1. Why teacher matters?

Teachers are not the only factor in student learning. School factors (e.g., school environment, curriculum, and peers), individual factors (e.g., expectations, motivation, and attitudes) and family factors (e.g., family support, parents’ expectation and education level, and home environment) affect student learning as well. Then, the question is why do we focus on teachers for improving student learning? And, why education policy that aims to improve education quality should target teachers? General consensus in educational research and policy making is that among the many school factors of which are open to policy influence, teachers are the most important and relatively easier to bring change compared to other school and non-school factors.

Empirical research, in recent years, identify that teachers are the single most influential factor of students’ quality learning experience. A recent research by RAND Corporation, for example, suggest that teacher influence on student performance, reading and math in particular, have two to three times higher compared to any other school factors such as services, facilities, and leadership (RAND, 2012). Furthermore, it is found that teachers have direct and/ or indirect influence on other school and non-school factors, such as classroom environment and homework (Hattie, 2003).

With these reasons, international organizations, such as UNESCO and OECD, are emphasizing the development and improvement of teacher workforce. The post-2015 agenda, for example, is shifting towards quality learning, which puts the teachers at the forefront.

1.1. Changing roles of Teachers

With fast globalization and the advent of a high technology era, the roles of teachers are also rapidly changing. Teachers today are involved in much broader roles compared to past 10 to 20 years, when teachers carried the role of assisting and guiding student learning, instruction. Teachers’ role has expanded to school, parents, and community level, as shown in table 1.

This changing role of teachers is emphasizing on preparing students for the knowledge-based society and economy, having students equipped with 21st century skills (e.g. transversal skills) as well as directing students with the capacity to self-motivate and engage in learning activities. The changes have strong implication for the post-2015 as Post-EFA agenda will focus on lifelong education.

<table>
<thead>
<tr>
<th>Changing roles of teachers 1</th>
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<tbody>
<tr>
<td><strong>At the individual student level</strong></td>
</tr>
<tr>
<td>- Initiating and managing learning processes</td>
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<tr>
<td>- Responding effectively to the learning needs of individual learners</td>
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<tr>
<td>- Integrating formative and summative assessment</td>
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<tr>
<td><strong>At the classroom level</strong></td>
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<tr>
<td>- Teaching in multi-cultural classrooms</td>
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<td>- New cross-curricular emphases</td>
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<td>- Integrating students with special needs</td>
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<tr>
<td><strong>At the school level</strong></td>
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- Working and planning in teams
- Evaluation and systematic improvement planning
- ICT use in teaching and administration
- Management and shared leadership

At the level of parents and the wider community
- Providing professional advice to parents
- Building community partnerships for learning

1-2. Teachers in Asia-Pacific Region

In recent years, the Asia-Pacific region is receiving much attention from the international society with its economic growth. In addition, the Asia-Pacific is home to 61.3 million international migrants of whom migrate primarily for economic reasons, but it should be noted that providing social services, such as education, is an important task (KEDi-UNESCO Bangkok Regional Policy Seminar, 2012), therefore, require more attention.

In 2008, UNESCO conducted a study entitled “Status of Teacher Education in the Asia-Pacific Region.” The report found that the ministries of education of the Asia-Pacific countries generally recognize the importance of teacher quality in improving learning outcomes. The report also includes general information of teacher education status of 25 countries in the region, and number of “interesting issues” (UNESCO, 2008, p.4) were pointed out. One of the concerns that were pointed out in this report is that the meaning of qualified teachers had great diversity among the participating countries, which can be attributed to the different cultures within the region. This means that some relevant issues to one country may not be as important to others. Also, fragmentation of teacher education, infrastructure and deployment of teachers, and structural issues are pointed out, and therefore, the report suggests more research on teacher quality and sharing of research at national and regional levels.

2. What matters?

The abovementioned concerns regarding teacher quality are not limited to Asia-Pacific, in fact, these are very common concerns all around the globe. The following three points can be summarized which are frequently addressed by research of teacher effectiveness and teacher quality.

