



Republic of the Philippines
DEPARTMENT OF EDUCATION
Region VII, Central Visayas
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SCHOOLS DIVISION OF NEGROS ORIENTAL

July 11, 2019

DIVISION MEMORANDUM

No. 419 s. 2019

SEMINAR WORKSHOP ON BAMBOO INSTRUMENT MAKING

1. Attached is a letter from **Prof. Diomar C. Abrio, Chair, University Culture & Arts Council of Silliman University** inviting us to participate the **Seminar Workshop on BAMBOO INSTRUMENT MAKING**, an artistic endeavor that aims to introduce the bamboo instrument's tuning techniques and how bamboo instruments work.
2. Relative to this, you are hereby encouraged to attend the said activity on **August 7-9, 2019 at Silliman University Hall, Silliman University in Dumaguete City.**
3. A registration of **P1, 500.00** will be collected to defray costs of workshop materials, meals laboratory fees and materials which will be charged **PERSONALLY** by the participants.
4. Attendance of the participants to this seminar is on **OFFICIAL TIME ONLY.**
5. This Memorandum will serve as your **TRAVEL ORDER.**
6. For your guidance and compliance

WILFREDA D. BONGALOS, Ph. D. CESO V
Schools Division Superintendent

11/21/19

Tel. Nos: (035)225-2838 / 225-0667/422-7844 (Division Sup't's Office); (035) 225-1622 (CID); (035) 225-1623 (Legal Section); (035)225-8180 (SGOD); (035) 422-7843 (Cash Section); (035) 422-8511 (Planning Section); (035) 225-8987 (Record's Section); (035) 422-5283 (Admin. Section); (035) 422-0287 (Personnel Section); (035) 225-2376 (Guard/Medical/Dental Sections); (035) 225-7012 (Educ. Facilities Section); (035) 225-1640 & (035) 225-1640 (Acct. Budget Section); (035) 422-3021 (Supply Section)



CULTURAL AFFAIRS OFFICE
SILLIMAN UNIVERSITY
Building Competence, Character & Faith

8 July 2019

WILFREDA D. BONGALOS, PH. D
CESO V
Schools Division Superintendent
Negros Oriental

Thru:

Ms. JENITH CORPIS CABAJON, EPS
Division Coordinator for Culture & Art
Province of Negros Oriental

Dear Dr. Bongalos:

In the interest of growth and development of Arts Teachers primarily from schools with MAPEH, Special Program for the Arts (SPA) and Arts and Design Track, the Silliman University Culture and Arts Council in partnership with the Cultural Center of the Philippines Arts Education Department and Sining sa Eskwela (SSE) will hold a Seminar Workshop on BAMBOO INSTRUMENT MAKING ON August 7-9, 2019 at Silliman Hall, Silliman University Dumaguete City.

Our facilitator in this workshop is DR. WU SHIN-YIN from the Department of Forestry and Natural Resources of National I-lan University Taiwan (R.O.C). The objective of this workshop is to introduce the bamboo instrument's tuning techniques and to let the participants realize how bamboo instruments works. The is workshop designed to enrich and to equip our music teachers (SPA) and Arts and Design Track teachers to the pedagogy of teaching using indigenous music instruments in the 21st century.

To help defray costs for this workshop, a registration fee of Ph 1,500.00 will be collected before the program. This will also cover the meals, (lunch) workshop kits, training laboratory use, and materials for the duration of the workshop for the participants.

It is in this light that we are inviting you to send a participant to this Bamboo Instrument Making Workshop. We hope to invite your public schools SPA Teachers, MAPEH teachers, and K to 12 Arts and Design Track teachers who would immensely benefit from this rare opportunity. For inquiries you may reach us at (035)422-4365 or 09173000346; you may also email us at cac@su.edu.ph.

We look forward to your positive response for the sake of art education.

With best regards.

Sincerely,



DIOMAR C. ABRIO, M.M.

Dean, College of Performing and Visual Arts
Workshop Director

Proposed schedule for the Workshops and concerts in
Silliman University, Dumaguete City.
AUGUST 7-AUGUST 10, 2019

Presenter:

1. Dr. Wu, Shih-Yin from Department of Forestry and Natural Resources, National I-Lan University, Taiwan
2. Taiwan Bamboo Orchestra, From Taiwan

