

**EDITORIAL
HIGH QUALITY TEACHER TRAINING IN
ADVANCED EDUCATION SYSTEMS**

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INTRODUCTION

Teacher quality is the most important factor of school education. UNESCO-ILO (2010, p. 20) stated that “Teacher quality is an important consideration in student achievement, and although defined differently by different people, continues to be a central concern of those responsible for teacher education. Quality teachers are products of quality teacher education programs, policies and practices.” Darling-Hammond (2011, p. x) stated that “New teachers need strategies to address language learning needs and sensitivity to cultural modes of communication as well as awareness of the psycho-social dimensions of learning”. Taguma, Litjens and Makowiecki (2012, p. 27) in a study for OECD stated that

"The skills and staff traits that research identifies as important in facilitating high-quality services and outcomes are:

- Good understanding of child development and learning;
- Ability to develop children’s perspectives;
- Ability to praise, comfort, question and be responsive to children;
- Leadership skills, problem solving and development of targeted lesson plans; and
- Good vocabulary and ability to elicit children’s ideas."

Arthur, Jánsson, Cooke, Brown and Carr (2015, p.5), summarising outcomes of a survey on UK teachers stated that

“The majority of teachers surveyed saw fairness (78%), creativity (68%), and a love of learning (61%), humour (53%), perseverance (45%) and leadership (40%) as the six most important character strengths for good teachers. However, in describing their own character strengths they reported kindness (49%) and honesty (50%) in place of leadership and perseverance in those top six.”

Developed education systems carry out surveys as mentioned above to have an estimation of what teachers perception about their own working conditions and what measures can be taken to help them.

SPECIFICATION OF STANDARDS FOR TEACHERS

In order to improve quality of teachers, certain nations and a few states in certain nations have developed teaching standards. In Australia, efforts to develop standards for teachers were started in 2009. In 2010, the standards were finalised. Three domains of teaching and seven standards mentioned in Education Services Australia (2011) are given below:

Professional Knowledge:

1. Know students and how they learn;
2. Know the content and how to teach it;

Professional Practice:

- 3 Plan for and implement effective teaching and learning
4. Create and maintain supportive and safe learning environments
5. Assess, provide feedback and report on student learning

Professional Engagement:

6. Engage in professional learning
7. Engage professionally with colleagues, parents / carers and the community

Standards specified focus areas and descriptors for teachers at four career stages: Graduate, Proficient, Highly accomplished and Lead. The document described each stage as follows:

Graduate teachers “have completed a qualification that meets the requirements of a nationally accredited program of initial teacher education. The award of this qualification means that they have met the Graduate Standards”.

Proficient Teachers “meet the requirements for full registration through demonstrating achievement of the seven Standards at this level.”

Highly Accomplished Teachers”are recognised as highly effective, skilled classroom practitioners and routinely work independently and collaboratively to improve their own practice and the practice of colleagues. They are knowledgeable and active members of the school.”

Lead Teachers “are recognised and respected by colleagues, parents/carers and the community as exemplary teachers. They have demonstrated consistent and innovative teaching practice over time. Inside and outside the school they initiate and lead activities that focus on improving educational opportunities for all students. They establish inclusive learning environments that meet the needs of students from different linguistic, cultural, religious and socio-economic backgrounds. They seek to improve their own practice and to share their experience with colleagues”

In UK, Coates (2011) suggested a Master Teacher Standard based on five aspects: (a) Knowledge (b) Classroom performance, (c) Outcomes, (d) Environment and ethos and (e) Professional context. National College for Teaching and Leadership, UK (2013) developed standards for Early Year Teachers which include:

1. Set high expectations which inspire, motivate and challenge all children;
2. Promote good progress and outcomes by children;
3. Demonstrate good knowledge of early learning and EYFS;
4. Plan education and care taking account of the needs of all children;
5. Adapt education and care to respond to the strengths and needs of all children;

6. Make accurate and productive use of assessment;
7. Safeguard and promote the welfare of children, and provide a safe learning environment; and
8. Fulfill wider professional responsibilities.

Centre of Study for Policies and Practices in Education, Chile (2013, pp.34-35) analysed teacher standards in a few selected nations and listed the domains and contents considered and emphasised by teaching standards as follows:

Disciplinary knowledge:

- Knowledge and understanding of the subject (expressed in general terms)
- Knowledge and understanding of the subject (specified for each particular subject and stages of schooling)

Pedagogic Practice:

- Know, value and teach according to student characteristics (different cultures, past experience, educational needs etc.)
- Understand and use knowledge about how students learn, (theories of learning and development)
- Hold high expectations about all students
- Know how to teach disciplinary content
- Develop higher order critical thinking and skills
- Plan, implement and assess teaching and learning
- Create and sustain an environment that encourages learning
- Value the family's role in learning and development
- Promote social values and ethics among students
- Know how to use ICT for learning
- Incorporate democratic values in classroom teaching practice

Values and professional teaching practice:

- Be committed to students' learning and development
- Reflect on his or her teaching practice
- Know the rationale for and implementation of current educational policies
- Commitment to professional learning (continuous learning)
- Contribute and be committed to the school community
- Contribute to the development of the teaching profession
- Know and apply guidelines for ethical behaviour

- Be capable of performing administrative tasks (e.g. registration etc.).”

Specifications of standards for teachers facilitate developing appropriate initial teacher training curricula.

TEACHER CERTIFICATION AND RECERTIFICATION

Traditionally, nations accepted initial teacher training as adequate for becoming a teacher. Introduction of university based teacher training, in certain nations introduced teacher certification / licensing system. OECD (2012, p. 490) found varieties of strategies followed in OECD countries to declare a person as fully qualified teacher.

