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Author(s)	Alfredo Bautista, Xenia Yau and Joanne Wong
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## **Title**

High-Quality Music Teacher Professional Development: A Review of the Literature

## **Authors**

BAUTISTA, Alfredo

YAU, Xenia

WONG, Joanne

## **Affiliation**

National Institute of Education, Education & Cognitive Development Lab

Nanyang Technological University (Singapore)

## **Abstract**

Most published journal articles describing professional development (PD) initiatives for K-12 music teachers have not explicitly alluded to the “features of high-quality PD,” a solid theoretical framework arisen in content areas with more tradition in PD research (e.g., mathematics and science education). The goal of this review was to examine the music-specific PD literature using this framework. We reviewed seven mainstream music education journals from 1990 to 2015, identifying 17 articles reporting on a total of 24 PD initiatives (e.g., workshops, courses, programs, school-based PD). Results show interesting differences in the extent to which the different features considered (i.e., content focus, active learning opportunities, collective participation, duration, and coherence) are exhibited in these music-specific initiatives. This analysis is relevant for music education theory, policy, and practice, as it suggests concrete ways of improving the quality of the PD offered to school music teachers.

## **Keywords**

Teacher Professional Development; K-12 Music Teachers; Features of High-Quality PD;

Teacher Learning; Educational Change

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## INTRODUCTION

### Research on Teacher Professional Development (PD)

Teachers are crucial to the success of educational reforms, as they are ultimately the ones expected to enact the principles and ideals of reforms in the classroom. Thus, it is essential to ensure that teachers are equipped with the knowledge, competencies, and skills that are needed to carry out the demands of high teaching standards (Garet et al., 2011). As pointed out by Knight (2002), initial teacher education programs cannot provide teachers with all the competencies that educating 21<sup>st</sup> century students requires, especially the procedural competencies (“how to”), which primarily develop in practical settings. For these reasons, among others, there is currently widespread agreement among policymakers, scholars, and educators that providing teachers with opportunities for professional development (PD) is a cornerstone to achieve the ambitious goals of educational reforms (Darling-Hammond, Chung Wei, Andree, Richardson, & Orphanos, 2009).

The literature presents multiple definitions for the term *teacher professional development*, with different conceptualizations regarding its scope, focus, and goals. Despite this diversity, most scholars in the field posit that the ultimate purpose of PD should be to benefit the learning of students (Borko, 2004). In this article, we adopted the definition provided by Avalos (2010), who stated that:

“[...] professional development is about teachers learning, learning how to learn, and transforming their knowledge into practice for the benefit of their students’ growth. Teacher professional learning is a complex process, which requires cognitive and emotional involvement of teachers individually and collectively, the capacity and willingness to examine where each one stands in terms of convictions and beliefs and the perusal and enactment of appropriate alternatives for improvement or change.”  
(page 10)

The field of teacher PD is currently a solid domain of research. During its three decades of history, the field has developed its own theories and models on how teachers learn, change, and develop professionally (Bautista & Ortega-Ruíz, 2015; Desimone & Garet, 2015).

Drawing on research conducted predominantly with teachers of the “core” academic subject matters, researchers have proposed a variety of theoretical perspectives on how teachers learn and change within PD settings (Caddle, Bautista, Brizuela, & Sharpe, 2016). These theories range from linear models, where teacher learning is conceived as a direct consequence of certain processes and conditions (e.g., Garet, Porter, Desimone, Birman, & Kwang, 2001; Guskey, 2003), to models based on complex theories, where learning is conceptualized as an unpredictable outcome of cyclical and dynamic processes (e.g., Kazemi & Hubbard, 2008; Opfer & Peder, 2011).

The literature also presents a wide variety of methodological approaches, including a mix of quantitative, mixed-methods, and qualitative designs, from small-scale to large-scale studies. Program evaluations are probably the most common type of study in general education teacher PD research (Borko, 2004). In these program evaluations, researchers have investigated the impact of specific PD initiatives on teachers (e.g., whether PD promoted changes in their content knowledge, beliefs, or teaching strategies) and/or students (e.g., whether PD had an effect on their standardized test scores). Furthermore, the literature presents many survey studies about teachers’ prior PD experiences, in-depth analysis of successful PD practices, and more recently, experimental studies such as cluster randomized trials (for recent reviews of the PD literature in general education, see Avalos, 2010; Darling-Hammond, Chung Wei, & Andree, 2010; Hill, Beisiegel, & Jacob, 2013).

### **Features of high-quality PD**

The PD field has accumulated solid knowledge of “what works” on the ground and “what doesn’t” when it comes to promoting teachers’ learning. Every year, nations around the world invest large sums of money on *traditional* forms of PD such as talks, seminars, workshops, and conferences (Darling-Hammond, 2010), brief and sporadic events in which teachers tend to be passive recipients of information and where they have no opportunities to actively learn from others (e.g., other fellow teachers, PD providers, content experts). Scholars such as Borko (2004) argued that these forms of PD are “woefully inadequate” (p. 3)

because they tend to be fragmented and intellectually superficial, disconnected from classroom practices, and unrelated to teachers' actual needs and interests. In the same vein, Ball (1995) has referred to these types of PD activities as "style shows," and Darling-Hammond (2010) as the "spray and pray approach," given the lack of structures to provide teachers with feedback and follow-up support. Today, there is compelling evidence in the literature that these traditional forms of PD have very limited or null potential to help teachers improve their teaching strategies, and therefore no potential benefit to students' learning and achievement (Darling-Hammond, 2010). Paradoxically, perhaps due to lack of better viable alternatives or resources (Little, 1993), many countries around the world continue to invest efforts and funds into organizing these types of PD events. According to Odden, Archibald, Fermanich, and Alix Gallagher (2002), the return from the money invested into the teacher PD sector will continue to be "weak" if schools and school districts continue to exclusively invest in these low-quality forms of PD.

