

## “SAW-U” THE PERFORMANCE PRACTICE IN MUSIC CURRICULUM OF RAJABHAT UNIVERSITIES, BANGKOK

**Sansanee Jasuwan**

*Music Department, Suan Sunandha Rajabhat University, Bangkok, Thailand*

*E-Mail : [sansanee.ja@ssru.ac.th](mailto:sansanee.ja@ssru.ac.th)*

### ABSTRACT

Abstract— The research’s objectives are to study the performance practice music and to design method for Saw-U (the two strings alto fiddle) in undergraduate music curriculums of Rajabhat Universities in Bangkok, in order to fulfill the standard of Thailand Qualifications Framework for Higher Education. The research is the qualitative research by collecting data in-depth interview of field studies by 8 music instructors and 3 musicians from 4 Rajabhat universities in Bangkok. The Data Analysis is based on analytically qualitative data of the synthesizing music curriculums, standard specification in music, and summarizing of the interview. The research result found that the course descriptions and subject content of Saw-U in music curriculums are appropriated for students in undergraduate music subjects, and based on the music of Thailand Board of Higher Education. The student is qualified to play standard Thai music repertoire, as well as capable in having step 9<sup>th</sup> technique under the national standard music criteria. The core subject is consisted of the set of standard pieces in step 9<sup>th</sup>, whereby the ability to conduct dynamic, tone quality, the melodic sharp phase of Saw-U’s repertoire and the knowledge necessity about the rhythmic patterns, singing style, as well as solo, and ensemble techniques. The soloist who has a good skill, should learn to play other instruments to improve himself in other kind of music combination repertory. Teaching and learning Saw-U at Rajabhat Universities in Bangkok must follow the objective and process of Thailand Qualifications Framework for higher education accordingly. More importantly, the 6 learning outcomes are included 1) Moral and ethical behavior, 2) Knowledge, 3) Intellectual skill, 4) Personal relations skill, 5) Mathematical analysis skill and 6) Music skill. The overall learning outcomes are focused and intended in performing as soloist or ensemble player. Besides, the ability to conduct tempo, qualifying of musical knowledge, rhythmic patterns, music repertoire, ability in listening, and to solve of unexpected problem.

Keyword— 1, Saw-U 2, music curriculum 3, Rajabhat Universities in Bangkok

### INTRODUCTION

Among the growth of technology and education, increasing of knowledge based society, education is the key factor in developing people to live happily in changing world. Education in Thailand has reformed for improving standard and quality of students. Educational standards have been developed to improve education in Thailand for all levels, and has been standardized of globalizing international standard in integrating the education system focusing on learning outcomes in each level.

Office of Higher Education Commission has established Thai Qualification Framework for Higher Education (TQF:HEd.) to be the framework for teaching and learning of higher education in Thailand. TQF:HEd. By assigning the learning outcome framework included 1) Moral and Ethical Behavior, 2) Knowledge, 3) Intellectual Skill, 4) Personal Relations Skill, 5) Mathematical Analysis Skill, Communication Skill and Information Technology Application Skill, and 6) Music Skill for quality graduated students.

Teaching and learning music in Rajabhat universities, are required students to learn more than one instruments. In the meantime, students are allowed to select one most interested music instrument by themselves and learn technique of how to play, lessons, songs and all the music necessity required in order to be capable in teaching and learning followed the criteria of Thailand Qualification Framework.

