

<https://doi.org/10.23913/ride.v14i27.1742>

*Artículos científicos*

## **Aprendizaje de la danza folklórica mexicana a través de la virtualización en tiempos de pandemia**

*Learning Mexican folkloric dance through virtualization in times of  
pandemic*

*Aprendendo a dança folclórica mexicana por meio da virtualização em  
tempos de pandemia*

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## Resumen

La danza debería recibir el mismo reconocimiento curricular que las demás materias en la educación formal; no obstante, frecuentemente se le asigna un menor número de sesiones por semana, situación que se agravó durante la contingencia sanitaria. En respuesta a esta situación, se optó por migrar hacia plataformas digitales para mantener la interacción con los estudiantes. Por ello, el objetivo de este trabajo fue identificar los beneficios de la danza mediante talleres en los que se empleó la tecnología con estudiantes de instituciones de educación básica y media. Para ello, se realizó un estudio descriptivo, tipo acción participativa, que incluyó la aplicación de pretest y posttest. La muestra fue intencional, seleccionada según el criterio de aquellos estudiantes que expresaron su deseo de participar en el estudio-taller. En total, participaron once alumnas de tercer grado de primaria a segundo de preparatoria, con edades comprendidas entre los siete y los 16 años. Las sesiones se realizaron de manera sincrónica y asincrónica. Se elaboró un programa de curso y se adaptaron dos instrumentos para evaluar la técnica básica de la danza, además de un formulario destinado a evaluar los aprendizajes. Los resultados muestran que las participantes experimentaron mejoras en su desarrollo físico, una disminución del sedentarismo y un fomento de la motivación, la creatividad y la socialización durante los períodos de confinamiento. La intervención también contribuyó a ayudarlas a manejar el estrés y a mejorar sus habilidades en la ejecución de la danza.

**Palabras clave:** danza, folklor, virtualidad, educación básica, contingencia sanitaria.

## Abstract

Dance should receive the same curricular recognition as other subjects in formal education; however, they are frequently assigned a smaller number of sessions per week, a situation that worsened during the health contingency. In response to this situation, it was decided to migrate to digital platforms to maintain interaction with students. Therefore, the objective of this work was to identify the benefits of dance through workshops in which technology was used with students from basic and secondary education institutions. For this purpose, a descriptive study, participatory action type, was carried out, which included the application of pretest and posttest. The sample was intentional, selected according to the criteria of those students who expressed their desire to participate in the study-workshop. In total, eleven students from third grade from primary to second grade of high school participated, aged between seven and 16 years. The sessions were carried out synchronously and

asynchronously. A course program was developed and two instruments were adapted to evaluate basic dance technique, in addition to a form intended to evaluate learning. The results show that the participants experienced improvements in their physical development, a decrease in sedentary lifestyle and a promotion of motivation, creativity and socialization during periods of confinement. The intervention also contributed to helping them manage stress and improve their dance performance skills.

**Keywords:** dance, folklore, virtuality, basic education, health contingency.

## Resumo

A dança deveria receber o mesmo reconhecimento curricular que outras disciplinas da educação formal; No entanto, frequentemente são-lhes atribuídos um menor número de sessões por semana, situação que se agravou durante a contingência sanitária. Em resposta a esta situação, decidiu-se migrar para plataformas digitais para manter a interação com os alunos. Portanto, o objetivo deste trabalho foi identificar os benefícios da dança por meio de oficinas em que a tecnologia foi utilizada com alunos de instituições de ensino fundamental e médio. Para tanto, foi realizado um estudo descritivo, tipo ação participativa, que incluiu a aplicação de pré-teste e pós-teste. A amostra foi intencional, selecionada de acordo com os critérios daqueles alunos que manifestaram o desejo de participar do estudo-oficina. No total, participaram onze alunos do terceiro ano do ensino fundamental ao segundo ano do ensino médio, com idades entre sete e 16 anos. As sessões foram realizadas de forma síncrona e assíncrona. Foi desenvolvido um programa de curso e adaptados dois instrumentos para avaliar a técnica básica de dança, além de um formulário destinado a avaliar a aprendizagem. Os resultados mostram que os participantes experimentaram melhorias no seu desenvolvimento físico, diminuição do sedentarismo e promoção da motivação, criatividade e socialização durante os períodos de confinamento. A intervenção também contribuiu para ajudá-los a gerir o stress e a melhorar as suas capacidades de execução de dança.

**Palavras-chave:** dança, folclore, virtualidade, educação básica, contingência sanitária.

**Fecha Recepción:** Marzo 2023

**Fecha Aceptación:** Noviembre 2023

## Introduction

Dance, when it begins in childhood, acts as a means that helps to freely express emotions, strengthen psychomotor capacity and improve information retention. It allows you to get to know your own body, discover the multiple movement capabilities according to the evolutionary state of the infant, in addition to channeling your creative and energetic potential.

Despite these benefits, dance does not receive recognition as a learning subject in basic education, which is why it is subordinated to other arts such as music or theater (Megías, 2009). There is a lack of knowledge of the particularities of dance, it is considered that it can be supplemented with other artistic disciplines, when its practice contributes more to the integral.

The integration of education, art and culture creates a path to develop the potential of children and adolescents, offering them tools that enrich artistic projects with the resources at their disposal. The arts, in general, improve the quality of emotional and intellectual life, being a language that facilitates understanding of the world and connection with others (National Council of Culture and the Arts, 2016).

Based on the above, it can be stated that folk dance stands out for its importance, since it not only teaches about Mexican roots and culture, but also contributes to psychomotor, cognitive and attitudinal development, which stimulates new skills and creativity. In addition, it is used as a teaching resource to promote non-discrimination and a culture of peace.