“Twenty-two OECD countries and Brazil require that, in addition to holding a diploma from a tertiary institution, candidates for the teaching profession must also acquire a licence or supplementary credential, pass a competitive examination, and/or participate in an on-the-job teacher practicum as part of an induction process or probationary period. Candidates in Australia, Germany, Israel, Italy (secondary level), Japan, Mexico (upper secondary level) and the United States are required to both pass a competitive examination and acquire a licence or supplementary credential to become a teacher. In Canada, England, Germany, Israel, Japan, Korea, New Zealand (primary and secondary levels), Scotland and the United States, candidates must participate in a teacher practicum to acquire the license or supplementary credential necessary to become a teacher. Candidates in Greece, Hungary, Ireland, Israel, Luxembourg, New Zealand (primary and secondary levels), Scotland, Spain and Turkey must also participate in an on-the-job teacher practicum as part of an induction process or probationary period. This is only required at the upper secondary level in Austria and Denmark. Moreover, 11 OECD countries and Indonesia require that teachers acquire a license or supplementary credential at the primary and secondary levels to become fully certified. This is required only

at the secondary level in Italy and at the upper secondary level in Denmark”.

Finland, having a highly developed school education system, has trust in teachers and teacher education and does not have any national evaluation or registration of teachers.

Out of varieties of criteria considered for issuing teacher license, performance record in initial training of teachers plays key role. Hence, efforts are being made to continuously update initial teacher training programmes to cater to the needs surfaced by the speedily changing knowledge society.

INITIAL TRAINING OF TEACHERS

Initial teacher training programs are broadly two types: (a) Training after completion of general subject knowledge study (UK) and (b) Training concurrently provided along with general subject knowledge study (US). In most of the advanced systems, minimum qualification is a degree in a subject. In UK, the duration of the programme meant for primary or secondary school teaching by graduates is one academic year, known as Post graduate Certificate in Education (PGCE)/ Post Graduate Diploma in Education (PGDE). University of Cambridge, UK (2015a, p.1) stated that “The PGCE is offered by the Faculty of Education as a full-time course in initial teacher training for a specified age-range and forms the first year of a Master’s degree in Education.”

Process of Selection of Teacher Trainees

The foundation of ensuring teaching profession of high quality has a deep root in the quality of persons selected for entering into teacher training. Teacher content knowledge plays crucial role in school education. Inappropriate safeguards for entry of persons not having genuine interest in teaching create problems in teaching

profession. Such individuals do not become enthusiastic in making appropriate effort to improve quality of teaching. Besides, teaching job needs to attract highly talented students. Screening procedures of candidates for admission into initial teacher training courses vary from one nation to another. Screening procedures are either determined by the concerned national or state governments or by concerned institutions providing initial teacher training courses. Total duration of 48 weeks is divided equally between university based theory and school based practical. There are also completely school based, no certificate/diploma programmes, as part of alternative system.

In many developed nations, minimum qualifications for becoming a primary school teacher is a Bachelor degree in addition to formal teacher training certificate / degree. In United Kingdom, although duration of teacher training for primary school teaching is one year, entry qualification is a Bachelor's Degree. Coba Arango and Valle (2011, p. 43) pointed out that for improvement of teacher quality and of the education system as a whole is the need to attract the best professionals to the world of education. Hobson, Ashby, McIntyre and Malderez (2010, p. 11) stated about efforts in Finland in the following manner:

"Finland, for example, employs a multi-stage process of teacher selection which begins with a national screening process involving a 300-question multiple choice assessment which tests literacy, numeracy and problem-solving; is followed by university-based tests which evaluate candidates ability to process information, think critically and synthesize data; and proceeds to university-based interviews which seek to assess candidates motivation to teach, motivation to learn, communication skills and emotional intelligence."

Singapore situation is reported by Haningto and Ellis (2013, p. 115) *in* the following words:

“In Singapore, all pre-service teachers entering the school system are recruited and employed by the Ministry of Education prior to their training. They receive a salary during their training and are required to serve a three-year bond – that is, to stay in service for at least three years – on completion.”

Ministry of Education and Culture, Finland (2014, p. 1) stated that “In Finland, teachers are required to have a master’s degree with the exception of kindergarten teachers, whose qualification requirements include a bachelor’s degree.” The Report also indicated selection procedure for teacher trainees as follows:

“Entrance tests of universities are used to assess aspects such as academic studying skills and aptitude for the profession. In the admissions process for professional teacher education, the areas assessed include competence and expertise in the specific field of teaching, to be demonstrated through work experience and qualifications.”

Teacher Education Ministerial Advisory Group, Australia (2014, p. xiii) in their recommendation stated that

“Higher education providers select the best candidates into teaching using sophisticated approaches that ensure initial teacher education students possess the required academic skills and personal characteristics to become a successful teacher.”

Dept. of Education & Training, Australia (2015, p. 6) reporting Australian government’s response on the suggestions given in “*Action now: Classroom ready teachers*”, stated that Australian Institute for Teaching and School Leadership will “develop and set clear expectations of universities in making sure that those going into teaching have the right mix of academic and personal qualities that give them the best chance of becoming effective teachers.” National Council on Teacher Quality, US (2015, p. 80) suggested that selection criteria need to require teacher prep program admission tests or an admission GPA of 3.0 and also

need to Consider requiring candidates to pass subject-matter tests as a condition of admission into teacher training programmes.

