

The development of piano teachers' knowledge: Three case studies from Brazil

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Abstract

This study investigates the range of knowledge that guided the practices of three piano teachers in the south of Brazil who had no undergraduate teacher training and who were in different stages of their professional life. The focus of the research was on the use of the teachers' knowledge within their profession. The method consisted of case studies of three piano teachers in different stages in their careers, with 3, 19 and 43 years of teaching practice. Data were collected by a series of semi-structured interviews and non-participant observations and were analyzed on the basis of the concepts of Tardif and Huberman. A typology of mobilized knowledge was constructed, taking into account the specificity of the piano teaching profession and the concepts about teacher knowledge, which follows Tardif. Huberman served as a guide for reflecting on the different stages of the teachers' professional careers. The results of the study showed that the number of years of teaching experience was fundamental to developing teaching principles and broadening the scopes of their careers as musicians. Analyses of the three cases show that the contextualized experience of being a piano teacher throughout the length of a career functions as an existential dimension for improving teachers' knowledge, in agreement with the research literature. The pragmatic dimension within the construction of professional knowledge in music was found in the cases of the two more experienced teachers.

Keywords: professional knowledge; teacher knowledge; career; piano teaching.

Introduction

Global trends in modern societies have demanded greater professionalization and excellence in all fields. Every professional activity needs specific types of knowledge, which describe what its members must know in order to become members of that profession. Studies dealing with teachers' knowledge are associated with the research about teachers' thinking, which emerged in the 1980s. The research has shown that professionals often need to formalize their teaching knowledge in order to improve professional performance (Sacristán, 1996; Pérez Gomes, 1995; Paquay et al., 1996; Tardif, 1999, for instance). Researchers began conducting investigations on the learning processes integral to teaching, aiming to identify the specific knowledge in an occupation that at the time was regarded as a 'semi-profession' (Sacristán, 1996).

Piano pedagogy demands a broad range of knowledge, which enables a teacher to plan, act and evaluate the context of his or her teaching. Recent research on instrumental teaching has been devoted to investigating and discussing subjects that address the theme of being an instrumental music teacher. Some aspects that have been approached in the literature include (i) the correlation between teacher experience and student progress and performance quality (Mills & Smith, 2003, Henninger, Flowers & Council, 2006; Gaunt, 2008), (ii) approaches in private instrumental teaching (Lancaster, 2003; Wallace 2004;); (iii) instructional strategies employed by instrumental music teachers (Shippers, 2006; Duke and Simmons, 2006); (iv) musical instrument students' career aspirations and pedagogical training (Arian, 1971; Mark, 1998; Metier, 2000. Mills, 2004, 2005; Weller, 2004; Miller and Baker, 2007); and (v) the lifespan (timeline) of a musician's career (Baker, 2005a, 2005b, Bennet & Stanberg, 2006), just to mention a few.

Most courses in instrumental music curricula prepare students to become performers. Studies such as that of Miller and Baker (2007) have focused on the music student, who may or may not become an instrumental teacher. The authors explored music conservatory undergraduates' career aspirations and notions of their pedagogical training through biographical interviews with 16 students. The results suggested that pedagogical training, which begins in the second college year, serves as a catalyst for changes in career orientation. Students, training to become performers, begin their music education at the conservatory with almost no intention to enter the teaching profession. Furthermore, boundaries are perceived between conservatories that offer elite performance training and those with a broader curricular base. Mills (2004) investigated the beliefs and experiences regarding teaching as teachers of 61 aspiring performers and composers in the third year of a four-year undergraduate course at a conservatory in London. The students emerged as young musicians, often experienced as instrumental teachers, who hoped to include instrumental teaching in their career and looked forward to engaging with teaching intellectually. They generally thought that they needed to be trained as teachers and thought that teaching would improve their playing.

In Brazil, for many years, music undergraduate courses were focused on musical performance, composition, or conducting. As part of a worldwide trend, most of these students had no opportunity to guarantee their incomes as musicians. As a result, many of them became private music teachers. The general belief held by instrumentalists was that their performance training was enough to guarantee their success as private studio teachers. Recently, some Brazilian undergraduate curricula have begun to include pedagogical training in response to the demands of the music job market. On the other hand, it is worth noting that research on teacher thinking (Sacristán, 1996; Pérez Gomes, 1995; Paquay et

al., 1996; Tardif, 1993, Conway, 2001; Krueger, 2001, Cookling and Henry, 2002 for instance) has shown that professional career experience provides specific knowledge that improves teacher performance.

