Some Key Questions on Continuous Professional Development (CPD)

1. What training or professional development do teachers need and how often should it be required of teachers?

2. Who should provide the support: schools, resource centers; universities; teacher training colleges; professional teacher associations or unions, distance learning providers?

3. What should be the major focus of the professional development: general pedagogy; academic knowledge; specific subject pedagogy; effective teaching; classroom and school management issues, HR or education system issues?

4. How do we know if the ongoing professional development is effective?

5. What is the role of teacher support networks to support ongoing professional development?

(See Policy Brief 8 for further information)

Executive Summary

- The professional development of teachers goes under a variety of names, including staff development, in-service education, or continuing education, but perhaps the most widely used is continuous professional development. This includes the range of formal and informal processes and activities that teachers engage in both inside and outside the school in order to improve their teacher knowledge and skills.

- The school setting should be the prime focus of continuous professional development activity. The decision of what types of support networks and professional training are to be established ought to be made in direct consultation with staff within the schools and/or school clusters to match their needs.

- Relevant activities in continuous professional development/inservice education tend to focus on: improving teachers’ general education background; knowledge and understanding of the subjects they teach; instruction on how children learn different subjects; developing practical skills and competencies in those subjects; learning new teaching strategies; how to use new technologies; and improved professionalism and ethics.

- Among the characteristics of high quality continuous professional development are: it is a process, not an event; focuses on enhancing teachers’ content mastery and pedagogical knowledge; based on the best available research evidence; incorporates principles for adult learning; is relevant and focused on current needs/day-today responsibilities of teachers; aligned with school-wide improvement goals; collaborative and collegial with direct teacher input; provides opportunities for peer discussion, reflection and follow-up; and focused within the actual school setting.

- Methods for continuous professional development include the following: regular teacher group meetings, often within a sub-cluster group; in-school mentoring; professional reading; attendance at courses conducted by local or regional educational agencies; forums conducted by teacher educators; workshops by professional teachers’ associations; recognition of prior learning often including a test or portfolio; regular university attendance; and distance learning.
Introduction

Nations throughout the world are recognizing that it is not sufficient to provide only initial/pre-service teacher training and certification, with nothing additional required throughout the professional life of teachers. This policy brief examines several issues surrounding continuous professional development. It looks at what is traditionally known as in-service education and now often goes under the title of continuous professional development. As a general rule, those professional development activities that focus on continuous on-the-job training/professional development to guide, monitor, and support necessary skills, knowledge and new ideas, tend to be more successful in bringing about change at the classroom level than those which seek quick fixes to fill up deficiencies, or programs that simply provide a qualification. Impact is even further enhanced when the support (skill development and resources) is brought directly into teachers’ classrooms, in contrast to support that is offered at a distance and requires time to travel. Teacher networks are an important element of supporting this process. This related topic is covered under Policy Brief 8.

1. What is meant by the continuous professional development of teachers?

The professional development of teachers goes under a variety of names, including staff development, in-service education, or continuing education, but perhaps the most widely used is continuous professional development. This includes the range of formal and informal processes and activities that teachers engage in both inside and outside the school in order to improve their teacher knowledge and skills. Research on continuous professional development concludes that it needs to be:

- targeted on teacher’s current classroom needs,
- ongoing,
- embedded into the teacher’s workday.

While these three characteristics appear to be obvious, much of the in-service training which teachers undergo violates one or more of them. Too much training consists of one-shot workshops, which have been almost universally criticized as irrelevant, boring, and having little or no effect on either teacher behavior or student learning. Teachers are too often treated as passive receptacles, and the topics covered are uncoordinated and randomly changed from one event to another. While teachers might gain some valuable information from coverage of such topics as classroom management, disciplining students, or working with parents, these seldom have much, if any, effect on these three critical areas of professional development:

- content knowledge (deep understanding and mastery of subjects to be taught),
- pedagogical knowledge (particularly subject specific instructional strategies),
- knowledge about the uniqueness of the age-group being taught.

2. Where should professional development be focused?

The school setting should be the prime focus of professional development activity. The decision of what types of support networks and professional training are to be established ought to be made in consultation with staff within the schools and/or school clusters since they are in the best position to determine what activities and structures will be most supportive of their work.

A central principle of professional development of teachers is that it is a process, not an event. It involves change over time and is achieved in stages during a teacher’s career as more experience is gained. The stages are impacted by: (i) the degree and accessibility of services and support that can be provided within the education system, and (ii) the willingness of teachers to want to learn and apply new ideas.
3. **What professional development do teachers need to be effective?**

Teachers who are able to develop sound academic achievement with their pupils tend to share many of the following characteristics. Focusing on developing these characteristics through professional development programs is very useful. Effective teachers tend to:

- know their classroom subject matter;
- use pedagogy appropriate for their content;
- use an appropriate language of instruction, and have mastery of that language;
- create and sustain an effective learning environment;
- find out about and respond to the needs and interests of their students and communities;
- reflect on their teaching and children’s responses and make changes to the learning environment as necessary;
- have a strong sense of ethics;
- are committed to teaching; and
- care about their students.

The use of teacher performance standards\(^1\) as a tool for identifying training needs of teachers has also proven quite effective in different countries (see Annex 1). In addition to being a criterion-referenced tool, in Vietnam, the developmental levels in the standards enable teachers to reflect at what level of a particular competency they can master. This helps tailor the training and professional development to teachers’ needs. Evidently, the supply side needs to adjust in response to this approach of professional development. “One size fits all” training will not work well (Thanh, 2009). Teachers should play an active role in identifying their specific professional development needs based on their direct classroom responsibilities and issues.

Teacher’s content knowledge and pedagogy, specific to a particular subject area and age group, tend to be listed as the most important components of professional development. Research throughout the world backs up the importance of these topics, as too many teachers have not even mastered the subject matter they are supposed to be teaching to the children in their classrooms.

