

# Chapter 8

## Building Capacity: Professional Development and Collaborative Learning About Assessment

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**Abstract** This chapter presents the topic addressed in Part II of the book entitled *Professional Development and Collaborative Learning about Assessment*. It begins by documenting why assessment for learning is challenging and why professional development is important. It then moves on to define what skills are needed to use assessment information to support learning and what practices are suitable indicators of such a competence. A co-regulation model is used to characterize different variations of professional development and collaborative learning. An entire section presents research evidence on the factors and conditions that enable or facilitate successful professional development and collaborative learning. As a conclusion, new perspectives from different chapters of Part II are provided, and recommendations are made on how to move forward in this domain.

### 8.1 Introduction

Professional development (PD) is a major component of policy enactment. It plays such an essential role in meeting the challenges of AfL implementation that it requires a part of this book of its own. Policy enactment and PD are closely interrelated, and there are several means by which PD may help enact AfL policy.

Although certain basic learning and training on classroom assessment occur at the preservice teacher training level, Part II is purposefully devoted to in-service teachers, as much of the learning on AfL can barely be achieved during the teacher education years and will primarily need to be supported and reinforced over many ensuing years. PD also involves all stakeholders, principals, head teachers, supervisors, and researchers who learn from each other during a PD activity. For instance, a school principal attending PD activities may develop an awareness of what AfL professional development consists of in terms of learning challenges and

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an understanding of the difficulties teachers will encounter in implementing new assessment strategies.

Part II is also about collaborative learning because, as this part of the book will show, it frequently occurs as a component of a global PD strategy. Furthermore, collaborative learning appears to be an essential condition for sustained and durable learning of AfL. Collaborative learning provides opportunities for policy enactors and stakeholders to exchange feedback information during and after professional development.

## 8.2 Why Assessment for Learning Professional Development Is Important and Challenging

Professional development is central to meet the challenge of implementing educational policies and causing the change that is needed to make classroom assessment play an important role in supporting student learning. It is also required for some of the reasons previously noted in the introduction on policy implementation (Chap. 2) and for the following reasons:

- *The complexity of AfL competence.* AfL necessitates the integration and mobilization of a series of skills in several domains of teaching practice: classroom management, instruction and learning, subject matter knowledge, curriculum, program of studies, and inevitably, assessment. This statement implies that AfL is a highly complex multi-faceted competence that requires much time to develop and that requires a form of accompaniment (mutual support, mentoring, and collaboration among peers) from a variety of stakeholders.
- *The lack of teachers' basic knowledge of assessment practice.* AfL PD requires prerequisite knowledge on classroom assessment. Several researchers have reported that the basic knowledge on which AfL could be developed is seriously lacking among in-service teachers. For instance, Schneider and Meyers (2012) reported that less than one-third of the teachers they sampled showed the skill to properly align the learning task to the stated learning goals. Yap (2007 in Schneider and Meyers 2012, p. 3) also observed that '34 % of teachers in their study could not accurately interpret a state standard of their own choosing.' Consequently, proper AfL PD may only occur once teachers have assimilated certain general prerequisites on classroom assessment; otherwise, the chances of successfully implementing AfL are seriously hampered.
- *The cognitive complexity of teachers.* Teachers' capacity to use AfL successfully depends on teachers' communication skills and their ability to interact with students. Reynolds (1970) has shown that there is a direct link between teachers' cognitive complexity and their verbal interactions with students. The implications of his study are that 'classes taught by cognitively simple instructors contain a high percentage of lecture, drill, teacher-direct talk and allow for

relatively little acceptance and use of student ideas, little student-initiated talk...’ (Reynolds 1970, p. 63).

- *The development of expertise.* Direct experience in using multiple sources of assessment information is a necessary condition for AfL learning. It takes time to develop *experts’ schemata* that will ‘allow them [teachers] to weight information so that its saliency and utility are determined quite quickly. In teaching, such skill in processing information is necessary because of the complex, dynamic, information-rich world of the classroom’ (Carter et al. 1987, p. 156).
- *Impact of PD on AfL.* AfL, as a part of a mandatory policy, is relatively new. Consequently, our knowledge base of what are the best in-service conditions to assist teachers in learning and using AfL consistently is relatively new and emerging. Moreover, ‘student-achievement related research is sparse and has not supported strong causal conclusions regarding the effect of teacher professional development in formative assessment practices on student achievement’ (Schneider and Meyer 2012, p. 3). This statement means that much progress still needs to be made in teacher PD before we can capitalize on the full impact of AfL on students’ learning outcomes.