Taking into account the fact that a large number of private music teachers in Brazil have a Bachelor's degree in performance, the present study investigates the range of knowledge that guides the practices of piano teachers with no undergraduate teacher training in different stages of their professional lives. Concepts based on Tardiff (1999) were used to analyze the knowledge of the music teachers; the different career stages were accounted for according to the typology of Huberman (1989, 1993). These theoretical principles on teacher knowledge were paramount to understanding the specific knowledge that piano teachers in different stages of their professional use mobilize in their teaching practices.

Typology of teacher knowledge and career stages

This section presents the two theoretical principles used in the present research: the typology of teacher knowledge based on Tardiff (1999) and the stages of a professional career proposed by Huberman (1989, 1993).

For Tardif (1999), teacher knowledge is related to its social source, the professional context. According to Tardif, teacher knowledge is an element of teaching practice, where that knowledge is simultaneously acquired and articulated. By analyzing the relationships between the teachers and their professional knowledge, Tardif identified the discipline, curriculum and professional knowledge as “second hand knowledge” because they are incorporated in the teacher's practice without having been produced or legitimized by teachers. In this case, teachers become “transmitters” or even “objects” of this knowledge.

The experiential knowledge finds itself rooted in the daily practice of the teacher. This type of knowledge does not come from educational institutions or from the curriculum but is based on practical teaching experience: the daily work of a teacher and his or her knowledge of the teaching context. It grows from experience and is validated by it.

Tardif also mentions the articulation between teacher knowledge and its intimate relationship with classroom work. He considers the context of teacher knowledge as plural and temporal, not constituted by a group of homogeneous types of knowledge but rather by different types of heterogeneous knowledge; it is the product of a diversity of skills and abilities being put into action. For this author, the temporality of the knowledge is key to an understanding of the teaching profession because the teaching knowledge is acquired in the context of the teacher's personal and professional history. Table 1 presents the characteristics adopted in the present research in terms of the four kinds of professional knowledge, which are based on Tardif (1999). (See Table 1)

Huberman's work (1993) was used as a reference to guide participant's reflections about the stages of the teachers' professional careers. According to Huberman, it is possible to frame a series of sequences through which careers progress, although these sequences are not always necessarily followed in the same order. For Huberman, the sequence appears in most of the teachers studied, but not in all. In this way, a career can be considered as a linear process as well as discontinuous one in which we can find different stages of professional life. In the music educational context, Baker (2005a, 2005b), based on the life histories of 28 instrumental and vocal teachers, aged 22 to 60 years, identified five stages in a music teacher's career: inductees (up to 25 years old), long-term career (26-35 years),

professional apex (36-42 years), career-life balance (43-53 years) and serenity (54 years and beyond).

Analyzing the professional lives of teachers, Huberman (1993) identified five stages of a professional career, as shown in Table 2. (see Table 2)

For Huberman, as well as for Tardif, the first years of activities are decisive to the structure of the professional practice. Both authors consider the whole process of career building as significant to the acquisition and validation of professional knowledge.

Method

The method consisted of a cross-sectional case study involving three piano teachers in different stages of their careers, with 3, 19 and 43 years of teaching practice. The sample was initially collected by means of a snowball procedure from which 15 piano teachers agreed to participate in a preliminary interview. None of them had pedagogical training in their undergraduate courses. For the final selection, we established two basic criteria: (i) to have three piano teachers in different points of their careers according to Huberman's stages and (ii) to have three teachers with bachelor's degrees in piano performance. Furthermore, from this initial sample, the three subjects who showed themselves to be most engaged to the research procedures were selected. Data were collected totaling ca.15 hours.

The three piano teachers were in following periods of their careers:

1. *Novice*: The teacher representing a teacher at the beginning of a career was named Rita¹. By the time the data were collected, Rita had three and a half years of

¹ The names used here are fictitious, to assure confidentiality.

professional experience as a piano teacher. She taught privately as a studio teacher at her home and also at students' homes.

2. *Intermediate stage*: Representing this stage was Maria. At the time of the study, Maria had 19 years of professional experience as a piano teacher. She taught at her own school of music.

3. *Late years of a career*: The third teacher, Tereza, had 43 years of teaching experience as a studio teacher and as a higher education teacher.