The following table presents the findings from a study of teacher knowledge of the subjects they are teaching in Indonesia, in which primary school teachers had mean scores on primary academic subjects of 34 and 37 correct out of 90 items. In many secondary subjects (history, physical education, mathematics, physics, biology, economics, sociology, geography and arts), teachers were not able to even achieve a mean score of 50% correct. As worrying as the extremely low mean scores are, the bottom scores of 5 correct out of 90, 3 out of 60, or 1 out of 40 indicate teachers who are themselves almost illiterate in the subjects they are teaching. The top scores also indicate a real problem, with not a single case of a teacher having mastered all the examination items, which they were supposed to have been teaching. Studies such as this are not limited to Indonesia, but can be found in many countries, particularly where low salaries and prestige attract and retain less competent individuals to the profession. It also underscores the critical nature of ongoing professional development for teachers in content knowledge and pedagogy. It speaks to not only a better screening process for entry into the profession, but also ongoing “academic” education for teachers to gain a “deep knowledge” of their subject areas.

---

\(^1\) See Policy Brief 1 on Effective Teachers and Performance Standards
Table 1: Indonesian Results of Teacher Competency Assessment

<table>
<thead>
<tr>
<th>#</th>
<th>Subjects Tested</th>
<th># of Items</th>
<th>Means</th>
<th>SD</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General Test for Primary School Teachers</td>
<td>90</td>
<td>34.26</td>
<td>6.56</td>
<td>5</td>
<td>67</td>
</tr>
<tr>
<td>2</td>
<td>General Test for Other Teachers</td>
<td>90</td>
<td>40.15</td>
<td>7.29</td>
<td>6</td>
<td>67</td>
</tr>
<tr>
<td>3</td>
<td>Scholastic Test</td>
<td>60</td>
<td>30.20</td>
<td>7.40</td>
<td>3</td>
<td>58</td>
</tr>
<tr>
<td>4</td>
<td>K-Class Teachers</td>
<td>80</td>
<td>41.95</td>
<td>8.62</td>
<td>8</td>
<td>66</td>
</tr>
<tr>
<td>5</td>
<td>Primary School Class Teachers</td>
<td>100</td>
<td>37.82</td>
<td>8.01</td>
<td>5</td>
<td>77</td>
</tr>
<tr>
<td>6</td>
<td>Primary School Physical Educ. Teachers</td>
<td>40</td>
<td>21.88</td>
<td>5.56</td>
<td>8</td>
<td>36</td>
</tr>
<tr>
<td>7</td>
<td>Civics Teachers</td>
<td>40</td>
<td>23.38</td>
<td>4.82</td>
<td>3</td>
<td>39</td>
</tr>
<tr>
<td>8</td>
<td>History</td>
<td>40</td>
<td>16.69</td>
<td>4.39</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>9</td>
<td>Indonesia Language</td>
<td>40</td>
<td>20.56</td>
<td>5.18</td>
<td>2</td>
<td>36</td>
</tr>
<tr>
<td>10</td>
<td>English</td>
<td>40</td>
<td>23.37</td>
<td>7.13</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>11</td>
<td>Secondary School PE Education</td>
<td>40</td>
<td>13.90</td>
<td>5.86</td>
<td>2</td>
<td>29</td>
</tr>
<tr>
<td>12</td>
<td>Mathematics</td>
<td>40</td>
<td>14.39</td>
<td>4.66</td>
<td>2</td>
<td>36</td>
</tr>
<tr>
<td>13</td>
<td>Physics</td>
<td>40</td>
<td>13.24</td>
<td>5.86</td>
<td>1</td>
<td>38</td>
</tr>
<tr>
<td>14</td>
<td>Biology</td>
<td>40</td>
<td>19.00</td>
<td>4.58</td>
<td>5</td>
<td>39</td>
</tr>
<tr>
<td>15</td>
<td>Chemistry</td>
<td>40</td>
<td>22.33</td>
<td>4.91</td>
<td>8</td>
<td>38</td>
</tr>
<tr>
<td>16</td>
<td>Economics</td>
<td>40</td>
<td>12.63</td>
<td>4.14</td>
<td>1</td>
<td>33</td>
</tr>
<tr>
<td>17</td>
<td>Sociology</td>
<td>40</td>
<td>19.09</td>
<td>4.93</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>18</td>
<td>Geography</td>
<td>40</td>
<td>19.43</td>
<td>4.88</td>
<td>3</td>
<td>34</td>
</tr>
<tr>
<td>19</td>
<td>Arts Education</td>
<td>40</td>
<td>18.44</td>
<td>4.50</td>
<td>2</td>
<td>31</td>
</tr>
<tr>
<td>20</td>
<td>Special Education</td>
<td>40</td>
<td>18.38</td>
<td>4.43</td>
<td>2</td>
<td>29</td>
</tr>
</tbody>
</table>


4. What are the characteristics of high quality programs?

The characteristics that influence the effectiveness of professional development are multiple and highly complex. The ones most supported by research and educational experts are that they:

- enhance teachers’ content knowledge and pedagogical knowledge
- are based on the best available research evidence
- incorporate principles of adult learning
- are relevant and focused on current teacher needs
- are linked to professional teacher standards
- are ongoing and continuous
- are embedded in the teacher’s day-to-day responsibilities
- are aligned with broader school-wide improvement goals
- are collaborative and collegial with other school staff
- provide opportunities for discussion, reflection and classroom follow-up
- are strongly linked to meaningful student curricular which reflects the real world situation for student learning.

Many of the above elements are well known. However one of the areas which is often overlooked is that of incorporating principles of adult learning. In-service workshops and much pre-service teacher training have a generally well-deserved reputation as not working well with adults at their intellectual level. Teaching adult learners is not the same as teaching children, and while present and future teachers need to be capable of bringing academic content down to the level of the age of the children they are teaching, teachers need to be taught as intellectually curious and reflective adults.

