


Original article



Pedagogical conception for the development of multi-instrumentalism in the woodwind instrument profile

Concepción pedagógica para el desarrollo del multinstrumentismo en el perfil de instrumento de viento madera

Concepção pedagógica para o desenvolvimento do multi-instrumentalismo no perfil do instrumento de sopro

Ahmed López Castillo¹  0000-0001-6097-3830  ahmedsaxo1988@gmail.com

Isabel Cristina García Torrel²  0000-0002-6389-5599  isabelcgt@ucpejv.edu.cu

¹ National School of Music. La Habana, Cuba

² University of Pedagogical Sciences "Enrique José Varona". La Habana, Cuba.

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ABSTRACT

For the comprehensive development of students of the woodwind instrument profile at the upper secondary level of music, it is necessary artistic and pedagogical training that integrates the learning of multiple musical instruments, multi-instrumentalism, in accordance with their work within the professional field. Shortcomings in its development have been noted, and the full potential of this practice is not fully used. This article aims to propose a pedagogical conception for the development of multi-instrumentalism in the woodwind instrument profile. Theoretical methods such as historical-logical, analytical-synthetic, inductive-deductive, and modeling were employed, as well as empirical methods such as documentary analysis, observation, surveys, interviews, and pedagogical testing, which facilitated an understanding of the current state of development of multi-instrumentalism in

the woodwind instrument profile. The main result is a pedagogical conception that highlights principles, distinctive features, and their practical implementation in a pedagogical strategy that supports an integrative relationship with the teaching-learning process at the upper secondary level of music.

Keywords: specialized teaching; woodwind instrument; multi-instrumentalism.

RESUMEN

Para el desarrollo integral de los estudiantes del perfil de instrumento de viento madera en el nivel medio superior de música, resulta necesaria una formación artístico-pedagógica que integre el aprendizaje de múltiples instrumentos musicales, el multinstrumentismo; en función de su labor dentro del ámbito profesional. Se constatan insuficiencias en su desarrollo y no se aprovechan todas las potencialidades de esta práctica. El presente artículo tiene como objetivo proponer una concepción pedagógica para el desarrollo del multinstrumentismo en el perfil de instrumento de viento madera. Se emplearon métodos teóricos como: el histórico-lógico, el analítico-sintético, el inductivo-deductivo y la modelación; así como métodos empíricos como: el análisis documental, la observación, la encuesta, la entrevista y la prueba pedagógica, que facilitaron adentrarse en el estado en que se encontraba el desarrollo del multinstrumentismo en el perfil de instrumento de viento madera. Como principal resultado se presenta una concepción pedagógica en la que se destacan principios, rasgos distintivos y su implementación práctica en una estrategia pedagógica que sustentan una relación integradora con el proceso de enseñanza-aprendizaje en el nivel medio superior de música.

Palabras clave: enseñanza especializada; instrumento de viento madera; multinstrumentismo.

RESUMO

Para o desenvolvimento integral dos alunos do perfil de instrumento de sopro de madeira no nível secundário superior de música, é necessária uma formação artístico-pedagógica que integre a aprendizagem de múltiplos instrumentos musicais, o multi-instrumentalismo; de acordo com seu trabalho no campo profissional. Há insuficiências em seu desenvolvimento e o potencial total dessa prática não está sendo explorado. O objetivo deste artigo é propor uma concepção pedagógica para

o desenvolvimento do multi-instrumentalismo no perfil do instrumento de sopro. Foram utilizados métodos teóricos como: histórico-lógico, analítico-sintético, indutivo-dedutivo e modelagem, bem como métodos empíricos como: análise documental, observação, pesquisa, entrevista e teste pedagógico, o que facilitou a compreensão do estado em que se encontrava o desenvolvimento do multi-instrumentalismo no perfil do instrumento de sopro para madeira. Como resultado principal, é apresentada uma concepção pedagógica na qual são destacados os princípios, as características distintivas e sua implementação prática em uma estratégia pedagógica que apoia uma relação integradora com o processo de ensino-aprendizagem no nível secundário superior de música.

Palavras-chave: ensino especializado; instrumento de sopro de madeira; multi-instrumentalismo.