Before data collection started, we provided each of them with a confidentiality agreement, which stated that their names and images would not be revealed without proper consent.

A series of semi-structured interviews and non-participant observations were carried out over a period of 4 months, with a total of two interviews and three observations sessions for each participant. For the analysis of the interviews, we transcribed the three sessions and categorized the themes that emerged from the data. For the analysis of the video, the data reduction was completed from the literal transcriptions of the teaching dialogue and of the actions of the teachers and students.

Results and Discussion

The three cases represented different working contexts, accumulated experiences, and stages of professional careers, and they were involved in different music activities.

Table 3 summarizes the main characteristics of each case. (see Table 3)

As shown in Table 3, Rita, the youngest teacher, worked at different places: she taught private classes at home, at students' homes and at private schools. Furthermore, she played as a pianist in an orchestra and served as an assistant conductor and percussionist. According to her interviews, she was facing a dilemma between being a pianist or a piano teacher, since teaching was not her professional goal:

“(...) I even like to give lessons, but... if I can, (...), if I can work somehow as a music performer... I prefer to play, to be a pianist, then, I always give more priority to that instead of giving lessons.”

Her discourse revealed satisfaction in being a piano teacher, but if she had the opportunity, she would rather be a pianist; initially, she did not expect to be a piano teacher. A similar attitude among performance majors has been reported in the literature. Most of the students aspired to careers as soloists rather than as teachers (Arian, 1971; Mark, 1998; Metier, 2000). Many tend to prefer careers as performers to careers as teachers, as in the case of Rita. This perspective might be due to the fact that most music performance students and young instrumentalists are not aware of the practical aspects of making a

living as an instrumentalist and may not know about the lack of performing opportunities and of the low financial rewards available to performers. As Weller (2004) pointed out, performance students tend to view teaching as a “fall-back career”.

By analyzing Rita’s discourse during the interviews, we might, following Huberman (1993), place her in a transition stage between career entry, which is linked to a process of confrontation with reality, and stabilization. This is characterized by an enthusiasm for experimentation allied to a feeling of responsibility.

Maria, the second case study, had 19 years of teaching practice and worked in different sectors of Music and Arts Education². Throughout the interviews and observations, she indicated that she was very satisfied with her professional choice of being a musician and a teacher:

(...) Then I always thought: "I am going to study the piano" (...) Indeed, It is not an option. Already it was practically determined. When I was ten, eleven years old, I remember that I already wanted to study the piano. I often skipped classes to study the piano (...). We devote our time (...) sometimes, when we got a student, we devote a lot of time to him[or her]. (...) And, after a while, we see we have reached something. Then, you realize it was worth it.

She was very active and showed clear and confident thinking about being a music teacher:

² In this context, Arts Education refers to ensemble of different arts disciplines (Music, Drawing, Sculpture, painting, etc).

(...) This idea, of gathering a good group of students, I have planned since a longtime ago, and that is something I have already reached. Then, my goal is indeed to get more people (...)

Taking into account the set of music activities in which she was involved, we could describe her more as a music teacher rather than as a piano teacher, as was the case with Rita. According to Huberman (1993), Maria could be considered as a teacher situated in a so-called diversification stage. As shown in Table 3, Maria was engaged in several different activities, such as teaching theoretical subjects at music school, teaching music at elementary school, conducting two chorals and teaching Arts Education. The author mentions two characteristics observed in many teachers, including Marian, in this stage: experimentation and diversification. These characteristics could also be classified as the third stage in Baker's (2005a, 2005b) categories.

Maria, in Baker's (2005a, 2005b) classification could be considered in her professional apex, since she demonstrated an elevated self-efficacy: her longstanding career had brought her educational sagacity. It would be expected in this stage that Maria would have a diverse range of professional activities.

In the third case study, Tereza, a 57-year-old teacher, had 43 years of teaching experience, which she started at age 14. She is a piano lecturer at a university and also acts as a private studio teacher. Tereza's personal motivation to pursue an undergraduate piano degree was to continue her studies and to be in touch with academic life and her peers. As a characteristic of her teaching profile, we noticed her satisfaction with her career choice as a teacher ("I enjoy it! And I keep on liking it..."). Furthermore, she sees herself as having mastered her role as a piano teacher:

(...) The endurance is to overcome difficulties with no hurry. Normally, the student is confronted with very hard things and soon gives up. There are millions of ways to reach a result. It is not with one, two or three formulas. There are many ways. (...) Then, for each student, to touch him, you need to uncover what he likes, what pleases him, what are his passions. Then, you touch him... It is not giving classes. It is something else. It is the same as saying that conducting is not simply moving the arms. Teaching is different, is not to serve the schedule, to accomplish the program. These are totally dispensable. Teaching is something else.