Large-scale studies conducted primarily with mathematics and science teachers have identified a series of content and design features that tend to make PD effective or successful. Scholars have referred to them as the "features of high-quality PD" (see Desimone, 2009). Research has shown that PD that exhibits these features not only results in high levels of teacher satisfaction, but also positive impact on teachers' pedagogies and/or gains in students' learning (e.g., Bautista, Cañadas, Brizuela, & Schliemann, 2015; Darling-Hammond et al., 2009; Desimone, 2009; Desimone, Porter, Garet, Yoon, & Birman, 2002; Guskey, 2003; Penuel, Fishman, Yamaguchi, & Gallagher, 2007). These features are succinctly described below:

- With regards to *content*, research has shown that high-quality PD covers and further elaborates on the curriculum that teachers need to deliver in class. In other words, high-quality PD is content-specific (as opposed to content-free, or 'one-size-fits-all PD'), focusing on the specific disciplines that each teacher teaches (e.g., literature, social science, music). This does not mean that PD has to focus exclusively on subject matter content knowledge. In fact, research has shown that high-quality PD

provides teachers with deeper understanding of three areas: 1) of the content knowledge itself and its associated competencies, skills, and attitudes (subject matter content); 2) of the pedagogical strategies needed to teach the subject to students and help them develop the competencies, skills, and attitudes associated to it (instructional practices); and 3) of how students think of and learn the different topics, concepts, and procedures pertaining to the subject (student learning and thinking). In addition, high-quality PD is responsive to teachers' needs, motivation and preferences, as well as coherent with the curricular requirements and standards of schools, districts and nations. Finally, high-quality PD is voluntary and features elements of autonomy and choice.

- With regards to *design*, high-quality PD exhibits a series of features related to the structure and working dynamics. First, it provides teachers with active learning opportunities, including activities to engage in exploration, reflection and discussion, and with contexts for collective participation and collegial sharing. Second, in high-quality PD initiatives, teachers are offered constructive and non-prescriptive feedback about their learning, as well as sustained follow-up support after PD completion. Because teachers need extended periods of time to process the new ideas that are presented to them in PD settings (e.g., time to reflect on the ideas, implement them in class, discuss with their colleagues), scholars have concluded that PD that truly fosters meaningful changes needs to be intensive and sustained, instead of short and sporadic, involving a significant number of contact hours over long periods of time.

## **GOAL**

Many PD initiatives for K-12 music teachers (i.e. from kindergarten to pre-university education) have been designed and implemented over the past three decades in countries around the world (comprehensive reviews can be found in Bauer, 2007; Bush, 2007; Conway, 2011). These initiatives have focused on a variety of music-specific topics and have adopted a variety of formats (e.g., courses, programs, school-based PD, school-university partnerships,

online PD). Despite the relevance of the features of high-quality PD framework in the general education literature, most articles reporting music teacher PD initiatives have not explicitly alluded to this framework in the theoretical underpinnings of their curriculum design. The goal of this inquiry, therefore, was to examine the music-specific PD literature using the framework of features of high-quality PD. To the best of our knowledge, an analysis of this nature has yet to be conducted.

Several taxonomies of high-quality PD features have been proposed by scholars in recent years, with slight variations in the number and/or content of features conceptualized. We decided to subscribe to the framework elaborated by Desimone (2009) due to its rigor and widespread use within the scientific community. This author posits that ensuring the effectiveness of PD requires the integration of the following five ‘critical features’:

1. Content focus
2. Active learning opportunities
3. Coherence
4. Collective participation
5. Duration

For brevity, the description and theoretical justification for each of these five features will be presented in the five *Findings* sub-sections, followed by the results obtained in relation to each feature. The research question addressed in this study was: To what extent do previous PD initiatives for K-12 music teachers reported on seven key journals in the music education field exhibit the features of high-quality PD as set out by Desimone (2009)? We thought that answering this research question was a worthwhile effort for several reasons. Our findings would not only bring to attention the current state and trends in the field of music education PD, but would also enable researchers to analyze and conceptualize music education PD from a different theoretical perspective (i.e., the framework of features of high-quality PD). Moreover, we thought this analysis would be highly relevant for music education policy and practice, as it would suggest ways to improve the content and design features of

the PD offered to K-12 music teachers, which would in turn have positive effects on students' musical learning.

## **METHOD**

### **Data Sources**

We conducted a detailed review of the music-specific PD literature published in seven mainstream music education journals since the early 90's until early 2015. The seven journals considered were: *Arts Education Policy Review*, *International Journal of Music Education*, *Journal of Music Teacher Education*, *Journal of Research in Music Education*, *Music Education Research*, *Music Educators Journal*, and *Research Studies in Music Education*. Journals were selected based on their relevance and prestige within the field of music education. Our review focused on articles reporting on PD initiatives for music teachers (e.g., workshops, courses, or programs offered by universities or external providers, forms of school-based PD, school-university partnerships, community-artists partnerships, online PD). We exclusively focused on PD targeted at music teachers from preschools to pre-university educational institutions (K-12), hence disregarding PD targeted at other kinds of music teachers (e.g., teachers from music conservatories, specialized music academies). We only considered articles that included detailed information about the curriculum design of the PD (content focus, goals/rationale, working dynamics, implementation, etc.). We excluded studies that did not fulfill these criteria.

