

## **Performance optimization: Musical exploration and improvisation as instrumental teaching strategies**

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### **Abstract**

Several teaching strategies emphasize the importance of manipulating an idea or skill to enhance learning. In music, this manipulation occurs using the body or mind, in order to explore different ways to improve the performance. The physical and mental transformation allows one to anticipate how something will be seen from different perspectives, thus facilitating the performance. Departing from this point of view, one could reflect in what extent the use of creative activities can optimize the students' performance. The main objective of this research was to demonstrate the benefits of two types of creative activities (musical exploration and improvisation) on cello students. Results showed a positive impact on the students and the use of these creative activities revealed to be significant in the students' development. This research intends to contribute as a proposal for teaching-learning instrumental strategies based on creative processes.

Keywords: Improvisation, musical exploration, teaching strategies, technical skills, violoncello

### **Introduction**

Concerning to instrument education, teachers tend to adopt traditional teaching strategies, frequently meaning that the use of creative activities as a learning tool is neglected. Therefore, the musical development of the individual's creative response and communicating skill's problem-solving is uncared for, which unable the student to grow in a holistic way. Regarding the acquisition and/or correction of basic technical skills – such as posture and balance, optimal muscular tension,

bow movement, and left hand position - this study, which lasted for approximately 9 months, involved eight students (aged 10) who were beginning to learn the instrument. The used methodology was based on action-research, and consisted in participant observation combined with a subsequent qualitative analysis of the gathered data. Results showed that there was a tendency for a more stable improvement of the technical skills, by the student's observation of their own difficulties through different perspectives. It was also observed that the student's improvement was continuous, and their expressive instrumental development was enhanced.

### **1. Literature Review**

According to Odam (1995) and DePascale (2003), there is a tendency to adopt some educational practices in music classes, where the teaching strategies are centered in the teacher, and the student is compelled to learn the exercises brought into class by normally *imitate* the teacher's demonstration. But, by doing so the teacher is neglecting the student's musical development, the bidirectional skill transfer and the student's direct participation in the learning process. However, creative activities which are included in music classes have shown advantages to the development of several skills in the students, and consequently in their performance (Scott, 2007).

From the early seventies authors such as Paynter and Aston (1970:7), believe in a liberal education driven through discovery, where creativity is "*a way of saying things which are personal to the individual*". The authors state that creativity happens at the individual level, and add that everyone has the capacity to understand, think and express, concluding, therefore, that everyone has the capacity to create (Paynter and Aston, 1970:4). More recently, Sternberg and Lubart (1999) affirm that creativity is relevant on an individual level, for instance, for problem-solving skills development.

Concerning the main objective for the use of creative activities, Csikszentmihalyi (1996:114) mentions: "*the creative process begins with the goal of solving a problem that is given to the person by someone else or is suggested by the state*

*of the art in the domain*". The author also adds that the creative act involves the production of novelty, affirming that this process of discovery seems to be one of the most satisfactory for the human being (ibidem:113).

Regarding to instrumental pedagogy, Woody (2006) refers that verbal teaching strategies may involve the use of mental images and metaphors. The author also states that this type of alternative teaching may solve technical problems present in the performance. Riveire (2006) also highlights that various teaching strategies emphasize the importance of manipulating an idea or skill to enrich learning. In music, the manipulation occurs using the body or mind with the objective of exploring different ways of making music, using a specific sound or a combination of sounds. Actually, Lubart and Getz (1997), when discussing metaphors and their role in creativity, state that it is important to note that metaphors make comparisons that may provide new perspectives to problems, as well as form or widen our initial perspective of the problem and communicate new ideas to a vast audience. "*Metaphors enable us to make new connections and see things in a new way*" (Bump, 1985: 447). For Bump (1985:450), the mastery of metaphor relies on the way of seeing *old things in a new shape*, connecting apparently different objects and ideas, achieving more fruitful hypotheses and models which could be more wide and effective. According to Finke (1997:184), several studies demonstrated that many of the mental images properties are important in visual forms, movement and special relations perception. Finke (1997) states that mental transformation allows the individual to anticipate something, by seeing it from different perspectives and facilitating the creative manipulation and exploration.