Music is the cultural art that represented the civilization of the nation. More importantly, Thai traditional music is the creative wisdom of the arts that being invented by generations of the masters and transformed

to their cultural life style via traditional ceremonies which have unique performing format as well as the combination musical instruments. When mentioning about Thai music, the things in mind are the musical instruments, combination of ensembles and the music repertoires. Thai musical instruments are the creative invention by utilizing mostly natural materials. And in order to improve the quality of performance alongside with the cultural development. There are different kind of musical instruments which each of them has its own character depends on how the sound is created which are; plucking, bowing, hitting and blowing. Mostly of Thai instruments have made of woods or source of materials in the region. All instruments have been well crafted design in luxurious shape such as the Jakae (plucked strings instrument) which is made of Jackfruit wood. Klui (Thai flute) is made of Bamboo or hardwood, Saw-U, the body is made of coconut shell and hardwood whereby Ranad, the body is made of hardwood and the key is made by bamboo or hardwood. Besides, the musical instrument body, bow is made from horsetail hair, the string is made by silk or wooden string that all are the master pieces of art by Thai masters.

Wikipedia describes the word Saw-U is a Thai bowed string instrument. It has a lower pitch than the Saw Duang (Thai two strings fiddle) and is the lowest sounding of the saw family. Saw-U has been used in Thailand for a long time. The Saw-U have roles in Pipat, Krung Sai, and Mahori ensembles. Saw-U was assumed that was called to be based on the sound heard at low bass as U-U.

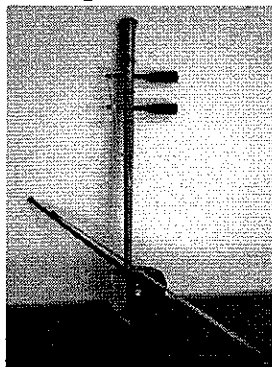
Saw-U is one of the instruments that attractive to students because of its role in emsemble. That is the reason to study Saw-U performance for Thai Music Students from Rajabhat Universities in Bangkok. The purposes of this research are to study the course description and contexts of Saw-U in music curriculums for undergraduate music major students, whereby studying teaching and learning Saw-U of Rajabhat Universities in Bangkok, according to the Thailand Qualifications Framework for Higher Education.

## LITERATURE & THEORY

### 1. Saw-U

Saw-U [1] is the bowed strings instrument that produced sound from two strings vibrated with sound box. The sound box is made by coconut shell that is covered on the open front by cow skin, the neck is made by hardwood. There are two tuning pegs that are played with a bow. The bow is in between the strings and the player tilts the bow to play each string. The bow is made out of horsetail hair like every other bow and needs to have rosin put on occasionally just like a western stringed instrument. The sound has been produced by the vibration of the strings in between the top nut and the bridge. The pitch has been adjusted by the straightening of the strings. The instrument makers usually have their own unique technique that make each one of instrument is individual and different in beauty of sound and shape. The sound of Saw-U could possibly be sweet, some is deep and clam and some is sweet and roar due to how the instrument made and the materials.

Figure 1 Saw-U



The Saw-U is a very fragile instrument and is played traditionally on the lap sitting down. The Saw-U can be played as a solo instrument in some cases but is mainly used for the backbone in some ensembles because of its rich, dark, and mellow tone. The Saw-U performs its best when playing slow to moderate paced melodies. The sound that the saw u makes is more fit for those types of songs rather than fast paced

melodies. The “morn” (bridge) that rests at the bottom is extremely sensitive and drifts over time, causing changes in tone. The Saw-U is similar to the Cambodian Tro u and was developed from the Chinese instrument called Yehu.

## **2. Thai Qualification Framework for Higher Education (TQF:HEd.)**

According to Thai Qualifications Framework for Higher Education [2], it states the learning outcomes as follows:

### **2.1 Moral and Ethical Behavior** are as follows:

2.1.1 to be Honesty, Discipline, and Responsibility to oneself, society

2.1.2 to be Open-mindedness to opinion of others

2.1.3 to have Public Consciousness

### **2.2 Knowledge** are as follows:

2.2.1 to be well-equipped in Fine and Applied Arts and another related study

2.2.2 to have an ability to find and solve problems and develop Fine and Applied Arts systematically

2.2.3 to have knowledge in art relating to contexts of wisdom society and culture

2.2.4 to have knowledge relating to standards and practices in Fine and Applied Arts profession by which ones finish