There were several reasons for us to only focus on the literature published in the above-mentioned seven specialized journals, as opposed to reviewing the music-specific PD initiatives reported on other types of publications (e.g., books, online reports, journals specialized in other fields, journals with less relevance within the field). Most importantly, our goal was to obtain an overview of the general tendencies of PD in music education, rather than surveying every single PD in the field. In addition, the quality of the PD activities conducted and described would be guaranteed given that the articles are from the most

reputable journals. We are aware of the existence of other PD initiatives that, due to restrictions imposed, were deliberately excluded from this review.

Table 1  
*Overview of the articles and PD initiatives considered*

Journal	Authors / Publication Year	Description of the PD initiative
Music Education Research	Upitis, Smithrim, and Soren (1999) <sup>1</sup>	“Ontario Arts Education Institute” (OAEI) summer institute with workshops and teacher-led action research projects, in partnership with performing arts organizations and museums.
		School-based PD program that involved all staff members in workshops, interaction with artists, and individual learning projects.
	Rogers, Hallam, Creech, and Preti (2008)	“Voices Foundation Primer.” Whole school in-service training, provision of support of trained advisory teachers within the classroom, and training for curriculum leaders and music coordinators.
	Moore (2009)	PD program for music educators in a large urban school system, including reflective practice, collaboration in curriculum writing and assessment, establishment of leaning community, mentoring, and peer-coaching.
	Varvarigou, Creech, and Hallam (2012)	“London Symphony Orchestra” (LSO) on track program. 2-year PD involving collaboration amongst working musicians, teachers, and school communities.
Journal of Music Teacher Education	Conkling and Henry (2002)	PD partnership among primary and high school music teachers, pre-service teachers, and university researchers.
	Walls (2008)	Graduate distance learning music teacher education program, with online lessons and discussions
	Burkett (2011)	Community Symphony Orchestra’s Educational Outreach Project. On-site PD activities for rural music teachers (general music, choir, instruments), involving seminars, master classes, and classroom visits
	Stanley, Snell, and Edgar (2014)*	“The California Arts Project.” Collaboration between music teachers and artists
		Individual collaboration between teachers and university personnel
		Collaboration amongst string teachers
District-university collaboration		
		Schools-based PD: Collaboration amongst music teachers within the school
		Collaborations amongst middle school teachers across multiple subject areas
Journal of Research in Music Education	Bauer, Reese, and McAllister (2003)	Weeklong technology workshop for K-12 music teachers. Workshop was student-centered and included modeling by instructor, hands-on work, and class discussion.
	Stegman (2007)	Reflective dialogue in and on music teaching practices between pre-service and experienced teachers
	Conway and Holcomb (2008)	Mentorship by experienced music teachers. Mentors attended development sessions and supported to 2-5 mentees in tasks related to planning, teaching, assessment and reflecting on music teaching.
International Journal of Music Education	De Vries (2006)	PD initiative for child-care music teachers based on lesson observation. The PD providers modeled good teaching practices and discussed new lesson ideas with the teachers.
	Cain (2010)	PD initiative for secondary school music teachers, who engaged in action research projects.
Music Educators Journal	Conkling (2007)	Professional development partnership between pre-service music teachers and cooperating teacher with university professors
	Burrack (2012)	Using videoconferencing and ensemble clinics for music teacher PD purposes
Research Studies in Music Education	Blair (2008)	Mentorship of novice music teachers by university researchers.
Arts Education Policy Review	Myers (2010)	“Sound Learning.” Lesson observations and collaborations with artists

<sup>1</sup> Several PD initiatives are described in this article. In our review, we only considered the initiatives targeted at K-12 music teachers.

We identified a total of 17 articles reporting on 24 music-specific PD initiatives, most of them conducted in the United States of America (USA), Canada, and United Kingdom (UK). Table 1 presents the 24 PD initiatives that formed the basis of our analysis.

As shown in Table 1, the literature on music-specific PD is diverse regarding aspects such as format, provider, and context, including initiatives designed as community-artists partnerships, school-university partnerships, school-based PD, university-administered PD, as well as online PD. Note that two of the articles presented in Table 1 (Stanley et al., 2014; Uptis et al., 1999) reported on several PD initiatives or experiences. This is the reason why the number of articles is lower than the number of teacher learning activities. In our analysis, we considered each of the different PD initiatives or experiences independently, as they had distinct sets of goals and were conducted with different participants. Furthermore, it is important to acknowledge that some of the articles considered in this review were not intended to formally report on PD experiences, but rather, to describe PD with some examples or illustrate successful PD practices. Because the information provided in these articles was relevant and sufficient for our purposes, we decided to consider them with the goal of providing a more comprehensive overview of the general music education PD landscape.

### **Data Analysis**

The authors of this literature review, all active researchers in music education and teacher professional development, carried out several in-depth readings of the 17 journal articles selected. Our purpose was to identify evidence of the five critical features of high-quality PD formulated by Desimone (2009). We then created a detailed narrative account, or “thick description” (Geertz, 1973), for each of the PD experiences reported in the journal articles (e.g., workshops, courses, programs, partnerships). These narratives helped us in characterizing the main features of these initiatives. We solved the disagreements in our interpretations by reaching consensus through discussion and debate. Finally, we produced some descriptive statistics to summarize the results of our coding process.

In the following section, we examine the extent to which prior PD initiatives for K-12 music teachers exhibit Desimone's (2009) five critical features. In each of the five subsections, we first define the critical feature at hand and briefly elaborate on its importance and significance at a theoretical and practical level, based on results from prior research. We then present the results of our coding process using descriptive statistics (frequencies and percentages), and provide examples to illustrate our findings.