Screening procedures include one or more of the following strategies: (a) Position secured in the merit list of a special test conducted for the purpose, (b) Career marking, (c) Marks / grades obtained in the qualifying examination, (d) Interview. Special tests may cover attainment, teaching attitude, teaching attitudes, ethics, etc. The entry to teacher education courses could be more rigorous by assessing a broader range of characteristics shown by research to predict future success of the teacher trainees when they enter teaching, including high level literacy and numeracy skills. The University of Cambridge, UK (2015b, p. 21) in their document for Postgraduate Certificate of Education Prospectus 2015-2016 mentioned about a compulsory Literacy and Numeracy Skills Tests for every applicant in the following words:

“All applicants for initial teacher training (ITT) courses must pass the Department for Education Skills Tests in Numeracy and Literacy before they start a course. If you are invited to attend an interview at Cambridge, you will be expected to have booked your Skills Tests, even if you haven't yet taken them. You will be required to bring proof of this to the interview. Both Skills Tests must be passed within 28 days of an offer being made. If you fail either test three times you will not be allowed to start the PGCE and will be barred from re-taking the tests for a further two years.”

Teaching job in nations like Finland and Korea have high level social prestige and position that makes many talented students opt for this job. In only in such types of situations, the nations can go for stricter entry requirements for their initial teacher training programmes.

INITIAL TEACHER TRAINING CURRICULA

Nations have been making efforts to improve quality of teacher learning. Delors (1996, p. 149) stated that “Good quality training entails bringing trainee teachers into contact with experienced teachers as well as with researchers in their particular disciplines.” European Commission (2010, p. 6) stated that a school teacher’s professional development takes place in three phases as follows:

“The first stage concerns the preparation of teachers during initial teacher education, where those who want to become a teacher master the basic knowledge and skills. The second stage is the first independent steps as teachers, the first years of confrontation with the reality to be a teacher in school. This phase is generally called the induction phase. The third phase is the phase of the continuing professional development of those teachers that have overcome the initial challenges of becoming a teacher.”

OECD (2011, p.6) stated that

"Surveys show large variations across and within countries in the extent of professional development. Not only the quantity but also the nature of this activity is critical. Often, the professional development of teachers is disjointed in one-off courses, while teachers in TALIS reported that the most effective development is through longer programs that upgrade their qualifications or involve collaborative research into improving teaching effectiveness."

According to Schleicher (2012, pp.69-70), efforts to improve quality of initial teacher training include: 1. Preparing clear and concise profiles of what teachers are expected to know and be able to do in specific subject areas; 2. Shifting initial teacher education strategies from academic preparation to preparation in school settings; and 3. Providing “more flexible structures of initial teacher education can be effective in opening up new routes

into the teaching career, without compromising the rigor of traditional routes". Commenting on the situation in the United States, the National Council on Teacher Quality, US (2013, p. 93) stated that

"Teacher educators now view their job as forming the *professional identities* of teachers. They aim to confront and expunge the prejudices of teacher candidates, particularly those related to race, class, language and culture. This improbable feat, not unlike the transformation of Pinocchio from puppet to real boy, is attempted as candidates reveal their feelings and attitudes through abundant in-class dialogue and regular journal writing. Once freed of their errant assumptions, teachers can embark on a lifelong journey of *learning*, distinct from *knowing*, as actual knowledge is perceived by teacher educators as too fluid to be achievable and may even harden into bias. The goal is for each candidate to develop his or her own unique philosophy of teaching, no matter how thin the ground is underneath."

Caena (2014, p. 5), in a study on initial teacher training in European Union listed a number of factors for effective initial teacher education reported in researches, which are:

- “(a) an extensive, structured teaching practice, with different learning opportunities (including informal work-based learning) and incremental levels of difficulty, to fit student teachers’ development;
- (b) sustained, structured mentoring, with set time and opportunities for modelling, practice, assessment, support and feedback, by school professionals who are trained for the task;
- (c) an individualized focus on student teachers as reflective learners – whose beliefs, experiences and concerns should be taken into account and discussed in ITE, in order to allow for successful learning;
- (d) opportunities for student teachers’ ‘reflective practice’ – critically examining their own ideas about teaching against a

- variety of sources – by observation of teaching, practice in class, debate with expert teachers and peers, research, dialogue with teacher educators and mentors;
- (e) an integrated ITE curriculum that can support student teachers' critical thinking, teaching and learning with relevant knowledge, understanding and research; (f) effective partnerships between ITE providers / universities and schools, with joint responsibilities and structured roles for planning, management, monitoring and assessment.”

Today, initial teacher training programmes are of three types: (a) consecutive model, (b) concurrent model, (c) alternative route-school based training model. In case of consecutive model, after completing the basic course (Higher secondary or Degree course); the students get enrolled in an initial teacher training course. In case of concurrent model, the students undergo initial teacher training along with basic course (Degree course or Master course). In case of alternative routes, generally found in UK and US, selected schools or school systems impart initial teacher training to individuals on the job, of course with a few days of orientation programme. There are wide variations among nations in respect of levels and types of institutions offering initial teacher training courses, structure of initial teacher training courses and initial teacher training curricula. Such variations are also noticed among states of a large nation.

There are many issues in initial teacher training, which are to be solved. For instance, teacher training institutions give sermons to their teacher trainees about student centred instruction, but they fail to provide teacher trainee centred training.

Initial Teacher Training Curricula

Recent developments in the school education as well as knowledge explosion necessitate continuous updating of initial teacher training curricula including evaluation strategies for teacher trainees. According to Donaldson (2010, p. 41), initial

teacher training curricula, in addition to developing subject and pedagogical knowledge and skills, need to develop skills in student teachers to

1. Address underachievement, including the potential effects of social disadvantage;
2. Teach the essential skills of literacy and numeracy;
3. Address additional support needs (particularly dyslexia and autistic spectrum disorders);
4. Assess effectively in the context of the deep learning required by Curriculum for Excellence; and
5. Know how to manage challenging behaviour.

