Project RELEASE: An investigation and decision on the quality criteria that should guide the evaluation of the educators' in-service training system in Cyprus

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Introduction

The European Commission has determined five broad categories for policies and practices meant to increase the quality of teacher training programs in the EU:

- Ensuring that all teachers have access to the knowledge, attitudes and pedagogic skills that they require to be effective;

- Ensuring that provision for teachers' education and professional development is coordinated, coherent, and adequately resourced;

- Promoting a culture of reflective practice and research among teachers;

- Promoting the status and recognition of the teaching profession and

- Supporting the professionalisation of teaching (Commission of the European Communities, 2007: 16).

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One of the major objectives of the Project RELEASE is to revise the existing educators' in-service training system in Cyprus and to analyze the respective strengths, weaknesses, challenges and new opportunities, evolving from the new strategic plan of the Cyprus Ministry of Education for the Educators' Professional Development in Cyprus (Cyprus Ministry of Education and Culture, 2007). Next, drawing on the metaanalytic survey of 75 studies published between 2007-2011 in this area of research, it makes an effort to decide on the specific quality criteria that should be adopted for the evaluation and development of the existing educators' in-service training system in Cyprus.

The educators' in-service training in Cyprus

A brief presentaion of the existing educators' in-service training in Cyprus

The educators' in-service training program in Cyprus is coordinated by the Cyprus Pedagogical Institute. Until recently, there was no strategic plan for the training of all teachers. As a result, only a small proportion of teachers (10-15%) were involved in a voluntary manner in the organized training activities (European Commission, 2002: 55). For example, during the 2005-2006 school year, the organized educators' training program activities, were attended by 1467 educators only.

The training activities are offered in training centers operating in five different districts, during the afternoon. They are organized by the Pedagogical Institute and then they are presented to the Advisory Committees in each of the five districts for feedback. They are designed to meet the

needs of all educators and they focus on different school subjects, social and psychological issues and the development of the teachers' technological and educational research skills. Additional seminars are organized by topics that are suggested by the different schools or members of the school personnel and agreed on by the Pedagogical Institute (Eurybase, The Education System in Cyprus, in 2007/08).

The Pedagogical Institute organizes also seminars, one-day workshops and conferences in cooperation with the different teachers' associations and educational groups. In addition to the optional seminars, workshops and conferences, the Pedagogical Institute offered some mandatory courses also. The compulsory courses were intended exclusively for teachers promoted to administrative positions (Eurybase, The Education System in Cyprus, in 2007/08). These courses focused on school unit management and administration issues, effective practices and innovations which can be followed at the level of the school and relevant task analysis. Inspectors also offered some seminars with a short duration which were obligatory and advisory in nature.

Based on the above description, the weaknesses of the existing educators' in-service training system in Cyprus are the following: The current in-service training system fails to address and involve most of the teachers in Cyprus. Only a small percentage of teachers in Cyprus participates in its activities. The limited cooperation among the different possible sources of educational in-service training, guidance and consultancy, that is inspectors, psychologists, teachers or between all these and the Pedagogical Institute leads to a lack of coherence. The

separate in-service training activities have a fragmented nature and do not have a clear connection in terms of their content and methodology.

In addition, the activities included in the educators' in-service training program in Cyprus, seminars, workshops, conferences etc., are grounded on the words of the instructor, rather than on the interaction between the participants, the activation of their previous knowledge and experience. These activities imply a different pattern of teacher professional development from the participatory teacher professional development model.

The above critique is further reinforced by the results of Karagiorgi et al. (2008), according to which the participants rated the use of their knowledge and experiences as very low during the educational programmes/seminars they had attended. They found the seminars' content to a very large extent predefined and they gave a low rating for the variety of teaching approaches used during the seminars/courses and the relationship between the teaching material and life at school.

As far as it concerns the newly qualified teachers the educational system in Cyprus only provides for an induction phase with a total duration of 39 days for prospective teachers at all levels (European, Commission, 2012: 110-111). Although there are no central regulations for particular support measures in this area, according to survey results, regular meetings for the discussion of progress or problems and assistance with planning and assessment are common support measures that are used in most schools to support newly qualified teachers (European, Commission, 2012: 115). In other countries, these activities were established by the State, as well as the teachers' participation in other teachers' classroom activities and/or classroom observation, specific

compulsory training and visits to other schools/resource centres (European, Commission, 2012: 115).

