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Sharing meanings in the music classroom

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Abstract This work explores the study of interaction through discourse as a means for analysing and understanding the process of teaching and learning music. Over the course of a didactic sequence, we assess classroom conversations dealing with the analysis of a music score constituted as the reference for the process of creating a joint music composition. The group is made up of a teacher and second-year elementary pupils (aged 9–10 years) at a music school. Eight categories of discourse are identified that help to understand the strategies used to construct shared musical meanings. This knowledge is important for practitioners when reflecting on the teaching-learning process. It is also useful for teacher training.

Resume Ce travail explore l'étude de l'interaction à travers le discours comme moyen d'analyser et de comprendre le processus d'enseignement-apprentissage de la musique. Nous avons analysé, au cours d'une séquence didactique, des conversations en classe portant sur l'analyse d'une partition qui constitue la référence pour le processus de création

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d'une production collective. Le groupe est composé d'un enseignant et d'élèves de 2ème année du niveau élémentaire (âgés de 9–10 ans) d'une école de musique. Huit catégories de discours sont identifiées pour aider à comprendre les stratégies utilisées pour la construction de significations partagées. Cette connaissance est importante pour les praticiens pour pouvoir réfléchir sur les processus d'enseignement apprentissage. Aussi il l'est pour la formation du professorat.

Keywords Discursive categories · Music education · Musical knowledge construction · Shared meaning · Sociocultural perspective

This study forms part of a set of investigations whose objective is to understand the teaching and learning processes that occur during the elementary cycle of music studies (8–12 years). The description, analysis and comprehension of these processes, specifically progress in the acquisition of knowledge and joint construction, are approached from the interdisciplinary perspective of the psychology of education and the didactics of music.

The study forms part of a teaching innovation project (in development since 1998) at a municipal school of music in a town in the Vallès Occidental region of Barcelona, in collaboration with lecturers and researchers from the *Universitat Autònoma de Barcelona* (UAB).

The innovation, research and teacher-training project was initially defined on the basis of some innovative principles of teaching and learning (Malagarriga 2002) aimed at bringing about substantial changes in the way the school operates. The way content is organised and presented in class is the consequence of a major shift in methodology, and poses the teachers unresolved questions concerning evaluation (Viladot et al. 2005; Malagarriga et al. 2008). For this reason, the school staff and the researchers are seeking to progressively establish a shared theoretical framework by which to guide analysis and reflection regarding what is done in practice (Viladot 2005).

Musical activity as a shared meaning activity

A consensus regarding the characterisation of the constructivist approach in education has been identified in recent years, which has led to the development of applications and research. Examples of this are the first formulation in the Spanish context by César Coll (1990) and the recent compilation and analysis of constructivist perspectives in education by Rosario Cubero (2005).

The constructivist framework applied to education processes by these and other authors constitutes the integration of principles originating from different psychological traditions. Our option also assumes the postulations of the sociocultural perspective whose origins lie in the work of Vygotsky and his followers. This tradition postulates that cognition begins in social situations in which children, pupils or inexpert people share responsibility for an activity with an adult, teacher or expert during the production of a joint project. Contingent forms of assistance, those which are established and provided depending on what the learner is unable to do alone, make it possible for any specific project to be completed. In other words, through shared interaction and activity, the expert or educator supplements the learner during his or her first attempts at appropriation, and progressively structures the system of assistance needed (Bruner

1975, 1978). This *scaffolding* guides interest towards the task; it reduces the degree of difficulty or simplifies the situation in such a way that the learner is able to manipulate the components of the process; it maintains the activity by directing the actions, highlighting aspects, by controlling frustration and risk during resolution, and by providing models (Wood et al. 1976, 1978). The structure may consist of more intensive practical assistance during the first phase of the process, which is gradually reduced and replaced by the provision of psychological support; that is, by monitoring the progressive increase in the apprentice's skills from a distance.

Bruner (1975, 1978) and Rogoff (1990), among other authors, characterise these processes, and describe the creation of situations that favour the *transfer of responsibilities* from adults to children, progressively developing their autonomy. These same processes could occur in a classroom situation although the relationship is not purely adult-to-child, as classmates can also be a source of help to each other.

The sociocultural approach in education gives relevance to teaching, and it is also a means of facilitating the appropriation of cultural instruments, which leads to the development of higher psychological processes. In the words of Vygotsky (1978), it is the process of *interiorisation* that makes it possible to reconstruct inter-psychological operations on an intra-psychological level within the context of social phenomena or activities using signs. So, in short, children's participation in cultural activities under the guidance of others enables them to *internalise* their community's tools for thinking. This vision is particularly useful for understanding the teaching and learning processes produced in musical instruction, both in instrument classes and in the teaching of musical language. Following the Vygotskian approach, musical language can be understood as a sign or code, with the musical instrument that the child learns to play being the cultural tool.