### 8.3 Teachers’ Skills and Professional Development Challenges

The capacity to use assessment information appears to be a real challenge for teachers when the purpose is to support learning. For instance, Heritage et al. (2009) show that although teachers may agree on a student’s learning problem, they may not concur regarding what is the best next step in his or her learning progression. According to Herman et al. (2010), teachers may lack the knowledge base or skills they need to reach the proper decision on learning progression. In both studies, however, teachers were required to make decisions based on assessment tools that they did not help design. The results may have been different if the same teachers had been involved in the design of the assessment tasks. A recent OECD report (Looney 2011, p. 29) concludes that ‘teachers need to develop skills not only to identify individual student learning needs, but also to respond to them’ (p. 29).

Teachers surveyed in an OECD study (Looney 2011) noted the importance of being more systematic in their approach to classroom assessment because the most effective interactions with students are the result of careful planning. Poor task design or testing with no clear objectives does not allow teachers to collect the information they need to improve their decisions regarding how they can adapt their teaching to support learning. Furthermore, lack of awareness of a task’s cognitive demand may make it nearly impossible for teachers to add domain-specific information on students’ systematic errors in a manner in which it can be reported with adequate levels of reliability and validity. According to Webb and Jones (2009), ‘facilitating change in teachers’ assessment practice is not so much a resource

problem as it is a problem of... helping teachers develop a “designers’ eye” for selecting, adapting and designing tasks to assess student understanding’ (p. 3). Although such a capacity will improve teachers’ assessment practice in AfL, it is equally important that teachers experience ‘varied views on student work over time and in different contexts’ so they can ‘identify patterns in thinking and problem solving’ (Looney 2011, p. 9). Teachers need to assess and explore a range of potential causes to develop an appropriate teaching intervention.

Both Webb and Jones (2009) and Shepard (2006) focus our attention on what should be the impact of PD on teachers’ assessment practices. At this point, an ‘impact model,’ which describes what is expected from teacher professional learning (PL), is a necessary condition for appropriate PD goal setting, PD feedback and monitoring of teachers’ assessment practices. Hill (2011) used Davies and Busick’s description of teachers’ best AfL practices as such a model.

In this model, teachers:

- begin with the learning goals in mind;
- engage students in the process of understanding the learning destination, considering the evidence of learning towards those goals and considering what quality work looks like;
- directly involve their students in co-constructing criteria, self-assessing in relation to the criteria, giving themselves and others specific descriptive feedback, applying feedback to improve their work, collecting evidence or proof of their ongoing learning, and summarizing what they have learned and presenting it to peers, parents, and the community;
- use the assessment information they and their students gather to make informed teaching decisions that will engage all students and help them learn (Hill 2011, p. 353).

Whether or not one agrees with a specific impact model, it is important that such models be made explicit not only to teachers but also to other stakeholders for the purpose of studying, comparing, and assessing the professional learning outcomes of different PD strategies. It is nearly impossible for teachers, as well as for other stakeholders, to judge whether certain methodologies of PD have been successful if achievement targets have not been clarified and made explicit from the beginning.

## 8.4 A Regulation Model of Professional Development

In the same way that the concept of regulation provides a relevant framework to address the issues of how to make the best use of assessment information to support student learning, a regulation model may be used to define how teacher PD can support teachers’ learning and move AfL practices forward. Consequently, within a regulation framework, teacher PD must consider the following three components of learning regulation:

- *Goals.* Well-defined professional learning goals are needed to set realistic targets and to consider teachers' prerequisite knowledge and skills. This means that the PD goals will target different skills and mastery levels depending on teachers' existing levels of professional learning and zone of proximal development. However, such goals must set the targets of change to the levels of standards that attest to valid professional achievement in AFL. That is why standards such as those found in the *National Board of Certification* (United States) or as in Hill's impact model (Hill 2011) are so essential.
- *Self-awareness, self-monitoring, and sources of feedback for teachers' PD.* Teacher PD requires that a form of progress monitoring be in place to remain on target and to make the necessary adjustments as a function of emergent needs and new challenges. Fundamental to this process is the requirement that teachers become self-aware of their own assessment practices and develop a capacity to self-monitor their teaching and assessment practices; therefore, they can focus on the means by which to improve. Through a spiral of mutual influences, self-awareness will lead to modifications in the teachers' self-belief systems such as *internal causal attribution, perception of self-efficacy, and learning orientation*, which, in turn, will contribute to increased self-awareness. Different feedback sources (e.g., students, colleagues, and parents) can also assist teachers in adjusting their self-perceptions and to have a better idea of their own progression towards the professional learning goals.
- *Action, remediation, and teacher agency.* Professional learning (PL) will occur, or will occur to different extents, depending on the action-decision taken by teachers to change their practice and move toward the preset targets. Teachers may be allowed more or less discretion or agency on their PD. For instance, PD may be targeted to very specific school priorities with minimal consideration of a teacher's learning needs or capacity to adjust to changing conditions. Conversely, goals may also be set by the teacher with the school principal and in accordance with a formal assessment of teaching and a well-established career plan.

