

# Duets for a double bass teacher and a student with open strings: pedagogical aspects

Fausto Borém

UFMG

faustoborem@gmail.com

**Abstract:** Pedagogical aspects in teaching right-hand on open strings techniques on the double bass in the context of duets especially written for the pair teacher-beginner student. I took into consideration the phenomenon of “freezing degrees of freedom” (Bernstein, 1967), which explains the intuitive reduction of the complexity of bodily movements in beginners. The duets “ISB Kids go... Walrus!” (Borém, 2022b) and “ISB Kids rock & ... roll!” (Borém, 2022c), created for the 2022 ISB (International Society of Bassists) Double Bass Kids Festival (Sturm, ed. 2022), are analyzed. I discuss (1) the initiation of the “on the string” bowing family (*detaché, staccato, staccato volante, marcato, martelé, portato* and *legato*) and the “off the string” bowing family (*spiccato, spiccato volante* and *jeté*); (2) the use of different timbres (*arco, pizzicato, ponticello*) and (3) the introduction of extended techniques (such as speaking and playing simultaneously as well as playing and dancing simultaneously) and (4) the teacher's role in student motivation.

**Keywords:** performance pedagogy, double bass teaching, chamber music for beginners, double bass open strings, motivation in instrumental teaching.

## Duetos para professor(a) de contrabaixo e aluno(a) em cordas soltas: aspectos pedagógicos

**Resumo:** Aspectos pedagógicos no ensino das habilidades de mão direita no contrabaixo em cordas soltas dentro da realização musical de duetos especialmente escritos para o par professor(a)-aluno(a) iniciante. Considerei o fenômeno “congelamento dos graus de liberdade” (*freezing degrees of freedom*, Bernstein, 1967), que explica a redução intuitiva da complexidade de movimentos corporais em principiantes. São analisados os duetos “ISB Kids go... Walrus!” (Borém, 2022b) e “ISB Kids rock & ... roll!” (Borém, 2022c) criados para a 2022 ISB (International Society of Bassists) Double Bass Kids Festival (Sturm, org. 2022). São discutidos (1) a iniciação da família de arcadas “na corda” (*detaché, staccato, staccato volante, marcato, martelé, portato* e *legato*) e da família de arcadas “fora da corda” (*spiccato, spiccato volante* e *jeté*); (2) a utilização de diferentes timbres (*arco, pizzicato, ponticello*) e (3) a introdução de técnicas estendidas (como falar e tocar simultaneamente, assim como tocar e dançar simultaneamente) e (4) o papel do(a) professor(a) na motivação do(a) aluno(a).

**Palavras-chave:** pedagogia da performance, ensino do contrabaixo acústico, música de câmara para iniciantes, cordas soltas do contrabaixo, motivação no ensino de instrumentos musicais.

## Introduction

This study, which involves both creative (composing and playing) and pedagogical (teaching how to play) aspects was born out of the need to teach the acoustic double bass to children, a growing trend that is now consolidated with (1) the publication of methods suited to the motivations of children aged 3 to early adolescence and its restrictions of attention and study discipline, and (2) the development of *luterie* in the manufacture of instruments and equipment in reduced sizes (3/8 and 1/2, as opposed to the traditional sizes of 4/4 and 3/4) suitable for the size of a child body, especially the upper limbs (arm, forearm, hands and fingers).

To overcome the instrument's obstacles such as (1) status prejudice in the musical environment, (2) its large dimensions even for adults and (3) the natural masking of its sound in the lowest register of the orchestra and proximity to the lower limit of audibility of the human ear, we must recognize the historic efforts of legendary American bassist and pedagogue Gary Karr from 1967 onwards, including his double bass books for kids

(1996a, 1996b, 2002) and, later, with pedagogues such as George Vance (2000), both in the United States, Mette Hanskov (2000) in Denmark, Caroline Emery (1997, 1998) in England, and Claus Freudenstein (2014) in Germany. In Brazil, I highlight the works of composer and pedagogue Ernest Mahle with his “Method for Double Bass” (no date) and “*Melodias da Cecilia*” (1972). More recently, we should mention the initiatives of double bass pedagogues Voila Marques at Escola Villa-Lobos in Rio de Janeiro and Sônia Ray at UFG with the “*Fala Baixinho*” [“Speak softly and Low”] Project.