### **2.3 Intellectual Skill** are as follows:

2.3.1 to collect and evaluate sources of information discretely

2.3.2 to analyze, synthesize, and propose solutions creatively

2.3.3 to integrate knowledge into another study in order to create academic and professional works

2.3.4 to be creative and witty in creating works

### **2.4 Personal Relations Skill** are as follows:

2.4.1 to possess leadership and good inter personality, to understand roles and responsibilities, and to be open-minded

2.4.2 to take responsibility for ones' tasks and to be able to work with others efficiently

2.4.3 to be able to express opinions logically and straightforwardly and to pay respect to different opinions

### **2.5 Mathematical Analysis Skill, Communication Skill and Information Technology Application Skill** are as follows:

2.5.1 to be able to communicate by speaking, listening, reading, and writing and apply Fine and Applied Arts approaches in every day communication and presentation efficiently

2.5.2 to be able to use information technology in searching for information for creating works or presenting efficiently

2.5.3 to be able to apply numeric information or suitable technology for works of Fine and Applied Arts

### **2.6 Music Skill** are as follows:

2.6.1 to be able to use the practical skills to create ones' works

## **3. Music Curriculum in Rajabhat Universities in Bangkok**

There are 5 Rajabhat universities in Bangkok, but only 4 Rajabhat universities have Thai music curriculum those are Ban Somdejchaopraya Rajabhat University [3], Suan Sunandha Rajabhat University [4], Phranakhorn Rajabhat University [5], and Chandrakasem Rajabhat University [6]. Thai music courses of Rajabhat universities [3] are divided into 7 groups of courses such as 1) Major practical skill, 2) Ensemble, 3) Music performing management, 4) Music practice specially, 5) Music history, 6) Music theory, and 7) The other theory related. [3],[4],[5],[6] About Major practical skill, there are 6 subjects related from Thai classical music standard criteria of Office of Higher Education Commission which have 9 level standards for Thai music [7]. In 9 level standards from Thai classical music standard criteria can separate into 3 level of education, 1-3 level for elementary school students, 4-6 level for secondary school students, and 7-9 level for undergraduate students. From music curriculum in Rajabhat universities and Thai classical music standard criteria, students will study songs required in each course, in addition, students need practice, preparing for performance, sitting posture, controlling musical instruments, playing a musical instruments, ability to play in Thai form, sound quality, translation melody, ability to memorize melody, ability to use notes, ability to control rhythm, ability to play percussion, and ability to play in the bands.

## RELATED LITERATURES

Sansanee Jasuwan [8] studied research entitled "The Process of Saw-U Making" aimed to find the elements of Saw-U and how to make Saw-U. This research were collected data by content analysis, field study, in-dept interview, testing and evaluation. The research found that the elements of Saw-U consisted of 1) the neck was made of solid hardwood or solid ivory, 2) the two tuning pegs, 3) the sound box was made of a rather large coconut shell and more of an oval shape, 4) the bow, 5) the bridge was made of tightly rolled cloth, 6) there were two strings made of rope, gut or silk and 7) Rat-ok. The process of Saw-U making started by choosing coconut shell, one off the small ends of the oval was cut off. The back of the oval shell sound box was often carved in an intricate pattern which pierces the shell, making many small holes through, making it louder. A piece of goat or calfskin was stretched across the covering the coconut shell which cutting off. Two holes were cut through the body at opposite sides and the neck was inserted through the sound box and fastened in place. The tuning pegs were inserted through holes in the neck, one above the other. The two strings were fastened to the short, protruding lower end of the neck, passes over a bridge resting on the skin head and up the neck, being fastened to the tuning peg. To help make the strings tighter, a cord was fastened around them and the upper part of the neck and pulled tight, drawing the strings toward the neck, that was Rat-ok. The bridge was placed between the strings and the skin. The bow was inseparably attached to the instrument body: the horsetail hairs of the bow passed between the two strings and were then fastened to each end of the bow. The name of Saw-U came from the characteristic sound. The coconut shell, a piece of goat or calfskin at the sound box, the strings affected the sound quality of Saw-U.