This section has described the existing teachers' in-service training program in Cyprus. The next section will make a brief presentation of the Cyprus Ministry of Education's strategic plan to improve teachers' training in the context of the general educational reform attempted by the specific ministry. The provisions made by this plan are discussed in the following subchapter in order to illustrate its potential to combat the weaknesses of the existing in-service training system.

The provisions of the Cyprus Ministry of Education Strategic Plan to reform the teachers' In-Service Training System

The strategic plan for the reform of the teachers' in-service education and training provides for the induction of all newcomer teachers when appointed. The training is aimed at the smooth integration of teachers to the profession. The Cyprus Pedagogical Institute remains responsible for this in collaboration with the relevant educational authority and the school heads. The newly appointed teachers are to be guided by a mentor, an experienced teacher that works in the same school unit, following a detailed time schedule during the first two years of their educational service. This mentoring scheme has started on a pilot base during the start of 2008. It aims to the smooth integration of teachers to the profession (Cyprus Ministry of Education, 2007: 20-21).

The strategic plan for the reform of the teachers' in-service education and training also provides for the teachers' in-service training within the school unit. More specifically it suggests the presence at the school unit level of a teacher serving also as a Teaching Consultant. The Teaching Consultant is assumed to be responsible for the diagnosis of training needs of the education and guidance for professional improvement and development purposes. It also recommends systematic in-service training programmes to help teachers acquire key skills in the following areas: the management of mixed ability classrooms, modern teaching methodology, curriculum development at the school level, leadership at the school of the 21st century, teaching environmental issues and sustainable development, intercultural education and special education (Cyprus Ministry of Education, 2007: 20-21).

According to the same plan, the role of the Pedagogical Institute extends in organising and providing different in-service training programs, according to the different stages in the teachers' careers. The Pedagogical Institute also offers distance education programmes and specific training programmes, according to the formative assessment's results performed in each school and according to the school self-evaluation procedure. It adequately prepares and educates the Pedagogical Advisors and senior teachers who undertake mentoring and in-service training in their schools and coordinates the production and dissemination of educational material, facilitating the exchange of good practices among teachers (Cyprus Ministry of Education, 2007: 20-21).

The strategic reform plan the teachers' in-service training prepared by the Ministry of Education and Culture in Cyprus, as described above has some very positive elements helping to the satisfaction of the four priorities laid down by the European Commission, for the quality educators' in-service

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training. More specifically, it establishes in-service training at the level of the school. All teachers are expected to have more opportunities and access to in-service training when this takes place at the school level. In addition, it provides for the organization of specific training programmes which are targeted at educators in different stages of their professional career. In this way, it strengthens the coherence of in-service training programmes, so that teachers can take what they need from that programme and it avoids the repetition of the same things in the same manner. The provisions of the strategic plan for the educators' formative assessment and development of relevant in-service training programmes are in the same direction. They enhance the ability of the educators' in-service training programmes to meet the teachers' development needs.

The establishment of specific mechanisms supporting teachers formative evaluation and school self-assessment can also help to promote reflection and investigation practices among teachers and teaching. They can also transform teachers' professionalization, making possible practice that is informed with the new pedagogic advances, knowledge and experimentation driven. The enhancement of the professional nature of teaching in this way can also help towards the promotion of the status of the teaching profession and its recognition.

It can thus be argued that the changes introduced by the strategic plan for the reform of educators' in-service training system in Cyprus are in the right direction, satisfying the priorities set by the European Commission for quality in-service training systems. However, it is necessary to further explore the factors/conditions that will ensure the quality in its implementation. For this purpose, the OECD's Teaching and Learning International Survey TALIS, as well as similar studies published

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between 2007 and 2011 in scientific journals will be reviewed in order to extract the final quality

elements for educators' in-service training in which the relevant research converges.