High quality programs also make strong links to the real world situation. The words relevant and “focused on results” are perhaps overused in much of the literature, but regrettably, much of what is taught in schools today is rote memorization of grammar or arithmetic rules, with little connection to the real...
world. Too much of the curriculum has little or nothing to do with preparing students for either further education or the world of work. Standards, both for the curriculum and for teachers can now be found in many countries, but these are often little more than copies of lists found on the internet from other countries. Each nation must go through a rigorous process of developing meaningful curricular and professional standards for their particular schools and cultural setting.

Ongoing and continuous professional development does not mean endless workshops and meetings, but it does mean that as part of school-wide improvement plans, the teachers and administrators are regularly focused on a set of achievable goals. Through inter-school visits, professional reading, classroom observations, collaborative and collegial planning by teachers, and regular workshops, teachers are constantly upgrading their skills, knowledge and abilities. Teachers need to be seen as “reflective” professionals, not just technicians who administer pre-packaged curriculum materials to children. Research has shown that even poorly educated teachers can reflect on their own teaching reality and bring about the necessary changes to improve it along with student learning in their classrooms. The following principles are used throughout the United States to judge the quality of in-service or professional development programs, particularly as they apply to new teachers.

**Table 2: Principles of New Teacher Assessment and Support**

<table>
<thead>
<tr>
<th>Principle 1:</th>
<th>Making content meaningful</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of subject matter meaningful for students.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Principle 2:</th>
<th>Child development and learning theory</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The teacher understands how children learn and develop and can provide learning opportunities that support their intellectual, social, and personal development.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Principle 3:</th>
<th>Learning styles/diversity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to diverse learners.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Principle 4:</th>
<th>Instructional strategies/problem solving</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The teacher understands and uses a variety of instructional strategies to encourage students’ development of critical thinking, problem solving, and performance skills.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Principle 5:</th>
<th>Motivation and behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive social interaction, active engagements in learning, and self-motivation.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Principle 6:</th>
<th>Communication/knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The teacher uses knowledge of effective verbal, nonverbal and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.</td>
</tr>
</tbody>
</table>

**Source:** INTASC Principles

5. **What are some of the different types of models which have proven effective?**

There are many models of delivery of professional development and teacher support. The question of how effective each mode of delivery is depends on the purpose of training:

- for national or regional introduction of new curriculum, textbooks and other new system initiatives, more centralized training and workshops tends to be appropriate;
- for continuous knowledge deepening and behavior change, more decentralized school-based modes of professional development should be adopted.

Please see Policy Brief 8 for further information on different teacher support networks for professional development including: school-based networks, cluster approach, business and institutional networks, and unstructured networks.
While it is often tacit, there is the expectation that professional development/in-service teacher education will eventually influence student achievement. In the following figures (Kennedy, 1998), researchers in groups 1 and 2 concentrated on changing teacher behavior, with the expectation that these behavioral changes would in turn lead to high student achievement. Researchers in group 3 sought to improve or extend teacher knowledge, followed by carefully prescribed curriculum and teaching practices. Finally, group 4 researchers also sought to improve and extend teacher knowledge, but then permitted much greater discretion in both curriculum and teaching practice. The three sets of boxes represent a continuum from more to less prescriptive, and from more focused on behavior to more focused on knowledge and ideas.

Figure 1: Path of Influence Assumed in Groups 1 and 2 (top) 3 (middle), and 4 (bottom)

In Annex Two the results of these approaches to the in-service training of teachers of mathematics is presented. The results indicate that in Group 1 type of training which focused on generic teaching behaviors relevant to all school subjects, the effect sizes were actually negative (-.14) on basic skills and that in reasoning and problem solving, the effect sizes were only a small .10. Group 2 studies focused on teaching behaviors applied to particular subjects were better on basic skills (.17) but not as effective on reasoning and problem solving (.05). Group 3 studies found that when the training was focused on curriculum and pedagogy related to how students learn, the effect size on basic skills was .13 and on reasoning and pedagogy was a high .50. Finally, group 4 studies were of trainings that focused on how students learn and how to assess student learning, with a .52 effect size on basic skills and a .40 on reasoning and problem solving.

These studies were done in the United States, where almost all teachers have at least a four year degree, and in many places also have master’s degree or higher, in addition to well equipped schools and a large array of instructional materials. In this type of setting, the research appears strong that training teachers in generic teaching pedagogies has little positive effect, and that the more focused the in-service training is on specific subject pedagogy, how students learn, and how to assess students the greater the value in improving student mastery of basic skills, in addition to promoting reasoning and problem solving. While it is always dangerous to generalize, it likely safe to say that countries with an under-educated and under-trained teaching force and a lack of instructional materials are more likely to follow the more prescriptive approach to in-service training. However, this and other research are now strongly recommending the importance of training in both “depth knowledge and understanding” of subject matter and pedagogy specific to a subject and age group.
What teachers do in their classrooms is absolutely critical to higher student achievement. The following table from (Good et.al, 1983) well summarizes for mathematics instruction a rather prescribed approach that emphasizes the teaching practices as found in models 1 and 2, but also includes subject matter specific pedagogies, along with what research has told us about the importance of practice, review, seatwork, and homework.