Sansanee Jasuwan [9] studied research entitled "The Development of Thai Music Theory for Thai Qualification Framework (TQF) in Higher Education: A case study of the Rajabhat Universities in Bangkok", aimed to study the framework of Thai Music Theory in Rajabhat Universities' curriculums and to develop the content of Thai Music Theory for Thai Qualification Framework in higher education. This study is the qualitative research. Data was collected through the in-dept interview of 7 music instructors in 4 Rajabhat universities in Bangkok and content analysis. The research results are as follows 1) the framework of Thai Music Theory in Rajabhat universities music curriculums in Bangkok consists of the three main issues. The first issue is the elements of Thai Music, the second issue is background of Thai classical music. The last issue is the feature of Thai Music; Thai musical instruments, Thai ensemble and Thai songs. 2) The contents of Thai Music Theory for Thai Qualification Framework in Higher Education has five issues from six standards of learning dimensions.

Sansanee Jasuwan [10] studied research entitled "Khim" performing repertory for Thai Music Students in Rajabhat Universities aimed to study the contents and contexts of Khim skills appropriate for students in undergraduate music majors and to study teaching and learning Khim of Rajabhat Universities in Bangkok, according to the Thailand Qualifications Framework for Higher Education. This research was qualitative research, collecting data by in-depth interview 11 participants and field studies in 4 Rajabhat universities in Bangkok. Data Analysis was based on analyzing qualitative data. The research result found that the contents and subjects matter of "Khim" skills that appropriated for students in undergraduate music majors are based on the music of the Thailand Board of Higher Education, at least the students will be able to play Thai music songs and techniques to Step 9 of the standard criteria musical Thailand. The core contents consist of the set of songs on step 9, the ability to adjust the volume and tone, the understanding of technique on melody line of Khim and the necessary knowledge about percussion, Thai singing style, solo, ensemble and performing. The Soloist students should have a good personality and should learn the other instrument to be skilled in playing ensemble. Teaching and learning Khim of Rajabhat University in Bangkok, according to the Thailand Qualifications Framework for higher education. There are 6 learning outcomes in Thai Qualifications Framework for Higher Education in music curriculum. Learning outcomes in all aspects for those focused and intent on playing and training to be a soloist and performing in the band including the ability to control the tempo, to have knowledge of the song, known as the rhythm of the song, experience of listening and problem solving.

Pansak Vandee [11] studied about Thai Singing for Thai Music Students Development in Rajabhat Universities. The objective of this research were to study subjects of Thai singing skills appropriate for students majoring in music courses and to develop the knowledge and teaching practice singing in Rajabhat Universities in Bangkok, according to the National Qualifications Framework for higher education. This

research is a qualitative research, collecting data by in-depth interview of 11 participants from 4 Rajabhat universities in Bangkok. Data Analysis is based on analyzing qualitative data. The research result found that the subject matter of practical skills in Thai singing appropriate for students majoring in music based on the music of the Thailand Board of Higher Education. The students majoring in Thai Music have to be able to perform basic singing at least five songs or level 5 from the music of the Thailand Board of Higher Education for Thai music students. Thai music students in major singing must have ability in level 8 the music of the Thailand Board of Higher Education. The development of the material and teaching practice Thai singing style in Rajabhat Universities in Bangkok, according to the National Qualifications Framework for higher education include drills that can be performed include the different ways of playing, singing performed the solo song including the ability to sing for dance and theatrical entrepreneur.