This study is a result of the inherent need (amongst beginners) to reduce the complexity of musical gestures involving the simultaneous use of both superior limbs, each demanding independent coordination and subtle nuances of speed, force and especially the direction of its articulating components: upperarm, forearm, wrist, hand, fingers, and phalanges. These movements used by orchestral stringed instruments include pronation, supination, adduction, abduction, extension, flexion and rotation in several angles and combinations.

The intuitive need of beginners to reduce movement complexity is better explained by the phenomenon called “freezing degrees of freedom” (“*congelando os graus de liberdade*” in Portuguese), a concept coined by Bernstein (1967) and consolidated in field of motor behavior and athletic sports (Gray, 2020; Van Ginneken et al; 2018). He explains that when a novice is learning a new complex motor task, especially kids, he or she reduces the number of joints or muscles during movement to find a solution, for example the very sophisticated and simultaneous coordination of left-hand fingers finding the notes on the fingerboard of a violin and the right-hand drawing the bow with the correct angle, speed, friction, and contact point on the string. Therefore, I went through the experimentation process of composing and performing simultaneously to create an idiomatic pedagogical material: a series of duets for a double bass teacher and his/her double bass student at the beginner level, that would focus only on the right limb of the young double bassist (using only the open strings of the instrument).

To illustrate the pedagogical and performance aspects of the method for double bass open-strings and two double bass duets, I resorted to the tools *MaPA* (Map of Audiovisual Performance) and *EdiP* (Edition of Performance) from the *mAAVm* (Method for the Analysis of Audio and Videos of Music) that I have proposed (Borém, 2020; Borém, 2016a; Borém, 2016b).

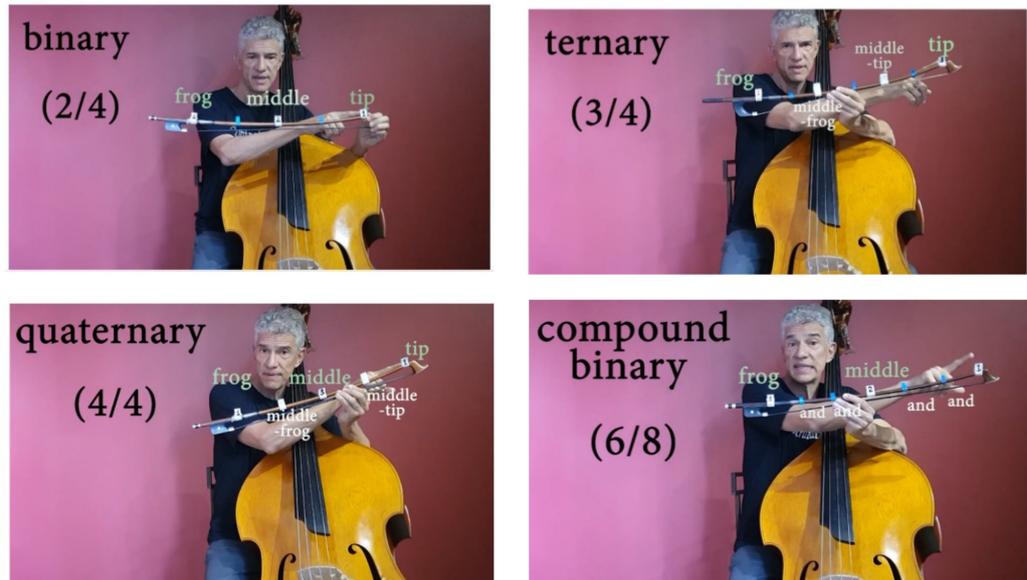
## The “20 Open String Etudes for the Double Bass” as a starting point

I began reviewing the content of “20 Open String Etudes for the Double Bass” (Borém, 2022a), which I envisioned as progressive method for beginners, each etude being preceded by detailed technical instructions. It covers several skills that are fundamental for right-hand techniques not just for the double bass, but also to all orchestral strings (which also includes the violin, the viola and the cello). These 20 etudes focus on skills that are mainly related to sound production with the bow (*arco*), but also covering sounds produced with the fingers plucking the strings (*pizzicato*). These skills can be summarized as (1) placing the bow hair perpendicularly on and taking it off the string, (2) keeping the bow at an even speed or gradually change it, (3) keeping the pressure of the bow hair on the string for even dynamics or producing *crescendo* and *decrescendo*, (4) doing smooth bow changes and bow retakes, (5) doing string crossing with adjacent and non-adjacent strings, and (6) dividing the bow into regions according to the most common metrics in the orchestral repertory (please see Ex.1), such as in two

(frog-middle and middle-tip), three (frog, middle and tip), four (frog, frog-middle, middle-tip and tip), and six portions (similar to the division in two but in compound binary meters), which are equivalent to the 2/4, 3/4, 4/4 and 6/8 metrics.