Considering the dimension of creative activities in the student's instrumental development, Marshall (2004:51,52) describes three types of creative experiences, according to three behavioral categories, which he states to be necessary for the development of a successful and sequential learning plan: *exploration*, *creativity* and *improvisation*. According to the author, *exploration* is the discovery of individual limits, by forcing and using every option to accomplish them. In may involve less preparation, by encouraging spontaneity, building trust

and divergent opinions; *creativity* sets some boundaries, developing itself within a plan, but also allowing a large diversity of choices and constructions which brings a range of possible answers to the plan; improvisation has more concrete expectations, with its process being developed inside previously learned and well define parameters.

As Marshall (2004), Azzara (2002:172) indicates that there are important factors to consider when defining improvisation, such as, the process of expressing musical thoughts and emotions, the musical creation within certain structures and previously learned parameters, and the production of a single musical discourse. The author refers that *“improvisation allows students to express themselves individually, to develop higher order of thinking skills, and to develop a more comprehensive and intimate relationship with music”* (Azzara, 2002:182). Azzara (2002) affirms that it is important to develop an environment where spontaneity and interaction are nourished, and believes that improvisation may be developed and that every student has the potential to improvise. However, Bradshaw (1980) indicates that creative activities included in the classroom may lead to high levels of anxiety for the exposed student, and it may disable a restrictions-free way of expression, becoming an element of risk, which is not attractive to the common student. Therefore, the author suggests that it is important to be aware that *“a teacher can reduce the sense of risk by keeping an open atmosphere in class and by participating”* (Bradshaw, 1980:115).

## **2. Methods and Methodologies**

This study intended to analyze the advantages of two creative processes – musical exploration and improvisation – in the development of technical skills in students who were beginning to learn an instrument (specifically, the violoncello). Therefore, three specific objectives were established:

- (1) To understand if musical exploration and improvisation activities, included in instrument class, influence the development of technical skills;
- (2) To verify if musical exploration and improvisation can help solve technical difficulties, considering the acquisition and/or correction of the technical

skills;

(3) To observe, analyze and evaluate the technical development of the eight students, involved in the study.

The methodological process for this research consisted of field work in addition to participant observation, which was based on bibliographical research techniques and action research, combined with video recording and subsequent comparative analysis of the gathered data. This research focused on eight students - all between 10 and 11 years of age, and in the 1<sup>st</sup> year of studying cello (“1º Grau do 2º Ciclo do Ensino Básico de Violoncelo” of the Portuguese Conservatory System).

All the eight students were observed for approximately 9 months, and during this research two different phases were established. Phase 1 had an approximate duration of 4 months. In this phase, in all cello classes, the teaching strategies used were based on a traditional approach. The specific national curriculum objectives for this learning stage included appropriate body posture, correct use of the bow and its different movements, and the understanding of the left hand function in the first position. During Phase 1, each student was individually observed in the cello class, in order to verify which technical problems needed to be overcome, or accomplished. At the end of this phase, students were divided in two groups – Control Group [CG] and Experimental Group [EG] – with four students in each group.