1) Attracting qualified workforce to teaching profession
2) Teacher training – both pre- and in-service
3) Retaining qualified teachers

2-1. Attracting qualified workforce to teaching profession

It is projected that a large number of teachers will be retiring (baby boom generation) and consequently new teachers will enter the profession in the next 10 years (OECD, 2005). It is perceived that there is a trade-off with this substantial numbers of new teachers entering the profession; on the one hand, new teachers will bring new ideas that can potentially improve schools, but on the other hand, quality of education in schools can be at risk with the loss of experienced teachers (OECD, 2005). In addition, according to UNESCO report, it is projected that 5.2 million teachers are needed by 2015 globally. The Asia-Pacific (e.g. Central Asia, East Asia and Pacific, and Southwest Asia) region accounts for 1.4 million of the teachers needed, with a big concentration in Uzbekistan, Kazakhstan, Philippines, Indonesia, Viet Nam, Japan, Pakistan, and Iran.

There are identified many reasons of teacher shortage. The most referenced is job satisfaction of

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2 Afghanistan, Australia, Bangladesh, Bhutan, Cambodia, China, India, Indonesia, Iran, Japan, Kazakhstan, Kyrgyzstan, Lao PDR, Malaysia, Mongolia, Nepal, New Zealand, Pakistan, Korea, Singapore, Sri Lanka, Thailand, Timor Leste, Turkey, Vietnam
teachers and declined value of the teaching profession. International surveys, such as TALIS (Teaching and Learning International Survey) by OECD show that teachers themselves are concerned with the image and status of teaching positions, and recognize their profession is perceived as unattractive. What is more problematic is the difficulty to find quality teachers in high-demand subject areas (OECD, 2005). Subject areas such as computer science and technology, mathematics, and foreign language are top amongst the list. Expansion of various job opportunities, declining teacher salaries, and new roles and expectation for teachers may be some of the reasons of teacher shortage.

The major problem of teacher shortage is the its strong correlation with teacher quality. Policy makers and schools, with scarce resource and time constrains, tend to approach teachers shortage with short-term policy alternatives, such as, “lowering qualification requirements for entry to the profession, assigning teachers to teach in subject areas in which that are not fully qualified, increasing number of classes that teachers are allocated or increasing class sizes” (OECD, 2005, p. 5).

The UNESCO Strategy on Teachers 2012-2015 addresses the issue of teacher shortage at the forefront, and suggests to “Bridge the teacher gap in priority countries by developing further the national capacities to increase the number of qualified teachers and to deploy support and manage them effectively” (UNESCO, 2012, p.1). Specific activities include 1) reinforcing teacher training institutions and teacher educators, and 2) supporting teacher policy formulation, implementation and monitoring and facilitating feedback mechanism so that teachers’ views can also inform polices.

2-2. Improving teacher preparation: Pre-service and in-service

Existing research on the need for quality teacher is extensive. In fact, there is no need to stress the importance of teacher training as most countries have high priority on developing quality teacher training system. Teacher training issues are twofold: teacher preparation (pre-service) and professional development (in-service).

Teacher preparation is not only a matter of what (knowledge and skills) is taught at teacher preparation programs, but also how the programs operate require improvement. In fact, many countries currently lack systemic induction programs for new teacher (OECD, 2005). As abovementioned, fragmentation of teacher education infrastructure and deployment of teachers, and structural issues are still problems faced by many Asia-Pacific countries, and must be addressed with urgency.

Various efforts have been made to improve teacher training systems at the country, regional, and international levels in forms of suggestions, guidelines, and research. In general, it is agreed that teacher preparation programs should value the general education of trainee as well as his or her ability to teach and educate others that is based on the understanding of good human relations, and their sense of responsibility to contribute to social, cultural, and economic progress (ILO & UNESCO, 2008). The ‘UNESCO Recommendation Concerning the Status of Higher-Education Teaching Personnel’ provided the following suggestions for inclusions in the teacher preparation programs.