Date	Time	Activity	Remarks
7/AUG	8:30~9:00	Registration and opening	Silliman Hall
WED	9:00~10:00	Lecture: Bamboo Musical Instruments in the world and It's Scientific Background	PPT presentation (Projector and Audio system is required)
	10:00~12:00	Bamboo Stamping tubes making	(Tongatong)
	13:00~15:30	Xylophone Blades	(Pattatag)
	15:30~17:00	Game Time: Group practice to making some music from stamping tubes and xylophone blades they made	
	8/AUG.	8:30~11:00	Making Quill shaped bamboo percussion tube
THR	11:00~12:00	Game Time- Group practice to making some music from stamping tubes and xylophone blades they made	
	13:00~15:40	Making Rattle bamboo	
	15:40~17:00	Game Time- Group practice to making some music from stamping tubes and xylophone blades they made	
	9/AUG.	8:30~12:00	Finish all the assignments
FRI	13:00~14:30	Group rehearsal for the closing	
	14:30~15:30	Closing and Recognition	Silliman Hall
	15:30~16:30	Observe the instruments set up and rehearsal of Taiwan Bamboo Orchestra	

Workshop Title :Bamboo Instruments Tuning

Presenters :

Dr. Wu, Shin-Yin (Contact Person)
Department of Forestry and Natural Resources
National I-Lan University
No.1, Sec. 1, Shennong Rd.,
Ilan City, Ilan County 260, Taiwan (R.O.C.)
Phone: +886-39-357400 Ext: 7682
e-mail: sywu@niu.edu.tw

Abstract:

The objective of this workshop is to introduce the bamboo instruments tuning techniques to let the participants realize how the bamboo instruments works and how to tune a bamboo instrument. There will be three sessions contained in this workshop: 1. the introduction of world bamboo music and their instruments, 2. Basic scientific theory of bamboo instruments, and 3. Practical tuning operation for some selected bamboo instruments.

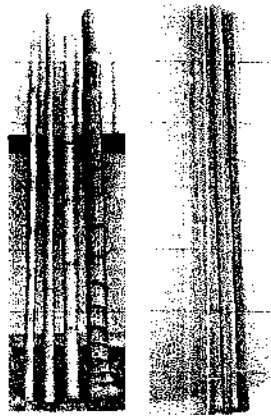
Intended participants:

Musician, Bamboo craftsman, and bamboo music lover in the Philippines who are interested to know the basic principal of bamboo music instruments, and interested in making some bamboo music instruments by their own. (30 participants Maximum)

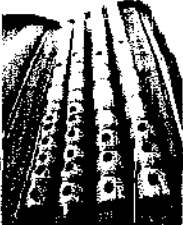


Presenter Biographies:


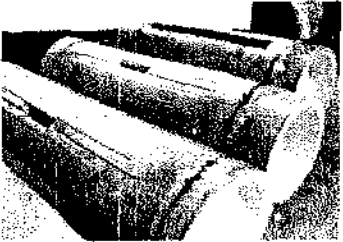

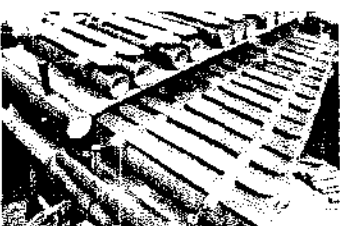
Dr. Wu Snih-Yin held a B.Ed. degree at 1976 in Industrial Education from Kaohsiung Teacher's University at Taiwan, and two degrees (MS, PhD) at 1991 and 2004 in Forestry Products from University of Idaho, USA. Currently he is an associate professor of Forestry and Natural Resources Department (FNR) of National I-Lan University (NIU) in I-Lan City, Taiwan.

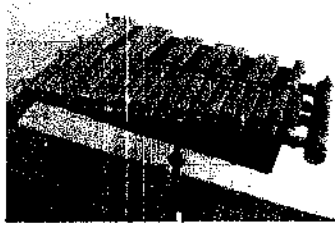
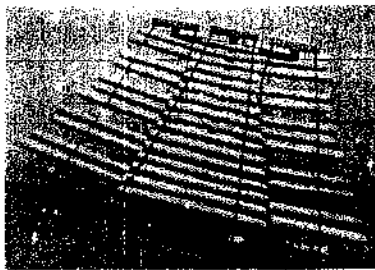

In the FNR department of NIU, both the conservation of natural ecosystem and the sustainable utilization of natural resources are the major subject in the courses. Dr. Wu had taught forest utilization related courses in FNR and focus on the Nondestructive Testing of Wood, the acoustic property of wood and bamboo is one of his related research areas as well. As a music lover, Dr. Wu expands the utilization of vibration theory to musical instruments design, he also teaching "Science of Music and Musical Instruments" as a general credits in NIU. Besides, Dr.