A regulation model of PD can describe different ways that teacher professional learning may unfold with self-, co- and shared regulation. Butler and Schnellert (2012) 'found this model particularly useful in characterizing how teachers might engage in iterative cycles of knowledge generation, through which they coordinate tacit and more explicit forms of knowledge' (p. 1207).

There are instances where regulation does not apply or is moderately relevant. PD that targets the short-term transmission of knowledge content with no specific expectations of teachers' learning is one such case. These instances also occur whenever certain training sessions are not followed up to monitor the degree of implementation of training goals. One can barely talk of regulation of learning when there are no specific or well-understood learning targets or criteria to determine what the professional learning expectations are and what will be needed to determine that they have been achieved.

## 8.5 Variations in Teacher Professional Development and Collaborative Learning

Teacher PD may be influenced by a series of factors: the nature of learning expectations, teachers' intrinsic or extrinsic motivation or the extent that the goals are clearly understood. Teacher PD also varies in accordance with the opportunities afforded for teachers' self-reflection and collaborative learning and as a function of teachers' agency.

Depending on the prevailing educational context, successful PD may take a variety of forms and occur in a variety of situations, many of which will be unforeseen. For instance, Brookhart et al. (2010) have reported that, contrary to their expectations, professional learning occurred in a highly scripted environment:

The fact that they [teachers] were able to find ways to modify their instruction, even when faced with a highly scripted context, in order to respond to student learning needs, points to a critical aspect of professional learning – change of belief. (p. 53)

One other such instance of a highly scripted environment occurs under the conditions that prevail at the U.S. *National Board Certification* (NBC). Sato et al. (2008) reported that teachers' voluntary participation in the certification program resulted in sustained changes in classroom assessment practices closely associated with AfL. Being required to self-report on their actual assessment practices in relation to the Board's standards of practice helped teachers develop an increased awareness of how they assess students and helped them become more self-critical. Compared with a control group, such changes were maintained for at least a year after the end of the certification process:

The teachers who experienced the National Board Certification process reported that the requirements of analyzing their classroom practice with a focus on assessment as defined by the National Board teaching standards introduced them to new ways of viewing the role that assessment plays in their everyday instructional interactions. The process of videotaping their teaching and analyzing it also brought elements of their practice into sharper focus. (Sato et al. 2008, p. 698)

While increased self-awareness of NBC teachers' assessment practice appears to be an important factor of change in AfL, the NBC professional standards also contributed to establish well-defined goals of professional achievement. Ingvarson (1998) suggests that professional standards 'provide goals for professional development that constitute a stable, challenging, and long-term agenda for professional development' (p. 130).

The use of artefacts to scaffold teacher PD has also been reported to be a valuable starting point. However, professional learning must be supported by more profound changes in classroom assessment:

Traffic lights and the thumb tool were both used for self-assessment. Superficially these mediating artefacts appear to be easy to introduce but unless a culture of honesty and openness about learning has been developed they actually put pressure on students and can have a negative effect. (Webb and Jones 2009, p. 180)

Providing teachers with mediating artefacts should also take into consideration the degree of teacher expertise in using AfL with their students. The artefacts may have a positive impact on novice teachers as a first step in learning about AfL; however, an overreliance on tools may actually become counterproductive:

A focus on the tools of formative assessment rather than its philosophy, so that the use of tools such as traffic lights and peer assessment became fixed as the object, emerged as a barrier to development. Thus the choice of mediating artefacts and their order of introduction was very important for enabling formative assessment. (Webb and Jones 2009, p. 178)

Mediating artefacts to engage both students and teachers in the change process may prove useful at the beginning but may be limiting in the long term if more challenging goals and a change in the classroom environment are not progressively introduced. Even if these options provide teachers with a form of short-term results, such easy fixes may short-circuit the need for deeper reflection and inquiry on AfL. This approach may explain why PD may lead to superficial incarnation of AfL and to teachers' conformance to the letter of AfL without a true grasp of its spirit (Earl and Timperley 2014). Whatever their level of expertise or PD, it appears that teachers appreciate a progressive approach to PL: 'teachers stressed the importance of not being prescriptive about starting points and sequences of development' (Webb and Jones 2009, p. 179).