A teacher-preparation program should include:
- general studies;
- study of the main elements of philosophy, psychology, sociology as applied to education, the theory and history of education, and of comparative education, experimental pedagogy, school administration and methods of teaching the various subjects;
- studies related to the student’s intended field of teaching;
- practice in teaching and in conducting extra-curricular activities under the guidance of fully qualified teachers.
All teachers should be prepared in general, special and pedagogical subjects in universities, or in institutions on a level comparable to universities, or else in special institutions for the preparation of teachers.

Education for teaching should normally be full-time; special arrangements may be made for older entrants to the profession and persons in other exceptional categories to undertake all or part of their course on a part-time basis, on condition that the content of such courses and the standards of attainment are on the same level as those of the full-time courses.

Consideration should be given to the desirability of providing for the education of different types of teachers, whether primary, secondary, technical, specialist or vocational teachers, in institutions organically related or geographically adjacent to one another.

*Note: Compiled by author from UNESCO Recommendation concerning the status of higher-education teaching personnel (1997, p. 26)*

The other concern of teacher training is related to further development of teachers, i.e., professional development of teachers or in-service training. Are teacher training services providing the necessary and adequate knowledge and skills that meet the needs of today’s school? Are teachers being prepared to perform in the knowledge-based 21st century context?

One area that is overlooked in teacher training is Information and Communication Technology (ICT). ICT, of course, does not automatically improve the quality of education (Dellit, 2008). In fact, if misused, ICT can disturb teaching and learning activities in classrooms (Welingsky, 1998; Kreuger, 2000). However, there is growing evidence that utilizing ICT can accelerate and improve student learning (Dellit, 2008). ICT, potentially, has the power of changing what students learn, how students learn, and where and when students learn (see Oliver, 2002 for detail). Nevertheless, despite political efforts and financial investments by governments, the results are not satisfying (Oliver, 2002).

In addition, in recent years, there is growing body of research questioning the delivery method of professional development. Research on professional development is finding powerful opportunities (Stein et al., 1999) and there is a common agreement on the necessary content, context, and design to ensure ‘high quality professional development’ (Hawley & Valli, 1999). The following provides a short summary of research findings.

- Teachers have greater chance to learn new knowledge and grow skills and change their practice when professional development is coherent, focused on content knowledge, and involved active learning (Garet, Porter, Desimone, Birman, & Yoon, 2001).
- Professional development is more effective when presented in coherence with school reform effort (not in traditional one-shot workshop) (Saxe, Gearheart, & Nasir, 2001).
- Traditional format of professional development, which are episodic and fragmented does not allow for rigorous and cumulative learning (Knapp, 2003).
- Collaborative and collegial learning environments in professional development promote individual development (classroom level) as well as school change (school level) (Darling-Hammond & McLaughlin, 1995; Hord, 1997; Knapp, 2003; Louis, Marks, & Kruse, 1996; Perez et al., 2007).
- Collective environment in work and professional development promote opportunities for teachers to raise issues, take risks, and address dilemmas in their classroom practices (Ball & Cohen, 1999; Bryk, Camburn & Louis, 1999; Little, 1990).
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- Active learning opportunities, in professional development, provide teachers opportunities to inquire their classroom practice, and are more likely to transform their teaching (Snow-Renner & Lauer, 2005).

- Professional development should be sustained, coherent, and intense, which is more likely to change classroom practice of teachers (Cohen & Hill, 2001; Garet et al, 2001; Supovitz, Mayer, & Kahle, 2000).


2-3. Retaining qualified teachers

Teacher retention closely connects with teacher shortage. As mentioned above, UNESCO projected that 5.2 million new teachers are needed worldwide by 2015, out of which approximately 30 percent is from new posts and 70 percent is from attrition. Research identified that teachers have great concerns about the increase in workloads and stress. In addition, compared to other professions, teachers have poor working environment, as many school facilities are old. The most problematic issue regarding teacher retention is that policy responses, such teacher salary, rewards (incentives), are slow and ineffective.

As abovementioned, most countries (developing countries in particular) respond to the issue of teacher shortage by short-term and finance driven solutions, such as increasing class sizes, lowering the qualification of teaching profession, and relying on short-term contract based teaching force, which can be counter-productive in terms of improving the quality of teaching and learning.