Prasan Briburanangkul [12] studied about Thai Percussion : The Important Musical Instrument for Thai Music Students The objective of this research were to study Thai percussion subjects of practical skills appropriate for students in undergraduate music majors and to develop the knowledge and teaching practices Thai percussion in Rajabhat Universities in Bangkok, according to the National Qualifications Framework for higher education. This research is qualitative research. Data collected by interviewing 5 instructors Thai percussion in Rajabhat University in Bangkok. The research result found that the subject matter of practical skills in Thai percussion leather appropriate for students majoring in music in Thailand is based on the music of the Thailand Board of Education. The students majoring in music must practice in based step that are Probkai and song-mai by using Tone and Rummana or Klong Kaeg. There are divided into three groups of students : Pipat, Krung Sai and Mahori, Thai percussion can be used to the different types. The student must have ability in level 4 for Tapone and Klong Tad, level 4 for Klong Song Na. The student in Wong Krung Sai and Wong Mahori must have ability in level 5 for Tone and Rummana or Klong Kaeg. The development of the material and teaching practices Thai percussion in Rajabhat Universities in Bangkok, according to the National Qualifications Framework for higher education include drills that can be played in a band style. Including the ability to control the rhythmic pattern and the band. Learning outcomes in all aspects for those who can solo, play in the band and must have knowledge of the song.

## METHODOLOGY

This research was qualitative research, collecting data by in-depth interview in 4 Rajabhat universities in Bangkok include 8 music instructors and 3 musicians who expert in Saw-U, total 11 participants and field studies in 4 Rajabhat universities in Bangkok. Data Analysis was based on analyzing qualitative data by synthesizing Rajabhat music curriculums, standard specification in music, summarizing the interview and observation.

## RESULTS

The research results found that

### 1. The contents and subjects of Saw-U in music curriculums for undergraduate music major students

There are all 7 groups of courses in Thai music curriculum from 4 Rajabhat universities and more have many subjects in each group. The knowledge, contents and subjects matter of "Saw-U" skills appropriate for students in undergraduate music majors to study the contents below :-

1.1 **The contents of Saw-U** are based on the music of the Thailand Board of Higher Education, at least the students will be able to play Thai music songs and techniques to Step 9 of Thai classical music standard criteria of Office of Higher Education Commission. The core contents from 4 years, the student must be able to play music types consist of Homrong at least (Overture) 9 songs, Plang Tao at least 15 songs, Plang Tub at least 5 sets of song, Plang Ruing at least 5 sets of song, Plang Yai at least 10 songs, and solo at least one song.

1.2 **The skill subjects** from 4 music curriculums consist of 6 courses of major practical skill : Thai Music skill 1-6, 4 courses of ensemble : Thai Music Ensemble 1-4, 8 courses of the other skill for example, Thai Music Skill for Thai Dance, Thai Music Skill for Ritual, Thai Music Skill from literature play, Thai Drum Skill, and Thai Music Solo Skill.

1.3 **The theory subjects** consist of Thai Music Theory 1-2, Thai Music Composition, Thai Music Notation, Thai Music Analysis, Maintenance and Repair of Thai Music Instruments, etc. The students will be able to

learn it to review music recordings, because learning and teaching Thai music focuses on listening and memory, no scores or note for students. Analysis and composition in music, the students will be able to analyze main melody of the songs for understanding specific techniques for playing Saw-U. Maintenance Thai musical instruments course, students will be introduced to maintain, preliminary repair and compared the sound to be played. Academic adjustable Thai music band course, students can be controlled and played in the different band.

1.4 **The other subjects**, such as Thai singing course, students majoring in music are a fundamental need to practice Thai singing style to enable students to understand the sound of the musical style and technique of vocal. That are useful in patterning of singing with bands on various occasions. In the course of music performing management, the students must use their knowledge of music theory, music practice, music recital and to handle the concert before graduation. Students must show their ability to conduct, their own independent music instrument that are specific techniques for playing Saw-U.