| <b>Experimental Group [EG]</b>  |  |   |  |
|---|--|---|--|
| <b>Phase 2</b>  |  |   |  |
| <b>Activity Example</b>   | <b>Objectives</b>  | <b>Procedure</b>  | <b>Student Example</b>   |
| <p><b>Musical Exploration</b><br/>(Stage 1 – Activity Nr.1)</p> <p>Duration: 5 – 10 Min.<br/>(Lesson 1 and 2)</p> | <ul style="list-style-type: none"> <li>- To achieve optimal body posture</li> <li>- To reduce muscular tension.</li> <li>- To know different timbers that the cello can produce.</li> <li>- To have the notion that the body can be consider an instrument.</li> <li>- To think that the musical instrument can be as natural as the body and to have the same <i>naturality</i> when playing the instrument.</li> </ul> | <ul style="list-style-type: none"> <li>- The student discovers, explore and learn his/her body sound possibilities.</li> <li>- The student chooses two body sounds, previously explored, and search for similar sounds on the cello.</li> </ul>   | <p><i>Body sounds:</i></p> <ol style="list-style-type: none"> <li>1) To scream</li> <li>2) To clap the hands</li> </ol> <hr/> <p><i>Similar sounds on the Cello:</i></p> <ol style="list-style-type: none"> <li>1) To execute the bow below the bridge</li> <li>2) To slap the cello flanks</li> </ol> |
| <b>Activity Example</b>   | <b>Objectives</b>  | <b>Procedure</b>  | <b>Student Example</b>   |
| <p><b>Improvisation</b><br/>(Stage 2 – Activity Nr.4)</p> <p>Duration: 5 – 10 Min.<br/>(Lesson 7 and 8)</p>       | <ul style="list-style-type: none"> <li>- To achieve optimal body posture</li> <li>- To reduce muscular tension.</li> <li>- To execute the first position with correct hand form.</li> <li>- To adjust the left hand fingers in the first position tuning.</li> </ul>   | <ul style="list-style-type: none"> <li>- The student improvises a small rhythm pattern, clapping his/her hands.</li> <li>- The student improvises small melodies in the first position, using only the rhythm pattern that he/she improvised before.</li> <li>- The melodies should always be played in pizzicato.</li> </ul> | <p><i>Rhythm pattern:</i></p>  <hr/> <p><i>Melody on the Cello (3<sup>rd</sup> String):</i></p>                                  |

Figure 1 – Example of both activities (Experimental Group [EG])

Phase 2 had also an approximate duration of 4 months. The EG started to have creative activities (musical exploration and improvisation) included in their cello classes, while the students of the CG continued to have the same teaching strategies as before. For the classes with creative activities, there were two lesson plans: a general lesson plan to implement in every cello lesson, and a specific lesson plan to each activity to develop with the student. The general lesson plan was divided in four parts: *Exposition* (the student performs the exercises indicated for his individual practice); *Identification* (the teacher identifies the technical and/or other problems); *Strategic Orientation* (regarding the problems observed, it is implemented specific musical exploration and improvisation activities); *Application* (the student applies new information, obtained with the creative activities, in the exercises indicated for his individual practice).

Regarding to the creative activities incorporated in the classes of the EG (in relation to the *Strategic Orientation*), it was established two different stages

(Stage 1 and Stage 2) corresponding to musical exploration and improvisation activities, respectively (Figure 1). Each stage had three different activities, and each activity lasted throughout two lessons.

### **3. Findings**

#### **3.1. Phase 1**

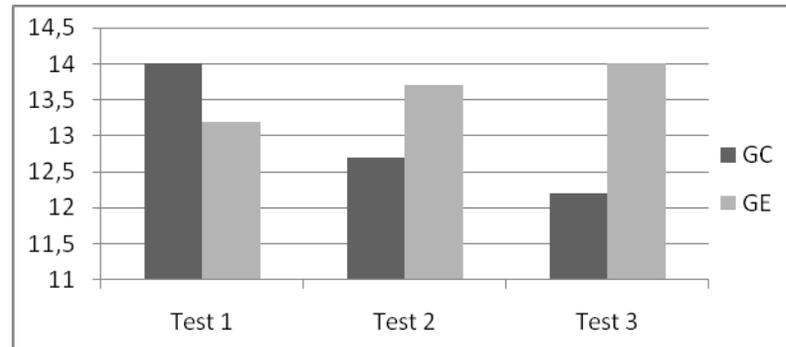
The technical skills observed during Phase 1 were related to body posture, correct use of the bow and its different movements, the understanding of the left hand function in the first position and resulting sound quality. The traditional strategies applied in this phase intended to introduce the new technical concepts, mostly by imitation and cyclical practice of the exercises brought into class. At this point, students based their development in a struggling reproduction of what was being demonstrated by the teacher. They barely achieved the objectives set for this phase, as well as demonstrated several problems in maintaining body posture, in relaxing both arms muscles to an optimal state, in performing a controlled bow movement, and in tuning the left hand fingers in the first position.