An exploration of the factors/conditions that ensure the quality in the implementation of educators' in-service training programmes

In this section, there will be presented the results of a metaanalytic research aiming to explore the factors/conditions that ensure teachers' in-service training programmes' quality and effectiveness. To this end, a collection of the most recent articles published between 2007 and 2011 was made. For the collection of all the relevant articles the Academic Search Complete database was used with the following key entries "teachers" and "in-service training". The filtering option of articles published between 2007 and 2011 was selected. The search engine returned 143 full text articles. A second collection of all the articles published between 2007 and 2011 from the Professional Development in Education Journal took place then. The second article collection gathered 158 articles. Among the 301 collected articles, the publications examining the quality of the in-service training programmes and their different aspects were selected. The selection returned finally 75 articles. The exploration of the factors/conditions that ensure quality in the implementation of educators' in-service training programs is presented in the second subsection of this chapter. In the first section, a brief summary of the factors with an influence on the perceived impact of the teacher in-service training activities is presented. The international research results are then compared and contrasted with the results of the metaanalytic survey. It can be observed that there are a lot of commonalities that strengthen the validity of the factors/conditions in which the research converges.

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TALIS survey on the factors influencing the perceived impact of the teacher in-service training activities internationally

The OECD's Teaching and Learning International Survey (TALIS) explores a complex model, in which it is hypothesised that the experienced impact of professional development is influenced by a set of interrelated school and teacher variables. This survey collected data from 24 countries, 19 of which were Member States of the European Union. The data obtained for the evaluation of this model refer to the teachers' participation in in-service training activities during the period 2007-2008. One of the most striking findings is the relative importance of feedback. The more teachers have found that feedback has led to changes in aspects of their work, the greater their development needs, the more they participated in different professional development activities, and the greater the experienced impact of professional development. This finding underlines the crucial importance for fostering teacher learning of appraisal and feedback at the school level (European Union, 2010: 9).

The model this research project supports, proposes that the professional development activities' length and variety influence the perceived effectiveness of this kind of activities by the teachers/educators. When teachers participate in various professional learning activities and spend more days on professional development, they find that professional development has a greater impact on their work. It is argued that teachers should spend a good deal of time in professional development and especially on different activities to benefit both in terms of their teaching practice and their student learning outcomes. The findings of this study provide support

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for the argument that duration counts for teacher learning. However, variety appears to be an even more important variable in explaining perceived impact (European Union, 2010: 116).

The findings also show that teachers who have greater professional development needs find that professional development has a stronger impact on their work. The teachers' self perceived need for additional professional development opportunities can be used as an indicator of their motivation. It is argued that teachers' motivation plays an important role in the teacher perceived impact of the professional development activities (European Union, 2010: 116).

Another finding of this study is that feedback, as part of school policy, is strongly linked to the high perceived effectiveness of the professional development activities by the teachers (European Union, 2010: 9, 116). Consequently, it is argued that greater emphasis should be given to a system of appraisal and feedback within schools. By emphasising teacher appraisal and feedback, policy makers, administrators and school leaders can contribute to the development of schools as organisations that foster continuous professional learning and sustained improvement.

TALIS has also underlined the importance of school climate in teacher participants' evaluations of the professional development activities (European Union, 2010: 116). Teachers who felt good in their school viewed the effects of their professional development more positively. According to this, a positive school climate and high levels of trust in schools, have a positive impact in the teacher estimates of the professional development activities' effectiveness. Given the positive impact of feedback, strengthening the link between school climate and the evaluative framework

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in schools could lead most teachers to feel that changing teaching practices is not only an individual but also very much a collective enterprise. In turn, this can stimulate schoolwide capacity for learning and improvement.

In contrast to the important role of school factors, the impact of teacher-related factors, including teaching practices and collaboration, on professional development appeared to be smaller (European Union: 116). However, there was some relation between the educational practices used and the number of professional development activities in which teachers participated. The more teachers used instructional strategies based on constructivist approaches to teaching the more they participated in different professional development activities and the more they collaborated in different activities at their school. It was argued that these results can be explained by the newness of this teaching approach and its demanding nature.

Finally, teacher background variables like gender, years' experience, qualifications' level and school context characteristics like public or private schools and size of the population in that area, showed a significant but small correlation with other variables in the model. Teacher background variables appeared to be important for the amount and variety of the professional development activities teachers participate in. School context characteristics instead mainly function as malleable factors for school policy and climate (European Union, 2010: 116).