### Table 3: Summary of Key Instructional Behavior

<table>
<thead>
<tr>
<th>Daily Review (first 8 minutes, except first day of school week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Review the concepts and skills associated with the homework</td>
</tr>
<tr>
<td>2. Collect and deal with homework assignments</td>
</tr>
<tr>
<td>3. Ask several mental computation exercises</td>
</tr>
</tbody>
</table>

**Development (about 20 minutes)**

1. Briefly focus on prerequisite skills and concepts
2. Focus on meaning and promoting student understanding by using lively explanations, demonstrations, process explanations, illustrations, etc.
3. Assess student comprehension
4. Using process/product questions (active interaction)
5. Using controlled practice
6. Repeat and elaborate on the meaning portion as necessary

**Seatwork (about 15 minutes)**

1. Provide uninterrupted successful practice
2. Momentum- keep the ball rolling, get everyone involved, then sustain involvement
3. Alerting- let students know their work will be checked at end of lesson period
4. Accountability- check the students’ work

**Homework Assignment**

1. Assigning on a regular basis at the end of each math class except last day of school week
2. Should involve about 15 minutes of work to be done at home
3. Should include one or two review problems

**Special Reviews**

1. Weekly review/maintenance
2. Conduct during the first 20 minutes each Monday
3. Focus on skills and concepts covered during the previous week
4. Monthly review/maintenance
5. Conduct every fourth Monday
6. Focus on skills and concepts covered since the last monthly review

*Source: Good et.al. 1983*

6. **What are some of the current approaches to continuous professional development? Who should provide the training and support: schools; resource centers; teacher training colleges; universities; professional associations/teachers’ unions; or distance learning providers?**

In-service education is rapidly becoming a critical component of most educational systems. This is not just for the support of new teachers, but is becoming a required part of each teacher’s professional career development. In some cases, in-service courses can be used for academic credit towards degrees, while in others it is required for a continuing teaching or advanced teaching certificate.

The role of various possible actors poses the question of the role of the school (headmaster, deputy headmaster in charge of professional development, lead teachers etc) and the outside school support system in teacher professional development. Most experts believe that professional development is most
effective when it is spearheaded by the schools themselves. The districts and higher level education management need to make sure, however, that expertise and resources are available to the schools through whatever means works in different communities. Sharing expertise through the network of key teachers and best practices through bulletins, workshops or exchanges are the kinds of support that need to be made available to the schools.

Table 4 presents some of the approaches to continuous professional development currently being used. Further examples are noted in Annex 1.

<table>
<thead>
<tr>
<th>Table 4: Some approaches to continuous professional development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Innovation</strong></td>
</tr>
<tr>
<td><strong>Afghanistan</strong></td>
</tr>
<tr>
<td>- Over the next five years, the foundation of a teacher</td>
</tr>
<tr>
<td>education structure will be developed with pre-service</td>
</tr>
<tr>
<td>teacher training facilities established in every province and</td>
</tr>
<tr>
<td>linked to district Teacher Resource Centers that will provide</td>
</tr>
<tr>
<td>in-service teacher training to teachers in government or other</td>
</tr>
<tr>
<td>schools. Distance education strategies will be explored to</td>
</tr>
<tr>
<td>augment these fixed facilities. The Ministry is committed to</td>
</tr>
<tr>
<td>providing upgrading opportunities for teachers, and training</td>
</tr>
<tr>
<td>and technical assistance for school principals, administrators</td>
</tr>
<tr>
<td>and other staff whose role is to support teachers.</td>
</tr>
<tr>
<td>The Ministry will develop a set of in-service teacher training</td>
</tr>
<tr>
<td>modules. These modules will respond to the specific training</td>
</tr>
<tr>
<td>requirements of teachers in terms of both pedagogy and</td>
</tr>
<tr>
<td>subject knowledge. In addition, issues related to human rights,</td>
</tr>
<tr>
<td>HIV/AIDS, narcotics and environment protection will also be</td>
</tr>
<tr>
<td>incorporated into the curriculum and syllabi. 140,000 teachers</td>
</tr>
<tr>
<td>are to be trained in 2010. The in-service material will be</td>
</tr>
<tr>
<td>rigorously field-tested prior to finalization. The in-service</td>
</tr>
<tr>
<td>training programs will be facilitated by teacher educators, but</td>
</tr>
<tr>
<td>will be led by teachers themselves, based on practical</td>
</tr>
<tr>
<td>classroom experience.</td>
</tr>
<tr>
<td><strong>India</strong></td>
</tr>
<tr>
<td>In-service training of teachers is offered at the central,</td>
</tr>
<tr>
<td>state, regional, district and sub-district levels. At the</td>
</tr>
<tr>
<td>national level, in-service training programs are developed by</td>
</tr>
<tr>
<td>the following institutions: the National Council of Educational</td>
</tr>
<tr>
<td>Research and Training (NCERT); the National Institute of</td>
</tr>
<tr>
<td>Educational Planning &amp; Administration (NIEPA); the Central</td>
</tr>
<tr>
<td>Institute of English and Foreign Languages (CIEFL), Hyderabad;</td>
</tr>
<tr>
<td>and the Central Institute of Indian Languages (CIIL), Mysore.</td>
</tr>
<tr>
<td><strong>Sri Lanka</strong></td>
</tr>
<tr>
<td>In-Service: Teacher Centers and Regional English Support</td>
</tr>
<tr>
<td>Centers (RESCs) were set up to provide in-service programs.</td>
</tr>
<tr>
<td>Teacher Centers, assigned with the responsibility of</td>
</tr>
<tr>
<td>continuing teacher education, are attached to the Colleges of</td>
</tr>
</tbody>
</table>
### China

Teacher training here mainly refers to the trainings delivered to teachers on the job in order to help them develop further in their profession. In-service training of teachers in primary and secondary schools can be divided into degree and non-degree education. Degree education includes not only the make-up education for in-service teachers without qualified certificates, but also the upgrading education for in-service teachers with qualified certificates. The non-degree education is the main form of training to in-service secondary and primary teachers as their continuing education.