In this regard, Pira (2016) supports this perspective by recognizing folk dance as a pedagogical strategy that contributes to teamwork between genders. In fact, a study carried out in Colombia with fourth-grade primary school students showed that this artistic form successfully promotes collaboration between genres, which is complemented by student participation and the promotion of a peaceful atmosphere in classes. Likewise, it becomes a support tool for interaction that allows reducing rejection behaviors towards the opposite gender.

On the other hand, in terms of cognitive and skill development, the study of folk dances was developed as a strategy to enhance mathematical thinking skills in children aged 3, 4 and 5 years in an initial educational institution in Peru. 31 infants participated in this study, distributed among 7 3-year-old children, 10 4-year-old children and 14 5-year-old children. The research adopted an applied approach, with an experimental design that included pretest and posttest. It was evident that children exhibit a greater willingness to learn

through dance, focused mainly on formative and creative aspects, which resulted in an average increase of 10% in their academic performance and progress. Furthermore, those who previously experienced comprehension difficulties in mathematics now face these subjects more easily, which shows that the application of folk dance contributes to the development of mathematical thinking skills in students (Cueva and Figueroa, 2015).

Regarding attitudinal aspects, Cedeño's (2012) work on folk dance and its impact on the learning of seventh-year basic education students in five urban schools in Ecuador included 418 general education participants. The research, with a non-experimental, applied and explanatory design, revealed that teachers consider the practice of folk dance to be essential as an integral part of meaningful learning, since it contributes to the formation of safe, autonomous and responsible individuals.

On the other hand, Cruz (2011) carried out research on the regional dance workshop as a methodological strategy for the comprehensive development of preschool children at the María Curie child development center in México. The objective was to provide an alternative that would facilitate conditions to carry out artistic activities that stimulate creativity, sensitivity and appreciation for dance in students of that educational level. 25 third-year preschoolers participated, and the methodology included action research, with qualitative and quantitative approaches. The results indicated that taste and pleasure in cultural activities are encouraged, as well as the expansion of knowledge about the country's traditions.

In another line, Romero and Quintanar (2018) carried out a project to develop *software* as a didactic tool in teaching Mexican folk dance for the first grade of basic education, within the framework of the RIEB 2011. This research concluded that it is essential to have various teaching techniques to stimulate the teaching-learning process. The project had two main scopes: specialization and professional support to the teacher for the execution of a dance class in order to promote the creativity, intelligence and security of the students through art.

At the local level, Rojas (2002) developed a study in 14 schools in Ciudad Obregón, Sonora, with the participation of 34 public primary teachers. To do this, they applied an instrument in order to evaluate the methodology of teaching folk dance in their classrooms. The result revealed that 13 teachers incorporate this discipline, although they do not integrate it as a training process, so they only use it in national or civic celebrations. The main reason for this limitation is the lack of knowledge and skills to teach it as part of art education

classes, which highlights the need to continue working on this art from the most basic levels, especially in preschool and primary school.

As can be seen, dance continues to be relegated to a complementary discipline, a situation that persists throughout the 20th century, according to the study carried out in the late 1980s by the Minnesota Center for Arts Education. In this analysis, it was concluded that there is no recognition of dance as a learning subject; Furthermore, teacher training is insufficient, there is no specific curriculum and the means and spaces to receive this teaching are inadequate (Nicolás *et al*, 2010).

Despite these limitations, the research presented shows positive results when using folk dance in education as a reference, motivation and inspiration, as well as to promote teamwork, inclusion, knowledge of themselves and their culture, use of creativity and sensitivity to strengthen learning and academic performance. Furthermore, as explained by Cedeño *et al*. (2021), students “awaken their own charm”, discover their talents and potential, which drives them to delve into the discipline and set goals when noticing their achievements. Therefore, it is imperative that folk dance continues to prevail in basic education in a continuous and formative manner for the integral development of the person.

If these recommendations were followed and this beautiful art was implemented at an early age, respect and appreciation for Mexican folklore could be fostered. In the Key Learning document for Comprehensive Education of the Ministry of Public Education (SEP) (2016), the distribution of the arts in the six primary grades is shown, where it is observed that music and dance are performed only in first and second grade, plastic arts in third and fourth year, and theater in fifth and sixth grade. Therefore, there is not uniform development in all school grades, and this discipline could be resumed in secondary school if the teacher has mastery in this art; otherwise, another alternative could be considered.

Another problem that arises is the greater inclination of schoolchildren towards other dance genres, which has represented a considerable challenge for teachers when designing actions that generate interest in regional dance. Furthermore, just when progress was being made in this direction, the health contingency caused by the coronavirus disease (Covid-19) pandemic caused a setback. This event generated a significant change in all areas, including education, with the massive closure of face-to-face classes in educational institutions in many countries as a measure to prevent the spread of the virus (ECLAC, 2020).

In March 2020, the pandemic was declared in México and a transition had to be made to online platforms, which forced us to devise new ways to continue the development of

learning through applications that facilitate communication with learners. For example, video calls, digital resources and platforms were implemented to adapt the entire educational strategy to this new modality in order to ensure that students felt supported during confinement.

This new reality, as well as the lack of promotion of dance teaching in students, affected their development in areas such as creativity, expression and communication (Pira, 2016). For these reasons, in this work the following question was formulated: in what way does the remote delivery of Mexican folk dance workshops contribute to the emotional state and learning of the students? The objective was to identify the benefits of a Mexican folk dance workshop, which uses the basic technique typical of the northern region of México, with support in technology during the covid-19 contingency in students from basic and secondary education institutions.

## Method

This study was based on a qualitative approach of a descriptive nature, for which the participatory action research methodology was used with three small groups of children and adolescents (NNA). Specifically, two instruments were used, applied as a pretest at the beginning and as a posttest at the close of the workshops, to describe the development of the participants (Hernández *et al*, 2014).