Therefore, the approach presented seems especially adequate and useful for the context in which we undertake our activities. A music school is a place where new generations are helped in the appropriation of the highly appreciated cultural content of music and where the activity of making music is shared.

Under the aforementioned prism, interactions are considered to be the central axis of educational practice. Through these, participants construct and reconstruct their mental representations in relation to socially established meanings. It is essential to take into consideration the group as the true subject of the teaching and learning process. Part of the construction and appropriation of musical knowledge is explained on the basis of discourse, produced and negotiated in the context of an activity shared by the group. Thus, learning in the classroom becomes possible thanks to the communication that occurs and is developed among the participants; it could thus be described as a conversation in which teachers and pupils are involved. Along these lines, Potter (1996) defines discourse through speech and classroom texts as actions that are situated, articulated and co-constructed in the ambit of social interaction.

Musical activity and discourse in the classroom

In musical education, there is a certain tradition of using different modes of representation (kinaesthetic, visual and verbal) as tools for a progressive approximation to the conceptualisation of musical language. Gesture, graphic representations and speech come together to facilitate the processes of perception, experimentation, symbolization and representation of actions during the course of musical teaching and learning activities.

Each mode of representation offers different potential meanings and limitations. In the classroom, a change between modes represents a change in the learner's mental possibilities and demands in intellectual and affective terms. In this sense, action, image, gesture and discourse construct meaning and offer the way to modulate the pupils' vision of the world (Franks and Jewitt 2001).

Having recognised the implication and pattern of all these forms of expression in musical education (Malagarriga and Viladot 2004; Viladot 2005), we take a didactic sequence as the object of study and show how verbal language supports a certain type of activity that promotes the appropriation of musical language content.

In socioconstructivist terms, verbal language is the language that constitutes the material support of communicational activity and regulates the teaching and learning processes, even though musical language is the main content being taught. Classroom conversation makes it possible to present, analyse, comment upon and evaluate the characteristics of the music being heard, being produced, or being observed in written form, and helps to foster and elaborate upon musical knowledge (Viladot et al. 2008a, b). In this sense, and taking the lead from Lemke (1993) when he sustains that "learning science means learning to talk science", we could hypothesise that learning music means learning to *talk music.* In this study, conversation is treated in Mercer's terms, as a form of intellectual activity, as a social way of thinking (Mercer 2004).

There are number of authors who have studied discourse analysis as a means of understanding teaching and learning processes (see, for example: Edwards and Mercer 1987; Mercer 1995, 1997, 2000, 2004; Barnes and Todd 1995; Coll 2001; Nerland 2007). However, while it is much more present in other areas of the curriculum the perspective of discourse analysis has received little attention so far in music-teaching research. In the Spanish context, we could make particular mention of the work by Nussbaum (2001) and Camps (2006) on the didactics of language; Jiménez et al. (2003) on the didactics of science; and Gorgorió and Planas (2004) and Planas (2005) on mathematics. This research takes inspiration from the above-mentioned authors and constitutes an attempt to explore and evaluate the usefulness of this type of analysis in the comprehension of teaching and learning processes within the field of music.

Objectives and methodology

The aim of the work is to explore the study of classroom interaction through discourse analysis in order to understand the process of the teaching and learning of musical content. We work on the hypothesis that the analysis of classroom conversation is useful for showing some of the principles defended above.

Throughout a didactic sequence of six sessions, we identify modalities of discourse and analyse the meanings that the participants construct. We employ the qualitative-interpretative paradigm and adopt the case study, which enables our in-depth comprehension of complex real-world settings (Stake 1994).

The class group chosen for the case study is made up of seven girls and five boys of between 9 and 10 years of age, attending second-year elementary-grade music language classes (music theory and sol-fa) at a music school. The instruments that form part of the sound world of the classroom, since they are used in these classes, are five violins, two pianos (one wall piano and one electric), two concert flutes, one recorder, one cello and one guitar.

This class group was selected for different reasons: for 3 years, they had followed the pilot methodological innovation programme; they were used to the presence of a researcher in the classroom and to being observed and recorded on video. The age of the members made it possible to treat the interview as a complementary methodological instrument and to obtain data about their perceptions of their own learning processes.

The principles that guided the methodological innovations were taken from Malagarriga's work, where she proposes some goals for organising the music curricula for 5-year-olds at unspecialised schools. They are as follows: *to combine creation, interpretation and listening; to integrate sound experimentation and elements of the cultural heritage; and to consider the teaching-learning process as communicative and guided involvement in the common activity* (Malagarriga 2002).