INTRODUCTION

One of the ways to interpret music is through a musical instrument. This is an object composed by a combination of one or more resonant systems and means of vibration, constructed to produce sound in one or more tones, which can be combined by a performer to make music. In this regard, it can be said that they are instruments with which music can be performed, from the simplest and smallest to the largest and most elaborated, either through the planning of mechanical energy or the application of electrical impulses.

Music is one of the art forms that integrates diverse interrelated components and has sound as its unifying element. Throughout history, its educational and communicative power has been recognized; it has always been linked to social life and has ideological and historical connotations, hence its importance and significance.

At the national and international levels, there are music education institutions that prepare performers and teachers through various subjects aimed at their artistic, pedagogical, and social development. Their educational process is music education, and their specialties include playing musical instruments.

This research focuses on specialized music education. This type of teaching is offered at three levels: elementary, secondary, and higher education. In Cuba, this vocational training has been sustained through historical evolution and the influence of important figures and institutions. Since the emergence of the National School of Arts in 1962, part of the art education system has become a

specialized education that has gained popularity throughout the country. The knowledge and subjects taught help raise students' technical, artistic, and musical skills, as well as their general culture. Specifically, at the junior high level, with the assimilation of the technique and stylistic mastery of the works included in the syllabuses, graduates are capable of performing in the most diverse groups nationwide and achieving internationally relevant results; this aspect refers to the simultaneous interpretation of the most diverse types of music, according to Hernández *et al.* (2025). The study of a basic instrument or profile is required; However, there are conditions that allow the learning of another or others alongside the main instrument.

In the elementary and upper secondary curriculum, piano is a mandatory supplementary subject for students of various instrument specialties and/or profiles. There are also electric guitar and bass workshops offered at institutions such as the National School of Music. Furthermore, the percussion program requires mastery of several instruments in that family, such as the xylophone, timpani, snare drum, bongo, congas, timpani, and others. This type of practice is recognized as multi-instrumentalism, and performers with these multi-instrumental skills are recognized as multi-instrumentalism.

For an instrumentalist, mastering several instruments is advantageous because it allows them to work in groups where musicians with these characteristics are needed. Likewise, this skill allows the performer a variety of placement options across different artistic and musical formats and spaces.

The systematization of the theoretical-methodological references on multi-instrumentalism allowed us to locate some studies by researchers such as Beauvillard (2006), Su *et al.* (2020), Houvinen and Frostenson (2021), Holobodorov and Plokhnotniuk (2021) and Marcipar (2023), which take into account the contributions of multi-instrumentalism to musical education and to the performer in the workplace.

In this sense, Su *et al.* (2020) explain that multi-instrumentalism is a skill that allows one to unravel the peculiarities of each of the instruments, as well as the management of their similarities.

Specifically, Marcipar (2023) states that multi-instrumentalism is an attitude inherent to popular music and that the figure of the multi-instrumentalist has existed throughout human history; however, some cultures consider it an inadvisable practice. Nevertheless, the experience of playing different instruments allows us to learn about a wide range of traditional cultures.

Currently, the development of multi-instrumentalism is necessary in high schools, especially for students of woodwind instruments (flute, oboe, bassoon, clarinet, and saxophone); however, it is not a focus of musician training in specialized schools.

It has been found that the studies conducted highlight the importance of multi-instrumentalism in contributing to the students' comprehensive development and their performance as future professionals in today's artistic context.

The above allows us to declare the objective of this article: to propose a pedagogical conception for the development of multi-instrumentalism in students of the woodwind profile at the upper secondary level of music.

MATERIALS AND METHODS

For the diagnostic study, a total of 15 woodwind instrument students from the high school level of analytical music from the National School of Music and the Amadeo Roldán Conservatory were selected, in addition to 20 teachers specializing in flute, oboe, bassoon, clarinet, and saxophone, as well as directors from both institutions. Materialist dialectics was assumed as a basis, and theoretical methods were used, specifically the synthetic method, for processing the theoretical sources consulted and the essential content for delving deeper into the study of multi-instrumentalism. The inductive-deductive method facilitated reflection on the fundamental concepts related to the topic raised by the different authors, as well as reasoning from the general to the specific to determine regularities, as well as partial and general conclusions. The modeling made it possible to explain reality through created abstractions and reveal the essential relationships among the components of the proposed pedagogical conception, revealing the logic of the process, contributing to the foundation and design, as well as its suitability for woodwind instrument students, in accordance with the demands of the current artistic context.