An exploration of the factors/conditions that ensure the quality of educators in-service training programs through the metaanalysis of relevant research articles

In this section, a presentation of the quality aspects for In-Service Training programmes and activities will be made, based on the metaanalysis of seventy five relevant research articles published between 2007-2011. A separate description of the least effective practices will also be based on these articles. The meta-analysis is based on a total of 75 articles published during the period 2007-2011 in academic journals. Sixty-one of these articles (81,33%) explored practices/aspects affecting the quality of the in-service training programmes positively, while thirty-one (41,33%) identified practices that were reducing the in-service training programmes' effectiveness.

The findings which emerged from the metaanalysis are detailed in the table below:

Table 1: Research based good practices of educators' in-service training

The aspects characterising effective In-Service Training Programs' Practices	Positive Influences			
	Development of Professional Consciousness	Educational Practices' Development	Improvement in Students' learning	Total
Use of Investigation, Research, Reflective and formative assessment Practices	18 (64%)	14 (58%)	5 (50%)	**37 (61%)**
Constructive feedback	11 (39%)	12 (50%)	4 (40%)	**27 (44%)**
Responsive feedback	5 (18%)	3 (13%)	0	**8 (13%)**
General Feedback	14 (50%)	12 (50%)	4 (40%)	**30 (49%)**
General Interaction	14 (50%)	2 (8%)	6 (60%)	**22 (36%)**
Supportive Climate	10 (36%)	8 (33%)	4 (40%)	**22 (36%)**
General Interaction and Supportive Climate	18 (64%)	9 (38%)	7 (70%)	**34 (56%)**
High Self-Perceived Efficacy	0 (0%)	0 (0%)	4 (40%)	**4 (7%)**
Suitable Content and use of supportive material	12 (43%)	15 (63%)	6 (60%)	**33 (53%)**
Sufficient Organisation and Communication of the objectives	6 (21%)	3 (13%)	0	**9 (15%)**
Effective Motivation - Use of Incentives	4 (14%)	2 (8%)	1 (10%)	**7 (11%)**
Duration	4 (14%)	3 (13%)	4 (40%)	**11 (18%)**

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The research based good practices applying to effective professional development programs are characterised by the following aspects: Use of Investigation, Research and Reflective Practices, Constructive feedback, Responsive feedback, General Interaction, Supportive Climate, High Self-Perceived Efficacy of the participants, Suitable Content and use of supportive material, Good Organization and Communication of the objectives, Effective Motivation and Use of Incentives and Sufficient Duration.

Use of Investigation, Research, Reflective and formative assessment Practices

The use of investigation, research and reflective practices is identified as a factor that is linked with the professional development programs' effectiveness in 61% of the collected studies, a percentage that is greater than the 50% of the total studies. More specifically this aspect is mentioned in the 64% of the research that examines teachers' development of professional consciousness, 58% of the research exploring changes in teachers educational practices and in the 50% of the research that examines student learning outcomes. The identification of a positive impact of this aspect in the three categories of research mentioned above in a percentage higher than 50% is an indicator of the validity of this aspect as a quality aspect helping to enhance the effectiveness of professional development programs/activities.

In a survey of Timperley, Parr, & Bertanees (2009), teachers were supported to identify their professional learning needs through an analysis of their students' learning needs, to build their

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pedagogical content knowledge in sufficient depth to address their students' learning needs and then to check both formally and informally whether their changed teaching practices were having the desired impact. This kind of professional development that was based on teachers' own investigation of the strengths and weaknesses of their own teaching was associated with substantive gains in student achievement on reading comprehension and the deeper features of writing in New Zealand. More specifically, the average effect size gain was twice the expected gain for all students in the country over the two years of the project, while for the lowest 20% of students was approximately four times the expected gain for all nationally students over the two years. To a similar result were led Wenglinskey, & Silverstein (2007). In their survey students whose teachers administered weekly point-in-time multiple-choice and short-answer assessments were nearly a full grade level (90 percent) ahead of students exposed to such tests less frequently. As a result, the use of investigation, formative assessment and reflection can be included in the list of the quality aspects of effective in-service training programmes.