## **FINDINGS**

### **Feature 1: Content Focus**

There is wide agreement in the literature that content-free forms of PD, dealing with general theories of teaching and learning or with aspects disconnected from the classroom, tend to have limited (or null) impact on teachers. For PD to be truly meaningful and transformative, it needs to be subject-specific and focused on how teachers can help students develop the competencies, skills, and attitudes associated with that specific subject matter. This idea is not new in the field of music education, as many researchers have previously stressed the need for music-specific PD (Bauer, 2007; Bush, 2007; Conway, 2011). Desimone (2009) identified three types of content focus as factors contributing to the success of PD. In particular, she argued that high-quality PD provides teachers with deeper understanding of the subject matter content itself, of the instructional practices needed to teach the subject matter to students, and of how students learn and think of the subject matter. Research has shown that PD focusing on subject matter and instructional practices allows teachers to identify significant relationships among concepts within the subject matter, which enables them to better foster students' conceptual understanding (Carpenter, Fennema, Peterson, Chiang, & Loef, 1989). Similarly, PD focusing on student learning and thinking has been found to equip teachers with knowledge about students' preconception and intuitive ideas, which enables them to design better teaching and learning activities (Bautista, Brizuela, Glennie, & Caddle, 2014).

We established three non-mutually exclusive categories to analyze the selected journal articles according to this feature: 1) subject matter content, 2) instructional practices, and 3) student learning. We found that most PD initiatives have focused on instructional practices (21 initiatives, or 87.5%), covering aspects such as music-specific pedagogies, teaching strategies, or assessment methods (see Figure 1). An instance of an initiative solely focused on instructional practices can be found in the article by Bauer et al. (2003), which describes an intensive PD workshop focused on the use of technology in K-12 music education. Through the modeling provided by the course instructors and hands-on activities, 63 music teachers learned a variety of teaching strategies and increased their level of confidence with technology tools.

The following category in frequency was subject matter content. We identified 14 initiatives (58.3%) that included elements of musical content such as instrumental skills, music theory and concepts, history of music, and/or singing (Figure 1). An example of PD initiative that was solely focused on music content knowledge is described in Upitis et al. (1999). Through workshops, interactions with local artists, and individual learning projects, music and arts teachers furthered their own learning about specific art forms and their artistic knowledge, sensibilities, and technical skills were enhanced.

Finally, the number of PD initiatives dealing with the exploration of student learning was considerably lower (5 initiatives, 20.8%), which indicates the rather low importance given to this aspect in music education teacher PD. An example can be found in the article by Conkling (2007), where a small group of pre-service music teachers –mentored by an experienced music teacher and a university professor– were given opportunities to directly work with students and examine their thinking in the classroom. They collaboratively explored how students experienced, conceptualized, and made sense of music.

It is important to bear in mind that the same PD initiative could be coded in more than one type of content focus, as these three categories were non-mutually exclusive. In fact, we found that more than half of the initiatives described in these articles (13, or 54.1%)

included elements pertaining to several types of content focus. Most of them combined aspects related to subject matter content and instructional practices. This combination can be observed in the project described in Burkett (2011), which reports on a community symphony orchestra’s education outreach program for rural instrumental music teachers. The program included workshops and seminars aimed to increase teachers’ musical content knowledge and performance skills, as well as one-on-one sessions by master teachers aimed to refine teachers’ pedagogical and classroom management skills.

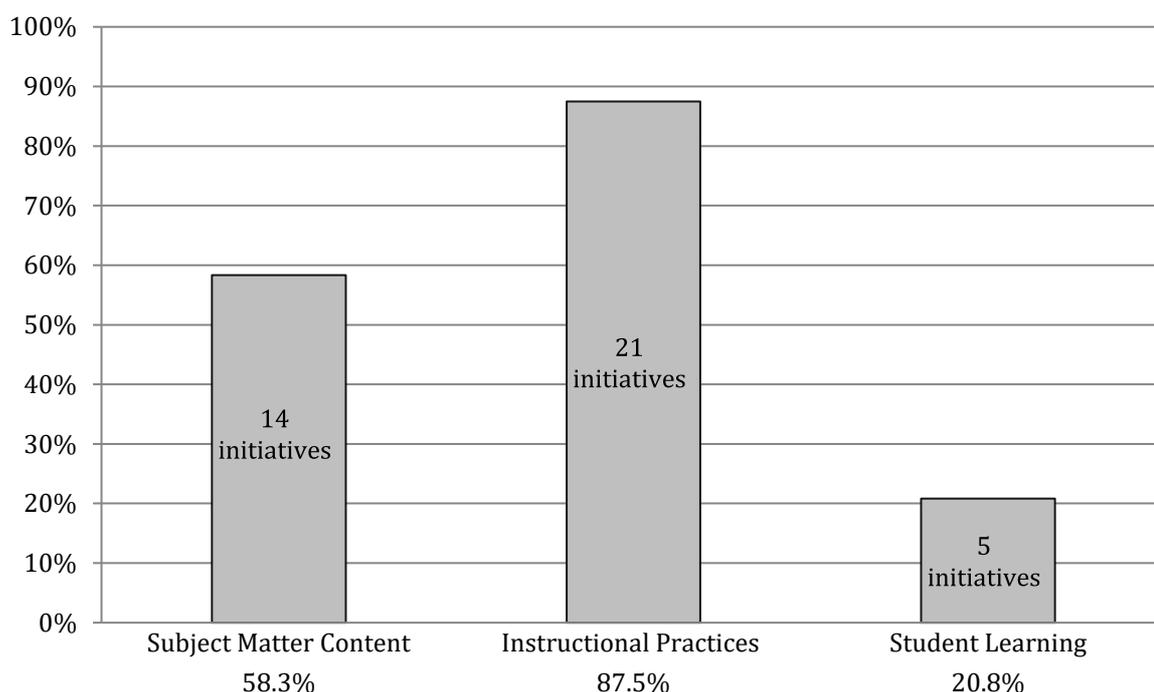


Figure 1. Content Focus: Counts and Percentages for the Categories (Total=24 initiatives)