Mediating artefacts are not the sole means to scaffold teachers' professional learning. Collaboration with peers not only helps teachers to develop 'within school coherence in terms of teaching and learning' (Parr and Timperley 2010, p. 160) but also allows teachers to benefit from their peers' experience and knowledge. Collaborative learning triggers co-regulation processes, which Butler and Schnellert (2012) define as follows:

Co-regulation occurs when a social agent provides support to or "scaffolds" another's engagement in cycles of inquiry, whether as an equal partner or as a mentor. From this perspective, it could be argued that working within a network or community of inquiry creates conditions for teachers not only to access rich resources, but also to engage together in developing practice and learning. (p. 1208)

AfL PD may involve two different forms and degrees of teacher collaboration.

1. *Learning from others* involves low to moderate levels of collaborative learning. Learning occurs as a result of in-service teacher training or mandatory PD sessions such as required courses to update skills. Teachers interact primarily with an expert, a researcher, or a mentor. Such training models may also involve a certain degree of interaction among peers as part of the training or as team-work during or in between training sessions.
2. *Learning with others* involves moderate to high levels of collaborative learning. In its simplest form, learning with others may consist of a dyad between peers of equal status for team teaching or a form of social moderation of students' assessment. In its most elaborate forms, learning with others may involve a whole community of teachers working together as professional learners in the

same school and on the same subject matter or any topic of common interest of their own choosing. Collaborative inquiry into student learning illustrates one such model (Brookhart et al. 2010).

In practice, collaboration among teachers, leaders, and other professionals needs time and facilitating conditions. Flexibility and a mix of different opportunities for collaboration are likely what work best:

development of collaborative relationships within a networked structure is definitely not automatic. Teachers required time, space, and opportunities to work with colleagues and leaders within and across schools. Also important was the opportunity to seek out colleagues with similar levels of commitment and/or complementary knowledge. (Butler and Schnellert 2012, p. 1215)

## 8.6 Enablers of Assessment for Learning Implementation

Regardless of the circumstances of PD, changes in teacher self-confidence, as in the Brookhart et al. (2010) study, and working towards clearly defined and challenging goals, as in the Sato et al. (2008) study, helped teachers to become more self-aware and self-critical of their assessment practice and focus on what needed to be improved.

Although research evidence on PD thus far shows that professional learning occurs in a variety of conditions, including unexpected ones, it also reveals that certain common factors or conditions are at play to enable or prevent it. A ‘cascade’ model of school-based assessment change where ‘teachers receive training as facilitators and then act as in-school facilitators and work with other teachers on a school-wide basis’ (Hill 2011, p. 349) leads to superficial changes. According to Hill (2011), a facilitation model ‘tailored to meet the needs of the school’ appears to provide the best conditions for collaborative learning: ‘change is more effective if facilitators start where teachers are at in terms of their assessment practices, and work from there through collegial inquiry’ (p. 349). Such beginning conditions are indeed necessary in the regulation of PD to ascertain that teachers and facilitators agree on the PD goals, the need for change, and the criteria that will be used to ensure that PD goals have been achieved.

The regulation of PD involves helping teachers become more self-aware of the gap between their assessment practice and the PD goals and providing them with useful feedback on their PL progression towards these goals. Timperley et al. (in Hill 2011) identified seven facilitative contexts for teacher PD that are necessary but not sufficient on their own: ‘external expertise; being engaged in learning rather than volunteering to change; challenging prevailing discourses (of learning and teaching); participating in a professional community of practice; alignment with trends in wider policy and research; and active school leadership’ (p. 348). Combined, all of these contexts will make it easier for teachers to become



self-aware of their teaching practices, challenge their prevailing views and pre-conceptions, and obtain targeted feedback and support.