2 **Teaching and learning Saw-U of Rajabhat Universities in Bangkok**, according to the Thailand Qualifications Framework for higher education. There are 6 learning outcomes in Thai Qualifications Framework for Higher Education in music curriculum includes 1) Moral and ethical behavior, 2) Knowledge, 3) Intellectual skill, 4) Personal relations skill, 5) Mathematical analysis skill and 6) Music skill. From the interviewing 11 participants and field studies in 4 Rajabhat Universities in Bangkok found that teaching and learning Saw-U according to the curriculum of the 4 Rajabhat Universities in Bangkok found that the content and activities of teaching and learning the students are able to develop in all 6 learning outcomes from the subjects or courses in the study. Researcher can be analysis of learning outcomes as follows:-

**Table 1**  
**Analysis of learning outcomes, courses in curriculum of 4 Rajabhat universities in Bangkok.**

Learning outcomes	Groups of courses
1.Moral and ethical behaviour	1.Ensemble
	2.Music performing management
	3.Music practice specially
2.Knowledge	1.Major practical skill
	2.Ensemble
	3.Music performing management
	4.Music practice specially
	5.Music history
	6.Music theory
	7.The other theory related
3.Intellectual skill	1.Ensemble
	2.Music performing management
4.Personal related skill	1.Ensemble
	2.Music performing management
	3. Music practice specially
5.Mathematical analysis skill	1.Music performing management
	2. Music theory
	3. The other theory related
6. Music skill.	1.Major practical skill
	2.Ensemble
	3.Music performing management
	4.Music practice specially

In addition, the activities that the students were musical performances on various occasions throughout in four years study could help improve learning outcomes that are more complete, for example, music performing on the occasion of important dates, in the festival, the rituals, in concerts etc..

**Table 2**  
**Analysis subjects in curriculum of 4 Rajabhat universities in Bangkok and Thai classical music standard criteria assessment.**

Groups of courses	Subjects	Thai classical music standard criteria assessment
1. Major practical skill	-Thai Music skill 1-6 -Thai Music Solo Skill etc.	-playing a musical instruments -preparing for performance -ability to play in Thai form -sitting posture -sound quality -translation melody -ability to memorize melody
2. Ensemble	-Thai Music Ensemble 1-4 etc.	-sound quality -translation melody -ability to memorize melody -ability to control rhythm -ability to play percussion -ability to play in the bands -ability to use notes
3. Music performing management	-Management for Music Performing -Music Presentation etc.	-preparing for performance -ability to play in the bands
4. Music practice specially	-Thai Music Skill for Thai Dance -Thai Music Skill for Ritual -Thai Music Skill from literature play -Thai Drum Skill etc.	-controlling musical instruments -playing a musical instruments -ability to play in the bands
5. Music history	-Thai Music History etc.	-ability to memorize melody
6. Music theory	-Thai Music Theory 1-2 -Thai Music Composition -Thai Music Notation -Thai Music Analysis etc.	-ability to use notes -preparing for performance
7. The other theory related	-Maintenance and Repair of Thai Music Instruments -Music Business -Music Marketing etc.	-preparing for performance

Learning outcomes in all aspects for those can be able to improve the students focused and intent on playing and training to be a soloist and performing in the band including the ability to control the tempo, to have knowledge of the song, known as the rhythm of the song, experience of listening and problem solving.

### CONCLUSION AND FUTURE WORK

The course descriptions and subject content of Saw-U in music curriculums are appropriated for students in undergraduate music subjects, and based on the music of Thailand Board of Higher Education. The student is qualified to play standard Thai music repertoire, as well as capable in having step 9<sup>th</sup> technique under the national standard music criteria. The core subject is consisted of the set of standard pieces in step 9<sup>th</sup>, whereby the ability to conduct dynamic, tone quality, the melodic sharp phase of Saw-U's repertoire

and the knowledge necessity about the rhythmic patterns, singing style, as well as solo, and ensemble techniques. The soloist who has a good skill, should learn to play other instruments to improve himself in other kind of music combination repertory. Teaching and learning Saw-U at Rajabhat Universities in Bangkok must follow the objective and process of Thailand Qualifications Framework for higher education accordingly. More importantly, the 6 learning outcomes are included 1) Moral and ethical behavior, 2) Knowledge, 3) Intellectual skill, 4) Personal relations skill, 5) Mathematical analysis skill and 6) Music skill. The overall learning outcomes are focused and intended in performing as soloist or ensemble player. Besides, the ability to conduct tempo, qualifying of musical knowledge, rhythmic patterns, music repertoire, ability in listening, and to solve of unexpected problem.

