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Body percussion and voice, time and pitch: an exercise in “Singing BAPNE®” methodologically analyzed

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Abstract

In this paper we examine one exercise taken by the Singing BAPNE music education program, in order to find involvement in time and pitch perception. Musical tempo is marked with the presence of strong and weak accents alternately; this alternation, caused by loop patterns in the exercise, has influence in the expectations about upcoming events. Moreover, pitch is anchored to rhythmic setting on the beat and off the beat. Our objective is to structure the connection between body movement and the use of the voice in the exercise. This analysis highlights how loops combinations of body percussion and singed patterns, systematized through the BAPNE Method, are didactically involved in perception of time and in pitch-time relation skills of the students.

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1. Introduction

The basis of music learning theories is the approach to the study of the time and of the pitch. Those skills are defined by Prince, Thompson and Schmuckler as the “primary dimensions in music” (2009). In order to create a sequential didactic activity, with specific stimulations as in BAPNE® Method (Romero-Naranjo, 2012b), we have considered the relation between body percussion and singing. This is the foundation of “Singing BAPNE®” didactic training (Conti, Romero-Naranjo 2015): the activity starts from loops combinations of body percussion and then added singing

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patterns. Already existing researches describe studies about changing in attentiveness level and facilitation in “circlesinging” conduction, in activities starting from singing, adding body percussion (Quarello, Pezzuto, Romero-Naranjo 2014a, 2014b). Moreover there are no further research in search engine (Jstor, Dialnet...) about body percussion and singing in educational terms. In this paper we aim to justify the creation of a didactic exercise for beginners, with both rhythmic and melodic stimulations, for involvement in perception of time and in time-pitch relation skills of the students.

More specifically, we aim to structure the use of body percussion patterns and singing patterns subsequently involved to systematise a method for the construction of an exercise in “Singing BAPNE®” activity.

1.1. Body percussion and time, voice and pitch

According to Dalcroze (1913,1919), we consider body movement and rhythm as the primary origin of learning. The alternating presence in rhythm of strong and weak accents, makes possible a perceptual anchor that listeners use to form expectancies about upcoming events (Jones, 1987). Indeed, a classic research by Elliot Clark (1949), highlights how “the child first approach to music must be through rhythm: the periodicity of symmetry of movement in music is still found in the rocking of mother's arms”. This particular rhythmic perception seems to be strictly connected to the researchers conducted by Bispham (2003, 2006), who supports the presence in human being of an “internal oscillatory mechanism” connected and involved in time perception. In addition, the importance of body movements, connected to music production, is documented by Lopez Cano (2009), with a classification of the use of the “bodies in music”. Romero-Naranjo (2013a) describes a review about the presence and the use of the body percussion in the history, also in educational terms, also considered like a music instrument: “Warner&Babatunde (1965) [...] explains the importance of body percussion in tribal forms of learning”. In the BAPNE® Method we justify the involvement of body percussion in cognitive stimulation (Romero-Naranjo, 2011a, 2011b, 2011c, 2012b, 2013a).

About melodies and rhythms in music education, according to Gordon (1997), we drew attention to the importance of the variety of music patterns, for the achievement and the maintenance of a deeper integration of musical structures. Moreover, according to Willems (1975, 1977), should be essential the stimulation of “musical ear” of the students. As Henry (2011) considered, “singing music at sight is a complex skill, needing the singer to perform pitch and rhythm simultaneously”: it seems that music reading should be introduced in a second step.

About the relation between singing and rhythmic body movement in education terms, Crosby(2008), underline this importance in choral rehearsal. Apart from BAPNE® Method, we find references of the use of singing and body percussion in education and cognitive stimulation in “hand-clapping songs” studies of Sulkin & Brodsky (2010).

1.2. To create an useful exercise

In order to create an useful exercise, we have to consider the musical and the cultural habits of modern students. Kodaly states that music education should use “authentic children's games, nursery's songs, authentic folk music” taken from the cultural heritage of the society (Chosky, 1988; deVries, 2001); but in Western Music “the complexity of the pitch structures dwarfs the complexity of the temporal structures”(Prince, Thompson & Schmuckler, 2009).

We need vocal melodic element, common to popular music, which can be used, at the same time, with more complex and interesting rhythmical structures.

A support to our research is given by the huge development of music in internet: today, talking about beat-box or onomatopoeic sounds, made by human voice that imitate music instruments, is “popular”. Those particular way of singing is also used in music styles like “rap music” or “R&B”, or “A-cappella”; about beat-box, there is a “World Championship Contest”, and often “beatboxers” are invited in music talent show in television programs. Even if they are singing, the rhythmic structure more relevant than the melodic. The introduction of those elements in Western Music seems to begin from scat singing and jazz; specifically Bobby McFerrin, in his performance from 1986, uses onomatopoeic sounds, apparently non-sense phonemes, and body percussion elements. In those “modern popular” music styles seems to be a temporal structure more complex than the melodic.