In Hill's study (2011), school participants' views of enablers of AfL implementation included an important role for the school leadership such as the involvement of the senior staff management team and the role of the principal as the 'conductor' of change. Teachers believed that the school principal needed to be 'assessment-literate and well familiar with assessment for learning practices' (p. 356). Indeed, the school leadership can hardly change teachers' preconceptions on assessment and set appropriate PD targets unless school leaders can convey a clear representation of what AfL really means and involves. Without AfL literacy, they can hardly help teachers become more self-aware or provide them with the necessary challenges and useful feedback they need.

## **8.7 New Perspectives on Professional Development and Collaborative Learning About AfL**

As our knowledge base on AfL progresses, PD becomes crucial in ensuring that AfL is delivered to students to its fullest extent. Thus, the more we learn regarding PD of assessment for learning, the more we realize that AfL is a complex competence that will require a lot of time, support, and collaborative work among teachers, school leaders, and other professionals. Meeting the challenges of AfL implementation can hardly be accomplished with a few expert conferences, sporadic training sessions, or workshops. This statement appears to be a conclusion with which all contributors of Part II would easily agree.

One of the major lessons learned from Part II contributions is likely the value of alternating PD seminars and classroom experiences to allow teachers to develop new conceptions of assessment. This rotation of theoretical-practical-reflexive learning opportunities appears to be a major feature of several contributions in Part II (Chap. 9—DeLuca et al., Chap. 10—Mottier-Lopez and Morales Villabona, and Chap. 11—Smith). Part II contributors would also easily agree with the central role of collaborative learning in the teachers' PD process. Collaborative learning activities act as a trigger of self-awareness and personal reflection and are an important source of feedback on professional learning achievements.

Collaborative activities not only help professional learning to occur but are also crucial in making it durable. They generate resources and practices to improve learning (Chap. 12—Swaffield et al.). Collaborative activities also contribute to a snowball effect: 'As the pool of teachers who are knowledgeable and comfortable with AfL grows, so too do the opportunities to share, learn, and reflect together' (Chap. 9—DeLuca et al.). Collaboration stimulates professional learning through peer modelling first and then through the individual leadership of teachers who have become knowledgeable in AfL and are willing to share their positive experiences.

Collaboration is required to maintain internal coherence among teachers and to ‘precipitate a collaborative culture’ (Chap. 9—DeLuca et al.).

A positive attitude towards colleagues, nonjudgmental approaches, and openness to feedback from colleagues are all necessary conditions for collaborative learning to occur and be maintained (Chap. 9—DeLuca et al.). A form of ‘assessment culture’ (Chap. 16, Part III—Birenbaum) appears to be both a prerequisite and a product of professional collaborative learning. This statement raises the question regarding how likely PD is to succeed in a school environment where such pre-conditions are not present.

Collaborative professional learning among teachers is inclusive and may extend to researchers, external experts, regional education authorities, and the school leadership to varying degrees. This collaborative learning is illustrated in one manner or another in all chapters of Part II. Collaboration among teachers may also spread well outside the school environment and reach out to other schools (Chap. 11—Smith). Although multi-school collaboration presents practical challenges, it also provides great benefits such as in the transition from elementary feeder schools to a specific secondary school: ‘AfL principles transcend differences, provide a common language, and promote coherence’ (Chap. 12—Swaffield et al.).

Notwithstanding the potential of collaborative learning to transcend differences, professional development must also take into consideration individual teachers’ existing practices and address issues that are ‘pragmatically relevant’ (Chap. 10—Mottier-Lopez and Morales Villabona). An AfL policy should be based on a rigorous analysis of where teachers are in terms of PD and what the next step in PD should be (Chap. 5, Part I—Griffin et al.). When there are significant differences in terms of readiness, steps must be taken to ensure that there is a shared knowledge base of prerequisites which all teachers may draw on. Centralized learning sessions, for instance, may help facilitate knowledge mobilization at later stages of PD. Direct instruction works better with teachers who have no previous knowledge or experience of AfL, and it should be used to model AfL strategies that teachers are expected to use with students (Chap. 9—DeLuca et al.).