Introductions of Bamboo instruments(Some of it are applied by Taiwan Bamboo Orchestra)

No	Photo	Brief Introduction
1	 <p data-bbox="613 786 678 860">竹笛 Dizi</p>	<p data-bbox="824 786 1333 1032">“Dizi” is a traditional Chinese musical instrument and very popular among the Chinese people. Dizi always made by bamboo and widely applied in Chinese folk music, Chinese Orchestra and as well as the traditional Chinese Opera.</p>
2	 <p data-bbox="418 1312 532 1346">笙 Sheng</p>	<p data-bbox="824 1043 1333 1346">“Sheng” is one of the oldest traditional free-reed instruments of China. Sheng can be played by alternately blowing and inhaling. It is one of the main instruments in Chinese opera. In the modern Chinese orchestra, sheng is used for both melody and accompaniment.</p>
3	 <p data-bbox="418 1615 711 1648">4 塊(Si-Dei) or Si Kuai</p>	<p data-bbox="824 1357 1333 1700">“Si-Kuai” (Chinese meaning 4 pieces) made from bamboo and is a traditional Nankuan percussion instrument of southern China. To play Si-Kuai, holding 2 boards in each hand and create the bamboo impact by wrist-shaking. Single clicking, rattling and rolling are the common techniques used to play Si-Kuai.</p>

4	 <p>簫 Xiao</p>	<p>"xiao" is a very ancient Chinese instrument usually thought to have developed from a simple end-blown flute. Traditionally, In China, Xiao is generally made from "purple bamboo". Xiao is also called "dongxiao" in Taiwan.</p>
5	 <p>竹鼓 Bamboo Slit-Drum</p>	<p>"Bamboo slit drum" is a typical percussion instrument and very popular for most ethnics who live with bamboo grove. In Taiwan, the slit drum been used in Amis, Atayal and Pinpu tribes for rhythmic music or for signal transmission. Bamboo Slit drum can be tuned to a certain pitch through tuning, and used in melody playing.</p>
6	 <p>拍筒 Slapping Bamboo</p>	<p>"Slapping Bamboo" is very common in the areas which close related to bamboo music culture. In Taiwan, we name it as "Slapping Bamboo" due to the way's we play it. In addition, Laminated Bamboo Board is used to make square cylinder to stabilize the dimension and pitch of a tube.</p>
7	 <p>竹板琴 Boorimba</p>	<p>"Boorimba" is a combination word from the word of "bamboo" and "marimba". Two octaves tone range with melodious timbre and good resonance, make "Boorimba" becomes a very important baritone instrument for Taiwan Bamboo Orchestra.</p>

8	 <p data-bbox="422 488 657 526">叮咚琴 Ding-Dong</p>	<p data-bbox="820 235 1323 604">“Ding-Dong” was innovated and created at 2010. The name of this instrument is coming from its sounding like “ding dong” when it been stricken. It is chromatic scale that contents two and a half octaves tone range and is a very important leading solo instrument in alto/soprano tone for Taiwan Bamboo Orchestra.</p>
9	 <p data-bbox="422 913 771 996">高音竹琴 SopranoBamboo Xylophone</p>	<p data-bbox="820 622 1339 824">This is a chromatic scale instrument which have two and half octaves and been applied in Taiwan Bamboo Orchestra for playing the speedy pieces such like “Lark” and “Flight of the Bumblebee”</p>
10	 <p data-bbox="422 1265 755 1355">小竹琴 Mini Bamboo Xylophone</p>	<p data-bbox="820 1008 1339 1377">“Mini Bamboo Xylophone” was designed based on the format of Vietnam “t rung”. Mini Bamboo Xylophone have one and half octaves without semitone, the highest pitch of this instrument is equivalent with the highest pitch of Piano. This instrument is suit for speedy pieces performance and for the enlightenment of children’s music education.</p>

Instruction materials for the bamboo musical instruments tuning/making
workshop, 6th~10th May. @Silliman University

A. Time schedule :

TIME	DAY 1	DAY2	DAY3	DAY4	DAY5
7:00~9:00	Registration	Tongatong tuning/making (each group make 2 sets)	Tongatong and bamboo xylophone assembly (One set Tongatong and bamboo xylophone will be assembled on a simplified stand)	Angklung parts tuning (from C4—C6)	GROUP- REHEARSAL 1
9:30~10:30	Opening Program				
10:30~11:00	Overview from resources person				
11:00~12:00	Introduction of traditional bamboo instruments of Philippines			Bamboo slit drum tuning/making	RUN THRU/REHEARSAL 2 SILLIMAN. HALL
12:00~13:30	Lunch Time				
13:30~14:30	Science principal and calculations of bamboo instruments	Xylophone bar and resonator tuning (from C4-G5)	Angklung parts tuning (from C5—G6)	Optional: Bamboo Panpipes tuning/making (only if the time and material is enough)	PREPARATIO N & GROUP REHEARSAL
14:30~17:00	Tongatong tuning/making (from C3—G4)				GIVING OF TOKENS/CER TIFICATES AND CLOSING CEREMONIES

B. Required knowledges to make/tune bamboo musical instruments.

Here are some knowledges you should know before start to tuning/making a bamboo musical instrument:

1. The names and its origin of some traditional Filipino bamboo instruments.

2. How to category those traditional instruments you had observed.

3. The boundary conditions, speed of sound and the frequency of a target pitch are the major factors of tuning/making an areophone and idiophone.
 - A. How to determine the speed of sound in a given temperature?