#### **3.2. Phase 2**

As previously explained, during Phase 2, students were divided in two groups, with four elements each – Control Group [CG] and Experimental Group [EG] – and the EG started to have musical exploration activities (Stage 1) and improvisation activities (Stage 2) included in their cello classes. The skills observed during Phase 1, continued to be analyzed and studied during this phase – and also evaluated in the school's year final exam. As mentioned, the CG continued to attend cello classes with traditional teaching strategies, as described in Phase 1. Given the difficulties observed in the students during that phase, the strategies used intended to enhance development, and also to intensify the progression of the technical skills. In general, these students' performance showed divergent results. Two students lowered their level of performance, due to the development required and the difficulty level increase, while the other two had more positive but unstable results.

In contrast, on Phase 2, every student of the EG revealed some improvement at

the technical skills that were being studied. Despite some moments of irregularity on each individual performance and the increase of the difficulty level, the students in the EG were able to stabilize or enhance their performance at all technical skills observed.



Graphic 1: Results of Test 1, 2 and 3.

According to Graphic 1, the results in the first test (Test 1) of the CG were higher than the results of the EG – these tests were performed in Phase 1 of this study. However, the next two tests (Test 2 and 3) performed by both groups (during Phase 2), showed an improvement on the EG, showing higher results than the CG. By the end of this investigation, the CG had the lowest results of the study and the EG showed results as high as the CG prior to the investigation.

#### 4. Discussion

This study's main objective was to analyze the advantages of two creative processes – musical exploration and improvisation – in the development of technical skills in students who were beginning to learn an instrument – the cello. Assuming it is rare to apply creative teaching strategies in instrument classes, in order to enhance students' technical skills, one could reflect in what extent the use of creative activities can optimize the students' technical performance at an early stage of the instrumental development. Results were particularly interesting, and important, regarding to the development of the instrumental skills observed during the study.

At Phase 1, the observed technical skills revealed that, in general, all the students involved in this study showed identical problems, related to body

posture, correct use of the bow and its different movements, and the shape of the left hand in the first position. Actually, the teaching strategies used, at this phase, in their classes had always the intention to enhance their technical skills, especially the most challenging ones, in an attempt to overcome them. However, during Phase 2, when it was established two groups of investigation, the results showed a more stable and progressive development in the technical skills of the EG performance, after the inclusion of creative activities designed specially to promote the development and improvement of the technical skills observed in the earlier phase. In addition, the EG was able to maintain and/or improve those skills, even when increasing the difficulty level.

Even though the EG students showed lower results in Test 1 (at the end of Phase 1), during Phase 2 (Test 2 and 3) their results became higher than the CG, demonstrating that creative strategies included in their cello classes, optimized instrumental performance - specifically body posture, the correct use of the bow and its different movements, the understanding of the left hand function in the first position and the resulting sound quality.

As stated by Scott (2007), creative activities which are included in music classes have shown advantages to the students' development of several musical skills. In this study, it was verified that the inclusion of creative activities in the cello classes of the EG, not only enhanced some technical skills, but it also led the students to reflect about the sound quality they were playing. As Csikszentmihalyi (1996:113,114) refers, the creative process begins "*with the goal of solving a problem that is given to the person by someone else or is suggested by the state of the art in the domain*", and adds that this process of seems to be one of the most satisfactory for the human being. In fact, the creative activities developed with the EG students, "*simplified*" the technical skills that were being studied, because it was "*easy and fun*" – as mentioned by one of the EG students.