If we take Huberman (1993) as a theoretical basis for analyzing Tereza's discourse and practice, we suggest that she is situated in the final periods of the career: the stage of serenity and relational distance regarding her professional activities. As a characteristic of the stage of serenity, we highlight her confidence in teaching, her good communication skills, and her confident behavior towards her students and peers. As an element of the relational distance, we observed her apparent necessity to preserve her personal time and personal interests to the detriment of time dedicated to her professional activities. It is worth noting that the necessity for more personal time is indicative of the greater interiorization that belongs to this stage of the teaching career, according to Huberman's typology.

Tereza's (3) profile could also be linked to Baker's classification (Baker 2005b). Tereza displays some characteristics of the fourth stage, since the music teacher in this stage appraises the importance of his/her career in relation to life in general; these

individuals have accepted their occupational status. In spite of desiring more time for herself, we cannot neglect the fact that Tereza is very engaged as a piano teacher, and she can dispose of some of her private time in the interest of her professional activities.

Characteristics of employed professional knowledge by the three cases

The analysis of the results of teachers' discourse and practice revealed some specificities of the piano teacher's knowledge in each case, which were categorized into different kinds of teaching practices. Table 4 summarizes the kinds of knowledge extracted from the three cases. (see Table 4)

For the three piano teachers, it appears that the social character of the teacher knowledge, viewed in the discussion by Tardif, was acquired from many social sources in different times: during childhood, in school, in professional academic situations and at the beginning of professional life. In the context of these three case studies, social knowledge happens during teachers' musical experiences in private music lessons, during undergraduate studies and in the professional world, among other sources. At first sight, taking into account the knowledge associated with each investigated piano teacher (Table 4), we could identify more similarities than specificities, especially concerning the initial and academic education. Nevertheless, a deeper examination of their speech reveals several peculiarities, which might in turn be dependent on their different professional stages and biographical life stories.

As Rita remembered from her academic studies, she considered her music education to have failed in several aspects. According to her, she learned about certain topics (harmony and analysis, for instance) rather learned by experiencing them. Practical courses (piano study, chamber music classes) seemed to have functioned more effectively in her music training. This aspect was also noted by Gembris and Langner (2006) in

instrumental music studies, which tend to value performance skills and neglect the development of other skills, such as self-management or organization.

On the other hand, Maria and Tereza felt that their initial and academic education provided them some knowledge for their teaching careers. In their cases, their respective musical background experiences brought them different perspectives about their functions as musicians and as music teachers. Additionally, the specific conditions of their life stories enriched their piano teacher knowledge in their professional careers.

Maria showed a self-efficacy and confidence with regard to her professional career and seemed to consider herself to be a successful professional. According to her testimony, she believed that she had developed her professional, educational and entrepreneurial skills. She performs as pianist, she is aware of her role in helping her students to “find their paths”, and she manages a private music school. Furthermore, she disposes of pedagogical principles, since she is concerned with the justification of teaching a given subject matter. For Maria, it is important to keep a diary for reflecting on the repertoires of her students, each of whom she regards as a unique human being. Therefore, for her, it was necessary to know the social and musical past of each student. Additionally, she showed a psychological reflection on what and whom to teach. Conversely, Rita lacked this aspect, because she was more motivated in teaching “interested” or “gifted” students.

Tereza is the most focused and specialized among the three cases, probably due to her position as a university lecturer. In spite of working privately at home with students of all ages, Teresa clearly states that her intention is to provide formal music training to the students. She herself stresses the demanding nature of piano practice. As she said, “There is no magic to teach”, nor is there one to learn.

Concerning the knowledge of curricula, we observe that the three cases all emphasize repertoire. The choice of the repertoire seeks to encompass a broad range of situations and opportunities to experience several classical styles (baroque, romantic, etc), types (religious, ethnic, etc) and forms of music (popular, jazz, folk, etc), as well as specific piano techniques. According to the research literature, teachers select repertoires primarily by taste, familiarity with the language, discipline or by the technical demands of a given work, within the teacher-student relationship (Zillmann & Gan, 1998; Davidson et al., 1998). In the three studied cases, the context of teaching seems to determine the nature of the repertoire used. Rita and Maria, who teach in private classes or private schools, work with pieces from both the classical and popular music repertoire, while Tereza, who teaches in a university, is restricted to working with pieces from the Western classical music tradition.