## Feature 2: Active Learning Opportunities

A second feature that has been reported to significantly contribute to the effectiveness of PD is the provision of active learning opportunities. This refers to situations in which teachers can take responsibility and ownership of their learning and where they are actively participating in the construction of their knowledge, as opposed to being passive recipients of information (Bautista, Pérez Echeverría, & Pozo, 2009; Borko, 2004; Darling-Hammond & McLaughlin, 2011; Kazemi & Hubbard, 2008). According to Desimone (2009), this feature can be incorporated into PD by engaging participants in activities such as teacher

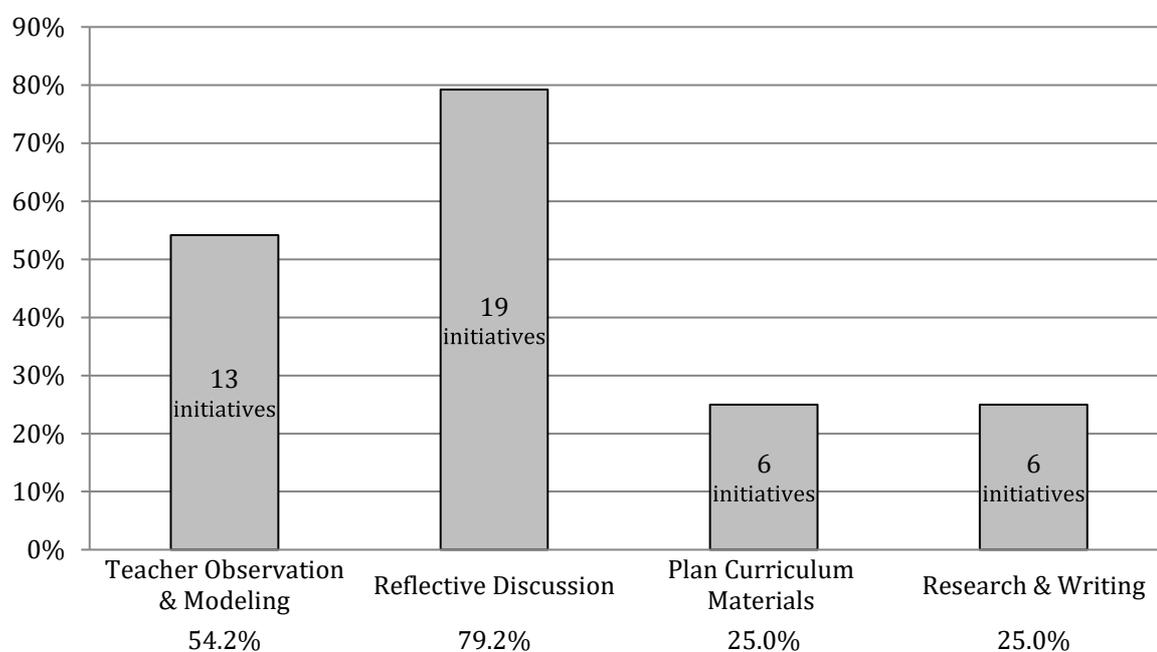
observations, curriculum planning, reviewing student work, conducting action research, leading discussions, or collaborative writing. For example, research has shown that observing expert teachers and being observed while teaching may result in improved teaching practices, especially when observation is followed by collaborative analysis, reflection, and discussion (Sherin & Han, 2004). Similarly, designing curriculum materials and reflecting on teaching methods allow teachers to relate their PD experiences to their teaching contexts, whereas leading discussions and engaging in research and writing allow them to gain a deeper understanding of current issues in education (Garet et al., 2001).

Drawing on Desimone's (2009) taxonomy, we established four non-mutually exclusive categories for this analysis: 1) teacher observation and modeling; 2) reflective discussion; 3) planning of curriculum materials; and 4) research and writing. We found that all 24 initiatives identified in the selected journals have integrated at least one of the four types of active learning opportunities. As shown in Figure 2, most initiatives have provided teachers with opportunities to engage in reflective discussions (19 initiatives, 79%). An example can be found in the article by Moore (2009), which describes a large-scale program for K-12 music educators in a urban school district in USA. One of the initiatives implemented as part of the program spurred teachers to become reflective practitioners by engaging them in collaborative discussions, reflective practice, and weekly journaling.

The second most frequent category was teacher observation and modeling, with 13 initiatives (54%). The on-site PD program for rural music teachers described in Burkett (2011) illustrates this category. In this program, some clinicians observed music teachers while teaching their regular lessons. Subsequently, the clinicians provided teachers with constructive feedback, discussed critical aspects, and made suggestions for future improvements.

Only a few PD initiatives provided teachers with opportunities to plan curriculum materials (6 initiatives, 25%), such as "The California Arts Project" where teachers crafted lesson units on improvisation, recorder, and string orchestra classes (Stanley et al., 2014). Similarly, only 6 of the 24 PD initiatives (25%) engaged teachers in activities related to

research and writing. For example, the study conducted by Cain (2010) explored how seven secondary school music teachers undertook practitioner action research projects. Engaging in action research allowed the teachers to investigate areas of their interest, present their findings, and produce research papers.



*Figure 2. Active Learning Opportunities: Counts and Percentages for the Categories (Total=24 initiatives)*

### **Feature 3: Collective Participation**

Research has shown that PD is more likely to be successful when it involves the collective participation of teachers from the same school and department, ideally those who teach the same subject matter within the same grade level/s (Desimone, 2009). Collaboration amongst teachers within the context of professional learning communities has proven to be tremendously beneficial for teachers (Borko, 2004), not only because it helps them improve their pedagogies but also because it helps them develop better attitudes and feelings towards their peers. When teachers who closely interact with one another on a daily basis have also the opportunity to collectively engage in PD, a shared professional culture may be developed, leading to the emergence of common understandings regarding instructional goals, teaching methods, problems, and solutions (Garet et al., 2001).