The EG cello classes were developed in an individual context; for Sternberg & Lubart (1999) the individual creative process is relevant, for instance, when is necessary to solve a problem. The EG students were able to reflect on their

technical problems and, through the creative activities designed specifically for each difficulties shown previously, it was developed some alternative mechanisms to overcome them.

Azzara (2002) refers that every student has the potential to improvise and that it is possible to reach other musical skills through improvisation; similar to what is mentioned by the author, the students of the EG showed a well adjustment to the proposed creative activities. Bradshaw (1980) affirms that the creative activities included in class – which could lead students to reach higher levels of anxiety, by exposing themselves – may unable the students to express freely and presents itself as an element of risk which is not attractive to the common student. However, this fact was not significant for the EG students. The fact that the creative activities were included in individual classes allowed an encouraging environment to accomplish the final objectives.

Finally, Finke (1997) states that mental transformation allows the individual to anticipate something, by seeing it from different perspectives and facilitating the manipulation and creative exploration. Actually, the work developed with the EG, made it easier for the students to anticipate each difficulty, reflecting from different *angles* through the creative activities that they performed.

## **Conclusion**

In this research, the use of two creative processes – musical exploration and improvisation – showed a very positive and relevant impact in the optimization of the instrumental performance, specifically at the student's technical development, right from an early learning stage. In fact, creative activities are here presented as potentially effective instrument teaching strategies, and it would be interesting to study it in further and deeper investigation, verifying more creative processes, applying it to different skills, as well as to different levels of knowledge, and even to expand these teaching strategies to other musical instruments.

## **Bibliographic references**

Azzara, Christopher (2002) "Improvisation" in Colwell, Richard (ed) *The New*

*Handbook of Research on Music Teaching and Learning: a Project of the Music Educators National Conference*. Oxford: University Press. (171-189)

Bradshaw, Merrill (1980) "Improvisation and Comprehensive Musicianship". *Music Educators Journal*, 66 (5): 113-115.

Bump, Jerome (1985) "Metaphor, Creativity, and Technical Writing". *College Composition and Communication*, 36 (4): 444-453.

Csikzentmihályi, Mihály (1996). *The flow of creativity" in Creativity: Flow and the Psychology of Discovery and Invention*. New York: Harper Perennial.

DePascale, Ronald (2003) "Classical connections: A creative way to learn classical music". *General Music Today*, 17 (6): 6-10.

Finke, Ronald (1997) "Mental imagery and visual creativity" in Runco, Mark A. (ed) *The Creativity Research Handbook Vol. 1*. Hampton Press. (pp 183-202)

Lubart, Todd and Getz, Isaac (1997) "Creativity, Metaphor, and Creative Process". *Creativity Research Journal*, 10 (4): 285-301.

Marshall, Herbert David (2004) "Improvisation strategies and resources for general music". *General Music Today*, 17 (51): 51-54.

Odam, Georg (1995) *The Sounding Symbol - Music Education in Action*. Nelson Thornes.

Paynter, John and Aston, Peter (1970) *Sound and silence: classroom projects in creative music*. London: Cambridge University Press.

Riveire, Janine (2006) "Using Improvisation as a Teaching Strategy". *Music Educators Journal*, 92 (3): 40-45.

Scott, Julie (2007) "Me? Teach improvisation to children?". *General Music Today*, 20 (6): 6-13.

Sternberg, Robert Jeffrey and Lubart, Todd (1999), "The concept of Creativity: Prospects and Paradigms" in Sternberg, Robert J. (ed), *Handbook of Creativity*. Cambridge: University Press. (3-15)

Woody, Robert (2006) "The Effect of Various Instructional Conditions on Expressive Music Performance". *Journal of Research in Music Education*, 54 (1): 21-36.

**Author's biography**

Lídia Moreira started her musical studies at the age of 6. As a child she studied piano and cello. She graduated in the Cello in Aveiro University, where she also finished her Master degree on teaching-learning instrumental strategies based on creative processes. Currently, she teaches Cello at the Coimbra's Music Conservatoire, and she is reading for a PhD in Music (Education) at Aveiro University.