Tornero and Varis (2010, p. 104) stated that “Educommunication requires educators (and will require more in the future) to have a certain *media consciousness* and *active competence* with regard to ICTs.” UNESCO (2011, p. 33) suggested to “Prioritise pre-service and in-service teacher training on HIV and AIDS in national teacher training policy”. In order to promote inclusive education, Kaplan and Lewis (2013, p. 5) stated that “inclusive education needs to be recognised as an essential learning objective for all student teachers, regardless of which level they will teach at, which subject(s) they will teach, or where in the country they are likely to be deployed. Pre-service teacher education curricula therefore need to be revised or developed so that all student teachers are aware of, and supported towards, inclusive education learning goals.” Just as school curriculum needs to be flexible, initial teacher training curriculum needs to be flexible, as per the requirement of each teacher trainee. Commenting on the situation in Scotland (UK), Donaldson (2010, p. 85) stated that

“Candidates for teaching should undertake diagnostic assessments of their competence in both literacy and numeracy. The threshold established for entry should allow for weaknesses to be addressed by the student during the course. A more demanding level should be set as a prerequisite for competence to teach.”

Recommendations on improving initial teacher training curricula listed in Teacher Education Ministerial Advisory Group, Australia (2014, pp. xiii- xiv) were:

1. Evidence-based content focused on the depth of subject knowledge and range of pedagogical approaches that enable pre-service teachers to make a positive impact on the learning of all students.
2. Data collection and analysis skills to assess the learning needs of all students.
3. Skills to effectively engage with parents about the progress of their children.
4. Development of thorough understanding of the fundamentals of teaching literacy and numeracy.
5. Delivery of integrated and structured professional experience throughout initial teacher education programmes through formalised partnership agreements with schools.
6. Availability of sufficient placements of appropriate timing and length for all pre-service teachers.
7. Availability of early opportunities to teacher trainees to assess their suitability for teaching, including through exposure to the classroom.

In case of initial teacher training for primary school teachers, at least one subject specialisation, prioritising science, mathematics or a language and initial teacher training providers publishing specialisations available and numbers of graduates from these programmes. In order to improve student teaching, National Council on Teacher Quality (2015, p. 82) recommending ensuring that cooperating teachers in student teaching placements are effective instructors, stated

“Ensure that teacher preparation programs place teacher candidates with cooperating teachers who have been screened for their ability to further student achievement and can model effective instructional techniques. Also, consider the mentoring abilities of the cooperating teachers when making placement decisions.”

High quality teacher training programmes take utmost care in selecting the school where a student teacher has to deliver his / her lessons. Similarly, in case school teachers are also to observe and give feedback on the lessons taught, the concerned teachers are appropriately selected and trained.

Improving Process of Evaluation of Teacher Trainees

All teacher training programmes have specified strategies for assessing teaching skills of teacher trainees. In order to improve quality of evaluation of teacher trainees, Teacher Education Ministerial Advisory Group, Australia (2014, p. xiv) recommended that

“The Australian Institute for Teaching and School Leadership develop a national assessment framework, including requirements for a Portfolio of Evidence, to support higher education providers and schools to consistently assess the classroom readiness of pre-service teachers throughout the duration of their program.”

In US, the Teacher Performance Assessment (TPA) is a joint project of Stanford University, the American Association of Colleges for Teacher Education (AACTE), the Council of Chief State School Officers, and a group of more than 20 states. The test can provide more valid and reliable information required for taking effective measures in respect of issue of initial teacher licenses, accreditation decisions about programmes, and planning for teacher induction and in-service professional development. Teacher Performance Assessment (TPA) is currently known as edTPA. This assessment is considered more reliable and valid measure of the ability to teach. The scorers are being trained for the purpose. Common architecture given in American Association of Colleges for Teacher Education (2014) are as follows:

Table 1
edTPA Common Architecture

	Artifacts	15 Rubrics
Planning instruction and assessment	Lesson plans, instructional materials, student assignments, assessments Planning commentary	Planning for content understandings Supporting students' learning needs Planning assessment to monitor student learning
Instructing and engaging students in learning	Unedited video clips Instruction commentary	Demonstrating a positive and engaging learning environment Engaging students in learning Deepening learning during instruction Subject- specific pedagogy
Assessing student learning	Samples of student work Summary of student learning Assessment commentary	Analysing student learning Providing feedback to guide learning Supporting students' use of feedback
Analysis of teaching effectiveness	Planning commentary Instruction commentary Assessment commentary	Using knowledge of students to inform planning Analysing teaching Using assessment to inform instruction
Academic language development	Unedited video clips and/or student work samples Planning and assessment commentaries	Identifying and supporting language demands Evidence of language use to support content

The degree to which teacher trainee evaluation can be effective will have impact on the degree of quality of future teachers of a nation. Ideally, this has to be a continuous process involving school teachers. Certain systems that have made teacher training a higher education programme do not involve school teachers. The effect of non-involvement of school teachers become more catastrophic when the higher education teachers involved in evaluation of school teaching capability of teacher trainees do not possess current school teaching experience.

EVALUATION OF INITIAL TEACHER TRAINING PROGRAMMES

Dept. for Education, UK (2012a, p. 10) in order to compare initial teacher training programme in England with a few other countries, developed 11 indicators which are:

1. Modes of Learning and Assessment,
2. Training Programme Content,
3. Subject and Curriculum Preparation,
4. Time Spent in Schools or Appropriate Settings,
5. Age Ranges Addressed by Training,
6. Range of Settings,
7. Level and Type of Teaching Practice,
8. Similarity of Pedagogical Principles,
9. Classroom Control,
10. Communication and Relationship Skills, and
11. Level and Application of English Language.