#### Example 1

Division of the double bass bow into regions according to the most common metrics of the orchestral repertory.



Finally, this method brings the young double bass student into the more complex task of learning the on-the-string bowings (*detaché*, *staccato*, *staccato volante*, *portato* and *bariolage*) and off-the-string bowings (*spiccato*, *spiccato volante* and *jeté*) (Galamin, 1962; Flesch, 2000). The adaptation of these double bass etudes is being considered, keeping in mind that the tunings of the violin, viola and cello are inverted in relation to the double bass (G-D-A-E as opposed to E-A-D-G). In order to keep these etudes as a primal and idiomatic pedagogical source, we considered the smaller length and heavier weight of the double bass bow when compared to the other orchestral strings and thus, avoiding virtuosic techniques.

We now will demonstrate the pedagogical contents of the first two duets from the series called “Duets for a Kid with Open Strings and a Double Bass Teacher”, namely “ISB Kids go ... walrus!” and “ISB Kids rock and ... roll!”, here called “Duet 1” and “Duet 2”. While these duets explore only right-hand techniques in the student part (Bass 2), the teacher (Bass 1) plays more advanced techniques as a way to keep the motivation of music making and interest for a larger audience. They also aim at developing chamber music abilities such as (1) listening to other voices, (2) pairing the two double basses in homophonic passages, (3) creating dialogue in contrapuntal textures, (4) engaging in tempo changes and even, (5) using the extended techniques of playing and declaiming (or dancing) at the same time (a common trend in the 20th-century theatrical music repertory).

## Pedagogical aspects of “Duet 1” “ISB Kids rock and ... roll!”, for two double basses

Initially, the composer selected techniques from the aforementioned open-string method and employ them in the student part (Bass 1) of the duets to be composed. Ex.2a shows *Etude 18*, which focuses on the technique of *legato bariolage* (string crossing) in adjacent strings and sudden contrasting dynamics (*subito f* and *subito p*). Ex.2b shows its correspondent usage in the student part.

### Example 2

Adaptation of *Etude 18*, which is focused on string crossing with adjacent strings and contrasting dynamics (*f* and *p*) to the “ISB Kids rock and ... roll!” duet (Borém, 2022c, p.10).

The image displays two musical staves. **2a** is titled "Etude 18" and is in 4/4 time. It features a double bass clef and a key signature of one flat. The tempo markings are "Adagio ♩=60" and "Allegro ♩=120". The notation includes various bowing techniques such as *legato bariolage* (indicated by curved lines between notes) and dynamic markings for *f* (forte) and *p* (piano), with *subito* (suddenly) indicating rapid changes. A blue arrow points from the first measure of 2a down to the first measure of 2b. **2b** is titled "Duet 1 - Bass 2" and is also in 4/4 time. It starts with a measure rest (13) and includes the instruction "sempre p" (always piano). The notation shows the adaptation of the techniques from 2a, with blue circles highlighting specific string crossings and dynamic changes. A blue arrow points from the first measure of 2a down to the first measure of 2b.

Pedagogically speaking, this passage in Ex.2b is less challenging than “Etude 18” since the two quarter-note rests in m.14–15 allow the student to prepare the bow angles to play each pair of adjacent strings (G-D and A-D). But, with these movements already in the short-span memory, he or she is asked in m.16 to include two more adjacent strings while playing faster notes (G-D-A-E in eight notes) and a *crescendo*.