## Participants

Participation involved three different groups. The first was made up of four primary school students from a public school in Ciudad Obregón, Sonora, Mexico, aged 7, 8 and two 11 years old, and with a medium-low socioeconomic level. These participants attended the workshop from August to December 2021.

The second group included four fourth, fifth and sixth grade girls, aged between nine and eleven years, belonging to an upper-middle socioeconomic class, enrolled in a private primary school in Ciudad Obregón, Sonora, Mexico, during the period from January to May 2022.

The third group was made up of three adolescents: one 14-year-old, a third-year high school student, and two 16-year-olds, who were in second grade high school at a private institution. It is important to highlight that although the program has been implemented in

more adverse environments on multiple occasions, during the pandemic all students, children and adolescents and other groups or sectors were considered vulnerable.

## Instruments

Two checklists were used, one for the *elements of the dance* (administered at the beginning and at the end of the workshop) and another for the *basic steps of the Mexican folk dance technique* (applied at the beginning and at the end of the workshop), both designed specifically for this study.

The checklist of *dance elements* consisted of a total of 24 items with dichotomous responses, accompanied by a column of observations that covered eight categories: rhythm, body expression, qualities of movement, improvisation, body knowledge, space management, values and knowledge (see Table 1).

**Table 1.** Checklist (Elements of dance)

Categories	Yes	No
<b>Rhythm</b>		
1. You can follow the rhythm that the music indicates.		
2. Identify changes in rhythm or musical phrases.		
<b>Body expression</b>		
3. Memorizes sequences of movements executed by others.		
<b>Movement qualities</b>		
4. Make strong movements.		
5. Make gentle movements.		
6. Make quick movements.		
7. Make slow movements.		
8. Make fluid movements.		
<b>Improvisation</b>		
9. He has coordination in his body movements.		
10. Makes sequences with at least two body segments.		
<b>Knowledge of the body</b>		
11. Move the head.		
12. Move your arms.		
13. Move your legs.		
14. He is aware of his body schema.		
15. Aligns the vertical body axes.		
16. Identify the parts of the body.		
17. Distinguish between right and left.		
18. Control foot movements.		
<b>Space</b>		
19. Use the total space available to move.		
<b>Values</b>		
20. He is punctual to get to class.		
21. Pay attention to the teacher's instructions.		
22. Shows willingness when carrying out activities.		
<b>Knowledge</b>		
23. Expresses his own concept of dance.		
24. Recognize dance genres.		

Source: self made

The checklist on the *basic steps of the Mexican folk dance technique* was made up of 15 items with dichotomous responses. This evaluated the techniques associated with the fundamental steps of the dances of Sonora Bronco and Evangelina de Nuevo León, which were selected due to the similarity in their footsteps. The instrument was structured in four sections. In the first, drunk steps, brushing and lateral finishing were evaluated. The second

category included the huarachazo step, crossed huarachazo step, pointed heel, couples sequence, followed by falls with heel support, crossed finishes, step of three. Finally, the third category addressed turns, turns with drops and overpasses (See Table 2).

**Table 2.** Checklist (Basic steps of the Mexican folk dance technique)

Criteria	Yes	No
Drunk, brushed, side shots		
1. Make simple drunks on the spot.		
2. Identify changes in rhythm or musical phrases.		
3. Make simple drunks on the spot.		
4. Perform drunks with 4 beats forward and 4 beats back.		
5. Perform brushing with finishes in place.		
6. Perform brushing with twist.		
7. Perform lateral, right and left shots.		
Huarachazo step, crossed huarachazo step, pointed heel, couples sequence.		
8. Perform huarachazo step.		
9. Perform crossed huarachazo step.		
10. Perform a pointed heel step.		
11. Perform a pair sequence.		
Falls with heel support, crossed finishes, step of 3.		
12. Perform falls with heel support.		
13. Perform cross shots.		
14. Perform step of 3		
Twists, turns with drops (tololoche), overpass.		
15. Make turns in place.		
16. Perform twists with falls		
17. Perform flyover.		

Source: self made

With the purpose of strengthening the learning process in the students, the content of the sessions on the Google Classroom platform was enriched with 14 specific topics. To evaluate this learning, a learning evaluation form was developed, designed for both the dances of Sonora and those of Nuevo León.

The first section of the form included the student's data: name, age, grade and group, along with two open questions designed to inquire about their conception of dance and their knowledge in relation to some dance genres.

The next three questions consisted of multiple choices. The students had to respond about the context in which the course focused, the musical instruments that accompany the northern ensemble to perform Sonora Bronco and, where appropriate, those of the northern

ensemble of Nuevo León. Questions about some of the characteristic dances of both states were also addressed. Question number six was open, in which they had to mention at least five of the basic steps.

To conclude, question seven offered multiple options with images, from which they had to choose the correct costume corresponding to the dances of both states.

## Procedure

The different moments of the study are mentioned below.

Firstly, there was a dialogue with the person in charge of the Department of Sports and Culture of the primary schools that were the subject of the study with the purpose of obtaining authorization for the virtual implementation of the project in the institution, for which the situation of the COVID-19 pandemic was considered. Once permission was obtained, virtual meetings were started with the person in charge to coordinate the activities, a process that was replicated for middle and high school, although in the end only three students from this last level joined the project.

A call for proposals was then developed detailing all the elements that would be addressed during the workshop, including the days and months in which it would take place, as well as the planned learning objectives. The call was disseminated by primary schools and the institute, which achieved the participation of two primary groups: one from a public institution and the other from the La Salle Institute.

To facilitate participation, an institutional email was provided that allowed access to virtual classes, and the Classroom platform was used to strengthen students' knowledge. The sessions were developed through videoconferences on Google Meet.

