The Paper Orchestra Cookbook

Recipes for learning from Juneau, Alaska Music Matters and Youth Orchestra LA at Heart of LA inspired by practices found in El Sistema
Dear Colleagues,

We are delighted to share our findings from our first year of Paper Orchestra planning and implementation. While the pedagogy isn’t a new concept, the community engagement component adds a new layer of value. Our teams from Juneau, Alaska Music Matters (JAMM) and the LA Phil’s Youth Orchestra LA (YOLA) núcleo at Heart of LA (HOLA) have noticed significant value in starting students in this manner, both in behavior and the commitment of the community.

In order to create an orchestra of paper instruments, students, families, teachers and the community come together. The responsibility and trust for creating the paper instruments is put in the hands of the families, so that from the onset of programming they have a sense of ownership and pride. Through the building process, the parents become intimately familiar with the instrument, its pieces, and their function. This empowers the parents to have an active role in their child’s music education, whether they have any prior musical knowledge or not.

The act of the community gathering together to create a paper instrument for children shows them that they are supported and that their venture into music learning is significant. The paper instruments are constructed with care and diligence in order to make sure that the product is almost an exact replica of the instrument. Being initiated into the life of the orchestra with a beautifully hand crafted paper violin shows the child that they are special and worthy of something delicate and valuable.

This cookbook is meant to be an “open document” – meaning that we will continue to add knowledge along the way and hope that other programs will add ideas and successful experiments over time. Please e-mail any suggested additions, thoughts, and/or inquiries to YOLA@laphil.org.

For additional resources and insight into how you can create your own El Sistema-inspired program, please visit JAMM’s website or the LA Phil’s YOLA Resource Library.

We look forward to hearing from you, and of course – enjoy!

Sincerely,

Amy McCullaugh (Los Angeles Philharmonic); Dan Berkowitz (Los Angeles Philharmonic); Lorrie Heagy (Juneau, Alaska Music Matters); Christine Witkowski (Heart of Los Angeles); and Nikki Shorts (Heart of Los Angeles)

Many thanks to our colleagues at Núcleo La Rinconada for sharing their best practices: Josbel Puche; Yahiriana Moros; Milena Riera; Judith Avila; Gustavo Bermúdez; and Verónica Useche. Their work is an inspiration to us all.
INTRODUCTION

The paper orchestra began at La Rinconada, an El Sistema núcleo near Caracas, Venezuela. The concept was initially born out of need, as there were not enough instruments for each student in the orchestra. Mothers were assigned to construct violins from everyday materials for their children. With these, students discovered how to handle a violin properly while learning about sound and rhythm through basic vocal and movement exercises. Designed to give each student a sense of discipline toward his or her instrument and build basic musicianship skills, the paper orchestra became an important stepping stone along the pathway to orchestral performance.

Now, the process is no longer done out of need, but for pedagogical and familial benefits. It is a tool to engage the community from the very beginning of a program: families collectively build paper instruments, and students learn how to respect and care for them before receiving real instruments. Within this orchestra, students learn that the instrument is a part of them, and they are able to understand that they are part of something larger. Thanks to the openness of La Rinconada’s teachers, this process is no longer specific to Venezuela. Programs in Scotland, Alaska and Los Angeles have successfully adopted using paper instruments as an introduction for young learners to the orchestra.

Why a Paper Orchestra?

For children entering an orchestra program, it is important to have a period of preparation that introduces them to singing, posture, performance, movement and, most importantly, the orchestra as their community. During this period, students acquire basic musicianship skills and develop an appreciation for their instrument. Moreover, the physical creation of the paper instruments gives children and families a sense of ownership over their music education and helps to build community.

The paper orchestra also works for practical reasons: paper instruments can be made cheaply and substantially prevent the deterioration of real instruments by drops and blows, which are very common when starting orchestral training. After handling the paper instrument and engaging in symbolic play for a considerable period of time, children acquire the skills of empathy and respect, recognizing the meaningful nature of playing an instrument. This, in turn, leads to an increase likelihood that children will carry out proper instrument care when the real instrument is provided.

Finally, the paper orchestra is a performing ensemble. Students are able to sing their paper orchestra songs within one month, showing the product of their hard work to community supporters.
Music education contributes to the enrichment and enhancement of key areas of development in children: cognitive, language, social-emotional, motor and morale. Teachers who use the Paper Orchestra have found that young children have more effective and meaningful learning experiences when teaching resources provide tools appropriate to their level of development. They have found that the most appropriate and effective tool for kindergarten and first graders is the recreational activity. With the Paper Orchestra, children construct their knowledge with practice, working on a reality that they know and transform, in a process of constructive interaction.