 - B. How to determine the frequency (pitch) for a certain note?

 - C. Mathematic relationship of the frequency for each note in a scale.

 - D. How the length of a tube affects the pitch of a sound?

 - E. How the diameter of a tube affects the pitch of a sound?

 - F. The factors that affects the pitch for the bar of an idiophone (pateteg). (length, width and thickness)

C. Steps of tuning the assigned bamboo instrument

I am assuming that all of you already realized the knowledge listed above at this time, please follow the steps for each assigned instrument (Tongadong, Pateteg, Panpipes, Angklung) and start you tuning making process. Good luck!!

- a. Tongadong (same procedure to make a tube resonator and Panpipes)
 1. Find out the frequency value of C3-G4 based on a Major C scale.
 2. Calculate the tube length for each note based on its frequency and cut to the length after adding 1cm allowance.
 3. Start fine tuning by using a tuner.
 4. Stop tuning when the frequency is accurate for each note. (plus or minus 5 cents for each note is acceptable)
- b. Pateteg
 1. Determine the note range. (from C4 to C5 based on Pentatonic scale)
 2. To keep the bar line up perfectly, the length for each bar needed to be predetermined. Then fine tuning the bar bay changing the thickness or undercutting at the center of the bar.
 3. Observe of the interaction of the same pitch Pateteg and Tongadong play like a key and resonator.
- c. Panpipes
 1. Find out the frequency value of C5-G6 based on a Major C scale.
 2. The procedure then will be same as the Tongadong tuning.
- d. Angklung (parts)
 1. Find out the frequency value from C5-C6.
 2. Calculate the cavity length for each note based on its frequency. The full length of the Angklung parts need to be 2~3 times of the calculated cavity length.
 3. Cavity Resonance tuning first until it reached the target frequency.
 4. Body Resonance tuning till the best harmonica happens then fine tuning to the accurate frequency. (Shorter the full length of bamboo will higher the pitch while thinner the bamboo tube will make pitch lower.

D. Making some music

Find out the proper music and have a group performance using the bamboo instruments make in this workshop. (some sample music pieces are listed here but you and your team member can make your own rhythm or music.)

Sample Music #1:

Musical score for Sample Music #1. It features a treble clef and a 4/4 time signature. The score is divided into four measures. The first measure contains rhythmic notation (crosses) for all six staves. The second measure contains rhythmic notation for staves 1-3 and melodic notation (solid notes) for staves 4-6. The third measure contains rhythmic notation for staves 1-3 and melodic notation for staves 4-6. The fourth measure contains rhythmic notation for staves 1-3 and melodic notation for staves 4-6. The score is enclosed in a double bar line.

Sample Music #2

Musical score for Sample Music #2. It features a 4/4 time signature and is divided into four measures. The first measure contains rhythmic notation (crosses) for all six staves. The second measure contains rhythmic notation for staves 1-3 and melodic notation (solid notes) for staves 4-6. The third measure contains rhythmic notation for staves 1-3 and melodic notation for staves 4-6. The fourth measure contains rhythmic notation for staves 1-3 and melodic notation for staves 4-6. The score is enclosed in a double bar line.

Sample Music #3

Musical score for Sample Music #3, a 6-string guitar piece in 4/4 time. The score is written on six staves, numbered 1 to 6 from bottom to top. Each staff begins with a '4' above and below the staff line, indicating the time signature. The music is divided into two sections by a vertical bar line. The first section consists of five measures, and the second section consists of three measures. The notation includes various rhythmic patterns, such as eighth and sixteenth notes, and rests. The first section features a steady eighth-note pattern in the lower strings (staves 1-3) and rests in the upper strings (staves 4-6). The second section introduces more complex rhythmic patterns, including sixteenth-note runs and accents, across all six strings.

Sample Music #4

Musical score for Sample Music #4, a 6-string guitar piece in 4/4 time. The score is written on six staves, numbered 1 to 6 from bottom to top. Each staff begins with a '4' above and below the staff line, indicating the time signature. The music is divided into two sections by a vertical bar line. The first section consists of five measures, and the second section consists of five measures. The notation includes various rhythmic patterns, such as eighth and sixteenth notes, and rests. The first section features a steady eighth-note pattern in the upper strings (staves 4-6) and rests in the lower strings (staves 1-3). The second section introduces more complex rhythmic patterns, including sixteenth-note runs and accents, across all six strings.