National Council on Teacher Quality, US (2013, p. 54) made following observations in case of initial teacher preparation in US:

"Almost all states already either conduct site visits of teacher preparation programs themselves or outsource site visits to accreditors, but these visits have not proven to add value. States instead should deploy inspectors who are 1) professionally trained and managed by an independent agency, and 2) drawn primarily from the ranks of PK-12 principals. Inspectors would conduct visits with little notice and assess program features that are relevant to the needs of public schools in the state. They would also make their findings available-and understandable-to the public."

Worrell, Brabeck, Dwyer, Geisinger, Marx, Noell, and Pianta (2014, p.3) in a study conducted on behalf of the American Psychological Association pointed out effectiveness of three strategies for assessing and evaluating teacher preparation programmes in United States, which are :

- “*Value-added assessments of student achievement,
- *Standardised observation, protocols, and
- *Surveys of teacher performance.”

Recommendations for improving the quality of assessment and evaluation included:

1. Ensuring “that teacher preparation programs have strong affirmative, empirical evidence of the positive impact of their graduates on preK–12 student learning.”
2. Designing “systems of data collection that include information collected at the stages of selection, progression, program completion, and post completion.”
3. Instituting mechanism to “track candidates’ involvement in various preparation experiences” and identifying “models of various program elements or candidate attributes that predict a positive contribution to preK–12 student learning.”
4. Developing “valid measures of student learning outcomes for all school subjects and grades to assess student learning outcomes similar to those currently available in mathematics, language arts, and science.”
5. Dedicating “appropriate resources for data collection and analysis.”
6. Identifying and retaining staff “with sufficient technical skills, time, and resources to conduct data analyses.”
7. Ensuring commitment “to a system of continuous improvement based on examination of data about their programs.”
8. Giving training to “program faculty and supervising teachers in the use of well-validated observation systems” and developing “a system for regular “reliability” checks so that the observations continue to be conducted with a high degree of fidelity.”
9. Identifying, developing, and validating “student surveys that predict student achievement.”
10. Continuously developing and validating “developmental benchmarks and multiple metrics to be used by teacher preparation programs for graduation decisions to ensure that

graduates are proficient teachers who make substantial impacts on student learning.”

11. Developing “curricula that prepare teacher candidates in the use of data such as student achievement scores, surveys, and observations so candidates can continue to self-assess, and faculty can assess the progress of their students.”
12. Reporting “annually to the public any adverse impact of implementation of assessments on the teaching force or pre K–12 learning.”

REGULATORY BODIES FOR INITIAL TEACHER TRAINING PROGRAMMES

A centralised regulatory body is impossible in case of large nations. US Dept. of Education (2014, p. 2) indicated role of states in quality monitoring of teacher training in the following words:

“*Build on innovative state systems and progress in the field to encourage all states to develop their own meaningful systems to identify high- and low-performing teacher preparation programs across all kinds of programs, not just those based in colleges and universities.

*Ask states to move away from current input-focused reporting requirements, streamline the current data requirements, incorporate more meaningful outcome measures and improve the availability of relevant information on teacher preparation.

*Reward only those programs determined to be effective or better by states with eligibility for TeACh grants, which are available to students who are planning to become teachers in a high-need field and in a low-income school, to ensure that these limited federal dollars support high-quality teacher education and preparation.

*Offer transparency into the performance of teacher preparation programs, creating a feedback loop among programs and prospective teachers, employers, and the public, and empower programs with information to facilitate continuous improvement.

*States would have primary responsibility and significant flexibility in designing their systems and evaluating program performance.

In Australia, recommendation by Teacher Education Ministerial Advisory Group (2014) for establishing a national initial teacher education regulator through a reconstituted Australian Institute for Teaching and School Leadership to overhaul and manage the accreditation of initial teacher education programmes and work with the states and territories to ensure rigorous accreditation processes operate effectively with teacher registration” was not accepted by the Govt. of Australia. Dept. of Education and Training, Australia (2015b, p. 5) said that

“The Government notes the Report recommendation for a new national regulator of teacher education courses, but does not believe establishing a new body will necessarily deliver better quality assurance nationally. Instead, the Government will utilise the expertise of existing bodies to achieve this outcome. AITSL will be given greater responsibility for driving improvement in the quality of initial teacher education and will work with state and territory teacher regulatory authorities to increase the rigour of assessment of courses for accreditation.”

National Council on Teacher Quality, US (2015, p. 82) recommending to hold teacher prep programmes to rigorous standards in inspections, stated that

“Revamp current inspections of teacher preparation programs that are performed as a condition of program approval. Almost all states either conduct site visits of teacher prep programs themselves or outsource site visits to accreditors, but these visits have not proven to add value. States instead should deploy inspectors who are 1) professionally trained and managed by an independent agency, and 2) drawn primarily from the ranks of PK-12 principals. Inspectors should conduct visits with little notice and assess program features that are relevant to the needs

of public schools in and assess program features that are relevant to the needs of public schools in the state. They would also make their findings available — and understandable — to the public.

Recommending collection of data that connects student achievement gains to teacher preparation programs, it stated that:

“Such data can include value added or growth analyses conducted specifically for this purpose or teacher evaluation ratings that incorporate objective measures of student learning to a significant extent. Collecting such data is a first step which should be followed by setting minimum performance standards and publishing the data and results publicly.”

In case of large sized nations, doubts have been voiced about utility of regulatory bodies, keeping in mind vast number of institutions and much variance among school systems of states.

ALTERNATE ROUTES FOR BECOMING CERTIFIED SCHOOL TEACHERS IN UK AND US

Alternatives to conventional initial teacher training programmes administered through conventional teacher training institutions are going on in many nations. In United States, in 1984, New Jersey State took such an initiative mainly to cater to the teacher shortage in specific subjects. Office of Innovations and Development, US (2004, p. 7) stated that:

“A successful alternative teacher preparation program attracts and selects the right candidates. It offers a carefully thought-out, research-based curriculum that is coherent and flexible. It provides effective support to candidates. And it is committed to its own continuous reflection and improvement.”