The early educational curriculum from La Rinconada is framed by three fundamentals of learning that can be attributed to the Paper Orchestra program: coexisting, doing, and being.

- **Coexisting / Affection.** Development of the person, the artist. Children acquire the basic tools to acquire and develop an appropriate orchestral approach (group behavior, discipline, focus, and stage presence to the public).
- **Doing / Intelligence.** Development of skills and abilities to properly handle a musical instrument. Children learn proper positioning of the instrument, acquire control of the bow and the instrument only.
- **Being / Playfulness.** Learning cultural environment interaction. The child can build their own learning through recreational activity. Also, students learn how to follow the conductor and understand basic gestural communication with the orchestra.

**Paper Orchestra Program: Core Attributes**

- **How to hold and care for the instrument.** Teaching students to love their instruments and hold them properly (“the instrument is part of you”). This enables children to notice if they like standing through a rehearsal as a bassist or prefer something else.
- **Orchestral discipline.** In addition to learning basic posture and rest/playing positions, students are introduced to following a leader (conductor) and working together as a group. Therefore, they recognize their value in a group that is creating something larger than the sum of its parts.
- **Embodying the musician.** Once they start the paper orchestra, students are treated like and consider themselves "serious orchestral musicians." They no longer play as many games, but focus on the orchestra.
- **Flexibility.** The paper orchestra allows children to try an instrument without the program having to "sacrifice" it. (i.e., not allowing other children to try an instrument only because someone else it trying it.)
- **Song.** Vocal exploration and movement are integral parts of this introductory ensemble. Songs talk about the instruments, the orchestra and are structured to build technique. For example, “up like a rocket” builds strength in the bow arm and exercises the correct bow hold.
PREPARATION:
How to Make Paper Violins
METHOD I: JUNEAU, ALASKA MUSIC MATTERS (JAMM)

The original concoction for these paper violins were cooked up by the creative minds of teachers from Scotland’s Big Noise program. With their permission, JAMM used their templates for its paper violins, but decided to cover the cardboard violins with paper mache rather than with gold wrapping paper. (JAMM’s cardboard violins are covered with brown packing paper dipped in a glue, paint and glaze mix.) The following materials are for 30 quarter-size violins. For JAMM’s orientation, teachers and staff opted to pre-cut the cardboard so that families could tape the main violin pieces together and cover the body/neck in the paint mixture within an hour’s time.

Materials:
- corrugated cardboard for 60 violin pieces (trace violins so that corrugation is vertical with violin - button to scroll)
- brown packing paper (thin enough to manipulate when wet around the violin)
- masking tape
- 8 cups glue
- 4 cups water
- 1/2 cup brown tempera paint
- 2 oz. bronze glaze
- black duct tape
- kite string
- apple holding
- wood dowel rods (3/8” x 48”) for bows

Instructions:

Preparation: Create a template by using a real violin by tracing and cutting the outline on a piece of cardboard (for elementary school children, we recommend ¼ or ½ size violins). For each violin, you’ll need two precut violin outlines; two strips (about 1 ½ inches wide) of corrugated cardboard, long enough to run along the edges of the violin; two strips of cardboard for the fingerboard; one piece of cardboard for the tailpiece; and one piece of cardboard for the chin rest.

Step 1: Using masking tape, two outlines of the violin template, and two strips of corrugated cardboard, tape your violin together. **Big Noise Tip:** make sure that the cardboard strips are cut with the corrugation going vertically. Loosen or bend the strips along the edge of a table before taping so that they can conform easily to the curves of the violin.

Step 2: You’re ready for the painting process! Combine the glue, water, paint and glaze together. Dip strips of brown packing paper in this mixture and use these to mold along the violin edges. **Big Noise Tip:** You may need to clip along edges of overlap for a clean fit.

Step 3: To make sure that your violin body cut-out doesn’t tear, we recommend painting directly on the top of the cardboard violin, then place body cut-out and then paint over it. Repeat the same process for the back. Once you’re finished painting, let the violin dry.

Step 4: While you’re waiting for the violin to dry, cover cardboard strip with black duct tape and color tailpiece with black sharpie.

Step 5: After the violin has dried, begin adding parts. JAMM teachers added parts as students mastered certain skills. (For example, once students learned the violin standing positions, they received the paper violin with a chin rest.) **Big Noise Tip:** Recyclable apple containers make great chin rests. You can paint yours with black tempera paint and use duct tape. Little pieces of cardboard are glued under the tailpiece and fingerboard to give it a lift.