Simply said, with many new jobs created and opportunities available in other profession, teaching profession is becoming less attractive. In addition, while expectations and demands for schools increased, translating into heavier workload for teachers. Policy makers, however, are not dedicating enough resources to ensure that teachers can meet the system needs.

High rates of teacher attrition affect the quality of education in many ways: first, students are more likely to meet less experienced teachers; second, it is harder to have coherence in teaching and learning activities, which hinders the success of school reform efforts; and finally, more resources needs to be spent on training new teachers, instead of being spent on improving education quality needs (Boyd et al., 2008).

3. Policy implication - How do we support teachers?

As the focus of the post-2015 education agenda shifts towards quality learning, and for quality education, teachers will need to be at the forefront of education policy. For many years, the international community shares a consensus on improving student learning in terms of “balancing teacher quantity and quality” (UNESCO, 2006, p. 78).

Have countries neglected this situation and not made efforts to increase the number of teachers? Is teaching a job that is no longer considered as a promising profession? Are teachers adequately prepared with the necessary knowledge and skills? Why are young teachers leaving the teaching profession? What are the most effective ways to support teachers to improve their performance?

3.1. Need for more quality teachers

The shortage of teachers starts from the question of ‘is the teaching profession attracting enough numbers of good potential teachers?’ The answer, in many countries, can easily be no, as we find the
increasing number of short-term contract-based teachers in recent years (OECD, 2014). The teaching profession as a whole is losing its competitiveness in the labor market. This is simply not a matter of paying teachers more – although it is clearly critical – but of valuing the profession and trusting teachers to prepare our future generation. Traditionally, teachers in many Asia-Pacific countries are considered as public servant, and in some countries they have a status of public servant by law. This provided great advantages to the teaching profession, such as job stability – a huge benefit in terms of attracting talented new entrants, however, this is no longer the case in many countries in the region.

3.1 Improve the image and status of teachers

As abovementioned, teachers express their concern on heavy workload, morale (job satisfaction), and their career development. This is not a matter that only affects current teachers, but also future teachers, since current students, who are the next generation of teachers, experience the low morale of their teachers. It has been identified that teachers’ low morale and stress is highly associated with their poor work environment, therefore teacher policy should pay more attention to teacher work environment. In addition, to increase the morale of teachers, much attention needs to be paid on improving societies’ perception of the teaching profession.

3.1.2 Improve teacher work environment

Interestingly, research on teacher attrition has found that most teachers who leave the profession are either new teachers (with 2-3 years experience) or veteran teachers (as retirement). Therefore, the question is why are the teachers leaving in the early stage of their career, and how to retain teachers in the middle? Research (Plantt & Olson, 1990; Benham Tye & O’ Brien, 2002) suggests the salary (monetary rewards and incentives) is not the number one reason of teachers leaving the profession, but their work environment.

As abovementioned, the society needs teachers to take up new roles. Additionally, there is always pressure for improving student achievement which has been increasingly emphasized in the name of accountability in recent years. However, the issue of accountability raises many important questions, for example, are teachers getting enough support to focus on teaching and learning, or are they burdened with extra work?; is leadership support targeted at improving teaching and learning activities, or is it simply centered around improving test score results?; are teachers given enough autonomy to make decisions about their classroom practice?; do family members (i.e. parents) participate enough in school-related activities? Answers to these questions will provide guidance as to how to improve teachers’ work environment.

3.1.3 Improve salary competitiveness

Although it is not the main factor of attracting and retaining good teachers, teacher salary is proven by research to be a critical element in the equation. It is a challenge for the teaching profession to compete with other professions as new jobs are created - technology related in particular - in the knowledge-based economy. It must be clear, however, that the answer is not to simply raise salaries, but improve image and status of teachers as well as their work environment, in order to attract and retain quality teachers. In fact, research finds that teacher salary is not directly associated with quality education; instead, teacher salary connects with education quality by “increasing the work effort of experienced teachers, by retaining better teachers, or by raising the efforts of young teachers who lack job security” (Hanushek et al., 1999, p.44).