Quigney (2010, p. 54) stated that “Regardless of one’s perspective and position on alternative routes to certification in special education, their increasing existence in the field of teacher

education cannot be disputed.” Schleicher (2011, p. 27) mentioned about an innovative alternate route programme in US.

"The Boston Teacher Residency (BTR), established in 2003, is a teacher-preparation program that recruits high-performing college graduates and professionals and prepares them to teach in Boston schools. The program focuses on mastering the skills that teachers will need to be effective in the public schools in which teachers will work, emphasizing clinical training and pairing residents with experienced classroom teachers. Residents begin the program with a two-month summer institute, and then spend their first year in a classroom four days a week, spending the fifth day attending courses and seminars."

Office of Assessment, Research, and Data Analysis, US (2012, p. 1) pointing out usefulness of alternative certification route for school teaching, which make aspirants for teaching jobs generally undergo a pre-service preparation that typically ranges from four to 12 weeks during the summer stated that:

“Research indicates that most alternative certification programs provide a viable source of high-quality teachers and even increase the diversity of the teaching workforce. Many studies have found that alternatively certified teachers can produce student achievement gains comparable to teachers certified in traditional programs. In fact, evidence suggests those teachers' years of experience, rather than the manner in which they obtained their certification, is a more reliable indicator of their future ability to positively impact student achievement. Similarly, the school at which a teacher is placed has also been found to play a larger role in their effectiveness than the route through which certification is obtained.”

Dept. for Education, UK (2012a, p.10) stated about alternate routes for becoming school teacher as follows:

" 2. 3. 2 Professional/Non-Qualification Routes

Outside of the primary routes into the teaching profession, many countries now have alternative routes that take account of an individual's experience either in teaching, as an unqualified or under-qualified teacher or in a particular industry. In some cases, this experience may be validated through a process of Recognition of Prior Learning (RPL). This grants certain exemptions within an ITT programme and allows experienced individuals to be awarded the same qualification and status upon course completion as those who have undertaken the full programme.

In other cases, individuals without a degree or formal training may be awarded a teaching licence on the basis of their experience in teaching or industry, particularly those teaching vocationally-oriented subjects. Often this licence is temporary or has a different status to those awarded on completion of an ITT programme and as such these routes have been excluded from comparison."

The Open University, UK (2013, p.11) while mentioning different routes into teaching in England and Wales area of UK, stated about school centred initial teacher training as follows:

"These are training schemes provided by groups of neighbouring secondary and/or primary schools in England. The group of schools acts in the same way as an ITT institution and programmes lead to QTS and possibly a PGCE. Courses generally last one year and they allow graduates to complete almost all of their training in a school environment. Trainees are required to meet the same standards set for PGCE students."

According to Miami–Dade County Public Schools Research Services, US (2012, pp. 7-8) characteristics of effective alternative certificate routes include (a) High standards and rigorous screening of candidates; (b) Strong academic coursework component, (c) Opportunities for practice teaching before candidates enter the classroom, (d) A comprehensive system of support provided to teachers after they enter the classroom, and (e)

Community partnerships. According to this study, a few examples of noteworthy alternative certification programs are : (a) Teach for America (TFA), (b) The New Teacher Project (TNTP), (c) The American Board for Certification of Teacher Excellence (ABCTE), (d) New York City's Teaching Fellows Program and (e) The U.S. Department of Defense established Troops to Teachers (TTT).

INDUCTION PROGRAMMES FOR BEGINNING TEACHERS

New teachers face problems in getting adjusted to the school and also in applying the skills acquired in their initial teaching programmes in the actual classrooms. Some nations, finding initial teacher training degrees / certificates inadequate for selecting a person to act as a teacher, have been providing induction programmes for beginning teachers. Twenty five years ago, APEID (1990, pp. 57-58 mentioned about post employment training of teachers in Japan as an innovation:

“Beginning teachers are required to undergo a full year of training immediately after their employment under the guidance of supervising teachers. This training concerns both actual teaching and other duties of teachers.

- In administering training for beginning teachers, each school should establish a systematic mechanism whereby the supervising teachers and all other teachers at the school cooperate in the training of beginning teachers under the leadership of the principal.
- Specifically appointed supervising teachers are assigned to schools where beginning teachers have been placed. Further, every prefectural government should develop an appropriate structure for administering in-service programmes, including the appointment of supervisors in charge of these programmes.”

OECD (2005, p.118) reported variation among OECD countries with respect to duration: 1 year -2 years in US, 1 year in Israel, Italy, Japan and UK; 8 months in Greece; and 7 months in Korea, and 3 to 4 weeks, over a period of 2 years in Switzerland. In

France, one year induction programme was offered as part of the initial teacher education. There was no induction programme in Austria, Belgium, Chile, Finland, and Germany. National Commission on Teaching and America's Future, US (2005, p. 22) stated that "Comprehensive induction programs produce a high return on investment when novice teachers stay long enough to develop into high quality professionals who help students meet their full academic potentials." Jensen, Sandoval-Hernández, Knoll, and Gonzalez (2012, p.112) in their analysis of the experience of new teachers (having two years of paid teaching experience or less) suggested that the policy makers, while planning support programme or activities for new teachers, "consider placing a greater focus on appraisal and feedback for new teachers that is directly aimed at improving classroom management and dealing with student discipline." Vieluf, Kaplan, Klieme and Bayer (2012, p.112) reporting findings of TALLIS study stated that

"Teachers who use more diverse teaching practices and who participate more actively in professional learning communities also report higher levels of self-efficacy, receive more feedback and appraisal on their instruction, and report being more involved in professional development activities outside of schools."