The workshops were carried out in virtual-remote mode, that is, combining synchronous and asynchronous classes, with a total of 27 sessions lasting one hour each, distributed over four months, from August to December 2021, and later from January to May 2022.

The course program designed for the development of competencies was structured in three units. Each unit included a competency element, a performance, and a product. In the first unit, the competition element focused on the knowledge of folk dance, with the performance associated with the practice of the basic steps of the folklore techniques of the northern states and the product consisting of the elaboration of drawings that they will reflect the personal concept of dance.

The second unit focused on the execution of the basic techniques of the state of Sonora, with performance related to the ability to execute the characteristic steps and the product complemented by the execution of the techniques and individual evaluation. Finally, the third unit of competition addressed the execution of the basic dance techniques of the state of Nuevo León, with performances linked to the ability to execute the characteristic steps of said state, and the product comprising the execution of the techniques and the evaluation individual.

In total, 27 lesson plans were developed that detail the objective of the workshop, the unit of competence, the purpose of the session, the activities to be carried out, the duration of the activities, the necessary material and the teaching resources to be used.

Finally, the optimal implementation conditions were established, which are described as follows: the music used for the execution of the choreographies of the state of Sonora was obtained from YouTube and is classified as public domain. Among the selected songs are “El Porrón” by Los Cadetes de Linares and “El huarachazo” by Los Cuatrerros de Sonora. For the state of Nuevo León, the song “Evangalina” was used, performed by Antonio Tanguma.

## Results

Below, the results obtained from the instruments applied for the diagnosis of dance skills in girls and adolescents are presented.

With the instrument *basic steps of the Mexican folk dance technique*, the fundamental techniques of the characteristic steps of the states of Sonora and Nuevo León were evaluated, while with the results obtained through the instrument *elements of dance*, the students were able to carry out each of the corresponding items in all the categories evaluated.

Regarding rhythm, they demonstrated the ability to follow musical cues, including changes in rhythm and musical phrases. In the category of *body expression*, they executed sequences of movements proposed by others, while in *movement qualities* they managed to make soft, strong, fast, slow and fluid movements.

In the *improvisation category*, all students exhibited coordination in their body movements and in the execution of sequences with at least two body segments. Regarding *body knowledge*, they demonstrated ease in moving their head, arms and legs, as well as awareness of their body schema, alignment on the vertical axes, identification of the parts of

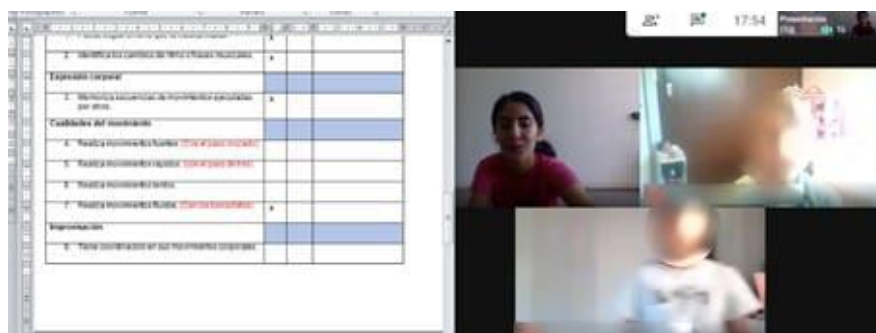
their body, distinguishing between right and left and controlling the movements of their bodies. his feet.

In relation to the *space category*, it was observed that eight students had enough space to perform the dance, while three of them were limited by the lack of space to carry out the activities.

Regarding the *values category*, the students demonstrated punctuality at the beginning of class, paid attention to the teacher's instructions and showed willingness to participate in the activities. Finally, in the *knowledge category*, partial results were observed regarding the expression of their own definition of dance and the recognition of dance genres.

Figure 1 illustrates the application of the diagnostic instrument of the *elements of danceS*, through which aspects such as the rhythm of dancing, the movements of the head, arms and legs, the identification of right and left, as well as the expression of his own concept of dance.

**Figure 1.** Application of the checklist instrument for the elements of dance

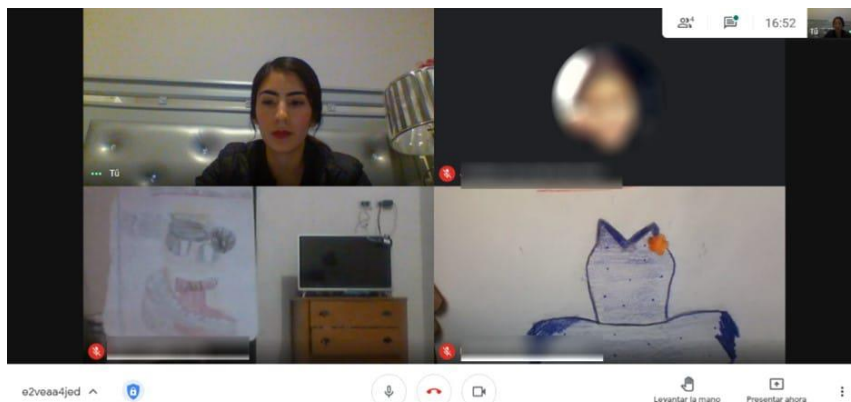


Source: self made

Figure 2 shows the first dance session, during which the students expressed their own conception of dance through drawings. After completing the diagnostic instruments, specifically the checklist of dance elements and the instrument of basic steps of the Mexican folk dance technique, instruction of the basic steps of Sonora Bronco was carried out in four sessions. As mentioned previously, the instructor designed activities to reinforce the steps learned in class. One of these activities consisted of recording detailed explanatory videos of the basic steps, which were subsequently shared on the Google Classroom platform.

In addition, as part of the assignments, the students contributed with videos executing the basic steps mentioned above, which included drunks, brushing, brushing with twist, side finishes, huarachazo step, crossed huarachazo step, couples sequence, falls with heel support, cross finishes, step of three, turns, turns with falls and elevated step.