It appears that collaborative learning and PD have greater chances of success if they target AfL skills within the teachers’ zone of proximal development with respect to professional learning. Without basic assessment literacy, learning about AfL may not be within several teachers’ reach or may not be sustainable. For instance, acquiring a competence in AfL needs the mastery of prerequisite skills such as being able to align assessments with students’ learning progressions. Teachers must understand the ‘big ideas’ (Chap. 13—Ruiz-Primo), see behind the curriculum and develop an understanding of the links between lessons inside a unit as well as of the learning progressions essential to achieve a unit’s learning targets. ‘Curriculum mapping’ (Chap. 13—Ruiz-Primo) is a learning activity that provides opportunities for teachers to deepen their understanding of the curriculum and to properly align, at a planning stage, their assessment instruments with the learning expectations. Although curriculum alignment is not sufficient to ensure competence in AfL, efficient AfL strategies can hardly be developed without a basic mastery of curriculum alignment.

Similarly to the use of AfL to support students' learning and help them improve their marks on summative assessments, AfL may be utilised during teacher PD in conjunction with formal evaluation procedures. A principal supervised by a superintendent, and a teacher evaluated by a school principal, can be accompanied through the use and modelling of AfL principles (Chap. 14—Davies et al.). Just as teacher trainers, experts, and researchers need to model AfL in their PD strategies, school leaders must do the same when evaluating teachers for formative purposes and for decisions about tenure or promotion. For instance, supervisors and school leaders may use AfL principles and strategies as a 'leadership tool' to coach teachers when it is time to co-construct evaluation criteria with teachers and provide them with exemplars of expected standards of performance. The same AfL structure, principles, and strategies may be extended to the coaching and supervision of any group involved in the educational system: 'Using these principles of classroom assessment aligns priority, vision, and action across a school system and as a result, leaders' actions are informed and impactful on student, adult, and system learning' (Chap. 14—Davies et al.).

## 8.8 Moving Forward

To move forward, the planning of PD and collaborative learning must consider individual differences among participants. For instance, certain teachers may benefit more from mentoring, one-on-one coaching or occasional team teaching with a peer, whereas others may enjoy large group conversations and exchanges with peers, students, or with school leaders. Consequently, it is crucial to focus on what is meant by collaborative learning and use the proper and efficient forms of collaboration to support participation and engagement in PD. There are several socio-cognitive and interpersonal processes at play in successful collaborative learning initiatives, such as peer modelling, imitation and role playing, learning through observation, cognitive disequilibrium that occurs through social interactions, individual and collective perceptions of self-efficacy, and the capacity to use feedback and to self-monitor one's own practice.

School leadership also plays an important role in making PD successful. To engage in PD, educators and stakeholders at all levels of an education system must perceive the need to improve their assessment skills. School leaders may stimulate such perceptions by challenging existing assessment practices at the same time they inspire educators to set higher standards for themselves and engage them in their own professional learning. Moreover, school leaders also must balance individual development needs with the skills and abilities that must be acquired collectively to meet school improvement targets. Some form of co-regulation is needed to ensure that PD is collectively coherent and individually relevant.

Professional development, like policy implementation, requires space for co-regulations. Such space is needed because developing a capacity for AfL is complex, and adjustments must be made along the professional learning

progression. Acquiring a *true* competence in AfL, one that extends beyond the use of artefacts or quick tricks, requires middle to long-term planning, appropriate forms of support, and collaborative work. Although certain appropriate assessment skills are a must for teachers to develop a competence in AfL, they will not necessarily lead to the expected student learning outcomes if they are not complemented by pedagogical and curriculum alignment skills: ‘a main recommendation ... is for policy makers and leaders of education to invest in multiple small-scale, long-term projects instead of multiple large-scale, short-term activities’ (Chap. 11—Smith).

It is clear from Part II contributions that PD requires much careful planning and attention to the prevailing conditions. Here is a short list of recommendations that can be deduced from Part II contributions to move forward in using PD to develop the capacity to use AfL at the classroom level and at all levels of the school system:

1. Consider existing practices and address issues that are ‘pragmatically relevant’ for teachers.
2. Set high standards while targeting skills that remain within the participants’ zone of proximal development of professional learning.
3. When there are significant differences in terms of readiness, take measures to create a shared knowledge base of prerequisites before moving any further.
4. Plan a variety of instruction and training methods which allow for a rotation between theoretical and practical knowledge, e.g., alternate PD seminars and classroom experiences to allow teachers to develop new conceptions of assessment.
5. Use collaborative work when favourable conditions are encountered such as a positive attitude towards colleagues, nonjudgmental approaches, and openness to feedback from colleagues.
6. Use supervision as an opportunity for PD, both for the teachers and the supervisor. For instance, use AfL principles and strategies as a leadership tool when it is time to co-construct evaluation criteria and provide exemplars of the expected standards of performance.
7. Use modelling by experts as well as peer modelling to illustrate best practices and professional learning targets.