A way of introducing and adapting those principles to a music school is by working on a project-based approach divided into learning units. Each unit contains songs and pieces of music that students listen to or play, and with some constitutive music elements they can identify. This way of working also presents different proposals about *the creation* (music-making) in which educators and learners are urged to use the musical elements discovered in the aforementioned pieces, which are taken as a reference.

The six-session didactic sequence subject to analysis uses different reference works and activities that enable music to be approached and experienced through different possibilities and demands. For this study, we selected activities based around *Cuban Landscape with Rain*, by L. Brouwer (see Appendix I), which were carried out during the entire sequence. These were varied activities and they make reference to both Brouwer's original piece and to the musical composition that the group created during the sessions, inspired by the structure and rhythms of the aforementioned work. So, for example, in the first session, the teacher presented the piece by speaking about the composer; the class listened to it for the first time; they experienced it with free body movements; they talked about its structure; and, finally, they expressed certain movements agreed by the group. However, in session 6, the process of constructing their work of music came to an end, whereupon they reviewed its structure and then fine-tuned certain elements while performing it together.

The case was approached through direct and non-participant observation (one of the researchers was present in the classroom during the sessions); classroom notes; and semi-structured interviews with the teacher and with students. We used video recordings of the six musical-language classes (2 h a week) that constitute the teaching sequence, as well as transcriptions of discourse fragments.

We focused our analysis on the four moments of the sequence dedicated to the observation and analysis of L. Brouwer's score, as these are considered a key activity through which elements they have heard are identified and expressed corporally, new elements are discovered, the structure of the piece is highlighted, an analysis is made of the graphical representation (this implies the metre, tune, notes, rhythms and rhythmic and melodic interpretation of the melody played by the four guitars), and the composer's decisions are commented upon. The proposals serve as a source for the configuration and analysis of the group's own composition.

The fragments of the discourse corresponding to the study are produced as follows:

1. Minute 7:35 of the second session. Teacher and pupils speak for the first time about ledger lines as part of their analysis of the score (bars 1–4). A girl (flautist) who knows about these notes acts as a bridge between her classmates' knowledge and that of their teacher. Duration: 2 min and 28 s (Appendix II, Table 3, first section)

2. Minute 20:18 of the second session. The teacher resumes the conversation about the score, because something said earlier had not been made clear. She takes the chance to play the following fragment (bars 1–6) and gets a girl to follow the score whilst marking the beat as they listen to the music. The difficulty lies in keeping this up throughout the respective repetitions per bar. Duration: 4 min and 10 s (Appendix II, Table 3 fourth section)
3. Minute 8:42 of the third session. The teacher and learners analyse the fragment in which the music fills up with sound and the silences disappear (bars 6–9). They discuss and interpret some rhythmic notations and identify the remaining silences (initial fragment). Duration: 4 min and 53 s (Appendix II, Table 4, fifth section)
4. Minute 14:30 of the fifth session. The class speaks about the fragment "of running water" and identifies the melodic lines in the score (bars 50–70). They read the fragment and note that the scales are not in neighbouring tones. The teacher presents the concept of arpeggio. Duration: 4 min and 12 s (Appendix II, Table 5, fifth section)

Analysis

On a first level of analysis, we broke each session down into different types of activities depending on the change in content, the structure of the social participation and the objectives (see Appendix II). We then selected the activities dealing with the observation and analysis of the score titled *Cuban Landscape with Rain,* we transcribed the conversations (the original discourse was in Catalan) and divided each of the participants' interventions into corresponding units, and we grouped the interventions into broader, interactive units. Most of these units correspond to the successive series of IRF (Initiation–Response–Follow up/Feedback) sequences in classroom conversations (Sinclair and Coulthard 1975). We added the first comments to the units in order to analyse the meanings constructed by the participants. To do this, we took into account classroom notes and information provided by the teacher. We present one example on continuation (Table 1).

Successive redevelopment of the analyses enabled us to construct categories. The different modalities of the discourse identified through the four analysed conversations were reduced into eight discursive categories that correspond to the strategies used by the teacher to conduct the activity towards the proposed objective. Van Dijk and Kintsch (1983) defined discursive strategies as linguistic and extra-linguistic resources that the speaker uses intentionally to increase the efficiency of communication. This includes the strictly verbal, but also other forms of representation (gestures, music, pictures, etc). Wood et al. (1976, 1978) identified strategies to solve problems in the joint construction. We also use the term strategy because the forms of discourse that we analysed constitute resources whose objective is to regulate the students' process of constructing meaning.