Since the 1980s, in-service teacher training courses have been increasingly available in universities and colleges to meet the need for systematic training in current methodologies. Most schools, mainly in the cities, will offer in-service training for their staff or faculties regularly. They can be mentored in basic skills training, collaborative lesson planning, participant observation, modern technology training or online teacher education during the school holidays. District or county teacher training delivered at this level are more closely related to the classroom texts and hands-on experience. Normally the teacher researchers in these on-line training schools will invite experienced teachers for a demonstration lesson. Online in-service training is particularly important for teachers in rural China.

### Egypt

Strengths of the school-based program for English teacher include:
- Preparatory school teachers receive materials on basic classroom teaching techniques. These materials are based on the instructional texts and can be used immediately by the teacher to make classroom teaching more interesting and effective.
- Because the training and support takes place at the school site:
  - Teachers receive training without having to take time off work or travel long distances;
  - Teachers can practice new techniques and discuss the new material with colleagues and senior teachers on a daily basis;
  - The senior teacher (or any interested and motivated teacher) can give classroom demonstrations using SBT activities, or attend demonstrations given by other teachers in the school.
- SBT activities increase communication and sharing of ideas among the English teaching staff.
- Transferring the SBT activities and ideas to other English classes in a school gives the senior teacher increased
responsibility for professional development, and increases the status of the senior teacher.

- Teachers in participating schools develop a better rapport through working together to integrate SBT activities into their classes.
- All teachers in the school receive new material and observe demonstrations (rather than one or two teachers being nominated to attend a local training session).
- SBT provides a positive focus for inspectors’ school visits, classroom observation, and meetings with teachers.
- Senior teachers monitor teacher using SBT activities on a day-to-day basis and can thus better assist inspectors on their observation visits.
- Among the most motivated teachers, SBT encourages creative thinking and problem-solving.
- SBT involves inspectors as demonstrators, trainers, observers and evaluators; and it strengthens the relationship between the supervising inspector, and the senior teacher in a participating school by focusing on professional development.
- SBT can serve as a link between a centralized type of in-service training program and specific teacher needs. It includes schools identified by the inspector general and the inspectors for improvement.
- Participating teachers and inspectors are encouraged to make suggestions and revisions, which are then incorporated into the SBT materials.

Indonesia

<table>
<thead>
<tr>
<th>a. <strong>Full university attendance</strong> to complete additional academic study. With this pathway, teachers must leave the classroom to complete their study full-time through the local university, a particularly costly option both in time and money.</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. <strong>Distance learning</strong> pathway through the Open University (Universitas Terbuka). This is the traditional distance learning mode in Indonesia. Teachers enrolling in distance learning courses can undertake formal study through the packaged resources made available by the Open University and will be able to attend local workshops provided by this university.</td>
</tr>
<tr>
<td>c. These avenues can also be supplemented by attendance at courses conducted by provincial LPMP and national P4TK, special training institutions offering courses, generally at the district or regional level.</td>
</tr>
</tbody>
</table>

In addition to these three avenues, a variety of new pathways are beginning to emerge:

| a. **New distance learning programs** at a consortium of universities has formed to provide the Hylite program to support teachers upgrading their elementary school teaching qualifications from two year to four year degrees. |
| b. **Local in-service activities** provided through the school cluster system (KKG/MGMP) has expanded. Additional funding has been disbursed m to individual gugus (clusters of schools). Cluster teacher working groups to plan courses and provide training for teachers on the basis of need. |
| c. **Districts will be encouraged to conduct forums** at which |

**Source:** Stevenson, 2008

As documented earlier, Indonesia has severe challenges when it comes to teacher knowledge of their subject matter. From international tests of student achievement such as the TIMMS, PIRLS and PISA, it also has seriously problems with the achievement levels on the part of a large majority of its students. In order to confront these and other issues, the Ministry of National Education (MONE) is seeking a massive upgrading of its teaching force; a doubling or tripling of salaries for teachers to attract and retain higher quality students to the profession; new teacher professional standards; new curriculum standards in all subject areas and many other reforms. It has also developed a number of possible pathways to support practicing teachers, as they seek to upgrade their credentials, become certified,
exemplary learning initiatives can be presented and discussed. At these regular events, principals, school supervisors, guru inti and expert teachers will be able to lead workshops and activities to expand teacher knowledge.

d. **Professional teachers associations** in areas of teaching subjects will also be fostered to create an on-going interest in and support for teachers wishing to undertake personal improvement in their teaching knowledge and skills.

e. **Universities will also be required to recognize the prior learning (RPL) of incumbent teachers.** Under the Regulations, up to 60% of the qualifications “gap” can be filled by credit points given for prior learning and experience. Universities can use a portfolio or examination process to enable teachers to use details of their professional experiences to determine the amount of advanced standing or credit given towards completion of the training course.

Whilst the government can provide a limited number of scholarships and grants to enable some teachers to study full-time or part-time, the majority of teachers will be able to receive credit through taking courses on-the-job on a part-time basis.

Vietnam

Teacher training institutions have the primary mandate to provide pre-service education, and not inservice. One path that Vietnam had tried was to ask teacher training institutions to develop in-service instruction materials, based on the findings of the application of the teacher standards, in a modularized approach. This helped to boost the role of teacher training institutions for in-service training. They were, however, reluctant to give credit to teachers who have completed these training modules, despite the fact that these modules in principle can be accumulated towards a higher degree.

Source: International Reading Association, 2008

**Source:** Thanh, 2009.

Making these institutions work on clinical research on teacher knowledge and behaviors is intended to help narrow the gap between them and the world of the schools.

7. **How do we know if the training and professional development is effective?**

This is the most difficult question, but the use of the following methods can be helpful:

- use professional teacher standards to help teachers and their supervisors reflect on the effectiveness of professional development and the degree of change of practice in classrooms;
- review student achievement results;
- formally access in-service training facilities.
Annex 1

New Jersey (USA) Standards for Required Professional Development of Teachers

PREAMBLE

The New Jersey Professional Teaching Standards Board believes that educators must be dedicated to a continuous plan of professional development that begins with their preservice activities, that continues with their induction into the profession, and that extends through the life of their professional career in education through on-going and sustained professional development endeavors. We further believe that effective educators are life-long learners, that professional development must be an on-going process of refining skills, inquiring into practice, and developing new methods.