The empirical methods employed were primarily documentary analysis, which enabled the review of documents such as the Procedures Manual of the National Center for Arts Schools and the curriculum for the various woodwind instruments. Furthermore, observations of 30 classes, 20 morning sessions, and 10 concerts were applied to verify the main strengths and weaknesses of the development of multi-instrumentalism at the National School of Music and the Amadeo Roldán Conservatory. A survey was administered to the students selected for the research, in order to determine their

opinions, appreciation, and interest in multi-instrumentalism. Interviews were used with professors of the specialty, musicians who have developed their careers as multi-instrumentalists, and administrators to learn about the possibilities of woodwind instruments, as well as their opinions on the importance of multi-instrumentalism in this specialty. The pedagogical test was necessary to identify the level of knowledge on the subject in a practical way.

To identify critical factors in the development of multi-instrumentalism in the selected sample, methodological triangulation was used. These factors became key focal points during the implementation and evaluation process. The results of the triangulation influenced the establishment of specific objectives and the definition of key performance indicators.

Multi-instrumentalism among upper secondary music students of woodwind instruments was determined, as it can clearly influence the established cause-effect relationship and can modify the main relationship in the process. Consequently, its operationalization is: the process of learning and practicing the playing of several instruments simultaneously by upper secondary music students of the woodwind instrument profile. It involves performance skills and musical preparation from a cognitive-affective perspective, the aptitudes they possess, and musical practice. Three dimensions were identified: cognitive-affective, aptitude, and artistic practice. All of this emanates from the theoretical analysis on the topic, primarily from international experiences in the development of multi-instrumentalism and woodwind instrument technique.

RESULTS

The integrative analysis and synthesis of this research phase allowed the author to obtain the following results, taking into account the empirical methods used. The dimensions and indicators determined for the research facilitated the development of the instruments that enabled the initial diagnosis and final assessment.

The curriculum for the various instruments in the woodwind family for the development of the profile sets forth the general objective: to develop technical and interpretive competencies and skills that enable appropriate performance in the various spheres of activity within the professional artistic field. However, they do not take into account the potential offered by training that integrates the learning of multiple woodwind instruments, and there is still no true understanding of how to develop them.

An analysis of the National Center for Arts Schools Procedures Manual for the 2023-2027 period found that there is a procedure for students to choose another major. It explains that its objective is to broaden the occupational profile of students who demonstrate exceptional aptitude for different specializations, hence its importance within the teaching process at the upper secondary level. However, it has been established that to choose another profile or study another specialty, students must accept this during the upper secondary entrance exam process; however, during their development at the upper secondary level, they will only select another instrument.

The authors, based on the analysis of the sources consulted, consider that other instruments can be considered for study and practice, alongside the main profile, and in turn, the development of a multi-instrumentalist professional. For the student of woodwind profiles, approaching the performance of one or more instruments from this family can be a way to assume greater diversity of roles in the professional artistic field and thus achieve a more comprehensive professional. The aforementioned is assumed taking into account the similar technical particularities in the subgroup of woodwind instruments and what has been expressed by the different authors as theoretical-methodological references. Therefore, it is considered that a woodwind instrument student at the upper secondary level can consequently begin the study of one or more instruments from the same family, based on the knowledge previously acquired in the main profile, as well as, in the theoretical-practical subjects of the curriculum. It is inferred that, if there are workshops and subjects for instruments (electric piano, guitar and bass) in which prior knowledge of these profiles is not necessarily required, it is possible to achieve and include syllabus and activities that contribute to the learning of other woodwind instruments that allow the development of a professional with the skills to do so.

In observations conducted at different stages of the teaching-education process (Figure 1), levels below 30% were observed in each aspect; the most critical aspects were evident in morning sessions and concerts.