**Figure 2.** Mexican Folk Dance Workshop Class



Source: self made

Figure 3 shows the session in which the basic steps of Sonora Bronco were explained, that is, drunks, huarachazo step, crossed huarachazo , couples sequence, falls with supports, crossed shots and others.

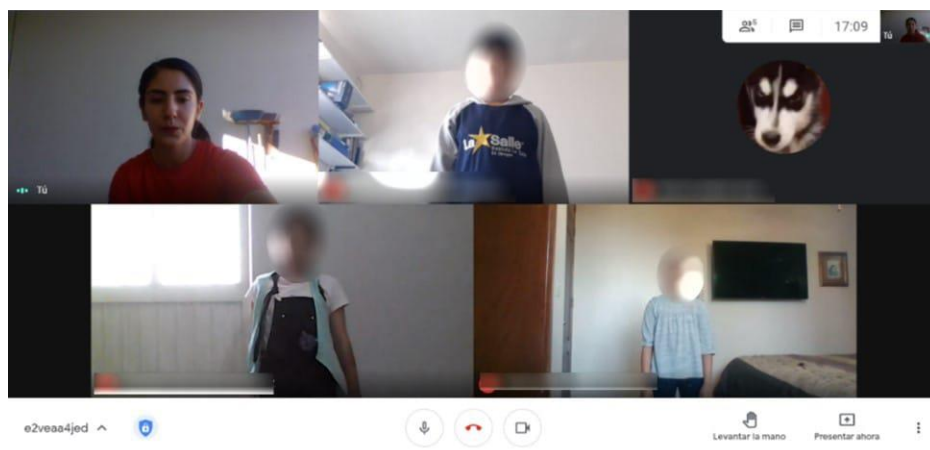
**Figure 3.** Sonora Bronco Basic Steps Explained



Source: self made

Figure 4 shows students practicing the basic steps of the Sonora Bronco, that is, huarachazo, cross huarachazo , partner sequence, heel-supported landings, and others.

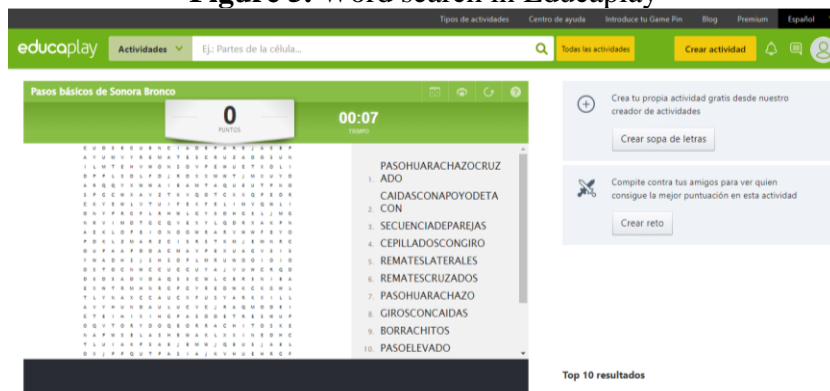
**Figure 4.** Execution of basic steps of Sonora Bronco



Source: self made

Likewise, platforms such as Educaplay were required to apply different activities, such as a word search that consisted of finding all the basic steps of the state that was being worked on. This was a strategy to help remember all the names of the footprints (Figure 5).

**Figure 5.** Word search in Educaplay



Source: self made

In the following sessions, the connection between one footprint and another was explained in detail. This approach demonstrated notable progress in the students' execution of the steps, which facilitated the explanation and was clearly reflected when joining the steps. The recording of the detailed explanation of how to join one step to another was made and shared on the Google Classroom platform.

With the purpose of energizing the classes, strategies were implemented such as the use of a virtual roulette wheel that contained the names of the students and the steps with their respective unions. This allowed the children to perform the steps randomly. Another activity consisted of the instructor executing a series of basic steps and sequences, and the students had to identify and write down the names corresponding to the steps. This activity

was carried out in class and the students documented it on the Google Classroom platform as evidence of their participation.

Once the basic steps and joining of the footprints were covered, we moved on to developing complete huarachazo and porrón sequences, with detailed explanations during classes. Videos were recorded detailing each of the sequences, which were shared on the Google Classroom platform. Figure 6 presents a video that reviews the song worked on in class, “Baile de Evangelina”, which was uploaded in the content of materials on the aforementioned platform.

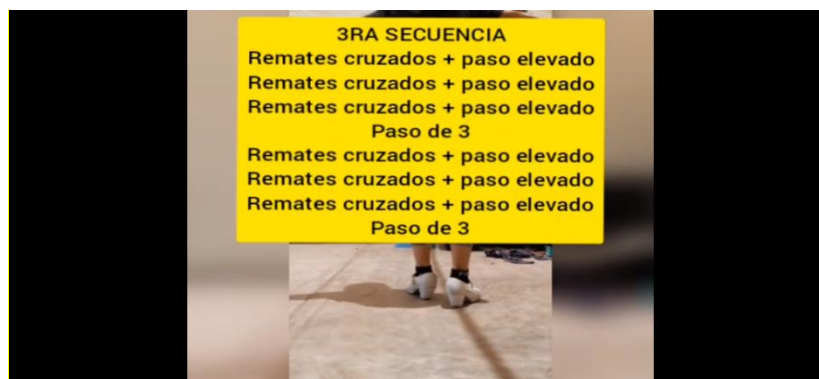
**Figure 6.** Video explanation of the Nuevo León steps of the “Evangelina Dance” in Google Classroom



Source: self made

Figure 7 shows the video explaining the sequences of the “Baile de Evangelina” song, which was uploaded to the Google Classroom platform.