In our analysis, we identified 15 PD initiatives (62.5%) that exhibited the feature of collective participation. An example is described in the article by Stanley et al. (2014). The participants were middle school teachers from the same school, who were asked to develop solutions pertaining to student learning. In order to engage teachers across multiple subject areas, the PD providers created a platform that included both a Wiki-based network and a face-to-face collaborative network. This platform allowed the teachers to co-construct their own solutions in a collaborative manner. In the remaining 9 initiatives (37.5%), we did not find any statement suggesting the existence of this feature. Participants were teachers from different schools, who most probably did not know each other, whereas the PD facilitators were members external to the schools (e.g., community artists, professional musicians, university faculty).

#### **Feature 4: Duration**

The literature indicates that the duration of PD is crucial in determining its impact on teachers. Duration in this context refers to the span of time over which the PD activities are spread out, as well as the amount of contact time that participants have for interaction with the PD facilitators, with other participants, and/or with the learning resources (Desimone, 2009). According to prior research, activities with longer duration (spread over a semester or longer) that include at least 20 hours of contact time are generally more effective in fostering meaningful changes in teachers, providing them with greater opportunities for reflection, analysis, and collaboration (Garet et al., 2011).

In our survey of the music education journals, we found that the time span of 18 out of the 24 initiatives (75%) was considerably long (Figure 3), ranging from 6 months to 3 years (e.g., Conkling, 2007; Moore, 2009). Only a minority (3 initiatives, 12.5%) involved short PD experiences ranging from 1 to 16 weeks, such as brief workshops (Bauer et al., 2003). The remaining three initiatives did not specify their duration.

Only 9 of the reported PD initiatives (37.5%) provided information with regards to contact time. Interestingly, all of them involved more than 20 hours of work. On one end of

the spectrum, we identified cases that required intense work during short periods of time, such as the PD designed and implemented by De Vries (2006), in which teachers engaged in peer-observation 2 days a week during 8 weeks. On the opposite end, we identified initiatives involving low workload during extended periods of time. One of the case studies featured in Stanley et al. (2014) participated in a PD program of this kind. This teacher was required to attend three 2-hour sessions during the span of one year.

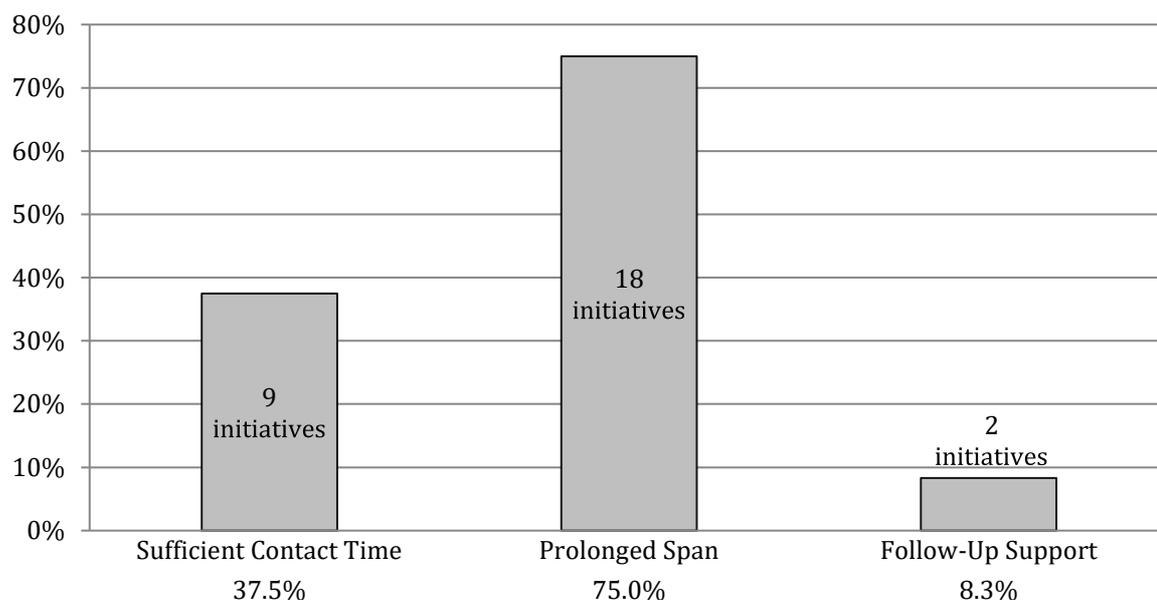


Figure 3. Duration: Counts and Percentages for the Categories (Total=24 initiatives)

While the duration of most PD initiatives has been long, it is worth noting that the provision of post-PD follow-up support has been very limited. Several articles in the field of music education have discussed the importance of this aspect in fostering teacher learning, especially in ensuring the sustainability of PD effectiveness. For example, Bauer et al. (2003) have attributed the decline of the effects of PD over time to the lack of follow-up support given to teachers. These authors consider that teachers need opportunities to periodically revise and revisit what has been previously learned in PD settings. Similarly, in the study by De Vries (2006), the staff explained that the absence of follow-up support was an issue, suggesting that “regular contact over three months since the sessions concluded would have allowed for clarification of teaching points” (p. 12). We only identified two cases (8.3%) in which follow-up support after PD completion was given, such as the “Ontario Arts Education

Institute” (OAEI) summer institute described in Upitis et al. (1999), where the PD facilitators provided workshops for the alumni who had completed the summer institute program.