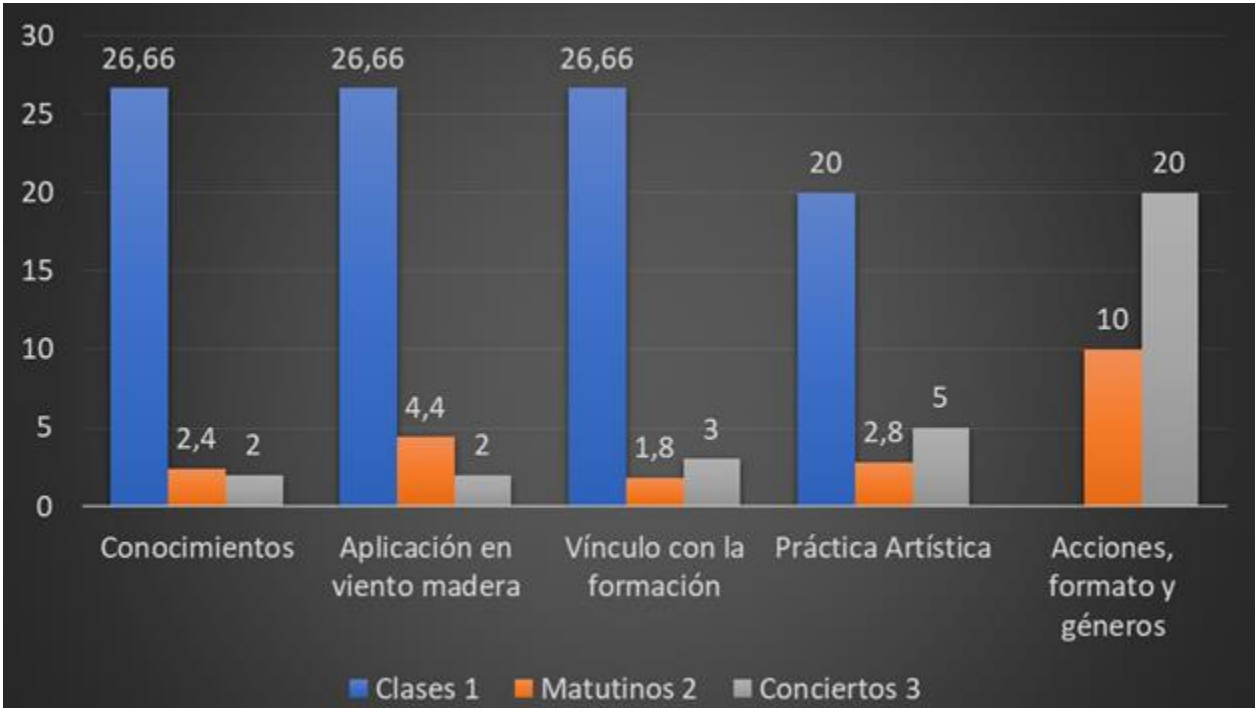


Figure 1. Results of the observation at different moments of the educational teaching process

In the survey, one of the relevant aspects relates to the musical instruments students want to learn, based on their preferences (Table 1). This selection is also due to the fact that woodwind instruments are in greater demand in the workplace, a reason given by those surveyed.

Table 1. Instruments most preferred by students

Saxophone	Flute	Clarinet	Oboe	Bassoon
15 (100%)	12 (80%)	8 (53.33%)	2 (13.33%)	2 (13.33%)

Source: Own elaboration

In general, the teachers interviewed suggested that multi-instrumentalism is important as a skill that contributes to their culture and cognitive development; it allows for better integration into the workforce and improved financial stability. They also explained that it can help shape the artistic and musical formats of institutions where there is a shortage of any of the woodwind instrument profiles.

The interviewees generally outlined the qualifications that a student beginning to practice multi-instrumentalism should have (Figure 2). These are mainly defined as:

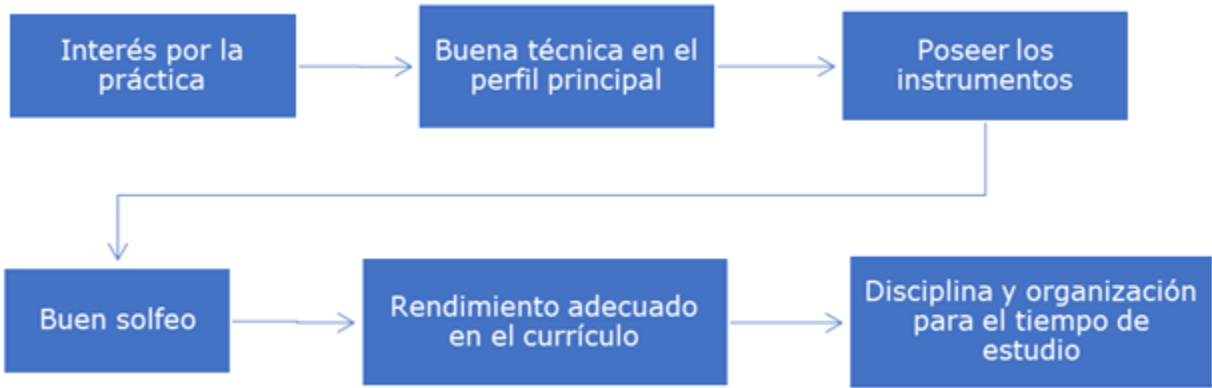


Figure 2. Teachers' considerations regarding the conditions needed for practice

The pedagogical test (Table 2) applied to the selected students, with the objective of determining in practice the knowledge and skills related to multi-instrumentism, took into account indicators that mainly refer to the necessary technical skills and/or aptitudes.

Table 2. Results of the pedagogical test

Indicators	Good	Regular	Evil
Reading	15 (100%)		
Breathing	14 (93.33%)	1 (6.66%)	
Position	8 (53.33%)	7 46.66%)	
Mouthpiece	5 (33.33%)	10 (66.66%)	
Emission	4 (26.66%)	11(73.33%)	
Fingering	3 (20%)	12 (80%)	

Source: Own elaboration

Among the main weaknesses described at different times during the teaching-educational process in the 2023-24 academic year and the first period of the 2024-25 academic year, the following are noted:

- Students lack awareness of the contributions of multi-instrumentalism to their overall development and as future musicians in the artistic and professional field.
- Self-taught learning by students to play different woodwind instruments.
- Deficiencies were found in aspects related to the technical skills of woodwind instruments, including body posture, embouchure, sound emission, and fingering.
- Actions in which students are seen as multi-instrumentalists are rare and generally involve the interpretation and integration of genres and formats of Cuban popular music, as well as jazz.

Strengths were also identified because they help maximize performance and support the successful outcome of the proposal. The following were identified:

- Within the teaching-learning process at the upper secondary level, there are procedures and/or documents that allow students to explore various profiles and/or instruments, including: double majors and the creation of workshops that include learning other instruments alongside the main profile.
- Recognition by managers and teachers of the importance of multi-instrumentalism for the comprehensive training and future career prospects of high school graduates.
- Presence of specialists with extensive experience as multi-instrumentalists who could contribute to the development of students with practical skills.
- There are subjects that could intentionally incorporate the technical-theoretical-methodological knowledge of multi-instrumentism into their content.

In this regard, the need for a syllabus that allows for the development of multi-instrumentalism in woodwind instruments at the upper secondary level of music is evident, considering what teachers and administrators have expressed.

The pedagogical conception

Two components that a pedagogical conception must have are outlined, emphasizing that the first will be determined by a set of categories, principles, and regularities that will be the elements that allow the proposed conception to be explained from a theoretical perspective. The second will be structured in such a way as to ensure the interrelation between theory and practice in the proposal. On this basis, the essential concepts or starting categories must be provided, as well as the principles

that support them, and a characterization of those transcendent aspects that undergo changes, explaining these changes.

The objective of the pedagogical concept presented is to contribute to the development of multi-instrumentalism in students of the woodwind profile at the upper secondary level of music.

Its content is structured from the cognitive-affective, aptitude, and artistic practice perspectives, taking into account principles and regularities such as the theoretical component, as well as the application of a pedagogical strategy as the practical component. Specialized teaching content related to the student's professional profile is selected. Workshops, master lectures, and concerts are offered as optional options, and a double major is considered for those students who choose it through the procedure outlined in the Manual of Procedures for Art Schools. Its practical implementation will contribute to the proposed research objective.