Dept. for Education, UK (2012b, p. 4 stated that "All qualified teachers who are employed in a relevant school in England must, by law, have completed an induction period satisfactorily, subject to specified exceptions" (p. 4). Induction programmes are supervised by appropriate bodies - local authorities; teaching schools; and other organisations determined by the Secretary of State of the United Kingdom. Teacher induction programme in Scotland area of UK is considered to be the best. It is a paid programme. It provides for careful selection and training of mentors. Recent guidelines issued on induction programme in England area of UK (Dept. for Education 2015, p.7) stated that

“ While NQTs are encouraged to start their induction as soon as possible after gaining qualified teacher status (QTS), there is no set time limit for starting or completing an induction period.” ILO (2012, p. 246) reported about high quality induction programmes in Scotland as follows:

“A promising programme of induction and support for newly qualified teachers is the United Kingdom (Scotland) system, whereby newly qualified teachers are given a one year induction post which provides for 70 per cent teaching time and 30 per cent personal and professional development time. The programme also provides for a location bonus for the induction year if the student chooses a location outside the five most popular areas for initial assignments, thus linking the induction programme to deployment in areas of need.”

ILO (2012, p. 29) gave following description of teacher induction process in the Republic of Korea:

“Teacher induction in the Republic of Korea begins with a two-week period of pre-employment training in the metropolitan and provincial institutes of educational training, focusing on field-related cases and practical tasks and emphasizing student guidance, classroom management skills and basic teacher capacities. After recruitment, new teachers take part in a six-month-long field training led by the school principal, vice principal and advisory teachers that encompasses instructional guidance and evaluation, classroom supervision, student assessment, and assistance with administrative tasks. A third phase involves reflection and discussion with other beginning teachers and teacher educators.”

National Council on Teacher Quality, US (2013, p.4) in their study on the situation in US, referring to the necessity of strategies to take care of the first year teachers stated that "The heart of the matter for the field of teacher education is that students taught by first-year teachers lose far too much ground. And it's not just the

students who suffer. First-year teachers deal with so much anxiety and exhaustion that many just crash and burn." Teacher Education Ministerial Advisory Group, Australia (2014, p. xv) stated that:

1. "School systems and employers provide effective induction for all beginning teachers, including those employed on a short-term or casual basis" and
2. "Schools identify highly skilled teachers to mentor, assess and guide beginning teachers from provisional registration to full registration."

During induction, the newly qualified teacher receives a personalised induction programme, designated tutor support and the reduced timetable; and suitable monitoring, support, assessment and guidance procedures.

CONTINUING PROFESSIONAL DEVELOPMENT OF TEACHERS

Efficient teachers carry out their continuous professional development through action research and self-study and visits. At the time of introduction of new policies or skills, national governments carry out in-service programmes. Programmes are conducted, preferably during holidays. School based in-service training has been considered more effective. IIEP (2008, pp.13-14) stated that

"The greatest benefit of school-based training underlined by participants is the possibility of reducing the gap between what is taught in formal training institutions and the reality inside the schools. School-based training is therefore seen as a way to make the training more practical and reduce the effects of a possible 'culture shock' when beginning teachers are faced with a real teaching environment."

Professional development programmes work well when they are part of the school and also when it is a collaborative effort at the

school level. World Bank (2012, p. 13) mentioned following issues involved in programmes for continuous professional development of teachers and head teachers:

“Participation in professional development activities depends, among other things, on: (i) the conditions to access these activities and (ii) the incentives for doing so. Where participation is compulsory, teachers may be more focused on fulfilling requirements than taking advantage of opportunities for professional development. Alternatively, where participation is voluntary, teachers may sense that their professional development is not a priority for education policy makers. The provision of incentives for professional development (e.g., salary increases, promotions, reduction in teaching time) may foster participation, but for the wrong reasons. Where incentives are not available and participation is voluntary, participation may be too low, especially in countries where teachers work for many hours. “

OECD (2014a p. 84) referring to the situation in OECD countries stated that

“Professional development for teachers is also important, and is compulsory in 25 of the 33 countries with available data. A lifelong learning approach to teacher development is essential, considering that expectations of staff may change over time. For example, the growing diversity of learners, the greater integration of children and students with special needs, and the increasing use of information and communication technologies all demand that teachers continuously upgrade their skills. High-quality professional development can also help keep teachers in the profession.”

At the time of initial teacher training, a trainee may not be aware of problems to be faced and strategies that can solve these problems found after joining a school. In-service education helps the teacher for lifelong learning of the teacher to meet new

demands on the teaching profession in general and teaching in a school in particular.

RESEARCH AS AN EFFECTIVE TOOL FOR TEACHER EDUCATION

Recent reforms have their root in acceleration of the initiatives for national and international level educational researches. Many developed school systems have been giving stress on research and posting such data in websites for dissemination. European Commission (2013a, p.121) stated that

"Developing reflective and critical competences are key objectives for teachers who need to adapt to an evolving curriculum and to changing techniques and social environments. These are key to new education practices where creativity and innovation are combined with the objective analysis of rigour and assessment of outcomes, i.e. the intended qualities of training through research."

BERA-RSA (2014, p. 6) stated that

"Internationally, enquiry-based (or 'research-rich') school and college environments are the hallmark of high performing education systems.

To be at their most effective, teachers and teacher educators need to engage with research and enquiry – this means keeping up to date with the latest developments in their academic subject or subjects and with developments in the discipline of education.

Teachers and teacher educators need to be equipped to engage in enquiry-oriented practice. This means having the capacity, motivation, confidence and opportunity to do so.