**Figure 7.** Explanation of sequences of “Evangelina's Dance” in Google Classroom



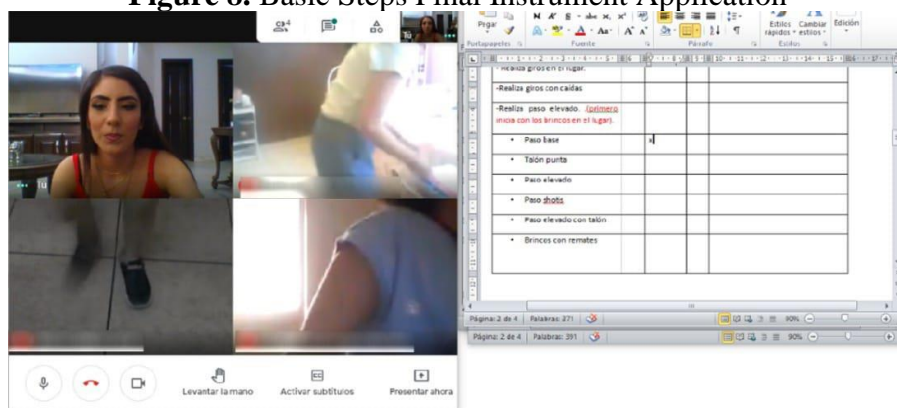
Source: self made

Next, the results obtained after the implementation of the sessions are presented; it should be remembered that the same instruments used at the beginning were used to carry out the final evaluation.

Using the instrument *basic steps of Mexican folk dance*, the dance techniques of the state of Sonora Bronco and the Evangelina dance of Nuevo León were evaluated. In the first section, the execution of the drunken steps, brushing and lateral finishing was verified. The results indicated that three students managed to execute them correctly, while one did so partially.

Figure 8 shows the students performing the final evaluation of the basic steps of Sonora Bronco and the Evangelina de Nuevo León dance, with the support of the closing instrument.

**Figure 8. Basic Steps Final Instrument Application**



Source: self made

Below are the results achieved with the beginning and closing instruments, by item and step.

In Table 3, it can be seen that in the diagnosis only one student from each level was able to perform the drunk and advanced drunk step correctly, while in the closing or final instrument the remaining students performed the drunk in place or space and drunk advanced with movements correctly.

**Table 3.** Integrated results of the evaluation of the passage of drunks in place and advanced drunks with displacements.

School	public primary	private primary	Middle and high school	Total
Female students	4	4	3	eleven
Diagnostic instrument	1	1	1	3
Final instrument	4	4	3	eleven

Source: self made

In Table 4, it is observed that, in the diagnostic instrument, only one student from both primary schools was able to complete it, while three did not. In the case of secondary and high school, no student was able to complete the diagnostic instrument. However, in the closing or final instrument, the three primary school students correctly executed the brushings with finishes, and all the students from the other levels also achieved it. Similarly, in the other step, a student was able to do it in primary school. In middle school and high school, no student was able to perform the rotating brushing step in the diagnostic instrument, but in the closing instrument, all three students carried it out correctly.

**Table 4.** Integrated results of the evaluation of the step of brushing and brushing with rotation

School	public primary	private primary	Middle and high school	Total
Female students	4	4	3	eleven
Diagnostic instrument	1	1	0	3
Final instrument	4	4	3	eleven

Source: self made

In Table 5 it can be seen that in the diagnostic instrument two students were able to complete the steps in primary schools, while in secondary and high school only one achieved it. At the closing, the three students executed them and in primary school all eight did the lateral, right and left shots correctly.

**Table 5.** Integrated results of the evaluation of right and left lateral shots

School	public primary	private primary	Middle and high school	Total
Female students	4	4	3	eleven
Diagnostic instrument	2	2	1	3
Final instrument	4	4	3	eleven

Source: self made

In Table 6, it can be seen that, in the diagnostic instrument, no student was able to complete the step in the primary schools. In the end, in the closing application, the eight students were able to correctly execute the steps of the huarachazo step. Furthermore, at the beginning no student was able to perform the step, while in the end the three students were able to perform the crossed huarachazo correctly. It is then observed that, regarding the huarachazo steps and the crossed huarachazo step, the same results were obtained in both steps: at first, they could not and in the end, they managed to execute it correctly, except for one high school student who stated that she had practiced background in dance.

**Table 6.** Integrated results of the evaluation of the huarachazo and crossed huarachazo steps

School	public primary	private primary	Middle and high school	Total
Female students	4	4	3	eleven
Diagnostic instrument	0	0	1	3
Final instrument	4	4	3	eleven

Source: self made

On the other hand, in the pair sequence step, only two students executed it correctly in the diagnosis, while in the closing all 11 students managed to execute it correctly. For the pointed heel step, all students were able to perform the step. In the pair sequences, two students performed correctly while nine others could not; and at the closing, the 11 managed to execute it.

Afterwards, the falls with heel support, crossed finishes and the 3-step, the steps were performed correctly by the four participants. In the part of the falls with heel support, cross kicks, three-step and high step, all the students performed satisfactorily. To finish, the base step of three, three students executed the step correctly while eight made it to the end. Likewise, the same results were obtained for the shotis step and for the jumping step with spikes.

In the *movement qualities category* that evaluated strong movements, in which two students from each level or school were able to perform it correctly in the diagnosis and all of them in the closing or final instrument. On the other hand, in the third category, rapid movements were evaluated, for which two of the students were able to execute them both in the diagnosis and at closing, while two of them were unable to perform them in both measurements in the primary schools, and in which It was secondary and preparatory, they did achieve it. The results of the third category were with fluid movements: during the diagnosis only one student per group performed it, while at the end all the students were able to execute them correctly.