### **Feature 5: Coherence**

The fifth critical feature for high-quality PD described is the degree of coherence of PD with what teachers want to learn, with the curricular requirements and standards of schools, and with national educational priorities. Indeed, Desimone (2009) argues that coherence should operate on three different levels to ensure the success of PD. On an individual level, PD should be aligned with the teachers’ knowledge, beliefs, and priorities. This can only be achieved when the learning experiences are designed based on a prior exploration of teachers’ motivations, needs, and goals (Bush, 2007). At a community level, PD should be coherent with the direction taken by the school and with other learning activities previously undertaken by teachers. It should be therefore cumulative, in the sense of being perceived to be part of a coherent program for teacher learning. Finally, at a national level, PD needs to be consistent with national or state standards for student learning, content, and pedagogy.

We established three non-mutually exclusive categories for this analysis: 1) individual coherence, 2) community coherence, and 3) national/state coherence. We found that 18 out of the 24 initiatives (75.0%) displayed coherence on an individual level (Figure 4), as it was explicitly stated that the curriculum had been specifically catered to the participants’ self-reported needs, rather than being generically designed. One such example is the PD experience described in De Vries (2006), which was planned in response to the self-reported needs of each individual music teacher at the child-care center. The working sessions relied on the participants’ prior knowledge and served as a foundation that enabled them to develop new ideas about teaching practices.

Coherence on a community level was only explicitly mentioned in five initiatives (20.8%). These were built upon the community’s existing PD structures and/or those that addressed the needs of larger groups of teachers from the same school or district. A case that

demonstrates such level of coherence is ‘Sound Learning’ (Myers, 2010), a collaboration between a university, artists, music teachers, and their students. The program carried out an *organic* approach that was coherent with the culture and priorities of a particular school, and suggested instructional activities and resources catered for the school’s needs.

Finally, coherence on a national level was only explicitly mentioned in two initiatives (8.3%). In the articles reporting these PD experiences, it was stated that the PD emerged with the goal of meeting current national standards in the music education syllabus. For example, the 1-week technology workshop described in Bauer et al. (2003) was developed in response to the new standards generated by states boards of education with regards to the integration of technology into teaching practice. It is important to clarify that those initiatives that did not state their alignment with community and/or national standards cannot be said to be *incoherent* on these levels. Results regarding this feature are based on the information explicitly articulated in the articles published. Authors might have not provided enough details in this regard.

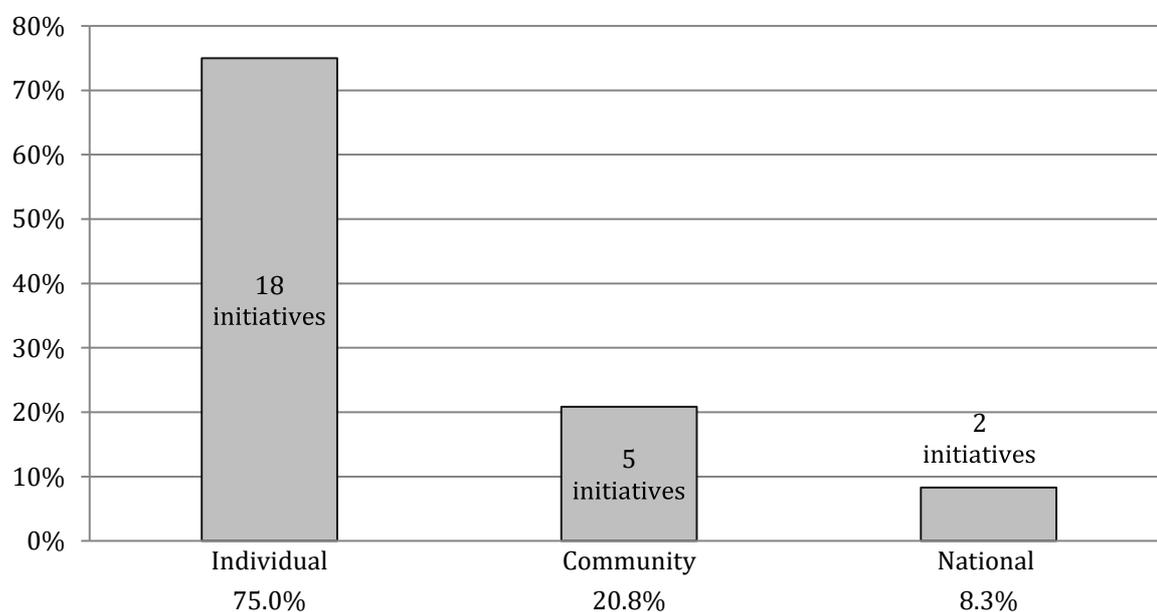


Figure 4. Coherence: Counts and Percentages for the Categories (Total=24 initiatives)

## DISCUSSION AND CONCLUSIONS

The goal of this review was to examine the PD literature published in seven mainstream music education journals using Desimone’s (2009) framework of features of

high-quality PD. This author argues that for PD to be truly effective and transformative, it needs to integrate the following five *critical* features: content focus, active learning opportunities, collective participation, duration, and coherence. In examining a total of 24 PD initiatives for K-12 music teachers (from kindergarten to pre-university education), we have identified interesting differences in the extent to which the five features are exhibited.

With regards to content focus, we have found that most PD initiatives have placed much emphasis on instructional practices (e.g., music-specific pedagogies, teaching methods, how to use technologies in class), followed by music content knowledge (e.g., music theory and concepts, instrumental skills, singing). A more detailed look at the published articles shows that many PD initiatives focused on instructional practices because the teacher populations targeted were trained musicians who lacked pedagogical preparation (Jeanneret & Degraffenreid, 2012). In contrast, the focus of other PD initiatives was music content knowledge because their main target population was generalist teachers, with rather low competencies and skills as musicians (Lum & Dairianathan, 2013).