A focus on enquiry-based practice needs to be sustained during initial teacher education programmes and throughout teachers' professional careers, so that disciplined innovation and collaborative enquiry are embedded within the lives of schools

or colleges and become the normal way of teaching and learning, rather than the exception.”

IMPROVING QUALITY OF FACULTY MEMBERS OF TEACHER TRAINING INSTITUTIONS

According to European Commission (2013b, p. 4), “Teacher educators are crucial players for maintaining - and improving - the high quality of the teaching workforce. They can have a significant impact upon the quality of teaching and learning in our schools.” Universities in developed nations prescribe qualification and appropriate experience in school teaching to act as a faculty member of a teacher training institution. ILO/UNESCO (1966, p. 6) stated that “The staff teaching pedagogical subjects should have had experience of teaching in schools and wherever possible should have this experience periodically refreshed by secondment to teaching duties in school”. Teacher Education Ministerial Advisory Group, Australia (2014, p. xiv) pointed out that it was essential that “Higher education providers ensure staff delivering initial teacher education are appropriately qualified, with a proportion having contemporary school teaching experience”. Certain nations also suggest standards. Nine standards mentioned by Association of Teacher Educators, US (2008) are:

- “1. Teaching: Model teaching that demonstrates content and professional knowledge, skills, and dispositions reflecting research, proficiency with technology and assessment, and accepted best practices in teacher education.
2. Cultural Competence: Apply cultural competence and promote social justice in teacher education.
3. Scholarship: Engage in inquiry and contribute to scholarship that expands the knowledge base related to teacher education.
4. Professional Development: Inquire systematically into, reflect on, and improve their own practice and demonstrate commitment to continuous professional development.
5. Program Development: Provide leadership in developing, implementing, and evaluating teacher education programs that

- are rigorous, relevant, and grounded in theory, research, and best practice.
6. Collaboration: Collaborate regularly and in significant ways with relevant stakeholders to improve teaching, research, and student learning.
 7. Public Advocacy: Serve as informed, constructive advocates for high quality education for all students.
 8. Teacher Education Profession: Contribute to improving the teacher education profession.
 9. Vision Contribute to creating visions for teaching, learning, and teacher education that take into account such issues as technology, systemic thinking, and world views.”

According to Eötvös Loránd University EDiTE team (2014, p. 12), six competence fields of the Dutch competence standard for teacher educators are:

1. *Interpersonal*: creates a safe (working) atmosphere;
2. *Pedagogical*: creates for student teachers an inspiring and stimulating learning environment;
3. *Organisational*: improvises if necessary;
4. *Working with colleagues in the organisation*: actively contributes towards the development and implementation of the organisation’s outlook and policy;
5. *Working in a wider context*: has a relevant network and keeps it up-to-date;
6. *Working on your own development*: reflects systematically on their own pedagogical approach and (teaching) behaviour towards students, colleagues and others.

However, the competences may vary from one situation to another, depending on the skills expected from the concerned teacher educators. European Commission (2013b, p. 29) stated that “Research on teacher educators mostly seems to focus on teacher educators as individuals - their identity formation, professional learning needs, and knowledge development. Little research exists on the profession as a whole, or on policies focused on the teacher educator profession.” Just as teachers need to be

lifelong learners, similarly, teacher educators need to be lifelong learners. In order to support teacher educators in continuously updating their knowledge and utilising the newly acquired knowledge in improving skills of imparting training, certain developed systems develop varieties of internet resources for teacher educators. In case of poor education systems, sporadic attempts are made through newsletters or journals.

INNOVATIONS IN TEACHER EDUCATION

American Association of Colleges for Teacher Education (2009, pp.99-100) listed following innovations: 1. Clinical Preparation; 2. Closing the Achievement Gap; 3. Community College or Technical College Partnerships; 4. Early Childhood Education; 5. Early College; 6. English Language Learners; 7. History; 8. Literacy; 9. Math; 10. Mentoring; 11. Middle School Teacher Preparation; 12. Online learning; 13. Principal Recruitment and Preparation; 14. Rural; 15. School Counselor Preparation; 16. Science; 17. Special Education; 18. Strengthening Instructional Skills; 19. Teacher Recruitment; 20. Technology; and 21. Urban Education. In US, Oprandy, Addington, Brown, and Rutter (2013, p. 94) reported that “Pre-service teachers playing the roles of supervisors learned how to take more initiative in structuring, or at least proposing alternative formats for, their future discussions of teaching.” According to them, following practices may be useful for any teacher education programme:

“Exposure to, and use of, focused observation tools to increase awareness of specific aspects of teaching and learning.”

“Awareness of the usually evaluative language used as well as non-judgemental alternatives when discussing our work with future colleagues, or instructional supervisors, or in any communicative setting.”

In Singapore, Haningto and Ellis (2013) reported about a blended learning approach for pre-service teachers as an innovation for

developing communication skills. Innovations are part of strategies of high quality teacher training institutions.

CONCLUSION

Strategies for developing high quality teachers vary from one nation to another. Efforts get boosted when a nation assures entry of talented individuals to teaching profession. Certain nations have given more preference to academic calibre and interest than training for teaching in university level institution. Certain nations carry out periodic evaluation of their policies for selection of teacher trainees, evaluation of performance of teacher trainees, initial teacher training curricula and teacher selection and recruitment on the basis of field study including reports from students, parents, community members and not the least from the heads of the institutions and other academic supervisors and follow up studies on the products of the teacher training institutions. Thus process of improving teacher quality gets refreshed from time to time and like teachers the experts involved in the process continue to learn on the basis of the feedback received from research studies conducted by the institutions of teacher training, schools and appropriate educational administration and policy making bodies..

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