Theoretical component: principles and distinctive features

Taking into account the results of the diagnosis, principles were developed. The following are proposed as principles for the development of multi-instrumentalism:

1. Principle of cognitive, procedural, and affective integration in connection with the social context: This is based on the relationship with the contexts and interests of all those involved in the processes of creation, production, dissemination, and reception, leading to an appreciation of the musical experience in its entirety. It is developed in accordance with the inherent conditions of the community in the sociocultural order and of the educational institution. The contextualization of multi-instrumentalism must be reflected in flexible and participatory planning generated from the students' own needs and interests and from the guidelines that the teacher deems useful for their students' relationship with their current and future professional context.
2. Principle of the articulation and development of multi-instrumental skills in conjunction with the technical, theoretical, and methodological knowledge of the music teaching process: based on the presence and assimilation of the general skills and content of specialized music teaching based on the practice of various woodwind instruments. To this end, important elements of the foundations of artistic practice and the optional disciplines of courses, workshops, conferences, and concerts are taken into account; as well as the knowledge acquired from their integration, the cognitive capabilities and each student's individual

characteristics, accompanied by their experiences. In this way, students will be able to express themselves musically and physically, in interpersonal relationships, and in social settings.

3. Principle of stimulating artistic practice in various forms as processes for the comprehensive development of woodwind instrument students: It is based on the relationship among the procedures in practice that allow the student to externalize their arsenal of knowledge through performance. It includes the assimilation of the artistic act as a source that demonstrates the needs and interests of those involved, based on the development of the training process as a format that offers a wide range of ways of doing things in terms of stylistic and generic structures, as well as instrumental group integration under the planning and assurance conditions fostered by institutions. It has a high influence on the student and contributes to the development of participating subjects, ensuring that positive experiences generate learning, in a dialectical unity between instruction and education.

The distinctive features for the development of multi-instrumentalism in students of the woodwind profile at the upper secondary level of music are assumed taking into account that, from the theoretical point of view, they determine the essence of the process and allow the logical construction of the conceptual body and the laws of a given science, such that each science or each process has its own regularities.

The following distinctive features are proposed for the development of multi-instrumentalism in students of the woodwind profile at the upper secondary level of music:

- a) The relationship between knowledge about multi-instrumentalism and the degree of affectivity of the practice.
 - This consistency is based on the cognitive skills developed by students in multi-instrumentalism, which allow them to orient their learning with a holistic approach, for their social development, in congruence with their volitional state.
- b) The relationship between similar and discordant technical skills of woodwind instruments as a function of the multi-instrumentalist's training.
 - This consistency is based on the direct relationship between the development of technical skills in woodwind students, starting from their primary profile, as a starting point for integrating the technical knowledge of other woodwind instruments as a whole, in order to achieve a quality specialist in the practice of multiple instruments.

- c) The relationship between comprehensive training and artistic practice from the diversity of roles in the performance of multiple instruments.
 - This relationship is the basis for the development of a performer, whose comprehensive training embraces multi-instrumentalism in its various forms, in roles such as soloist, accompanist, and/or member of various instrumental formats; a process that integrates the practice of diverse genres and styles through training that connects with the current demands of the artistic world.

To implement the proposed principles and distinctive features, actions were determined for the development of multi-instrumentalism in students of the woodwind profile.

Practical component: a pedagogical strategy

Various authors have issued opinions on the design of strategies in the pedagogical process, and have explained the need for study based on the students' productive participation, increasing their initiative, self-direction, and internal motivation, geared toward holistic education. The teacher ceases to be a mere transmitter of knowledge and begins to research alongside students and grow in the educational process.

To implement the proposed concept, four stages were determined for the development of the pedagogical strategy: diagnosis, planning, execution and evaluation.

The stages of the pedagogical strategy, which express the dynamics of the proposed conception, are described below:

Stage 1. Diagnosis

The diagnosis must be made taking into account:

- Knowledge and practice of multi-instrumentalism by high school students.
- Study of the professional profile of the woodwind student.
- Exchange with the board of directors and professors of the institutions on this topic.
- Student participation in teaching activities.
- Determining the degree of acceptance and satisfaction when receiving the techniques and/or skills of multi-instrumentalism.