The three teachers focus their piano teaching on music reading. Maria alternates this kind of practice with learning by ear. According to McPherson (1996), research has demonstrated a strong relationship between student abilities to play by ear and their abilities to sight-read. To McPherson, playing by ear may be more beneficial to the development of musicianship than sight-reading and may also be more conducive to training. Playing by ear helps students to learn to coordinate ear, eye and hand and to perform what they see in notation or hear in their minds.

As depicted in Table 4, Rita and Tereza are concerned with teaching instrumental technique, while Maria seems to be more focused on teaching the structures of music through the piano. This trend to technical teaching is one of the particularities of instrumental teaching and learning, since motor skills are a condition to the development of an instrumentalist. This approach is taken from childhood, as pointed out by Jabusch et al.

(2007) and McPherson (2005). Ward (2004), studying the effect of analysis on instrumental teaching, observed that the application of analytical thinking such as investigating structural patterns, phrases, shape and contours would move the focus of lessons away from purely technical issues toward musical understanding. He suggests that having students learn musical analysis may help performance teachers to fulfill their roles as music educators, focusing less on aspects of accuracy and technique. In the present case, Maria bases her piano teaching on this latter approach, since she guides her students to pay attention to the structure of the music (texture, phrasing and dynamics). This approach renders the teaching (and learning) activity more rational and reflective rather than intuitive.

According to Table 4, from the point of view of piano pedagogy, we note that Rita and Tereza use linguistic analogies for the comprehension of music, while Maria stresses verbal instruction based on the principles of music reading. Respectively, these approaches are aligned with the two categories of verbal instruction proposed by Lehmann et al. (2007): (i) images and metaphors or (ii) instruction pertaining to the concrete properties of musical sounds. Some research has shown that a music teacher employs a broad use of musical images and metaphors, especially those that reflect motion and moods (Barten, 1998, Lindström et al, 2003; Woody, 2000; Arrais and Rodrigues, 2007).

Another aspect emphasized by the three teachers was the aural modeling approach to piano pedagogy, i.e., learning by imitation (Woody, 1999, 2002). According to Young et al. (2003), this approach is common especially in one-on-one instruction, often resulting in the direct copying of the teacher model. Lehmann et al. (2007) propose two broad models for aural modeling: (i) a master-apprentice model and (ii) a mentor-friend model. In the former, the role of the teacher is to tell of his or her experiences and to demonstrate the craft. The latter method involves a great deal of exchange between the teacher and student.

In the present study, Tereza's behavior seems to approach the description of the master-apprentice model, since she clearly demonstrated and explained what she wanted. For the other two cases, data collection could not provide enough information in order to determine their teaching approaches in terms of the models proposed by Lehmann et al. (2007). It is worth noting that Henninger et al. (2006) concluded that modeling and demonstration are important aspects of instrumental pedagogy, especially for improving kinesthetic musical responses, such as ear-to-hand coordination and rhythmic accuracy.

Rita and Maria reported that during teaching, they seek to motivate their students by supporting accomplishment. Both consider it very important to praise a student's progress in every class and to avoid focusing only on mistakes or things that should have been done. The effect of extrinsic motivation on instrumental learning was discussed by Hallam (2008), Lehmann et al. (2007) and O'Neill and McPherson (2002). As pointed out by Lehmann et al. (2007), music is intrinsically motivating: positive experiences and awareness of reaching better results draw students into pursuing greater involvement. Nevertheless, motivating a student to practice sufficiently for skill development requires the encouragement of teachers. The teacher has a great influence in a young musician's developing belief system concerning the value of musical involvement, and he/she can also provide encouragement to students. In the present case, both Rita and Maria seem to be aware of the positive effect and the educational function of supporting their student's achievements.

Rita and Tereza considered their assessments as subjective. Maugars (2006) observed, through qualitative and quantitative research, that music teachers lack clear criteria for assessing musical performance. This result is in agreement with those observed in the present study in the context of piano teaching.