Thereby, for the construction of an well structured exercise, we must consider:

- the use of body movement and of body percussion
- the alternating presence of strong and weak accents
- various rhythmic and melodic patterns
- the use of interesting “modern popular” phonemes

2. Method

2.1. Learning the exercise

The exercise is proposed in a sequential form. Students are disposed in a circle. Learning process is the imitation of the conductor of the activity. According to the level of the skill of the students, the exercise can be combined with the use of obliged structure of the feet, as provided in the BAPNE® Method. Further information about the group, the role and competences of the conductor, relation between students, use of phonemes and general rules about “Singing BAPNE®” are described by Conti & Romero-Naranjo (2015a).

2.2. “Pop Band 1” exercise in Singing BAPNE®

The exercise “Pop Band 1” is structured in 6 sequences. Each sequence is assigned by the conductor to every student or to a part of the group. Each sequence must be repeated, creating a loop, at least 10 times, before the assigning of a next one.

The first sequence is called “Body Percussion Loop Pattern”, assigned to all the students. This sequence is 1 bar (musical measure) length. This sequence never stops until the end of the exercise. Rhythmic figures used are “quarter note” and “eight note”:

- First Quarter: right hand beat in the middle of the chest (quarter accent)
- Second Quarter: hand-clap (quarter accent)
- Third Quarter: left hand and right hand beat in the middle of the chest in alternation (eight accents)
- Fourth Quarter: hand-clap(quarter accent)

The second sequence is called “Speech Loop Pattern”, assigned to all the students. This sequence is 1 bar length. According to body percussion elements, the student says “DUM” with the “chest beat”, and “KA” with the “Hand-clap” (See Fig 1.). Those phonemes are taken from “Voice Drum” teaching by Bob Stoloff (1996).

Next sequences must be assigned just to a section of students one by one. Assigning a new sequence will stop “Speech Loop Pattern” in that section, but will never interrupt “Body Percussion Loop Pattern” of the first sequence.

The third sequence is called “Melodic Loop Pattern: Bass Voice”. This sequence is 2 bars length. The use the phoneme “DUM” imitate the sound of a bass guitar (See Fig 1.):

- First Quarter: two notes (eight accents) in both the bars
- Second Quarter: one eight pause & one note off the beat (eight accents) in both the bars
- Third Quarter: two notes (eight accent) in the first bar; one note (quarter accent) in the second bar
- Fourth Quarter: two notes (eight accent) in the first bar; one note (quarter accent) in the second bar



Fig 1. Melodic Loop Pattern: Bass Voice

The fourth sequence is called “Melodic Loop Pattern: Lead Voice”. This sequence is 2 bars length. The phonemes used are “GE-RA-MO”. This sequence is the lead melody of the arrangement (See Fig 2.):

- First Quarter: two notes (eight accents) in both bars
- Second Quarter: one note (quarter accent) in the first bar; two notes (eight accent) in the second bar
- Third Quarter: one quarter rest (quarter accent) in the first bar; one note (quarter accent) in the second bar
- Fourth Quarter: two notes (eight accent) in the first bar; one note (quarter accent) in the second bar

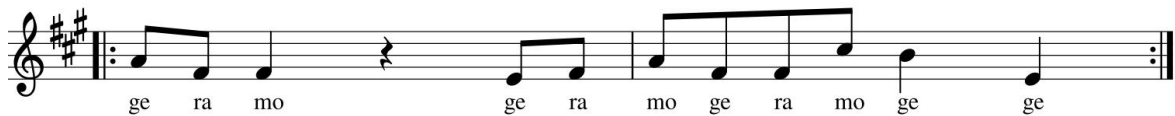


Fig 2. Melodic loop pattern: Lead Voice

The fifth and the sixth sequences are called “Melodic Loop Pattern: Harmonized Voices”. Those sequences are 2 bars length. The phonemes used are “GE-RE-MA-RE”. Those sequences are important in the arrangement of the exercise. (See fig 3.)

- First Quarter: one quarter rest (quarter accent) in both bars
- Second Quarter: two notes (eight accents) in both bars
- Third Quarter: two notes (eight accents) in the first bar; one quarter rest (quarter accent) in the second bar
- Fourth Quarter: one quarter rest (quarter accent) in the first bar; two notes (eight accents) in the second bar

