Levander, L. M., & Mikkola, M. (2009). Core curriculum analysis: A tool for educational design. *Journal of agricultural education and extension, 15*(3), 275-286.
- McKeown, R. (2002). *Education for Sustainable Development Toolkit*. Retrieved from: <http://www.esdtoolkit.org> (14th June 2015)
- McKeown, R., & USTESD-Network (2013). *Reorienting Teacher Education to Address Sustainability: The U.S. Context*. White Paper Series, No. 1. Indianapolis, IN: United States Teacher Education for Sustainable Development Network.
- Michigan State University (2010). *MSU Global Sustainability Competencies*. Retrieved from: <http://sustainabilityspecialization.msu.edu/competencies.pdf> (5th July 2015)
- Ministry of Education (2009). *National Professional Standards for Teachers*. Islamabad: Government of Pakistan.
- Mirza, M. S. (2015). Institutionalizing ESD Standards in Teacher Education Programs: Case of

- National Accreditation Council for Teacher Education, Pakistan. *Applied Environmental Education & Communication*, 14 (2), 97-104.
- Mirza, M. S. (n.d.). *DESD and Teacher Education Curricula in Pakistan*. Retrieved from: http://www.unescobkk.org/fileadmin/user_upload/esd/documents/workshops/penang06/Munawar_S._Mirza_word_60kb.pdf (18th July 2015)
- NACTE (2009). *National Standards for Accreditation of Teacher Education Program*. Islamabad: National Accreditation Council for Teacher Education.
- NACTE (2015). *NACTE Annual Report 2014-2015*. Retrieved from: <http://www.nacte.org.pk/Download/NACTEAnnualReport2014-15.pdf> (27th July 2015)
- Nolet V. (2016). Education for sustainability: Principles and practices for teachers. New York: Routledge.
- O' Flaherty, J. & Liddy, M. (2017). The impact of development education and education for sustainable development interventions: a synthesis of the research. *Environmental Education Research*, pp.1-19.
- Pre-STEP (2009). *Rationalization of pre-service teacher education programs in Pakistan*. Retrieved from: <http://www.pakteachers.org/sites/default/files/publications/rationalization-study-report.pdf> (9th July 2017)
- Prøitz, T. S. (2015). Learning outcomes as a key concept in policy documents throughout policy changes. *Scandinavian Journal of Educational Research*, 59 (3), 275-296.
- Rieckmann, M. (2017). *Education for sustainable development goals: Learning objectives*. UNESCO Publishing.
- Sachs, J. D. (2012, June). From Millennium Development Goals to Sustainable Development Goals. *Viewpoint*, 379, pp. 2206–11.
- Speering, G. (2016). Professional development programmes for teachers in the Northern Territory of Australia: enablers and inhibitors for success in two aspirant leadership programmes. *Professional Development in Education*, 42(5), 732-751.
- Smith, C. (2010). Education for Sustainability and the Role of Future-Focus Pedagogy. In J. Zajda (Ed.), *Global Pedagogies: Schooling for the Future* (pp. 144-156). London: Springer.
- Sterling, S. (2010). Transformative Learning and Sustainability: sketching the conceptual ground. *Learning and Teaching in Higher Education* (5), 17-33.
- Tedesco, J. C., Operti, R., & Amadio, M. (2011). *THE CURRICULUM DEBATE: WHY IT IS IMPORTANT TODAY*. Retrieved October 12, 2014, from UNESCO-IBE: http://www.ibe.unesco.org/fileadmin/user_upload/Publications/Working_Papers/curr_debate_ibewpci_10_en.pdf
- Tilbury, D. (2011). *Education for Sustainable Development: An Expert Review of Processes and Learning*. Paris: UNESCO.
- Tummons, J. (2014). Professional standards in teacher education: tracing discourses of professionalism through the analysis of textbooks. *Research in Post-Compulsory Education*, 19(4), 417-432.
- US Mission to UNESCO (n.d.). *U.S. Contributions to UNESCO*. Retrieved from: https://unesco.usmission.gov/contributions-education.html?_ga=1.188054120.1314985772.1486471845 (6th May 2015)

- UNECE (2005). *UNECE Strategy for Education For Sustainable Development, adopted at the High level meeting*. Retrieved from: <http://www.ECE.org/fileadmin/DA M/env/documents/2005/cep/ac.13/cep.ac.13.2005.3.rev.1.e.pdf> (5th April 2016).
- UNECE (2013). *Empowering educators for a sustainable future*. Retrieved from: http://www.unece.org/fileadmin/DAM/env/esd/Images/Empowering_Educators_for_a_Sustainable_Future.pdf (25th September 2015)
- UNECE (2016). *Ten Years of the UNECE Strategy for Education for Sustainable Development*. Retrieved from: https://www.unece.org/fileadmin/DAM/env/esd/ESD_Publications/10_years_UNECE_Strategy_for_ESD.pdf (7th April 2018)
- UNESCO (2005). *Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability. UNESCO Education for Sustainable in Action*. Paris: UNESCO.
- UNESCO (2006). *SITUATION ANALYSIS OF TEACHER EDUCATION IN PAKISTAN: Towards a Strategic Framework for Teacher Education and Professional Development*. Islamabad: UNESCO.
- UNESCO (2012). *Shaping the education of tomorrow: 2012 report on the UN decade of education for sustainable development*. Retrieved from: <http://unesdoc.unesco.org/images/0021/002166/216606e.pdf> (4th July 2015)
- UNESCO (2014). *UNESCO roadmap for implementing the Global Action Programme on Education for Sustainable Development*.
- UNESCO (n.d.). *UNESCO Chair on Reorienting Teacher Education to Address Sustainability: International Network*. Retrieved from: <http://www.unesco.org/new/en/education/themes/leading-the-international-agenda/education-for-sustainable-development/partners/educators/teacher-education/> (9th November, 2015)
- USAID (2012). *USAID Teacher Education Project: Quarterly Progress Report: July 1 – September 30, 2012*. USAID/ Pakistan.
- Uvalic-Trumbic, S., & Daniel, J. (2016). *Sustainable development begins with education*.
- Wals, A. E. (2012). *Shaping the education of tomorrow: 2012 full-length report on the UN decade of education for sustainable development*. UNESCO.