## Discussion

In relation to slow movements, included in the third category of movement qualities, all students were able to execute them satisfactorily, as well as in the category of improvisation, knowledge of the body, space, values and theoretical knowledge.

Regarding the Google Form, designed to evaluate the learning of the content addressed on the platform, it was observed that all students adequately expressed their own concept of dance. Regarding the identification of at least three dance genres, the four students responded correctly with ballet, *jazz*, folk dance, modern and academic dance.

Regarding the choice of the state addressed during the workshop, all the students got it right. When selecting the instruments that accompany the northern ensemble, nine students answered correctly, while two did so incorrectly. Regarding the selection of the characteristic dances of the Sonoran style, 10 students answered correctly, and one student did so incorrectly. In the sixth open question, which required mentioning at least five of the Sonora Bronco's basic steps, each participant answered correctly. Finally, in the seventh question, which consisted of selecting the appropriate clothing for the state of Sonora, all the students answered correctly.

In the form intended to evaluate the state of Nuevo León, the same questions were asked, although others were added to find out how the workshop benefited the students in times of pandemic. In the first part of the form, which collected information from each student, we then moved on to the first multiple choice question, which consisted of mentioning the state with which we worked; All students answered correctly.

In the second question, they had to select the instruments of the northern ensemble to execute the state of Nuevo León, and 10 of them answered correctly, while one did so

incorrectly. The next open question required them to mention at least four basic state steps seen during the workshop, and everyone answered correctly.

However, in the fourth multiple choice question, which consisted of choosing the most representative polka in the state, six students answered satisfactorily, while five of them did so incorrectly. Finally, in the last question, which consisted of selecting the representative costume for the state of Nuevo León, all the students got it right.

This form was supplemented with three additional questions to obtain student perspectives on their workshop experience. In response to the first question about what they liked most about the workshop, some highlighted the attention provided by the instructor, the assignments through the Educaplay platform with word searches in Google Classroom, and the opportunity to individually execute the steps or sequences during the classes. Others expressed that they enjoyed the class and that their participation in the workshop will help them achieve their goals.

In relation to the next question about whether the workshop helped them reduce stress during the pandemic, the majority indicated that dance provided them with a valuable distraction, which helped them mitigate the impact of confinement. This finding aligns with the research of González and Rodríguez (2022), who emphasize that dance can be essential to balance the emotional and mood states affected by isolation in students of all educational levels.

For his part, Jiménez-Arzuaga (2021), in his study on Caribbean folk dances to stimulate gross motor skills, also highlights the benefits of dance in terms of movements and development of motor skills in students who participate in programs or workshops of dance. It emphasizes the control of body movements, extensive cultural knowledge and free expression of the body, which is why it underlines the importance of learning folk dances and their cultural roots in a varied and fun environment to encourage movement and facilitate development in various learning practices.

On the other hand, the exploration of the possibilities of movement by students, according to Kleen and Campos (2016), generates a deeper connection with their senses and their interior, and stimulates an integral link between body, mind and spirit. This not only has an impact on behavior, attitude and self-esteem, but also promotes a positive change in habits and behavior. In line with this project, they highlight that the UNAM Dance Directorate has designed a teaching method that addresses the cognitive and emotional aspect

of students through contact with art, especially dance and music, thus providing greater opportunities. learning for young people.

In summary, it is concluded that work on physical development was significant in the virtual environment, especially considering that children and young people were experiencing prolonged quarantines in their homes, which led to challenges such as a sedentary lifestyle and other social and emotional problems.

## Conclusions

When the pandemic began in the country, it was challenging to continue teaching using unconventional environments for education. Despite this, it was possible to implement Mexican folk dance workshops, specifically using the basic technique typical of the northern region of Mexico, with the purpose of promoting learning. This was carried out through the use of technology, given the restrictions derived from the contingency, and was aimed at students from basic and secondary education institutions during the cycles from August to December 2021 and January to May 2022.

Although the initial preference would have been to hold the workshop in person, given that the project was eminently practical, some complications arose. For example, internet connectivity and limited space for dancing were obvious challenges. To address these issues, students were provided with an institutional email and a secure platform to conduct classes virtually. This allowed the uploading of content, such as detailed explanatory videos, that complemented what was taught in class.

Likewise, the initial observation revealed that some students already had experience in folk dance and other genres. The diagnostic instruments indicated that, at first, the participants partially executed some basic steps of the Sonora Bronco. Throughout the workshop, however, significant progress was observed in the execution of these steps, and to reinforce learning, the Classroom platform was used to share additional content.

This project, developed in times of pandemic, provided the students with a way to face the stress of confinement. The physical activity associated with dance, interaction with the body, memorization of steps and sequences contributed to keeping the mind and body active, which is especially relevant for children and adolescents.

Although the adaptation to online classes was challenging for some participants due to the contingency, the workshop demonstrated the viability of learning folk dance virtually with the help of various tools that facilitate creative teaching and learning.

In other words, the execution of this workshop not only served as a strategy to preserve Mexican folk dance, but also fulfilled the objective of encouraging participants to explore and learn this art. Although attendance was not as expected due to space limitations, the contribution of the workshop was valuable. The fact that the participants have learned dances of two states can be a stimulus to continue exploring this art and motivate others, as well as to address the problem raised in this study.

The strategies and tools used during the workshop proved to be effective. In fact, once the first study was completed, they continued to be applied professionally in more primary, secondary and high school groups, in the same institutions and other social organizations that serve vulnerable communities of children and adolescents, young people, women and adults. greater. In addition, they have been implemented in indigenous communities in the region, with successful results for the participants.

### **Future lines of research**

After evaluating the key aspects of the transition from in-person dance teaching to virtual environments, elements have been identified that require further analysis. For example, it would be ideal to continue this research by comparing results when applying study plans to experimental and control groups, which would allow the efficiency of said programs to be determined and possible innovations to be explored.