One of the factors in keeping infants motivated is stimulating their curiosity for novelty and spontaneous exploration (Oudeyer, Gottlieb and Lopes, 2016). Another feature of these pedagogical duets is the introduction of historical compositional and performance practices. In Ex.3, a taste of the energetic retaking of the bow at its frog in *martelé* (an “on-the-string” bowing technique), inspired by a famous passage in the early 20th-century masterwork “The Rite of Spring” by Igor Stravinsky (1967, at rehearsal number 13). While this is doable for the novice double bass player in m.8, it also brings an aggressive mood of the rock & roll genre that inspired this duet (and its title). This passage is followed by another type of bowing that sparkles curiosity in kids: the *spiccato* (an “off-the-string” bowing type) in m.9 forward, which rebounds on open strings are easier to perform and learn than when the string is pressed by left-hand fingers against the fingerboard.

Another “off-the-string” bowing which sounds dazzling even to experienced players and is the bowing *jeté* (also called *balzato*), which is very rewarding to perform due to its ludic nature. Ex.4 shows a passage in which this “thrown” bowing is used by both teacher and student in a dialogue of motivic fragments that exercises coordination and complementarity of the melodic line.

**Example 3**

The bowings *martelé* and *spiccato* used in “ISB Kids rock and ... roll!”, (BORÉM, 2022c, p.10).

**Example 4**

The “off-the string” bowing *jeté* used in a dialogue of fragments between the double bass teacher and her/his student in the duet “ISB Kids rock and ... roll!” (Borém, 2022c, p.10).

Finally, Ex.5 refers to the theatrical quality of this duet, which resorts to the rock & roll tradition of rebels in music. Both teacher and student are demanded to play and declaim – shouting to be more precise – at the same time. Departing from the *piano* dynamics, they play *spiccato* within a *crescendo* to a *forte* in m.37, and switch to the *martelé* bowing while they shout “ISB kids rock and ... roll!”, after which they raise their bows into the air and freeze, waiting for **applause**.

**Example 5**

The extended technique of declaiming and playing at the same time in the duet “ISB Kids rock and ... roll!” (Borém, 2022c, p.10).

**Pedagogical aspects of “Duet 2” “ISB Kids go ... walrus!”, for two double basses**

“ISB Kids go ... walrus!” is a 3/4 waltz which draws on the theatrical possibilities related to this ternary dance. Right from the start, the beginner student is asked to practice a most demanding skill from a double bass player: to set and keep a steady *tempo*, especially with the *pizzicato*, a timber with which the double bass section often plays independently from the cello section in symphonic orchestras. Strategically here, the

*tempo* is facilitated by the double bass teacher (Bass 1) acting as a conductor (see Ex.6). Then, in an example of an extended technique appropriate to the beginners' repertoire, the student (Bass 2) listens to a question posed by the teacher, who asks "Shall we dance?", to which she or he should answer rhythmically (see Ex.7) "Maybe a walrus!". Here, the syllables "wal-" and "-rus" should be accompanied by a precise *pizzicati* on the D and G open strings.

#### Example 6

The learning process of setting and keeping a steady *tempo* is behind the beginning of the duet "ISB Kids go ... walrus!" (Borém, 2022b, p.10).

Waltz (♩ = c. 132 - 168) "Duet 2"- Bass 2  
Intro *pizz.*  
D. Bass II  
(open strings throughout the piece) *f*

#### Example 7

The beginner double student practices declaiming and playing *pizzicato* simultaneously, an extended performance practice in the duet "ISB Kids go ... walrus!" (Borém, 2022b, p.10).

"Duet 2"- Bass 2  
17 May - be a wal - rus!  
*pizz.*

In chamber music, when an instrumentalist is not playing, she or he should keep the ears and eyes on the other companions in order to keep the musical flow. Ex.8 shows an instance in which the young student is not playing anything but is very active performing the tasks of following his/her teacher performing (1) a *crescendo* and a *decrescendo*, (2) an *accelerando* and a *rallentando*, (3) the holding of a *fermata*, and (4) taking the bow herself/himself out of the quiver to play *arco* in the next section.

#### Example 8

Active listening of the double bass beginner, performing tasks dealing with *tempo*, dynamics and timber change (*pizzicato* to *arco*) during the rests in the duet "ISB Kids go ... walrus!" (Borém, 2022b, p.10).