We decided to qualify the categories as interactive only if we were able to consider that what the teacher and learners said or did was elaborated upon in the conversation and was related to an element of the content being dealt with. The categories all arose on the basis of the analysis of the discourse and were created inductively in consideration of the underlying intentions, depending on the context, of each of the interventions. The observer and

Table 1 Fragment of conversation dealing with ledger notes, corresponding to the first section of Table 3 (Appendix II)

Transcription of a fragment of classroom conversation	First notes
T: indicates the teacher's interventions and the other acronyms indicate the first letters of the names of the children involved. All of the children sit in a semicircle apart from Be (girl), who answers the first questions while pointing at the enlarged score.	
T: What note does *Brouwer's Rain* start with?	Find and identify a note on the enlarged score
Be: It's a *D*!	
T: Ah! And how many extra lines, ledgers, do we add to the staff? Because it looks like we have to add them to the staff...	Identify *D* and explain that *ledger lines added to the staff* is a defining characteristic of the new concept
Be: Two	
T: We add two ledger lines above the staff. We add two ledger lines for this note because it needs them, and that's it; we don't need to do anything else.	Raise awareness of the existence of ledger lines
T: And are there any more notes in ledger lines?	Propose a problem
Be: Um... this one... and this one...	Identify other similar notes.
T: This one and this one, says Be. Which is the second note to appear? And what note is it?	Reinforce the response and propose a new problem
Be: ... it's a *B*.	
T: *B*, says Be. Of course, violinists must meet with them too; Do you ever have to read such high notes?	Involve the violins by taking for granted that being high-pitched instruments they use these notes, although at the start of the second year of violin the highest note they will have seen is *A4*!
Da: I do sometimes.	
T: And you pianists, do you ever have to read them?	Get the other instrumentalists to join in
Ma: ... no.	
T: Well, so we'll have to take advantage of the flautists who do.	Reaffirm that flautists do read ledger line notes
T: On the other hand, does Ra (cellist) have to read such high notes?	Formulate a question to force a *no* and generate discussion about high tessitura
Mi: The guitars do! (guitarist)	Mi answers spontaneously; she knows these notes
Ra: I read them, but in the key of F.	Ra responds in relation to the writing, lines outside of the staff, not the absolute *high* tessitura that T was asking for
T: Ah! Do you know what he means? He reads in the key of F, but even then there are sometimes notes that don't fit on the staff, even though they are in the key of F, right? And also below it, isn't that right? Ra reads ledger lines above and below the staff! That sure is difficult, Ra, what you do.	Complements the concept of ledger lines by mentioning lines below the staff
T: And you flautists, do you only read ledger lines above the staff?	From all that she knows, she identifies the note that is defined by the characteristics of *ledger* and *below*
Be: And *C* below!	
T: And *C* below. Well, we all know *C* below, don't we? That one's easy.	Repeats the response and highlights that this is knowledge shared by the group
T: Very good, can you tell us anything else?	Proposes a problem
Be: Ummm... this one (pointing at it).	Identifies a new note on the score
T: For example, the *B*! And... the one that comes third, it's not in the third beat, so which one is it? This one (pointing at it).	Guidelines to find the element in the whole
Be: The *A*	Identification of the element
T: This is *A*. Did you all know that? Did you all know that this is a *high A?* OK, it's an *A*.	Accepts the right answer and expands upon and completes it.

researchers worked on the recorded and transcribed data until they reached a consensus regarding the formulation and description of the categories.

To delimit the categories, a consensus procedure was followed systematically: two analysts working independently deduced the first categories from the available data (transcriptions and first notes); they contrasted the results and discussed their discrepancies, refining the description of the categories throughout the process. This process was repeated continually until the two analysts coincided in their categorisation of the whole of the corpus.

Findings

We identified eight categories:

1 Propose and resolve a question (PQ)
2 Refer to and elaborate upon the content using examples (CE)
3 Refer to the content with the help of general features (CG)
4 Relate things to our own experiences (RE)
5 Reinforce and delimit a response (RR)
6 Resituate in order to maintain the content being dealt with (RC)
7 Structure social participation (SP)
8 Identify and interpret error (IE)

Propose and resolve a question (PQ)

A question is formulated that involves thinking about the answer. Sometimes this happens by pointing at the score. This is the format corresponding to the first phase of IRF linguistic structure (Initiation).

PQ seeks to cognitively draw attention towards a specific aspect. This educational discourse is the format most commonly used in classroom interaction and seeks to guide learners' construction of knowledge in an active and personal manner on the basis of one's own thought processes.