3.2 Teacher development as a continuum

An identified problem of teacher development is that it is not continuous, but fragmented. Teacher development should be aligned from initial teacher preparation to professional development (in-service training), and furthered into teacher career development. Many new teachers explain their first year in school as ‘walking through the jungle,’ which may be the primary reason for leaving the
profession within the first two to three years. As our society is requiring new knowledge and skills, policy makers (at country and international levels) are asking and demanding teachers to perform new roles in their classrooms. But this does not translate into support for teacher preparation.

There must be clarity about what teachers are expected to do in their classrooms, more specifically, what they need to know and do. This requires an alignment of the whole teacher development system. From the initial teacher preparation programs, teachers should be trained with strong subject knowledge, pedagogical skills, and tools to work with students. In addition, the training programs must be up-to-date in knowledge and pedagogical skills. This is also the same case for professional development (in-service training), which seldom deals with current and necessary content (e.g. ICT).

Teacher evaluation could serve in many areas for education quality. Among many, perhaps two, accountability and staff (teacher) development, are the most widespread purpose of teacher evaluation.

\textit{Accountability-oriented} – contributing to the personal goals of the teacher and to the mission of the program, the school, and the total educational organization, and should provide a fair measure of accountability of performance (i.e., summative focus).

\textit{Improvement-oriented} – contributing to the personal and professional development needs of the individual [teacher] as well as improvement within the school (i.e., formative focus).

(Stronge & Tucker, 2003)

Teacher evaluation has great advantages, when adequately designed and implemented. From improvement of teaching force (individual teachers) to school-wide reform, teacher evaluation is already implemented in many different countries in different forms. However, there are voices, primarily from teachers, that teacher evaluation is unhelpful and many school reform and improvement efforts failed. The most misuse (or misimplementation) of teacher evaluation is found when the evaluation is not aligned. In other words, teachers feel evaluation is unhelpful when it focus on the goal to be achieved rather than the current practice (status) in the classroom.

For effective teacher evaluation, Darling-Hammond and her colleagues (2012) emphasize the importance of making a distinction between teacher quality and teaching quality. For teaching to be effective, she states, “policy makers must address the teaching and learning environment as well as the capacity of individual teachers” (p. i). Furthermore, she suggests seven criteria for effective teacher evaluation system.

- Teacher evaluation should be based on professional teaching standards
- Evaluations should include multi-faceted evidence of teacher practice, student learning, and professional contributions
- Evaluators should be knowledgeable about instruction and well trained in the evaluation system
- Evaluation should be accompanied by useful feedback, and connected to professional development opportunities
- The evaluation system should value and encourage teacher collaboration
- Expert teachers should be part of the assistance and review process
- Panels of teachers and administrators should oversee the evaluation process

Well structured and designed professional development (e.g. professional development) not only provides knowledge and skills for teachers, but also provides opportunities for school improvement (Louis et al., 1996; Little, 2003). This is also positively correlated with school reform – teachers who receive intensive and collective (within collegial learning opportunity) professional development is more likely to provide the same quality learning opportunities for students.
3.3 Effective teachers - Connecting research (theory) into practice

Research on teacher effectiveness has found common characteristics of effective teachers that associate with positive learning outcome. Various research (Shulman, 1987; Larkin, 1983; Borko & Livingston, 1990; Swanson et al., 1996) found that effective teachers are 1) more knowledgeable of teaching – learning activities (pedagogical knowledge), 2) proficient in creating optimal classroom environment for learning, 3) active in monitoring students and providing feedback (especially for students who have difficulties in learning), and 4) more respective of their students (learning progress). Although we have rich knowledge base on why teacher matters and what and how we can deal with the problems that we face, teacher policy, in general, is not treated with urgency. As reviewed, answers to most problems, if not all, are addressed, but many countries do not have a clear action plan to address the issues at policy level. In recent years, many cases in education reform (improvement effort) mostly focused on student achievement (e.g. academic performance), contents (e.g. 21st century skills, transversal skills), and sometimes cost-benefit in the framework of school accountability. Education policy needs to pay more attention on teachers; and again, it should not be forgotten that teachers are the single most influential factor in education quality.


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