Research in the future will be study all music curriculum from Rajabhat universities in Thailand and all of music instruments which teach in music curriculum.

## APPENDICES

Saw-U is a Thai bow-string musical instrument which have its own unique character. Saw-U was developed for a long time. The role of Saw-u appeared in many types of bands, all of Pipat, Krung Sai and Mahori as well as playing with performing arts. The song for Saw-U will have special techniques and aesthetic songs that made Saw-U is an interesting instrument and should encourage the teaching and learning of all levels of education to preserve and disseminate the arts and culture of the nation.

## ACKNOWLEDGEMENTS

The research was conducted under the policy of Suan Sunandha Rajabhat University in promoting and enhancing the faculty members' potentials in term of research. The budget was allocated through the Research and Development Institute and granted to researchers qualified. The researcher would like to express my grateful thanks to Suan Sunandha Rajabhat University the Research and Development Institute and more importantly, Prof. Dr. Weerachat Premananda and all of faculty members of the music division.

## REFERENCES

- [1] Wikipedia (2017), "*Saw-U*", URL:[https://en.wikipedia.org/wiki/Saw\\_u](https://en.wikipedia.org/wiki/Saw_u)
- [2] Office of the Higher Education Commission (2009), "Thai Qualification Framework for Higher Education (TQF:HEd)", *Ministry of Education*, Bangkok, Thailand.
- [3] Ban Somdejchaopraya Rajabhat University (2011), "Music curriculum", *Ban Somdejchaopraya Rajabhat University*, Bangkok, Thailand.
- [4] Suan Sunandha Rajabhat University (2011), "Music curriculum", *Suan Sunandha Rajabhat University*, Bangkok, Thailand.
- [5] Phranakhorn Rajabhat University (2013), "Music curriculum", *Phranakhorn Rajabhat University*, Bangkok, Thailand.
- [6] Chandrakasem Rajabhat University (2011), "Music curriculum", *Chandrakasem Rajabhat University*, Bangkok, Thailand.
- [7] Office of Higher Education Commission (2002), "Thai classical music standard criteria", *Office of Higher Education Standards, Office of Higher Education Commission*, Bangkok, Thailand.
- [8] Sansanee Jasuwan (2014), "The Process of Saw-U Making", *VIII. International science conference*, July 21-22, 2014 Paris, France.
- [9] Sansanee Jasuwan (2015), "The Development of Thai Music Theory for Thai Qualification Framework (TQF) in Higher Education: A case study of the Rajabhat Universities in Bangkok", *Proceedings of ISER 7<sup>th</sup> International conference*, 19<sup>th</sup> September 2015, Beijing, China.
- [10] Sansanee Jasuwan (2017), "Khim" performance for Thai Music Students in Rajabhat Universities", *Proceedings of ISERD International conference*, 21<sup>st</sup>-22<sup>nd</sup> February 2017, Prague, Czech Republic.
- [11] Pansak Vandee (2017), "Thai Singing for Thai Music Students Development in Rajabhat Universities", *Proceedings of ISERD International conference*, 21<sup>st</sup>-22<sup>nd</sup> February 2017, Prague, Czech Republic.

[12] Prasan Briburanankul (2017), "Thai Percussion : The Important Musical Instrument for Thai Music Students", *Proceedings of ISERD International conference*, 21<sup>st</sup>-22<sup>nd</sup> February 2017, Prague, Czech Republic.