Step 6: Final product! Have an adult string the instrument. Make the E string first by stringing through the tailpiece and bridge; hold in place at the top of the fingerboard with black duct tape. String your way back down the fingerboard, through the bridge and tailpiece to complete the A string. Repeat to finish D and G strings. **Big Noise Tip:** Use an open-eye needle to string the holes made by a thumb tack for the bridge and tailpiece.
METHOD 1: JAMM, cont.

PREPARATION

1. Collect your 4 cardboard pieces.
2. Roll/Bend edge pieces.
3. Tape edges to body

PREPARATION

1. Collect materials
2. Cut “body” out - (it will yield 2)

STEP 1

1. Have your violin checked
2. You’re READY To Paint
    - Go to the commons &

STEP 2

1. Dip Strips
2. Lay wet strips along the violin’s edge. Fold/Overlap onto top and bottom of body.
   *You might need to clip along edges of overlap for a clean fit*

STEP 3

1. Paint top of violin with brush
2. Apply paper & Paint again
3. Repeat #1 & #2 for bottom.

STEP 4

1. Cover 2 (or) stacked finger boards with black duct tape.
2. Color 1 (or) tail piece with a black Sharpie marker
3. Add a bow to the violin

STEP 5

Final product – JAMM handmade violin!

STEP 6 – FINAL PRODUCT!
YOLA’s second núcleo started in September 2010 at Heart of Los Angeles (HOLA), a longstanding community center located in LA’s Rampart District. The paper instrument building process became an invaluable tool to connect the new YOLA program to HOLA’s existing visual art department. Art teachers and students took on the challenge of designing and helping to create 100 paper violins as a way to “welcome” the new orchestra program and children into the HOLA family. Through a process of wood etching and screen printing, the final paper violin was an incredible piece of art. HOLA art teachers and YOLA at HOLA teaching artists and faculty prepped the violins for orientation night, where the final steps of construction would be completed by families.

**Materials:**

- cardboard
- screen printing machine (or a lot of black markers!)
- foam core
- craft glue
- masking tape
- heavy duty scissors
- decorations (glitter, stickers, macaroni, etc.)
- kite string
- wood dowel rods (3/8” x 48”) for bows

**Instructions:**

**Preparation:** Create a template by using a real violin by tracing and cutting the outline on a piece of cardboard (for elementary school children, we recommend ¼ or ½ size violins). For each violin, you’ll need two precut violin outlines (a “top” with F holes, and a “bottom” that remains blank); one piece of cardboard that will serve as the fingerboard, neck, peg box, and scroll (see diagram on the following page); and separate cardboard pieces for the pegs, “nut” and bridge, tailpiece, and chinrest (cutouts are provided on page 10). Make multiple copies by using a screen printing machine or black marker. **YOLA at HOLA Tip:** cut the “top” and “bottom” of the violin about inch larger that the size of the violin, leaving an edge when you glue the body together. This makes gluing slightly easier and adds to the violin’s sturdiness.

**Step 1:** Attach the “top” and “bottom” of the violin using strips of foam core (about 1½ inches wide) and craft glue. Make sure that the foam core side wall run about ½ - 1 inch deep from the edge of the violin. For extra sturdiness, use masking tape to reinforce the foam core. **YOLA at HOLA Tip:** bend and curve the foam core strips before using them. This will make them more malleable and easier to glue in place.

**Step 2:** Score the folds of the piece of cardboard that will serve as the fingerboard, neck, peg box, and scroll, and construct to create the final, three-dimensional part. Attach this piece to the body of the violin with heavy duty craft glue.

**Step 3:** After the violin has been constructed, you may begin adding parts. YOLA at HOLA students added all parts (except strings) on orientation night, but you may opt to work in adding parts as part of the curriculum.

**Step 4:** Decorate! Glitter pens, markers, stickers and macaroni make great decorations that will allow each child to individualize his or her instrument **YOLA at HOLA Tip:** have each student put his/her name on the bottom of the violin. This will make knowing whose instrument is whose much easier!

**Step 5:** Final product! YOLA at HOLA teachers waited to add strings until students had mastered the rest of the parts.
PREPARATION

Javier Carrillo, an HOLA alumni and current art teacher, sketches the violin for screen printing.

STEPS 1 & 2

STEPS 3 & 4

STEP 5 – FINAL PRODUCT!
METHOD II: YOLA, cont.

Print out these actual size violin part cut-outs (perfect for ½ size violins) to create your own paper instruments.