In this case, *PQ* makes it possible to situate oneself at a similar phase of development to that of the students: "[...] Can you read these notes that are so high?" It helps to resolve questions by getting a more able learner to act as a bridge between the teacher and the rest of the group: "[...] so which one is it? This one." The teacher points at it and *Be* answers: "The *A*." The teacher continues: "This is *A*. Did you all know that? Did you all know that this is *high A*?" And *PQ* makes increasingly more complex demands by encouraging thought and deduction: "Ah! And how many extra lines, ledgers, do we add to the staff? Because it looks like we have to add them to the staff..."

Refer to and elaborate on the content using examples (CE)

The content is treated *inductively* through identification of elements on the score that refer to it or that are constituent parts of the same. For example: "What note does *Brouwer's Rain* start with?" And *Be* replies: "It's a D." And another example is: "Do you know where it says that? Can you see where it says that? We musicians write it like that; we use this

abbreviation, times four. It's written there. Show us, *Be.*" *Be* points to where "×4" is written.

CE is an aid for consolidating the construction of specific concepts when we find ourselves in difficult situations and moments.

Refer to the content with the help of general features (CG)

CG is a resource that involves the introduction of conventional terminology and helps configure concepts by explaining a given characteristic. This helps develop shared reference terms and mental representations. For example: "But it does not go in neighbouring tones. It doesn't go in neighbouring tones, does it? It jumps, like arpeggios do. We musicians say that it goes up and down in arpeggios".

Relate to one's own experience (RE)

An exercise in reflection by which learners become aware of whether content is present in other personal-learning situations—for example, whether or not they use their instruments to play the kind of notes that appear for the first time.

RE implies raising awareness of the instruments that form part of the group, which makes them feel more like the protagonists of the teaching and learning process. It is stimulating, because they share what they know, and this goes on to form part of collective knowledge. This involves asking: "Do you ever have to read such high notes?" "I do sometimes." It involves being reflexive: "And you flautists, do you only read ledger lines above the staff?" "And *C* below!" And it involves relating: "On the other hand, does *Ra* (cellist) have to read such high notes?" "I read them, but in the key of F."

Reinforce and delimit a response (RR)

An answer is repeated or reformulated in order to reinforce it and also to delimit it when it is right. At the same time, precisions or new information can be added. It is used to reaffirm that what was said was right, which moves the content along. For example: "And you flautists, do you only read ledger lines above the staff?" *Be* replies: "And C below!" The teacher follows up with: "And C below. Well, we all know C below, don't we? That one's easy".

RR forms a characteristic part of the IRF linguistic structure present in classroom conversations for any subject (*follow up or feedback*). It is used to accredit what has been learned and shared. What is common and valid adds continuity to the discourse.

Resituate to maintain the content being dealt with (RC)

The content is re-established through reformulation, execution or listening in order to continue with the analysis. It can play the role of eliciting content dealt with before for purposes of reuse, or to synthesise or present the context as a whole that needs further work. For example: "Ah! So you did part of a scale, did you? With neighbouring tones that go up and down! *G-A-B-C-D, D-C-B-A-G. G-A-B-C-D, D-C-B-A-G* and I told you: "I think musicians do something similar. Look, I'll bring you the enlarged score."

Structure social participation (SP)

The tasks and the participation of the members of the group in the shared task are delimited. These are moments when a transition occurs in the activity and it is useful to resituate forms of participation (what each person should do) in order to continue the session. For example: "Did you see that? It's repeated four times. And the second raindrop, who was it, *Mi*? Who didn't come out the other day? Come on, *La.* And the third drop? You come up, *Xa*, and fourth, *Jo*." Here the teacher puts on the music and *Cr* starts pointing at the score while following the beat.

Identify and interpret error (IE)

The errors produced in verbal and nonverbal discourse are identified and explained. In a guided and directed exercise it is hard for errors to occur frequently. But they do happen. The identification of errors contributes to learning, especially when they are commented upon. For example: "It was a bit fast, OK, but that can happen in the first bars because it's hard to catch the tempo. But what else? What else happened, *Ra*?" "It needs to be in the same bar."

Table 2 indicates the frequency of the different categories per session.

The categories appearing most frequently are 5 and 1 (RR and PC). Both are related to and are part of the formats that involve the most frequent interaction in the class conversation context. These are followed by 2 (CE) and 4 (RE), which appear 12 and 11 times, respectively. Category 3 (CG) rarely appears, as it is specific to occasions when new content is introduced.

Some of the categories identified, specifically *Refer to the content with the help of general features (CG), Reinforce and delimit a response (RR)* and *Resituate in order to maintain the content being dealt with* (RC), highlight the function of attracting, eliciting and maintaining the content for its explanation, negotiation and elaboration by the participants in the form of a joint construction.

The most analytical aspect of learning can be identified in the category *Refer to and elaborate upon the content using examples (CE)* and in *Identify and interpret error (IE)*. These refer to elements of the musical-language content being dealt with.