The professional strengths and accomplishments of the school faculty at large must work to complement the learning needs and requirements of the entire student population. Professional development activities must also complement both the needs of the educator and the goals and objectives of the school district. Further, these activities must focus on the conditions which affect student learning in order for teachers to develop the knowledge and expertise needed to enable students to function as independent thinkers and creative learners both in the school community and in the larger environment of society as a whole.

In addition, professional development must engage each educator in a collegial and collaborative dialogue with other educators and education partners to broaden the knowledge and expertise needed to guide students toward the successful attainment and mastery of the New Jersey Core Curriculum Content Standards and to create supportive and effective schools.

We further believe that effective implementation of new techniques requires financial support, time and planning. Therefore, those new techniques and practices should be protected and nurtured as well as appropriately evaluated. Experimentation that is supported by a nurturing environment will encourage an atmosphere where educators constantly seek to learn about their work and to grow from the experience.

A common set of beliefs about teaching and learning is reflected in the following standards for professional development plans pursued by individual teaching staff members and for professional development plans created by the local professional development committees in school districts. These standards represent a new vision for professional development and provide guidance for the successful completion of the professional development requirements. The individual and district professional development plans should incorporate and be consistent with the standards, recognizing that not every standard needs to be addressed by every plan.

1. Enhances knowledge of subject content
   1.1 assists educators in acquiring content knowledge within their own discipline(s) and in application(s) to other disciplines
   1.2 enables classroom professionals to help students achieve the New Jersey Core Curriculum Content Standards (CCCS)
   1.3 routinely reviews the alignment of professional development content with CCCS and with the Frameworks in all disciplines

2. Improves understanding of the academic, social, emotional, and physical needs of each learner and ensures that educators utilize appropriate teaching skills to enable students to meet or exceed their potential
   2.1 enables educators to adjust instructional strategies based on knowledge of how students learn and develop

12
2.2 enables educators to plan and design approaches and strategies to support the intellectual, social, and personal development of each learner
2.3 assists educators to recognize students’ strengths and potential
2.4 enables educators to respect students’ talents, abilities and perspectives
2.5 enables educators to plan and design instructional strategies for inclusive classrooms
2.6 encourages the establishment of a learning environment that enhances student learning and critical thinking
2.7 supports a philosophy of school and classroom-based management which maximizes student learning

3. Reflects best available interpretations of relevant knowledge, including empirical research and the consensus of professional opinion in teaching, learning, and leadership
3.1 enables educators to:
   3.1.1 keep abreast of current educational research
   3.1.2 integrate new understandings into content and instruction
   3.1.3 enhance student learning through scholarship and experience
3.2 enables educators to provide challenging and developmentally-appropriate curricula that engage students in learning and thinking
3.3 acknowledges and respects the intellectual and leadership capacity of educators
3.4 enables educators to enhance their leadership skills and utilize them in the education community

4. Encourages educators to develop a variety of classroom based assessment skills
4.1 assists educators in adapting instruction based on observation and analysis of student work
4.2 enables educators to select, construct, and use assessment strategies for monitoring student learning
4.3 assists educators to develop assessment strategies linked to the CCCS

5. Provides for integrating new learning into the curriculum and the classroom
5.1 empowers educators to connect their learning to what they teach and to incorporate new concepts into practice
5.2 provides for initiation and implementation of desired change to achieve student outcomes
5.3 provides for ongoing support for individual educators within the school environment

6. Is based on knowledge of adult learning and development
6.1 recognizes adult motivation, stages of development, personal goals and needs and levels of expertise
6.2 encourages both the individual and the collaborative talents of educators
6.3 applies what is known about motivation for growth and enhances positive feelings of self worth
6.4 fosters confidence in educators’ abilities to achieve success
6.5 utilizes a variety of models and approaches, such as individually-guided staff development, observation/assessment, involvement in a development/improvement process, training, inquiry, etc.

7. Is periodically assessed to show its impact on teaching practice and/or student learning
7.1 utilizes a careful analysis of classroom, school and other data to guide future professional development efforts
7.2 uses educators’ self-assessment to evaluate the impact of professional development

8. Results from clear, coherent, strategic planning that is embraced and supported by the district’s governing body and by all levels of the school system
8.1 delineates what students are expected to know and be able to do
8.2 supports a clearly delineated vision and is aligned with the district and school goals
8.3 focuses on sound, research-based theories in school management
8.4 focuses on individual, collegial, school, and district improvement
8.5 is perceived by the professional staff and the community as a critical part of the
district’s quest for excellence
8.6 fosters the use of reflection and self-assessment in professional and intellectual
growth
8.7 allows educators to pursue personal educational opportunities that reflect the district’s
strategic plan
8.8 encourages careful experimentation with new practice and creative use of best
practice
8.9 reflects the educational outcomes the district seeks to achieve
8.10 assists educators in analyzing disaggregated student data (i.e., gender,
socioeconomics, ethnicity, and language) and in making decisions based on that data

9. Develops a school culture that fosters continuous improvement and that challenges traditional
roles and relationships among educators
9.1 recognizes that collegial support and interaction are essential to the success of every
aspect of education
9.2 provides for ongoing and meaningful collaboration among educators
9.3 values individual efforts at self improvement
9.4 provides educators with incentives and support to pursue a plan of continuous
improvement
9.5 involves strong leadership from all areas of the school community to encourage a
commitment to life-long learning
9.6 encourages creativity and innovation
9.7 supports the ongoing development of new skills in a collaborative environment
9.8 values the contribution of practitioners in the pursuit of enhanced student learning