The acquired piano teacher knowledge throughout the length of a career tends to be articulated and intensified within the teaching practice, especially in the case of Maria and Tereza. When Tardif (1999) mentions the relationship between career length and knowledge, he realizes that these are not reduced to a “cognitive system” that, like a computer, processes information from a program previously defined and independent of the context of the action in which it occurs and from its previous history. To Tardif, the grounding of teaching and therefore the teacher’s knowledge are at the same time existential (in the sense that the teacher “thinks with life”), social, and pragmatic. When Tereza mentions that there is no magic formula to teach (or to learn), she demonstrates that becoming a teacher is not a question of accumulating experience. One cannot neglect that she, in spite of having a great number of years in her professional life, continues to practice the piano and to reflect on her experiences as a piano teacher. Her practicing and performing Brazilian contemporary music is an existential and pragmatic activity, which, besides giving her pleasure, helps her to improve her musical performance and pedagogical skills. Equally, Maria finds a social significance with her job as a music teacher. She always appreciated music for both herself and her students. On the other hand, Rita, as a novice in teaching, still shows extreme insecurity and feels that she lacks experience in her position as a piano teacher.

Final Remarks

The present study showed that the mobilization of piano teachers’ knowledge – associated with the typology specifically established – occurred in a specific way in each case studied. Furthermore, the knowledge for instrumental teaching seems to become

acquired and shaped in the context of individuals' life histories, through the development of their careers and through different social sources.

Analyses of three cases have shown that the experience of being a piano teacher throughout the length of a career functioned as an existential dimension for improving teachers' knowledge, in agreement with Tardif's approach and with other music education research involving the lifespan of music development during their careers (Baker, 2005a, 2005b, Bennet & Stanberg, 2006). The pragmatic dimension within the construction of professional knowledge in music was found in the case of the two more experienced teachers.

One significant conclusion that could be determined from the study is the relationship between experiential knowledge and the three other kinds of knowledge. Considering the fact that none of the three piano teachers had undergraduate pedagogical training, it is possible to say that the contextualized reflections on the experiential knowledge, grounded in the pragmatic dimension, were paramount to the acquisition of the skills and knowledge that oriented each teacher's pedagogical activity. On the other hand, the development of such pedagogical skills based on their own interpretive frames, without questioning their constructs, may compromise the quality or the level of their contextualized reflections (Hentschke & Del Ben, 2006). If the constructs of pedagogical approaches in such piano teachers are not problematized, the constructs will remain as unquestioned truths, and these teachers may have difficulties in realizing the inconsistencies and contradictions that might underlie their teaching.

The reflection on experiential knowledge and the temporal relationship observed in the process of its acquisition suggests that the experiential knowledge of instrumental teachers helps them to validate the remaining types of knowledge. It also helps in the

acquisition of the other types of knowledge and allows the teacher to reach stability in his or her pedagogical action throughout the development of his/her career. In the three investigated piano teachers, teaching experience accumulated throughout the career allowed for a greater interaction between the different types of knowledge and consolidated experiential knowledge.

The three case studies carried out with the piano teachers brought out significant data for deepening our understanding of the development of piano teacher knowledge and its mobilization throughout a teacher's career, allowing us to map out the diversity of functions carried out by a piano teacher. It seems that in this Brazilian context, piano teaching can be still considered as a "semi-profession".

In a country in which music has not been mandatory in school and in which most higher education instrument courses do not include pedagogical instruction, the role of the private instrument teacher is very relevant, and the three cases covered by this research reveal more precisely the ways in which the piano teacher learns by doing. Music Education, as a field of knowledge, has to be aware of and concerned with demanding and promoting strategies aimed at including classes in music instrument curricula that can provide basic pedagogical fundamentals, which might be invaluable to professionals trying to become better music instrument teachers.

Acknowledgements

The authors thank CMPq for financial support.

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Table 1. Typology of professional knowledge and its characteristics, based on Tardif (1999)

Types of professional knowledge	Characteristics
Knowledge of the subject matter	Knowledge about central concepts of music and the piano Knowledge acquired during initial, academic and continuing music education, both as a teacher and as an instrumentalist.
Knowledge of curricula	Selection of piano teaching method Programs and orientations for piano teaching
Knowledge of pedagogy	Ways of teaching, transmitting, reflecting, guiding, motivating, evaluating Fundamentals that support the principles of piano teaching
Knowledge from the experience of being a teacher	Focus on professional practice, based on personal experience Use of normativity and affectivity

Table 2. Stages of a professional careers proposed by Huberman (1993)

Stage of professional career	Period
Career entry	first three years
Stabilization stage	4 th to 6 th years
Experimentation and diversification	7 th to 25 th years
Serenity and relational distance stage	25 th to 35 th years
Disengagement stage	35 th to 40 th years

Table 3. Professional characteristics of the three investigated piano teachers.