Table 2 Categories identified in the discourse when observing and analysing the score

Categories	Conversations				
	1	2	3	4	Total
1. Propose and resolve a question (PC)	4	1	3	8	16
2. Refer to and elaborate upon the content using examples (CE)	4	1	5	2	12
3. Refer to the content with the help of general features (CG)	2	0	0	1	3
4. Relate things to our own experiences (RE)	6	1	0	4	11
5. Reinforce and delimit a response (RR)	9	4	2	7	22
6. Resituate in order to maintain the content being dealt with (RC)	2	2	4	2	10
7. Structure social participation (SP)	1	5	1	2	9
8. Identify and interpret error (IE)	0	1	1	1	3

The search for sense in the learning process is identifiable in the category of *Relate things to our own experiences (RE)*, given that reference to other contexts benefits the constitution of meaningful learning.

Structure social participation (SP) and *Propose and resolve a question* (PQ) are more aimed at the function of approaching the task in such a way that the group functions efficiently and collaboratively.

Categories 1, 2, 3, 4 and 5, very much in evidence in the first conversation, indicate a greater desire to guide the class on the part of the teacher at the beginning of the activity concerned with the analysis of the score—in other words, more intense intervention in order to orientate and regulate the process during the initial stages of the activity.

Discussion

Through the analysis of the didactic sequence, we observe that the teacher makes no attempt to avoid the possible difficulties implicit in the score of the chosen piece, as this would reduce the significance of the whole process. The complete original score is presented, and through discourse and listening to fragments, its different elements are specified. The aim is to guide the group's activity and provide support when any obstacles arise. Therefore, when new content emerges, such as ledger notes, it is dealt with even though it may not form part of the programme that the children of this age are currently studying. The teacher uses her students' differing knowledge to encourage them to exchange experiences. They have to refer to their instruments: they have to reflect on and relate the content they are dealing with to their own experiences as musicians.

Conversation among this class group benefits the social construction of knowledge. Shared interaction and activity generates a process of transferring signs—for example, ledger line notes, the symbol for repeating bars and how many times (×4), ascending and descending scales that do not use neighbouring tones, arpeggio. The teacher's intervention is the key to these processes of exchange and negotiation, for it is through the processes of guided participation (Rogoff 1990) that she mediates, assists and guides the process of identifying elements, introducing concepts, generalising, relating to one's own experiences, etc.

It is also the teacher who looks for the chance to transfer responsibilities. She appeals to the knowledge of a student who is more advanced in terms of the specific content, in order for that student to participate in the process. An example of this is the moment when a learner anticipates the reading of the next bar after the one the teacher is singing, thus showing that she has taken in what the task involves and, in turn, she is able to deduce the answer herself without having to be asked explicitly to identify another note of the same characteristics (see Table 1).

The style of teaching observed ties in perfectly with the focus of the methodological proposal that characterises teaching innovation in the centre under study. We could describe it as a constructivist style of teaching that favours meaningful learning. The explicit principles of the didactic approach—*to combine creation, interpretation and listening; to integrate sound experimentation and elements of the cultural heritage; and to consider the teaching-learning as a communicative process and a guided participation in the common activity*—are reflected in the resulting discursive strategies.

Our analysis also refers us back to the contributions of other authors, in particular the work of Cecilia Hultberg. In the results of her research (Hultberg 2002) we observe two

possible approaches to music notation made by the music pupils in the interpretation activity: reproductive and exploratory. In her proposal concerning a theory of instrumental training where three models of teaching are represented, we identified the analysed practice with the third model, described as follows: the teacher uses the printed score as a tool for communicating with the composer, and at the same time establishes a dialogue with the students constructing musical meaning, taking into account the students' ideas about the notation. We consider this way of teaching to be constructivist, and this is also the case of our study.

In addition, we recalled the scaffolding strategies identified by Wood et al. (1976) and mentioned by Kennell (2002) in his revision: *Recruitment; Marking Critical Features; Task Manipulation; Demonstration; Direction Maintenance; Frustration Control.* Although the educational context of these authors is very different from ours, and also the tasks and ages of the participants, we are able to identify parallelisms in the strategies that have a regulating role in the activity. The category *Structure social participation* corresponds to *Recruitment,* even though the latter refers to the synchronisation of attention and action between teacher and student and in our case we are referring to group management during a shared activity. We also note similarities between *Identify and interpret error* and *Marking critical features*, because both make explicit the discrepancies between what a learner says or does and what the teacher or tutor would recognise as satisfactory work. As regards frustration control, we have no strategy corresponding to this function. But, on the other hand, we put forward *Propose and resolve a question* and *Relate to one's own experience (RE)* which are not represented in the work of the aforementioned authors.