Furthermore, it is pertinent to examine aspects inherent to virtuality, such as available tools, visual perception, interaction between teacher and student, as well as between peers. These elements can be compared with other teaching modalities, whether in dance or other artistic disciplines. Likewise, given that virtual platforms limit contact and social interaction, distractions and other elements that may affect both the learning and execution of the participants must be identified, since this evaluation could significantly contribute to the improvement of both aspects.

On the other hand, the program could be applied to groups from different sectors and educational levels, covering both vulnerable and advantaged environments, as well as families of medium-high socioeconomic level. This expansion of the sample will allow obtaining more results and enriching the representative characteristics. Subsequently, comparative or correlational research could be carried out, analyzing various factors such as the family, economic, sectoral environment, the influence of the pandemic, among others.

The objective would be to confirm the benefits obtained with a greater number of students and in person.

Finally, it is imperative to address emotions and issues related to stress, success, and academic performance in the context of learning and practicing dance and the arts. Carrying out studies in this regard, considering the possible inclusion of virtual platforms or tools, would be essential to understand the correlation between these elements and contribute to the development of more effective pedagogical strategies.

## References

- Cedeño, M., Valenzuela, E., Ferruzola, B. and Zamora, A. (2021). Folk dance in the learning process in basic education students. *Ecuadorian Science Journal*, 5(1), 24-29.  
<https://doi.org/10.46480/esj.5.1.104>
- Cedeño, M. (2012). *Folk dance and its impact on learning in 7th grade students. year of basic education in five urban schools in the Milagro canton* [Master's Thesis, State University of Milagro, Ecuador]. DSpace Repository.  
<https://repositorio.unemi.edu.ec/xmlui/handle/123456789/1689>
- ECLAC (2020). *Education in times of the covid-19 pandemic*. ECLAC-UNESCO.  
[https://repositorio.cepal.org/bitstream/handle/11362/45904/1/S2000510\\_es.pdf](https://repositorio.cepal.org/bitstream/handle/11362/45904/1/S2000510_es.pdf)
- National Council of Culture and the Arts (2016) *Why teach art and how to do it*. Toolbox for Art Education.  
[https://www.cultura.gob.cl/wp-content/uploads/2016/02/cuaderno2\\_web.pdf](https://www.cultura.gob.cl/wp-content/uploads/2016/02/cuaderno2_web.pdf)
- Cruz, R. (2011). *Regional dance workshop as a methodological strategy for the comprehensive development of preschool children* [Bachelor's thesis, National Pedagogical University]. UPN Theses Repository.  
<http://200.23.113.51/pdf/27924.pdf>
- Cueva, F. and Figueroa, M. (2015). *Folk dances as a strategy to develop mathematical thinking skills in children of 3, 4 and 5 years of age at the Sencca initial educational institution Quispihuara of the Poroy District* [Specialization thesis, National University San Agustín de Arequipa]. UNSA Institutional Repository.  
<http://repositorio.unsa.edu.pe/bitstream/handle/UNSA/6869/EDScuhuf.pdf?sequence=1&isAllowed=y>

- González, M. and Rodríguez, J. (2022). Benefits of dance for education in coexistence with COVID-19. *Multi-Essay Magazine*, 8(15), 2–8.  
<https://doi.org/10.5377/multiensayos.v8i15.13186>
- Hernández, R., Fernández, C. and Baptista, P. (2014). *Research methodology* (6th<sup>ed</sup>.). McGraw-Hill.
- Jiménez-Arzuaga, E. (2021). Caribbean folk dances to stimulate gross motor skills. *Traces Magazine*, 7(2), 16-18.  
<https://revistas.udenar.edu.co/index.php/rhuellas/article/view/6662>
- Kleen , A. and Campos, A. (2016). Dance as a life process in young people. *University Digital Magazine*, 17(3), 1-12.  
[https://www.ru.tic.unam.mx/bitstream/handle/123456789/2619/art18\\_2016.pdf?sequence=1&isAllowed=y](https://www.ru.tic.unam.mx/bitstream/handle/123456789/2619/art18_2016.pdf?sequence=1&isAllowed=y)
- Megías, M. (2009). *Optimization in cognitive processes and its impact on dance learning* [Doctoral thesis, University of Valencia]. TDX repository.  
<https://www.tdx.cat/bitstream/handle/10803/31869/Megias.pdf;sequence=1>
- Nicolás, G., Ureña, N., Gómez, M. and Carrillo, J. (2010). Dance in the educational field. *CHALLENGES. New Trends in Physical Education, Sports and Recreation*, (17), 42-45. <https://www.redalyc.org/pdf/3457/345732283009.pdf>
- Pira, J. (2016). *Folkloric dance as a pedagogical strategy to contribute to teamwork between genders* [Bachelor's thesis, Pedagogical and Technological University of Colombia]. Uptc Institutional Repository.  
<https://repositorio.uptc.edu.co/bitstream/001/1942/1/TGT-466.pdf>
- Rojas, G. (2002). *The teaching of Mexican folk dance in the public primary schools of Cd. Obregón, Sonora in the last 5 years* [ Unpublished bachelor's thesis]. Mexican School of Dance Prof. Jaime Buentello Bazán.
- Romero, J. and Quintanar, L. (2018). *Development of a software as a teaching tool in the teaching of Mexican folk dance for the first grade of basic education RIEB 2011* [Bachelor's thesis, National Institute of Fine Arts]. Inba Digital Repository.  
<http://inbadigital.bellasartes.gob.mx:8080/jspui/bitstream/11271/1700/1/352ledftessof01.pdf>
- Ministry of Public Education (SEP) (2016). *Key learnings: Arts*.  
<https://www.planyprogramasdestudio.sep.gob.mx/descargables/ARTES.pdf>

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