"Duet 2"  
21 arco  
D.B. I  
D.B. II  
*p* *f*  
*accel.* *rall.*  
take bow!  
(kid has fun as she or he takes the bow out of the quiver)  
*accel.* *ritard.*

The contrast between dialoguing and playing in homophonic textures is at play in m.73-80 of the excerpt shown in Ex.9. Twice, in m.73-77 the student (Bass 2) asks a musical question and the teacher answers echoing the perfect 4th, first one octave higher and then two octaves higher with natural harmonics, which may arouse the curiosity of the student in terms of register and timber. Then in m.77-80, in parallel writing (a rhythmic unison), teacher and student work out a cadence with the student playing a repeated V-I harmonic bass (open strings A-D, A-D, A-D) and the teacher playing a melodic fragment in natural harmonics, which ends with a 4-3 appoggiatura that resolves in a perfect D major cadence. Passages like this are key for teachers in introducing fundamentals of harmony and applicable situations.

**Example 9**

Cadential dialogue and parallel writing with variety of registers, timbers, and harmony fundamentals in “ISB Kids go ... walrus!” (Borém, 2022b, p.10).

The musical score for "Duet 2" (Example 9) is presented for two double basses, D.B. I and D.B. II. The score begins at measure 73. D.B. I is in the treble clef and D.B. II is in the bass clef. The piece is marked with a forte *f* dynamic. Annotations include "S4" in a yellow box at the start, "(natural harmonics or ossia 8va. below)" in blue above the staff, and "4 - 3" in red above the final measure. The bottom of the score features the harmonic sequence "V - I V - I V - I" in red.

Finally, the extended technique of playing, dancing and declaiming at the same time is used to end the piece (Ex.10). Moving like a walrus and playing *pizzicato*, the teacher asks a question. Then the student, also dancing and paying *pizzicato* initiate the answer and is joined by the teacher for the last word: “wal... rus!”.

**Example 10**

Playing and shouting in “ISB Kids go ... walrus!” (Borém, 2022b, p.10).

The musical score for the "Coda" (Example 10) is presented for two double basses, D.B. I and D.B. II. The score begins at measure 89. D.B. I is in the bass clef and D.B. II is in the bass clef. The piece is marked with a forte *f* dynamic. Annotations include "Coda" in a yellow box, "left hand pizz." in blue, and "play and declaim or sing in unison" in blue. Lyrics are written below the staves: "So, did we dance? wal... ..russs!" for D.B. I and "Yes! we danced like a wal... ..russs!" for D.B. II. Performance instructions include "raise bow into the air and freeze!" in blue above and below the staves.

**Conclusion**

Having the pedagogy of music performance at its core, this study resorted to the creative tasks of composing and performing to create new teaching materials – a series of pedagogical duets - to be taught, practiced, and performed in public by double bass teachers and their young students. The composing process departed from the adaptation of open-string techniques from a series of 20 etudes conceived as method for double bass beginners.

The choice of two popular music genres (the rock & roll and the waltz) considered the children's motivational factor during the teaching and learning processes. Historical references to both genres and from the symphonic repertory were also included in the duets. Although extended techniques of orchestral strings are usually associated with advanced technical levels, it was possible to include some extended techniques for the beginner (declaiming, simultaneous playing-declaiming, and simultaneous playing-singing) that not only sparks motivation, but also introduces the aesthetics of our time.

We hope to have provided here examples of how music teaching materials for beginners can be of restricted content in order to respect the child's "freezing the degrees of freedom" (inherent at the novice level) and still spark interest, motivation and pleasure in its three learning stages: reading, practicing and performing. And hopefully, as Swanwick (1994) advocates, playing a musical instrument and feel it musically satisfying is essential since day one.