The remaining categories respond clearly to the characteristics of the task and, as we said above, they are of a very different nature. Thus, *Task Manipulation, Demonstration* and *Direction Maintenance* are particular to the manipulative task proposed by Wood, Bruner & Ross, while *Reinforce and delimit a response* and *Resituate to maintain the content being dealt with* correspond to an analytical task.

In the context of this sequence, learning progress materialises in the form of an increase in score-reading skills; *interpretation* in the sense proposed by Casas and Pozo (2008) as the process of reading and comprehending a piece before moving on to its musical production. This process gradually enables the group to make decisions in relation to their own musical composition.

> ... is it what? Easy for us to try? They've decided that their music will do this: go up and down, up and down. That's what they do (pointing at the flautists). Rising and falling. Oh yes! Rising and falling and in neighbouring tones, right?" (fragment corresponding to the *third session*, Table 4)

The composition of the group's own piece of music is the objective that embodies the result of a process of establishing a context in which it is possible to talk to make sense of what is being done and to negotiate meanings.

In this dialogue context, the interlocutors construct and reconstruct their mental representations of the musical content. For Edwards and Mercer (1987), these representations are shared terms of reference, in that they are understood to be the intermental and intersubjective reference that defines, creates and involves the participants in the communication process. Participants therefore share the same definition of the situation and bring different semiotic mechanisms into play that arise in specific uses of the language and appropriate forms of discourse (Wertsch 1985). Thus, the learner

grasps the criteria that music uses by legitimating one particular explanation as opposed to others.

The specific terminology of the field is not only used to refer to such new content as *ledger line notes* or *arpeggio* but rather it is used as a means for appropriation throughout the entire discourse in general: the names of specific notes are mentioned, graphic symbols are analysed, musical instruments are spoken about and terminology for the characteristics of sound are used. This ties in with the ideas of Lemke (1993), when he says that the use of discourse in accordance with the rules of the particular context characterises progress in the knowledge of a specific area, be it scientific or artistic. We consider that the appropriation of specific discourse, of a form of activity in which words are used to construct the meaning of the experience, facilitates the conceptual learning of music, as in the case studied.

Final remarks

Analysis of educational discourse shows how musical content emerges from the totality of the observation of a general score. Such analysis also shows the kind of methodological approaches and linguistic structures that accompany it.

The methodological perspective of discourse analysis can therefore help understand the teaching and learning processes and the process of students' construction of musical content in the music classroom. We are convinced of the usefulness of discourse analysis and the identification of discursive strategies in order to understand the teacher and the learners' actions and to try to explain the mutual influences involved in joint action and the construction of shared meanings. As teacher trainers, we are also convinced of the usefulness of this knowledge for teacher training. And as teacher trainers we are involved in the attempt to make clear the required relationship between theory and practice.

The analysis of interaction through discourse shows itself to be useful in the field of research shared by the psychology of education and by specific didactics because it enables us to describe and explain a number of didactic strategies and learning processes.

We are aware that our work is only of an exploratory nature and that we need to carry out further research to provide more evidence, especially in view of the fact that we are involved in the field of music education where little work has been done and, moreover, in the context of non-compulsory schooling. Different musical education activities need to be analysed and contrasted with different didactic sequences. Looking for common ground and differences in the application of the school curriculum (maths, verbal language, etc.) would be interesting and useful for teacher training practice. Furthermore, the similarities we have found between work done 30 years ago (see Wood et al. 1976) and our own are a source of encouragement with regard to carrying out further research. Although it is not easy, our aim is to continue exploring this methodological approach in order to look in more depth at the inter- and intra-psychological processes that arise in the classroom.