Although the previous recommendations are based on the development of new capacities in AfL, such capacities remain fragile and need a supportive environment to be sustainable and strengthened within each school. Regardless of how successfully policies and PD were in developing these new capacities among teachers, the school and the classroom environment will be the last hurdle in meeting the challenge of implementation:

The key to successful change is the improvement in relationships between all involved and not simply the imposition of top down reform. The new emphasis in educational change is based on creating the conditions to develop the ‘capacity’ of both organizations’ and individuals to learn. The focus moves away from an emphasis on structural change towards changing the culture of classrooms and schools, an emphasis on relationships and values. (Fullan 2002, in Laveault 2008, p. 12)

The chapters of Part III *Assessment Culture and the Co-regulation of Learning* will prolong the reflection already initiated in Parts I and II in the direction described above. The chapters will illustrate how ‘effective implementation of assessment for learning clearly requires the *concerted coordination of policy, professional development, and practice in classrooms and schools*’ (see Chap. 15 for an introduction to Part III).

## References

- Brookhart, S. M., Moss, C. M., & Long, B. A. (2010). Teacher inquiry into formative assessment practices in remedial reading classroom. *Assessment in Education: Principles, Policy and Practice*, 17(1), 41–58.
- Butler, D. L., & Schnellert, L. (2012). Collaborative inquiry in teacher professional development. *Teaching and Teacher Education*, 28, 1206–1220.
- Carter, K., Sabers, D., Cushing, K., Pinnegar, S., & Berliner, D. C. (1987). Processing and using information about students: A study of expert, novice, and postulant teachers. *Teaching and Teacher Education*, 3(2), 147–157.
- Earl, L., & Timperley, H. (2014). Challenging conceptions of assessment. In C. Wyatt-Smith, V. Klenowski, & P. Colbert (Eds.), *Designing assessment for quality learning*. Dordrecht: Springer.
- Heritage, M., Kim, J., Vendlinski, T., & Herman, J. (2009). From evidence to action: A seamless process in formative assessment. *Educational Measurements. Issues and Practice*, 28(3), 24–31.
- Herman, J. L., Osmundson, E., & Silver, E. (2010). *Capturing quality in formative assessment practice. Measurement challenges*. CRESST Report 770. Los Angeles: CRESST/University of California. <http://files.eric.ed.gov/fulltext/ED512648.pdf>. Accessed October 24, 2015.
- Hill, M. F. (2011). ‘Getting traction’: Enablers and barriers to implementing assessment for learning in secondary schools. *Assessment in Education: Principles, Policy and Practice*, 18(4), 347–364.
- Ingvarson, L. (1998). Professional development as the pursuit of professional standards: The standards-based professional development system. *Teaching and Teacher Education*, 14(1), 127–140.
- Laveault, D. (2008). Mesure sans démesure: la contribution de Jean Cardinet aux méthodologies de la mesure et de l’évaluation en éducation. *Mesure et évaluation en éducation*, 31(2), 5–17.
- Looney, J. W. (2011). *Integrating formative and summative assessment. OECD Education Working Papers, No. 58*. Paris: OECD Publishing.
- Parr, J. M., & Timperley, H. S. (2010). Multiple ‘black boxes’: Inquiry into learning within a professional development project. *Improving Schools*, 13(2), 158–171.
- Reynolds, R. J. (1970). Classroom verbal interaction patterns as a function of cognitive complexity. *The Journal of Teacher Education*, 21(1), 59–64.
- Sato, M., Wei, R. C., & Darling-Hammond, L. (2008). Improving teachers’ assessment practices through professional development: The case of National Board certification. *American Educational Research Journal*, 45(3), 669–700.
- Schneider, M. C., & Meyer, J. P. (2012). Investigating the efficacy of professional development program in formative classroom assessment in Middle School English Language Arts and Mathematics. *Journal of Multidisciplinary Evaluation*, 8(17), 1–24.
- Shepard, L. A. (2006). Classroom Assessment. In R. L. Brennan (Ed.), *Educational measurement* (4th ed., pp. 623–646). Westport, CT: American Council on Education/Praeger Publishers.
- Webb, M., & Jones, J. (2009). Exploring tensions in developing assessment for learning. *Assessment in Education: Principles, Policy and Practice*, 16(2), 165–184.