LIBERTY UNIVERSITY

SCHOOL OF MUSIC

Teaching and Learning Music Technologically:

A Thesis Curriculum Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor in Music Education

by

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Acknowledgments

To Solsito

Abstract

Since the beginning of the Covid-19 pandemic, multimedia technology has transformed all educational paradigms. In this mixed-methods study, the researcher shows the effects of inspiring instructional technologies on assimilating musical knowledge and developing performance concepts. Thus, assisted- technology learning is the foundation of inspiration to induce music performance and theory, hardening self-esteem as the core subject of this study. The researcher measures time and skills gathered over two years by a group of high school music students, assessing them with two variables: first, traditional conservatory instruction, and second, the MusicLab method. In addition, the researcher quantifies how technological tools intervene in fundamental musical knowledge and development in a greater or lesser time and what capacities are established more than others at the same phase with the two variables.

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Chapter One: Introduction

In the modern era, keeping music at the top of the list when choosing an endeavor is challenging. However, music technology quickly adopted an absolute center of attention, supporting music, strengthening the arguments on music education, and advocating to talk about technology as a new musical element. "Imagine Music as a waveform inside a screen."

The model expands upon distinct phases in which technology is the dialect used for the teaching-learning experience, breaking frontiers to achieve music education and to coach in diverse equipped environments, promoting an inspiring and creative learning process.

The prototype work of a contemporary music education method is: "Music Lab Berklee City Music Global Network." Technology plays a significant role in every musician's learning experience; the initiative backbone stands for a synchronize curriculum using technology tools to learn theory and musical praxis, regardless of age, gender, or culture. The goal is to significantly revolutionize the music learning pathway and make it accessible in places where the arts have struggled to have a cultural impact.

The endeavor aims to generate a happy, inclusive environment where youth can familiarize themselves and socialize by creating a musical object, as a comfortable routine as fantastic as going to the shopping mall and jumping into the "Geodesic Dome" filled with digital audio workstations. The rationale is to use technology to preserve music as a relevant source on the list when competing with video game technology, following an old saying, join them if you cannot beat them. However, the final goal is to engender the correct philosophy through technology to enhance the arts and boost the community's well-being.

The project music lab is an initiative that started in the spring of 2019. Inspired to bring students into a futuristic technology-equipped cockpit filled with digital audio workstations to feel, see, and touch the musical object evoking a spaceship.

The rationale for choosing this topic is: To incorporate Digital Audio Workstations as an inventive contemporary musical instrument. (DAWS).

The project mission is to coach, form, and promote diverse technology-based music learning communities based on excellence through groundbreaking and long-lasting educational experiences. Furthermore, the project wishes to expand musical culture, improving quality of life through education.

The curriculum is instrumental-based, and the theory instructed in the classroom links knowledge using sequencer software to shape musical forms supporting constructive cognitive activity. Musiclab's administrative philosophy connects student success in environments where mistakes are permitted, reinforcing self-esteem and personality. According to Hansen, "music cultivates positive attitudes, engagement, and joy with the curriculum."[1]MusicLab synchronizes the musical elements with the human component, multiplying disciplines that foster talent and opportunity. The effort, in three years, has been able to sustain twenty-four job positions and keeps expanding with success.

Musiclab launches opportunities for professional development, clinics, workshops, and masterclasses. MuiscLab is a new model to foster music education in Latin America; furthermore, the mission core lays its faith in praxis through technology. The rapid technological growth combined with the latest music consumption and distribution has expanded the

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[1] Dee Hansen, *Handbook for Music Supervision* (Reston, Va: MENC, National Association for Music Education, 2002), 75.

possibilities for musicians to express themselves. According to The New Handbook of Research on Music Teaching and Learning, "electronic information technology is altering how teaching and research are being undertaken in education."[2] Musiclab offers a top-of-the-line technology platform and tools to develop young musicians' skills in a safe environment and contribute to more musicians into the music spectrum.

Superior Teaching and learning deserve access to the best equipment and musical technology. Clinton states, "You must have quality faculty to build a program."[3] MusicLab supports professional development technology assessments for teachers in different learning areas. It is necessary to know before and while developing institutional skills. The core theorizes nine modules divided into two units concerning elementary music, four elements for middle school, and five categories for high school. Musiclab's unique method develops cognition by learning the musical elements from another perspective, just like Nehemiah's phrase: "Instead, I devoted myself to work on this wall. All my men were assembled for the work; we did not acquire any land."[4] Nehemias' non-stop desire to develop and make things fresh conveys MusicLab's willingness to innovate to succeed on a specific mission.

MusicLab's curriculum centers on personalized training using technology; the model organizes students into groups to engage in different tasks displaying the musical texture. A unique experience presenting the students with new concepts on listening and looking at the

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[2] Music Educators National Conference (U.S.), *The New Handbook of Research on Music Teaching and Learning: A Project of the Music Educators National Conference* (New York: Oxford University Press, 2002), 257.