10. Is supported by the intellectual and financial commitment which enables the achievement of
professional development plans
10.1 is an on-going process which respects the personal strengths and needs of each
educator
10.2 encourages governing bodies to support and participate in learning experiences that
will enhance their understanding of good professional development
10.3 encourages school administrators to support and participate in professional
development that will enhance student learning
10.4 is supported by a continuous and sufficient commitment of funding to achieve the
professional development plans
10.5 increases public understanding and encouragement for professional development,
including the need for time and financial support
10.6 includes access to technologies and other modern resources that are essential to
effective professional work and learning

11. Is supported by sufficient time during working hours to engage in collegial consultation and
learning and to support professional development
11.1 provides time for educators to team plan, collaborate, analyze data and student work,
develop and implement instructional practices, curricula and assessments, implement
federal, state, and local mandates, etc.
11.2 recognizes and considers the professional and personal obligations of the individual
educator

12. Empowers educators to work effectively with parent and community partners
12.1 assists educators in establishing relationships and partnerships with parents and
families
12.2 enables educators to identify and use community resources to foster student learning
12.3 promotes an environment where educators feel comfortable and confident working
collaboratively with other educators, parents, business and community leaders
Annex 2

Source: Kennedy, 1998

Standardized Effect Sizes Attained in Each Mathematics Study

<table>
<thead>
<tr>
<th>Study</th>
<th>Basic Skills</th>
<th>Reasoning, Problem Solving</th>
<th>Attitudes toward Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Test</td>
<td>Effect</td>
<td>Test</td>
</tr>
<tr>
<td><strong>Group 1—Focus on Teaching Behaviors Applying Generically to All School Subjects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stallings &amp; Krasavage (1986)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd grade</td>
<td>not specified</td>
<td>-.41</td>
<td></td>
</tr>
<tr>
<td>3rd grade</td>
<td>not specified</td>
<td>-.08</td>
<td></td>
</tr>
<tr>
<td>4th grade</td>
<td>not specified</td>
<td>-.34</td>
<td></td>
</tr>
<tr>
<td>Stevens &amp; Slavin (1995)</td>
<td>CAT Computations</td>
<td>.29</td>
<td>CAT Applications</td>
</tr>
<tr>
<td>GROUP 1 AVERAGE</td>
<td>-.14</td>
<td>.10</td>
<td></td>
</tr>
<tr>
<td><strong>Group 2—Focus on Teaching Behaviors Applying to a Particular Subject</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good et al. (1983)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th grade</td>
<td>SRA</td>
<td>.15</td>
<td></td>
</tr>
<tr>
<td>6th grade</td>
<td>SRA</td>
<td>.16</td>
<td>Problem solving</td>
</tr>
<tr>
<td>Mason &amp; Good (1993)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two-group format</td>
<td>Computation</td>
<td>.03</td>
<td>Concepts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Problem Solving</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Estimation</td>
</tr>
<tr>
<td>Whole-group Format</td>
<td>Computation</td>
<td>.32</td>
<td>Concepts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Problem Solving</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Estimation</td>
</tr>
<tr>
<td>GROUP 2 AVERAGE</td>
<td>.17</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td><strong>Group 3—Focus on Curriculum or Pedagogy Justified by how Students Learn</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobb et al. (1991)</td>
<td>ISTEP</td>
<td>-.01</td>
<td>ISTEP</td>
</tr>
<tr>
<td></td>
<td>Instrumental Arithmetic</td>
<td>-.06</td>
<td>Relational Arithmetic</td>
</tr>
<tr>
<td>Wood &amp; Sellers (1996)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 yr. vs. 1</td>
<td>ISTEP</td>
<td>.45</td>
<td>ISTEP</td>
</tr>
<tr>
<td></td>
<td>Instrumental Arithmetic</td>
<td>.16</td>
<td>Relational Arithmetic</td>
</tr>
<tr>
<td>2 yr. vs. 0</td>
<td>ISTEP</td>
<td>.35</td>
<td>ISTEP</td>
</tr>
<tr>
<td>1 yr. vs. 0</td>
<td>ISTEP</td>
<td>-.09</td>
<td>ISTEP</td>
</tr>
<tr>
<td>GROUP 3 AVERAGE</td>
<td>.13</td>
<td>.50</td>
<td></td>
</tr>
<tr>
<td><strong>Group 4—Focus on how Students Learn and how to Assess Student Learning</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carpenter et al. (1989)</td>
<td>Interview</td>
<td>.70</td>
<td>Interview</td>
</tr>
<tr>
<td></td>
<td>ITBS Number fact</td>
<td>.42</td>
<td>ITBS Complex</td>
</tr>
<tr>
<td></td>
<td>ITBS Simple Computations</td>
<td>.44</td>
<td>ITBS Advanced</td>
</tr>
<tr>
<td>GROUP 4 AVERAGE</td>
<td>.52</td>
<td>.40</td>
<td></td>
</tr>
</tbody>
</table>

Note: All effect sizes were derived from comparisons between treatment and control group. All use pooled within-group standard deviations to standardize the metric. Because Wood and Sellers used classes as their unit of analysis, rather than individual students, I multiplied their between-classes standard deviation by 19, the average class size, to make their metric comparable to the others.
Annex 3

Some Further Examples of Professional Development Programs

1. Egypt: School-Based Training/Support (SBT): Programs for English Teachers  (Source: LeBlanc 1997)

School-based training and support has been operating since 1994 in several areas of Egypt as pilot programs for English teachers at the preparatory level. The main goal is to provide in-service training and support to increase the effectiveness of teachers through training and mentoring at the school site.