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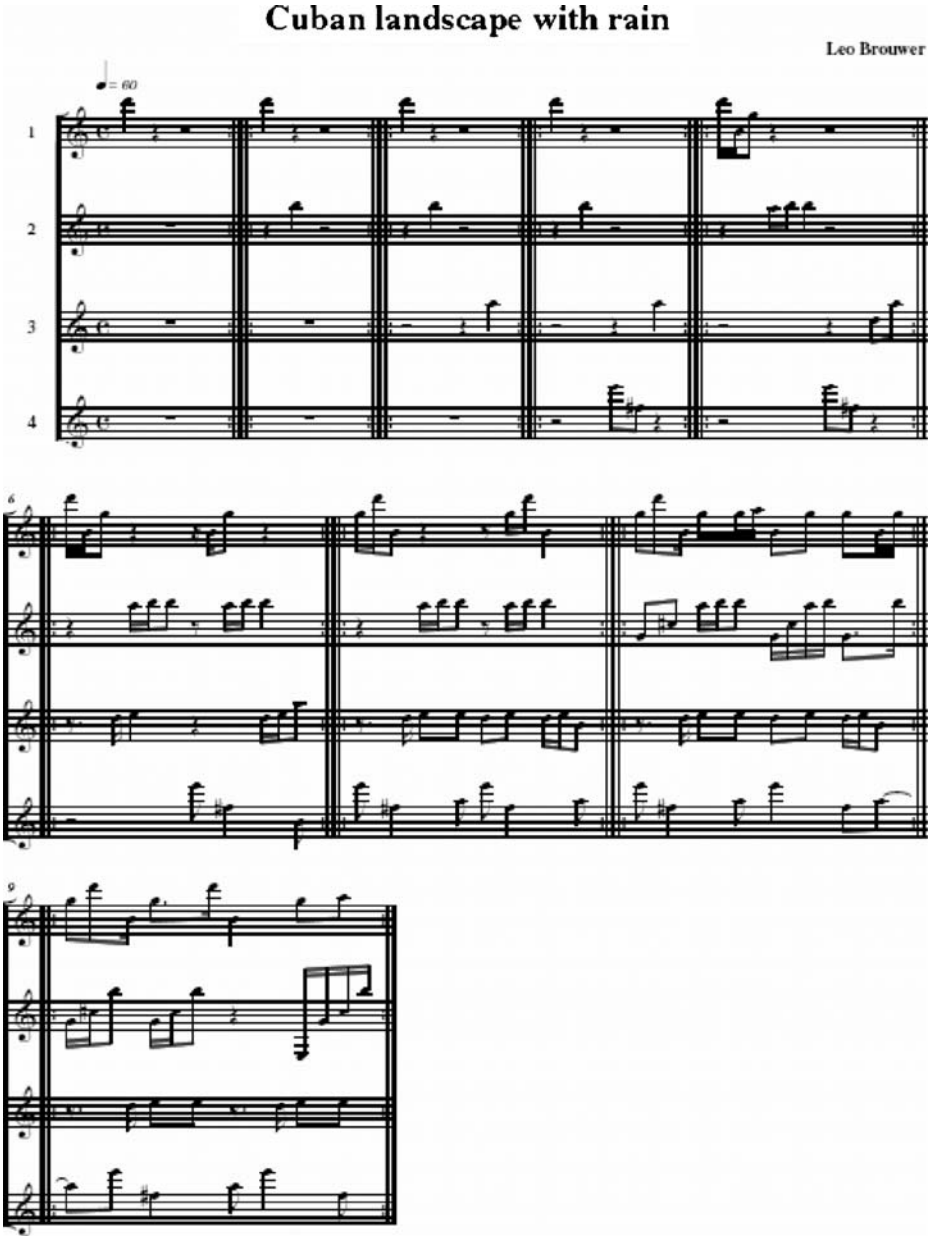
Appendix I

Cuban landscape with rain



Appendix II

Segmentation of the sessions of the didactic sequence in which activities are performed in relation to L. Brouwer's *Cuban Landscape with Rain* and in which the conversations involving the analysis and observation of said score are found:

Table 3 Second session activities

Duration	2:28	8:35	1:40	4:10	5	6
Activity	Conversation: observation and analysis of score	Corporal expression on hearing full piece. Verbal indications.	Conversation: ideas for the group composition. Orders and guidelines.	Conversation: a doubt concerning the score is cleared up and they continue analysing	Sound experimentation by instrument groups. Negotiation and expression of ideas through gestures.	Show each group's ideas. Highlight the difficulties. Other groups give opinions.

Table 4 Third session activities

duration	1:45	1:10	1:30	0:46	4:53	1:30	5:25
activity	Sound experimentation by instrument groups.	Group performance of a new flute fragment.	Conversation about the resulting sound. There was an error in the conducting. Gestured and sung support to show what it should have been like.	Conversation: the flute group explains how they made their new sound.	Observation of score and verbalisation of some characteristics. They listen to the piece while a girl points at the score	Sound experimentation by instrument groups.	Show each group's ideas. Highlight the difficulties. Other groups give opinions.

Table 5 Fifth session activities

duration	1:00	4:19	0: 31	1:10	4:12	6:07	4:35
activity	Listen to the original piece	Conversation about the structure of the music they have constructed so far. Synthesis.	Listen to the "running water" fragment, support through bodily expression	Conversation about what some groups had started to do with respect to the fragment.	Observation and analysis of the score: verbalization of some characteristics	Sound experimentation by instrument groups.	Show each group's ideas.

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Interaction in the classroom. Cooperative learning in the classroom. Assessment in curriculum design projects.

Teresa Malagarriga
Music in Early Childhood. Assessment in curriculum design projects.