	Cases (age)		
	Rita (26)	Maria (36)	Tereza (57)
Years of experience	3	19	43
Work time (hours per week)	25	20 (piano teacher) 30 (other activities)	34
Work location	At home and at student homes Private schools	At music school (14 years)	At an institution of higher education Private lessons
Other activities	Private music education lessons for children Musician in a church: pianist of the orchestra, conducting assistance and percussionist in music ensemble Choral accompanist	Music school: music theory, music history, harmony and choral conducting teacher Music teacher in elementary school Assistant in Arts Education Choral conducting of two choruses: young and adults	Pianist of Brazilian contemporary music
Stages of career	Transition between “starting in the career” and “stabilization” stages	Diversification stage	Serenity and disengagement stage alternated with development stage

* According to Huberman’s classification

Table 4. Typology and characteristics of professional knowledge of the participatory piano teachers.

	Cases		
	Rita	Maria	Tereza
Knowledge of the subject matter: piano	<p><u>Initial education</u>: private and university extension piano classes</p> <p><u>Academic education</u>: Bachelor's degree in piano.</p> <p><u>Continuous education</u>: Brazilian popular music course</p>	<p><u>Initial education</u>: private classes of piano and block flute. Choral accompanist (12 years)</p> <p><u>Academic education</u>: Bachelor's degree in piano.</p> <p><u>Continuous education</u>: post-graduation in music history</p>	<p><u>Initial education</u>: private piano classes</p> <p><u>Academic education</u>: Bachelor's degree in piano.</p> <p><u>Continuous education</u>: master classes, music festivals, post-graduation in chamber music.</p>
Knowledge of curricula (piano teaching approach)	<p>Selection of classical and popular music repertoire</p> <p>Programs emphasizing music notation skills in both repertoires</p> <p>Drills for technical practice</p>	<p>Selection of classical and popular music repertoire. Students are free to select what they want to learn</p> <p>Use of piano methods (e.g., Bastian)</p> <p>Programs emphasizing psychomotor aspects: coordination and control of musical production</p> <p>Programs alternating music notation and aural skills (playing music by ear)</p> <p>Orientation concerning structural understanding of the music (texture, phrasing, dynamics)</p>	<p>Selection of repertoire that encompasses different styles: music from 18, 19, 20 centuries and Brazilian composers</p> <p>Orientation for improving the sound quality</p> <p>Orientation for mechanical drills: articulation, physical posture, dynamics, functional fingering, finger technique.</p>

Knowledge of piano pedagogy	<p>Use of linguistic analogies for the comprehension of the music text</p> <p>Aural modeling: providing a positive model by imitating teacher's performance</p> <p>Supportive statements for the potential achievement by the student</p> <p>Subjective assessment. The aim is to manage to perform the programmed repertoire</p>	<p>Verbal instruction stressing music reading</p> <p>Aural modeling</p> <p>Supportive statements</p> <p>Instruction on the musical content (cadences, phrasing, etc)</p> <p>No specific explicit assessment procedures</p>	<p>Use of linguistic analogies for the instruction of physical posture</p> <p>Aural modeling</p> <p>Intentional teaching focused on the emotional experience (analogy to other contexts)</p> <p>Beliefs in the power of the instrumental mechanism (scales, arpeggios)</p> <p>Subjective assessment about the performance achieved in class and on the management of the programmed repertoire</p>
Knowledge from the experience of being a piano teacher	<p>Feeling of lack of specific formation for teaching</p> <p>Feeling of liveness towards decision's making situations</p> <p>Quest for support procedures and materials for the classes</p> <p>Personal concern about being a teacher</p>	<p>Awareness that each student is a unique human being: necessity to evaluate their difficulties, possibilities to guide their production</p> <p>Awareness of the necessity to investigate the social-music past of the student</p> <p>Awareness of her function as a teacher who establishes trails</p>	<p>Feeling of responsibility towards the formal training of instrumentalist</p> <p>The awareness about the necessity of "persistence/serenity" to overcome difficulties. Inexistence of a magic formula for instrumental teaching and practice</p>