Targets of the programs include:
- Teachers effectively using the instructional texts in the classroom
- Unifying the teachers in a school and actively encouraging them to work as a team
- Improving communication among Ministry of Education inspectors, senior teachers, school principals, school directors and parents
- Recognizing, acknowledging and rewarding individual creativity to create greater job satisfaction, enhanced self-worth, and professional pride in teaching
- Providing a model for the sharing of effective strategies for solving problems
- Identifying and actively encouraging those individuals who are models of excellence and potential leaders in their schools
- Providing a forum for participatory input that affects the sense of investment and consequent ownership that all participants develop toward their school
- Encouraging inspectors, teachers, and administrators to develop strategies for resolving conflict
- Encouraging more active and communicative pupil participation in the learning process
- Institutionalizing the model of using the school as a unit for ongoing professional development

Strengths of the program:
- Preparatory school teachers receive materials on basic classroom teaching techniques. These materials are based on the instructional texts and can be used immediately by the teacher to make classroom teaching more interesting and effective.
- Because the training and support takes place at the school site:
  - Teachers receive training without having to take time off work or travel long distances;
  - Teachers can practice new techniques and discuss the new material with colleagues and senior teachers on a daily basis;
  - The senior teacher (or any interested and motivated teacher) can give classroom demonstrations using SBT activities, or attend demonstrations given by other teachers in the school.
- SBT activities increase communication and sharing of ideas among the English teaching staff.
- Transferring the SBT activities and ideas to other English classes in a school gives the senior teacher increased responsibility for professional development, and increases the status of the senior teacher.
- Teachers in participating schools develop a better rapport through working together to integrate SBT activities into their classes.
- All teachers in the school receive new material and observe demonstrations (rather than one or two teachers being nominated to attend a local training session).
SBT provides a positive focus for inspectors’ school visits, classroom observation, and meetings with teachers.

Senior teachers monitor teacher using SBT activities on a day-to-day basis and can thus better assist inspectors on their observation visits.

Among the most motivated teachers, SBT encourages creative thinking and problem-solving.

SBT involves inspectors as demonstrators, trainers, observers and evaluators; and it strengthens the relationship between the supervising inspector, and the senior teacher in a participating school by focusing on professional development.

SBT can serve as a link between a centralized type of in-service training program and specific teacher needs. It includes schools identified by the inspector general and the inspectors for improvement.

Participating teachers and inspectors are encouraged to make suggestions and revisions, which are then incorporated into the SBT materials.

The success of the program is dependent on:

- The inspector-general or senior inspector must strongly support the introduction of the SBT into local schools, want to assist in its implementation, and keep pressure on inspectors and senior teachers to do the work.
- The inspector-general or senior inspector must identify key schools with strong senior teachers (especially in the first year of implementation), and make sure that the supervising inspector actively participates in SBT.
- The inspector-general or senior inspector and participating inspectors must be willing to implement procedures for quality control of SBT (e.g. attendance at demonstrations, following visits for instructional support, observations and constructive feedback to participating teachers, and encouragement and advice to senior teachers).
- The inspector-general or senior inspector and participating inspectors must be willing to meet regularly to discuss SBT, or to include SBT implementation as a discussion item during regularly scheduled weekly meetings.
- The format and advantages of using the school as a unit of ongoing professional development are well understood by all participants.
- This school-level support is linked to the larger education in-service training system.
- View SBT as a means of promoting community and organizational development, in addition to providing a forum for professional development, and improving teachers use of the books and other classroom skills.

2. China (Source: International Reading Association 2008)

Teacher training here mainly refers to the trainings delivered to teachers on the job in order to help them develop further in their profession. In-service training of teachers in primary and secondary schools can be divided into degree and non-degree education. Degree education includes not only the make-up education for in-service teachers without qualified certificates, but also the upgrading education for in-service teachers with qualified certificates.

The non-degree education is the main form of training to in-service secondary and primary teachers as their continuing education. Following the Regulations on Continuing Education for Secondary and Primary School Teachers issued in 1999, the targets of such trainings are to meet primary school teachers’ requirements of continuing education, to orient the new teachers during the probation period and to enhance the basic skills of all that hold teaching posts. These may occur in mainly four modes:
a) University/College Training
Since the 1980s, in-service teacher training courses have been increasingly available in universities and colleges to meet the need for systematic training in current methodologies. In the case of English teachers, a number of international cooperation projects have provided chances for teachers to attend in-service courses, such as the Sino-British projects supported by the ODA/British Council.

b) School-based Training
Most schools, mainly in the cities, will offer in-service training for their staff or faculties regularly. They can be mentored in basic skills training, collaborative lesson planning, participant observation, modern technology training or online teacher education during the school holidays.

c) District or county teacher training
Trainings delivered at this level are more closely related to the classroom texts and hands-on experience. Normally the teacher researchers in these on-line training schools will invite experienced teachers for a demonstration lesson. On these occasions the in-service teachers can share their experiences in designing lessons and give feedback on the effectiveness of the suggested teaching methods.

d) On-line Training for rural teachers
On-line in-service training is particularly important for teachers in rural China. The summer holiday in 2007 witnessed the implementation of a rigorous Plan of Teacher Training in West China, which was conducted on-line via http://www.teacher.com.cn, the website for primary and secondary school teacher education in China.

Challenges and Problems
• The main challenge and problem is the inefficiency of in-service training programs. Today various in-service teacher training courses are available in China, particularly in urban cities, but several studies revealed that teachers who attended these courses had difficulties in State of Teacher Education in the Asia-Pacific Region 39 putting new skills into practice due to situational constraints when they returned to their teaching environment.
• Teachers cannot afford to participate in in-service training. It is often impossible for teachers in remote areas of China to continue any kind of in-service training due to lack of financial support.
• Teachers cannot find the time for change in their already busy schedules, because the demands posed by daily teaching and other aspects of the reform continue to absorb a bulk of teachers’ energy, thoughts and attention.
Annex 3

References


19