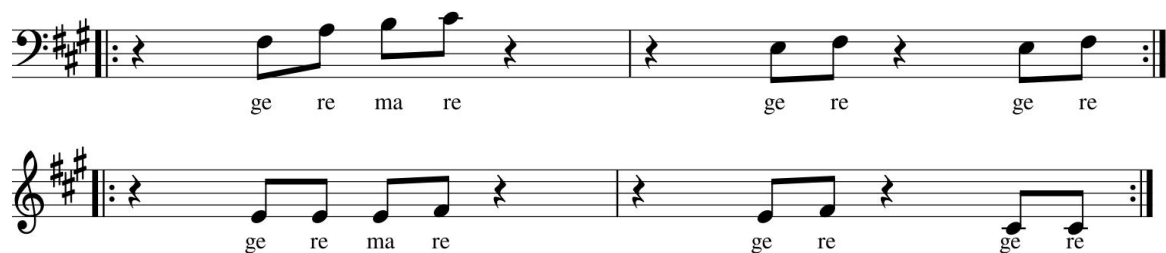


Fig 3. Melodic loop pattern: Harmonized Voices

3. Results

3.1 Accents and time perception with “Body Percussion Loop Pattern”

The construction of “Pop Band 1” exercise is sequential: it begins with body movement shown by the “Body Percussion Loop Pattern”. The alternating presence of strong and weak accents is given by the “chest beat” and the “handclap”. This musical principle is the same for drummers, playing “kick and snare”. On the 1st and on the 3rd movements of the bar, the student hit his own chest with the hand, feeling the quarter or eighth pulse “in and on the body”. On the 2nd e the 4th movements of the bar, the pulse is “out of the body”, with the hand clap.

3.2 How body percussion and voice can be combined?

The second sequence called “Speech Loop Pattern”, is rhythmically equal to the first. In this way the students gradually get used to move the body and the voice simultaneously. To connect rhythm and speech voice is the first

step in every “Singing BAPNE®” exercises. Specifically, the phoneme “DUM” stimulate the perception of vocal vibration in the chest, while “KA” stimulation is on the palate, as the “chest beat” is “in and on-” and “hand-clap” is “out of-” the body”.

With the introduction of “Melody Loop Pattern” sequences, the students gradually starts to sing, while “Body Percussion Loop Pattern” never interrupt the movement.

In Table 1, Table 2 and Table 3 is described the rhythmic relation between body percussion and melodic patterns.

Table 1. Body percussion / Singing combination in “Melodic Loop Pattern: Bass Voice” (as in Fig. 2)

Movement	Body Percussion	Singing	Considerations
First	One quarter note	Two eight notes	Synchrony in the strong accent, different rhythm feelings
Second	One quarter note	One eight notes off the beat	Off the beat feeling
Third	Two eight notes	Two eight notes / One quarter note	The accent returns on the beat in synchrony
Forth	One quarter note	One quarter notes	Synchrony

Table 2. Body percussion / Singing combination in “Melodic Loop Pattern : Lead Voice” (as in Fig. 3)

Movement	Body Percussion	Singing	Considerations
First	One quarter note	Two eight notes	Synchrony in the strong accent, different rhythm feelings
Second	One quarter note	One eight notes/Two eight notes	Already known rhythmic structure, make weak accent perception clearer
Third	Two eight notes	Rest / One quarter note	Vocal rest in strong accent involves a reinforcement in rhythmic feelings
Forth	One quarter note	Two eight notes/ One quarter notes	Contrasts between first measure, that ends with eight rhythmic feeling, and the last measure that closes the melodic sentence.

Table 3. Body percussion / Singing combination in “Melodic Loop Pattern: Harmonized Voices” (as in Fig. 4)

Movement	Body Percussion	Singing	Considerations
First	One quarter note	Rest	Strong rhythmic accent with no harmonizing melodies
Second	One quarter note	Two eight notes	Melody starts with the weak accent
Third	Two eight notes	Two eight notes / Rest	Reinforcement of strong accent with synchrony or vocal rest
Forth	One quarter note	Rest / Two eight notes	Alternation of the rests in the 3 rd and 4 th movement make weak accent perception clearer

4. Discussion

As described in Table 1, Table 2 and Table 3, the exercise called “Pop Band 1” from “Singing BAPNE®” activity, is structured to obtain specific results in time perception and relation between time and pitch.

The exercise starts with the movement of the body. Different elements of body percussion used are clear to identify strong and weak accents in the pulse. This identification is achieved both with sound and tactile perception: as described in 3.1 and 3.2, the students hear the different sounds, with different feelings with the “chest beat” and the “hand-clap” and with the reinforcement of speech voice “in and on-” and “out of-” the body. (see Fig.1).

“Melodic Loop Pattern” sequences are the connection between singing and body percussion patterns:

- 1st step: “Speech loop pattern”, body percussion + speech voice in synchrony
- 2nd step: “Bass Voice”, body percussion + singing in synchrony and just one accent off the beat (see Fig.2, table 1)

- 3rd step: “Lead Voice”, presence of one vocal rest and various combination of quarter and eighth accents, always on the beat (see Fig. 3, table 2)
- 4th step: “Harmonized Voices”, presence of vocal rests, harmonized melodies that begin in weak movements (see Fig. 4, table 3)

The use of onomatopoeic sound and the imitation of musical instruments makes the activity more pleasant and easier to be followed. The level of attention of the group is keeping high by the use of non-sense phonemes that students are not accustomed to use.

The presence of the hand-clap on the 2nd and on the 4th movement of the bars, and the musical accent “off the beat” in “Melodic Loop Pattern: Bass Voice”, are involved in the understanding of music relation between Drum & Bass in Western modern music. Lead and harmonized melodies, different in melodic and rhythmic structure, are involved in the understanding of time and pitch relation, as shown in Table 1, Table 2, Table 3.

As “Pop Band 1”, every exercise of “Singing BAPNE®” activity, is structured in relation of the skill to achieve.

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