The specific practices that were relevant with this aspect and were met in the articles during the metaanalysis included the individual trial and testing of different practices during the teaching procedure, the trial and testing of different practices in collaborative communities of practice with an aim to the enhancement of the teaching procedure. The regular collection of data on the progress of the children by their teachers in relation to the educational methods and practices which teachers used, the use of portfolios and other reflective tools, dialogue between the

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educators on the different educational issues based on the collected were also included in these surveys.

Constructive and Responsive Feedback

A percentage of 49% of the collected surveys identified constructive and responsive feedback as an aspect that is linked with the effectiveness of the professional development programs. This aspect contributed to the effectiveness of 50% of the studies that examined teachers' development of professional consciousness, 50% of the investigations studying changes to their educational practice and 40% of the investigations exploring changes in students' learning outcomes. The identification of a positive impact of this aspect in the three categories of research mentioned above in a percentage close to 50% is an indicator of the validity of this aspect as a quality aspect helping to enhance the effectiveness of professional development programs/activities.

More specifically, Helmer, Bartlett, Wolgemuth, & Lea (2011) found that the teachers who had regular and substantial contact with teachers advisors had better students' learning outcomes than their colleagues who did not receive feedback so often or did not use the feedback taken. In the study of Davies (2010), consultancy support, resulted in the enhancement of participants' subject leadership skills in taking a more proactive role in leading change, including action planning; monitoring science teaching and attainment; planning and leading staff meetings; and analysis of pupil assessment data.

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The specific practices that were relevant with the aspect of feedback provision and were met in the articles during the metaanalysis included the student learning outcomes' based feedback, the feedback's explanation based on the specific data of the observation and the formulation of appropriate recommendations and the prevention of the absolutely negative criticism when addressing newly qualified teachers. The adjustment of the feedback to the teachers' characteristics/needs of each training and the particular context's needs/characteristics characteristics of action of/the media in this context and the identification of positive aspects in the educators' practice followed by specific calls which may lead to progress are among the practices suggested in the articles relating to the aspect of feedback.

In addition, jointly teaching and planning mentors and advisors and collaborative data and classroom information analysis are useful practices helping to reinforce the feedback's impact, to combat the mistrust that may develop towards the evaluators, build confidence and strengthen the reciprocity between the teachers and the mentors/consultants. These practices are also meant to balance the feedback given with the modeling of effective practices, to support the collaboration among teachers and teacher consultants and their mutual responsibility for the organization and quality of teaching.

Interaction and Supportive Climate and Teachers' Self Efficacy judgments

The interaction among educators, educational consultants, mentors, school administrators etc and the supportive atmosphere at the level of the school is also identified as a quality aspect helping

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teachers' professional development by 56% of the collected articles. This aspect contributed to the effectiveness of 64% of the collected studies that examined teachers' development of professional consciousness, 38% of the collected investigations studying changes to their educational practice and 70% of the respective investigations exploring changes in students' learning outcomes.

Lumpe, Czerniak, Haney, & Beltyukova (2012) found that for sixth-grade students, teachers' self-efficacy beliefs, context beliefs, and number of hours of teacher professional development were significant, positive predictors of student achievement. Altogether, these three variables accounted for almost 4% of the variance in student test scores. It can therefore be assumed that the supportive climate at schools and the practices that promote high self efficacy beliefs by teachers are related to the effectiveness of the interventions on the professional development of teachers.

The specific practices that were relevant with these two aspects and were met in the articles during the metaanalysis were the formation of learning communities in which educational dialogue could take place, the recognition and discussion of controversial issues and the organisation and functioning of support networks for the exchange of experiences, problems and possible solutions. In addition the dedication, reliability and receptiveness on the part of the managers/trainers and the promotion of professional development activities in a steady and stable way are some of the practices used to strengthen and sustain supportiveness at the level of the school.