Interestingly, however, only a minority of the PD initiatives has focused on student musical learning and thinking (e.g., intuitive ideas, musical competencies, preferences and interests, spontaneous notations). This finding differs radically from current tendencies in areas such as mathematics and science education, where the exploration of student learning and thinking has had a central role in PD in the last decade (Bautista et al., 2014). We argue that music-specific PD designers and facilitators (e.g., university faculty, music education organizations, private providers) should attach more significance to this aspect. Music teachers would greatly benefit if PD looked at student musical thinking and learning more closely, especially in today's educational landscape, where reform initiatives around the world emphasize the importance of using student-centric pedagogies and learning activities that respond to students' ideas and interests (Darling-Hammond et al., 2009). For example, it would be constructive to design PD initiatives that guide music teachers in articulating and delivering curriculum based on student competencies.

With regards to the second feature, all the PD analyzed included one or more type/s of active learning opportunities, providing teachers with times and spaces to explore, reflect, and discuss the topics addressed. In the majority of the initiatives, these opportunities have manifested in the form of reflective discussions, teaching observations, and modeling. However, very few PD initiatives have engaged teachers in planning curriculum materials or in research and writing. The lack of focus on student learning and thinking, described in relation to the first feature, might have been the cause for the low incidence of these types of activities. Because research activities tend to be highly effective in promoting the learning of teachers in numerous content areas, we recommend that music PD providers should incorporate activities such as action research (Cain, 2010) or Japanese lesson study (Lewis, Perry, & Hurd, 2004) in the curriculum of music-specific PD initiatives. Research allows teachers to enhance their knowledge on student thinking and learning, which in turn enables them to design better learning activities and curriculum materials, specifically designed to meet the needs of students (Carpenter et al., 1989).

The feature of collective participation has been identified in slightly more than half of the PD initiatives, in which teachers were provided with opportunities to learn *from* and *with* fellow music teachers from the same school. The remaining cases, in contrast, opted for providing teachers with the support of external members (e.g., community artists, professional musicians, university faculty). We acknowledge that fostering collective participation is particularly challenging in music. One reason is that the number of music teachers in schools tends to be low, as low as one in many cases, which makes collaboration simply impossible. Another reason is that many schools lack music education specialists, therefore administrators feel the need to seek expertise outside the schools (Lum & Dairianathan, 2013). With all these constraints in mind, we encourage PD designers and facilitators to foster collective participation as much as possible, providing music teachers from the same school (or at least from the same neighborhood or district) with time and spaces to share their knowledge collegially.

With regards to the fourth feature, that of duration, we found that the time span of most PD initiatives has been considerably long, ranging from 6 months to 3 years. We also found that all initiatives that specified the amount of contact time involved more than 20 hours of work. These results speak positively about the quality of music-specific PD regarding duration. However, the follow-up support given after PD completion has been severely lacking in most PD. School administrators and PD providers should be aware of the importance of this feature, which according to Bauer et al. (2003) is essential to ensure the sustainability of PD effectiveness. We acknowledge that offering follow-up support has important practical implications regarding costs, given the need to budget for additional resources once PD has concluded (e.g., human resources, learning materials, open communication channels). It is therefore important to distribute the resources carefully, and if necessary, propose inexpensive ways to give some form of continuation to PD initiatives after they have been formally concluded (e.g., establishment of school-based professional learning communities).

Finally, regarding the feature of coherence, most initiatives have been coherent on an individual level, as they were specifically catered to the participants' self-reported needs and motivation, as opposed to being one-size-fits-all PD. However, we found that coherence on a community and national levels were only explicitly mentioned in a minority of initiatives. As explained above, the evidence available in the published articles does not allow us to conclude that these initiatives were *incoherent* on these two levels, as authors might have not provided all relevant details in this regard. Despite of this limitation of our analysis, we would like to emphasize that maximizing effectiveness and impact of PD requires paying attention to coherence on all three levels (individual, community, and national).

These findings show that the field of music education teacher PD presents both strengths and weaknesses. Among the strengths, prior PD initiatives have provided teachers with multiple opportunities for exploration, reflection and discussion, as well as with contexts for collegial sharing and collaboration. In addition, much of the PD has integrated several types of content (i.e., instructional practices and content knowledge). Among the weaknesses,

we have seen that music PD has not paid much attention to student musical thinking and learning, provided teachers with research opportunities, or offered follow-up support after PD completion. These findings allow us to identify concrete areas in which the PD offered to K-12 music teachers can be further improved. Thus, we encourage the different parties involved in the planning, design, and implementation of music PD (e.g., policymakers, school administrators, music educators, university faculty, community musicians and artists, experienced music teachers) to take these ideas into consideration in their future work. These ideas should be interpreted as general indicators regarding content and design features. The most effective way of implementing them can vary across contexts depending on the motivations, needs, and preferences of the target teacher population (Bautista, Toh, & Wong, in press; Eros, 2013).

This literature review is relevant because it provides a general overview of the PD field in music education, making us aware of the strengths and weaknesses of previously implemented initiatives. According to Bush (2007), research in PD has traditionally lagged behind many other topics in music education. We consider that our findings contribute to strengthen the knowledge about this topic, laying certain foundations to embark on future work and research. Finally, this inquiry is relevant because it allows us to analyze and conceptualize music education PD from a different theoretical perspective, namely the features of high-quality PD, a well-established framework arisen in content areas with more tradition in PD research such as mathematics and science education. In our opinion, music education can greatly benefit from what has been learned in those areas (Borko, 2004; Garet et al., 2011; Hill et al., 2013).

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