- Material conditions of students and institutions: bibliography, instruments, accessories.
- Training and experience of teaching staff in the practice and teaching of multi-instrumentalism.
- The diagnosis was made through the application of instruments such as the document analysis and observation guide, questionnaires, and a pedagogical test. The analysis of the results made it possible to appropriately guide actions based on the objectives, in conceiving, planning, and directing the teaching-educational process, and to take into account the attention to individual student deficiencies in the activity planning process.

Stage 2. Planning

Actions, supported by theoretical elements proposed in the conception:

- Development of an elective course with a selective sample to develop multi-instrumentalism in woodwind students through workshops, lectures, and concerts.
- An intentional relationship is established among the contents of secondary level subjects, mainly: History of wind instruments, Methodology of teaching woodwind instruments, Chamber music, Ensemble practice and the main profile with some of the knowledge and practice of multi-instrumentalism intentionally.
- Workshops and keynote lectures are designed, as well as attendance and participation in concerts.
- Definition of the activities that will be taught individually, as well as those that will be divided into groups.
- Defining the professors and subject matter specialists who will teach the workshops and lectures.
- Analysis of the availability of woodwind instruments by institutions and students.
- Request for approval by the board of directors of the institutions.

To develop the proposal for multi-instrumentalism in the woodwind family, the profile and performance style of the woodwind player were taken into account; The instruments most in-demand by students, institutions, and the current artistic and pedagogical field were also considered. It consists of four saxophone workshops, four flute workshops, and four clarinet workshops, as well as two general workshops that involve the entire sample. Four keynote lectures were also designed for

a total of 44 class hours. These lectures are delivered over two periods, depending on the institution's elective course schedule, with a weekly frequency.

Stage 3. Execution

Stage that has the following actions:

- Implementation of the optional course through workshops, keynote lectures, and concerts for the selected sample, applying the pedagogical concept.
- Linking multi-instrumentalism with other subjects in the program, taking into account its main profile and the instruments chosen by the student.
- Provision of musical instruments and accessories available at eligible institutions. Loans will be offered to students in need.
- Implementation of saxophone, flute, and clarinet workshops.
- Implementation of keynote lectures given by specialists with extensive experience in multi-instrumentalism.
- Attendance to concerts by students, featuring renowned and experienced multi-instrumentalists.
- Implementation of concerts in which students participate as multi-instrumentalists.

According to the results of the pedagogical conception, through the application of the strategy, it was possible to adjust, modify and specify the actions, to the extent of their execution.

Stage 4. Evaluation

After applying the pedagogical conception through the strategy, an opinion register was created using the PNI technique (Positive, Negative and Interesting), with the participants' assessment based on the following criteria:

- Positive: It helped identify shortcomings regarding the use of multi-instrumental content among woodwind students; the topic covered is important, touching on a necessary aspect at the upper secondary level of music because workshops and master classes on these topics are not prevalent; it contributed to raising the cultural level; they expressed feeling motivated, oriented, and prepared as future professionals in the artistic-pedagogical field; the

exchange was fruitful, reinforcing aspects necessary for the development of multi-instrumentalism at the upper secondary level.

- Negative: Few necessary material conditions for the use of musical instruments and their accessories; little time for further workshops, conferences, and concert participation.
- Interesting: the way the classes are taught, motivating, generally practical, with practical examples; the interrelationship between music and one's professional future; experiencing multi-instrumentalist content in a practical way, depending on the degree of affection one feels for some of its forms.

The feedback log will demonstrate students' motivation for systematic participation and, as a result, their involvement as multi-instrumentalists in musical artistic activities, in which they have received the content with pleasure and satisfaction, and wish to express what they have learned.

DISCUSSION

The skills acquired by a performer on a musical instrument can be a starting point for easily acquiring the skills necessary for playing one or another of the same family bond, and it is an advantage because it fosters a broader knowledge of musical art and, in turn, diverse placements in musical artistic formats and spaces.

Multi-instrumentalism is a diverse process that depends on the number of instruments that can be played, the level of excellence in each instrument, and whether the instruments belong to similar or different families, as well as the musical genres involved, according to Houvinen and Frostenson (2020). This criterion was assumed as a starting point; however, it is added that it is a process that contributes to the development of creativity and can be part of the music teacher's identity in the development of their teaching functions, providing new resources, strategies, and diverse solutions to problematic situations presented in the classroom. Furthermore, it favors the musical art professionals' training; it brings with it benefits for musical management and direction in the artistic field and allows for suitability in locations.