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Suitable Content and Use of Supportive material

The aspects of suitable content and use of supportive material are aspects which are clearly stated to affect teachers'/educators professional development in a large percentage of the collected publications (53%) was the advantage-fitness content and themes that use and the use of auxiliary material/sources. This aspect is mentioned in the 43% of the collected researches that examine the development of teachers' professional consciousness, 63% of the research exploring changes in teachers educational practices and 60% of the research that examines student learning outcomes.

Among the practices that are relevant with this aspect and help teachers'/educators' professional development are the selection of teaching skills which have been linked with educational effectiveness by the relevant research and the selection of difficult regions or areas in which the educators are facing some difficulties or challenges. The good theoretical background of the program aiming to the acquisition of deep theoretical knowledge, the discussion of topics with a pedagogical interest based on the relevant literature, the support of the professional development program by professional experts were some of the effective practices with regard to this aspects used in the collected publications. Finally, the use of appropriate resources and material helping the implementation of collaborative learning and of specific interventions by the teachers/educators were also among the effective practices related to this aspect and used in the collected publications.

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Sufficient Organisation, Communication of the objectives

The sufficient organization of the interventions, the communication of the relevant objectives, the effective motivation of the participants and the use of incentives are also mentioned in a small part of the collected surveys (10-15%) as aspects determining the effectiveness of the specific programs/interventions. It should not however be considered that these aspects are less important than the other, because most of the interventions already incorporate these in their building, as factors preassumed to influence the effectiveness of the professional development programs and thus they do not examine their influence in the interventions' outcomes.

Effective practices linked to the successful organization of the interventions, the communication of their objectives and the effective motivation of the participants used in the collected surveys are the use of working groups, the active learning approach, the clarity of the activities' objectives, the friendliness, the ease of use and the ease of transfer of information from websites and other educational devices and programs. The incentives used in the collected surveys to motivate teachers' participation in the professional development activities were exemption from other duties for five days, the group formation made by the individual learners themselves, the voluntary participation in professional development programs, the high expectations from all the teachers participating in the professional development activities and pupils' increased learning outcomes.

Duration

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The last aspect which seemed to be linked with the effectiveness of professional development training programmes both in the development of professional conscience, for the enhancement of their teaching practice and for the improvement of children's learning outcomes was the duration of the respective programmes. This aspect was used as a precondition in most surveys, as happened with the organisation and provision of incentives, whilst it is examined in a very small percentage of the collected investigations.

However in the surveys where the influence of this aspect is examined the results show that this aspect is strongly linked with the professional development activities effectiveness.

In the survey of Kosko, & Wilkins (2009) any amount of professional development in a 3-year period significantly predicts teachers' perceived ability to adapt instruction; however, at least 8 hours of professional development in a 3-year time frame was related to an increase in teachers' perceived ability to adapt instruction, more than twice the effect of less than 8 hours. Additionally, professional development was found to be a better predictor for increasing perceived ability to adapt instruction than was teacher experience with instructing students who have Individualized Education Programs.

The term of in-service training in the survey of Tike Bafra, & Kargin (2009), terms of in-service training sessions did not lead to a significant difference in teachers' self efficacy attitudes. It proved however to be a variable causing significant differences in terms of the challenges faced by the teachers/educators during the implementation of the Individualized Educational Program.

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Table 2 illustrates the results about the practices which were connected with a reduction of the

professional development programmes effectiveness.

Table 2: Professional Development Barriers

Practices	Frequency (number of studies)
Overemphasis on the specific objectives	1
Very clear communication of the programme's expectations	1
Insufficient organisation	1
Overreliance on the curriculum's content and objectives	1
Lack of Feedback and lack of guidance for the reflection's implementation	12
Insufficient Interaction between educators	5
Troubled environment, lack of sufficient support	6
Educator's fear and lack of incentives	8
The professional development did not follow an active learning procedure (work in small groups, activation of previous knowledge etc)	7
Insufficient duration / Bad organization of the programme's duration	17
Work overload	6
Insufficient Content Knowledge and vagueness	5
Lack of appropriate resources	6
Follow-up Deficiencies	4
Teachers' worrying about national standards	2

As shown above, most of the barriers recorded in the articles collected can be resolved if the aspects identified in the first table are applied. The second table therefore confirms the validity of the quality aspects of teachers'/educators' professional development programmes resulting from the metaanalytic survey.

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