## References

- Bernstein, N. A. (ed.) (1967). *The Co-ordination and Regulation of Movements*. Oxford: Pergamon Press, p.15-59.
- Borém, Fausto (2022a) *20 Open String Etudes for the Violin*. Dallas, USA: ISB (International Society of Bassists). 21 pages.
- Borém, Fausto; Nogueira, Ilza. (2020) A Narratividade da cantora-atriz Martha Herr em Cantos, de Tim Rescala. *Revista Música*, v.20, n.1. DOI: [10.11606/rm.v20i1.168887](https://doi.org/10.11606/rm.v20i1.168887). São Paulo: USP, p.1-18.
- Borém, Fausto. (2016a) "... Fucking Good!": Bossa Nova in Caetano Veloso's Words, Music and Images. *Art Research Journal*. Natal: UFRN/Abrace/Anpap/Anppom, p.113-156.
- Borém, Fausto; Borém, Fausto (2022b) *ISB Kids go ... walrus!*. From the series "Duets for a Kid with Open Strings and a Double Bass Teacher. Belo Horizonte: Musa Brasilis. 6 pages.
- Borém, Fausto; Borém, Fausto (2022c) *ISB Kids rock and ... roll!*. From the series "Duets for a Kid with Open Strings and a Double Bass Teacher. Belo Horizonte: Musa Brasilis. 6 pages.
- Borém, Fausto. (2016b) MaPA and EdiPA: two analytical tools for text-sound-image relations in music videos. *Musica Theorica*. Salvador: Thema, v., n.1, p.1-37.
- Emery, Caroline (1988) *Bass is best!*. v.1. Edited by Rodney Slatford. London: Yorke Edition.
- Emery, Caroline (1997) *Bass is best!*. v.2. Edited by Rodney Slatford. London: Yorke Edition.
- Flesch, Carl. (2000) *The Art of Violin Playing - Book One*. New York: Carl Fischer. p.50-59 (first edition in 1923).
- Freudenstein, Claus. (2014) *Mini Bass* (2014). Germany: [Friedrich Hofmeister.
- Galamian, Ivan. (1962) *Principles of Violin Playing & Teaching*. 2nd Edition, Englewood Cliffs, New Jersey: Prentice-Hall, Inc. p.78-84.
- Gray, R. (2020) *Changes in Movement Coordination Associated with Skill Acquisition in Baseball Batting: Freezing/Freeing Degrees of Freedom and Functional Variability*. *Frontiers of Psychology*. v.11. p.1295. June, 25. DOI: [10.3389/fpsyg.2020.01295](https://doi.org/10.3389/fpsyg.2020.01295).
- Guimarães, A. N.; Ugrinowitsch, H.; Dascal, J. B.; Porto, A. B.; And Okazaki, V. H. A. (2020). *Freezing degrees of freedom during motor learning: a systematic review*. *Motor Control* v.1, p.1-15. DOI: [10.1123/mc.2019-0060](https://doi.org/10.1123/mc.2019-0060).
- Hanskov, Mette (2000). *Double bass daily*. Copenhagen: Novato Music Press.

- Oudeyer, P.Y; Gottlieb, J.; Lopes, M. (2016) Intrinsic motivation, curiosity, and learning: Theory and applications in educational technologies. In: *Progress in Brain Research*. Chapter 11. v.229. Elsevier. <http://dx.doi.org/10.1016/bs.pbr.2016.05.005>.
- Karr, Gary. (1996a) *Bassi-c Essencials, Book, a tuneful companion to the Gary Karr Bass Book 1*. With music by Alice Spatz. Oakdale, California: Amati Productions.
- Karr, Gary. (1996b) *The Gary Karr Double Bass Book, Book 1*. With music by Alice Spatz. Oakdale, California: Amati Productions.
- Karr, Gary. (2002) *The Gary Karr Double Bass Book, Book 2*. With music by Alice Spatz. Oakdale, California: Amati Productions.
- Mahle, Ernest. (1972) *As Melodias da Cecília para contrabaixo e piano*. MsA11, Piracicaba: Manuscrito do compositor. 10 p.
- Mahle, Ernest. (no date) *Método elementar para contrabaixo*. Piracicaba: Manuscrito do compositor.
- Stravinsky, Igor. (1967) *The Rite of Spring*. First published in 1913 in piano reduction. Revised in 1947. London: Boosey & Hawks.
- Swanwick, Keith. (1994) Ensino instrumental enquanto ensino de música. *Cadernos de Estudo: Educação Musical*, v.4/5. Tradução de Fausto Borém, revisão de Betânia Parizzi. São Paulo: Atravez.
- Van Ginneken, W. F.; Poolton, J. M.; Capiro, C. M.; Van Der Kamp, J.; Choi, C. S.; and Masters, R. S. (2018). *Conscious control is associated with freezing of mechanical degrees of freedom during motor learning*. *Journal of Motor Behaviour*. v.50, p.436-456. DOI: 10.1080/00222895.2017.1365045.
- Vance, George (2000) *Progressive Repertoire for the Double Bass*. 3 volumes (Book & MP3) Chicago: Carl Fischer.