Although multi-instrumentalism has been a topic rarely addressed by national researchers, the presence of performers with these characteristics has been evident in the historical development of Cuban music, specifically among professionals skilled on woodwind instruments. It has been found that some performers prefer some instruments over others, taking into account the demands of the

musical artistic context; the saxophone, flute, and clarinet belong to this elective group, with the oboe and bassoon being less preferred by students and professionals. This is considered a recurring theme among diverse professionals and students of the musical arts.

The systematization of the theoretical and methodological references of multi-instrumentalism at the upper secondary level of music education allowed for the adoption of evaluative positions, where the importance of multi-instrumentalism was confirmed for its contribution to the student's comprehensive training and for their professional profile. This corroborates what Houvinen and Frostenson (2021) stated, who state that multi-instrumentalism occurs heterogeneously, depending on how many instruments can be played, the level of excellence achieved in the performance, and whether the instruments belong to similar or different families, as well as the musical genres involved. It can be seen as a form of instrumental versatility that characterizes a person's long-term arsenal.

Regarding the conception as a contribution, we agree with a group of authors who have taken it into account, including Alfonso (2015), Díaz *et al.* (2018), Rojas *et al.* (2018), Cárdenas *et al.* (2022). In particular, we agree with Alfonso (2015), who has expressed that the pedagogical conception is the theoretical representation of the process, through a set of categories, principles and scientific ideas that make up the conceptual component and serve as an organizing framework for understanding the regulatory and practical components, which regulate and implement the actions to be carried out in practice. Likewise, the establishment of principles, as a basis for the actions to be developed based on the proposal, insofar as they support and organize all the essential components, were in line with the principles of pedagogy set forth by Jorquera *et al.* (2020) and Sánchez and Morales (2003).

Parra *et al.* (2018) define pedagogical strategies as those actions carried out by the teacher with the purpose of facilitating the students' training and learning process. This criterion was corroborated by assuming the strategy as a form of implementation. assuming, in addition, the need for them to be adjusted to the particular context in which the research was developed, as well as to the students' needs and interests, the institutional mission and vision, and the demands of society.

Music teaching in Cuba is generally limited to a single specialty. However, considering the historical and concrete process of this practice and the demands of the current artistic context, as well as the need for better preparation of woodwind instrument professionals in this area, it is necessary to develop training processes that contribute to achieving and encouraging a professional competent in

the performance of different instruments, a lack in previous studies on multi-instrumentalism in the training of music professionals.

It is considered that other instruments can be considered for study and practice, alongside the main profile, and in turn, contribute to the development of a professional multi-instrumentalist. For students of woodwind profiles, exploring the playing of one or more other instruments in this family can be a way to assume greater diversity of roles in the professional artistic field.

The operationalization of the variable and the use of empirical methods in the selected sample made it possible to identify the initial state of multi-instrumentalism among woodwind students at the upper secondary level of music education. We identified gaps in knowledge and application of music education content for their professional profile, as well as the potential and needs of the selected students, and their willingness to attend courses, workshops, conferences, and concerts.

This research demonstrates its contribution through the essential and dynamic relationships between the contents of the pedagogical conception. It consists of a theoretical component containing points of view, principles, and distinctive features that support an integrative relationship. It was implemented through a pedagogical strategy, structured in stages, which enabled its practical application. Multi-instrumentalism is a significant aspect of the training of high school woodwind students for the development of the student's integrity, in pursuit of achieving the competencies and positions of the current artistic environment. In the current Cuban context, it represents a possible solution to a scientific problem that has not yet been resolved in practice from a scientific perspective.

The partial introduction and results of applying the pedagogical concept allowed us to characterize its values of functionality, flexibility, dynamism, contextualization, generalization, relevance, and novelty. It serves as a starting point for future research to delve into incompletely explored aspects, as well as for its study and application to other instrument families, such as bowed strings, percussion strings, and brass instruments, among others.

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Conflict of interest

Authors declare no conflict of interests.

Authors' contribution

The authors participated in the design and writing of the article, in the search and analysis of the information contained in the consulted bibliography.



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