PEG

holes for strings

slits for strings

"NUT" & BRIDGE

(notes for strings)

TAIL PIECE

CHIN REST
RECIPIES FOR LEARNING:
Lessons with Paper Violins
IMPLEMENTING THE PAPER ORCHESTRA

The Paper Orchestra is ideal for young learners approximately 2–6 years old. You can structure your program to whatever suits your needs and trajectory, but a recommended length of time for a basic paper orchestra program is about 2-3 months. The child’s first interaction with the orchestra program is creating a paper instrument for which he or she will be responsible, and the first month can be dedicated to making the instruments learning about the different parts of the instruments as they’re added. The remaining time can be spent building their knowledge of song, movement, and instrument care. Through the paper orchestra, very young students could understand the concept that every child in the orchestra is an asset, yet no child alone can be the orchestra. The metaphor of orchestra for community is something that can be visually seen and conceptually understand, thereby making the idea of community, acceptance and support a very natural part of the curriculum from the beginning. At the end of the Paper Orchestra program, students perform their first concert and are presented with real instruments.

Teaching Philosophy and Strategies

The Paper Orchestra enables our programs to engage in every aspect of an El Sistema-inspired teaching philosophy:

- An environment encouraging activity
- Building strong relationships
- Cooperative, inclusive and caring society
- Flexible structure
- “Tocar y Luchar” (to play and to fight)
- Pride of ownership
- Performance as habit
- Reflection and assessment
- Honoring the whole person

Teaching strategies include:

- **Teamwork:** Facilitating peer mentoring, working in partners, and providing praise for accomplishments working together as a team.
- **Inquiry:** Presenting information in the form of questions and ensuring every student verbalizes the answer.
- **Routine:** Creating routine – not just in procedures, but also in learning. Students latch onto an idea because the steps are presented in a very specific order.
- **Confidence and Self Esteem:** Providing positive feedback including: high fives, pats on the back, and saying things like “I’m so proud of you,” “good job,” and “you guys are so smart!” It is important not to set limits on the students and to nurture their curiosity in music.
- **Discipline and Consistency.** When a child plays or talks when they shouldn’t, their instrument gets a “time out.” The instrument is a powerful behavior incentive.

**Overall Goals**

- Introduce unifying songs, positions, and steady beat
- Having fun with instruments, listening to music, and moving in space
- Singing/ solfège and body movement
- Early notation and recognition of high/low
- Learning 3-4 songs to perform together
- How to share space, set boundaries, and develop respect and classroom norms
LESSON I: PARTS OF THE INSTRUMENT

This is My Violin
sung to “Lightly Row”
original version copyright 1985, Susan Kempter [with new words by Lisa Miles]

This is my violin, this is where I put my chin.
E A D G are the four strings, and the F holes let it ring.

Here's the front and here's the back, if I drop it, it might crack!
So I hold it close beside me, rest position you now see.

Button here, tailpiece there, bridge and fingerboard right here.
Pegs help keep my string in tune [the] peg box holds the pegs so firm.

Mr. Scroll is dressed his best, looking down on all the rest.
Here's the bow and now I'll show [a] play position, 1 2 3.

LESSON II: POSTURE AND BOW

Frog to the Tip / Twinkle
translated from La Rinconada

When I play I sit nice and straight
Then I listen to what you say
[ONE] REST POSITION
[TWO] PLAY POSITION
[THREE] BOW

Frog to the tip
Tip to the frog
This is how it sounds when I play a song
Shh, shh, shh, shh
I also can use the middle
Bom bom bom
Bom bom bom

Segue into Twinkle in solfège while moving practice bows over strings in play position.
LESSON III: REST AND PLAYING POSITIONS

V-I-O-L-A
sung to the tune of “B-I-N-G-O”

The instrument I’d like to play
Viola is the name-o
V-I-O-L-A
V-I-O-L-A
Viola is the name-o

The instrument I’d like to play
Viola is the name-o
(shh)-I-O-L-A
(shh)-I-O-L-A
(shh)-I-O-L-A
Viola is the name-o

Sway back and forth
Continue swaying
Tap bow on knee for each letter
Repeat
Repeat
Hold rest position; move into play position

Repeat until all five letters are replaced with ‘shh’...

LESSON IV: BOW AND STRENGTH BUILDING

Up Like a Rocket

Up like a rocket
Down like the rain
Back and forth
Like a choo-choo train

‘Round and ‘round
Like a great big sun
Tap your head
Bumpy thumb
Tap your pinkie
Now you’re done

Lift bow above head
Lower frog to belly button
Move bow side to side

Circle bow around head
Tap frog on head
Show thumb knuckle out
Tap pinkie on bow
Rest bow on shoulder

FOR VIDEO GUIDES TO LESSONS I-III, SEE YOLA AT HOLA’S Lessons from the Paper Orchestra.