[3] John Clinton, *Embracing Administrative Leadership in Music Education* (Chicago, Il: GIA Publications, 2015), 112, http://www.giamusic.com.

[4] Sarah Ivill, “Nehemiah 13: 4-31,” in *Ezra and Nehemiah: The Good Hand of Our God Is upon Us* (Grand Rapids, Michigan: Reformation Heritage Books, 2019), 33. "An eleven-lesson Bible study of the Olt Testament Books of Ezra and Nehemiah".

music and its elements. MusicLab's central goal is to individualize knowledge, engaging success. The model has effectively completed various subjects like ear training, harmony, performance, improvisation, composition, production, and DAW skills from the core to the middle and advanced levels.

Each class initiates with a warm-up where students share their musical experiences and develop projects. MusicLab's philosophy relies on praxis. Thus, the program is firsthand playing. Next, teachers have a series of exercises. The music interaction occurs in a geodesic sphere structure filled with digital audio workstations and flat monitors. Information is digitally screened, so the concept allows the students to visualize the musical object. According to Hansen, "many processes must occur to develop and implement a quality curriculum."[5] Working with MusicLab innovative and exciting series of resources allows teachers to monitor student practice frequency through the Berklee Pulse platform. MusicLab's education objectives center on *Knowledge, Synthesis, Liberty, and Creativity*. First, however, three relevant steps must be meticulously followed to fulfill each student project:

1. Design inspires students to experiment with music and feel free while learning and increasing their knowledge. (Motivation).
2. Projects enhance collaboration with their peers until every task is completed. (Teamwork).
3. Students are encouraged to build a repertoire for the final concert's fest showcase to summarize assignments at the end of each module. (Self-Esteem).

[5] Hansen, *Handbook for Music Supervision*, 75.

Curriculum Summary

Module 1

Ableton Live & Music Theory Basics

Content: *- Harmony 1: Diatonic Chords - Major

- Song Structure
- Critical Listening: The use of effects such as Reverb, Delay and Compression, Frequency Balance, Instrument Choice
- Ear Training: Basic Rhythm Subdivisions: 1/4, 1/8, 1/16
- Ableton Live 10 Basics: Creating Tracks, MIDI, and Audio Tracks. Use of Session View and Arrangement View.
- Composition Technique: Chopping and Lifting uses.
- Producer Reference Playlist

Module 2

Ableton Live 10 Instruments & FX Part 1

- Ear Training: Consonant Intervals *- Harmony 2: Diatonic Chords Progressions - Minor and Modal Interchange (part 1)
- FX Use: Reverb, Delay, EQ
- Synths Basics: Use of Analog and WaveTable
- Drumrack: Recording, editing, and processing samples.
- Envisioning Project.
- Composition Technique: The Soli
- Composition Technique: Applying Chopping

Project Showcase #1

Module 3

Ableton Live 10 Recording And Editing Essentials

- Ear Training: 3rds and 7ths *- Harmony 2: Diatonic Chords Progressions - Minor and Modal Interchange (part 2)
- Microphones 101
- Mono and Stereo Recording Techniques
- Applying Warp Functionalities

- Pre-Production: Bring a Demo
- Noteflight Intro: Lead sheet
- Arrangement View: Live Advanced Editing Functionalities
- Composition Technique: Voice Leading Duration: 9 weeks*

Module 4

Ableton Live 10 MIDI Effects and Composition Techniques

- Ear Training: Chord recognition & 2dns and 6ths intervals *- Harmony 3: Reharmonization & Chord Scales (part 1)
- Ableton Live MIDI Effects
- Automation Functionalities
- Melodic Concepts: Tension / Release; Consonance/ Dissonance
- Songwriting 101: Intro to lyric Writing & abstract song concepts
- Noteflight Intro: Lead sheet
- Arrangement View: Live Advanced Editing Functionalities
- Composition Technique: Guide Tones & Tensions

Project Showcase #2

Module 5

Ableton Live 10 Instruments & FX Part 2

- Ear Training: Melodic Dictation 101 *- Harmony 3: Reharmonization & Chord Scales (part 2)
- Physical Modeling Synthesis
- Granular Synthesis
- Instrument Racks
- Audio Effects Racks
- Envelope Automation
- Multiband - Compression
- Arrangement View: Live Advanced Editing Functionalities
- Song Writing: Lyric Editing & Musical Embellishments

Module 6

Ableton Live 10 Advanced Mixing Techniques

- Ear Training: Scale Recognition *- Harmony 3: Reharmonization & Chord Scales (part 3)
- Mixing Fundamentals
- Mono and Stereo EQ & FX

- Series and Parallel Processing
- In-Depth Compression
- Advanced Automation
- Aux and Busses: Advanced Signal Flow configurations
- Arrangement View: Live Advanced Editing Functionalities
- Composition Technique: Drop 2 & 2+4 Voicings

Module 7

Ableton Live 10 Live Sets - Live Performances

- Ear Training: Scale Recognition 2 *- Harmony 4: Vertical Harmony
- MIDI environment: Understanding the MIDI language
- MIDI signal flow
- Macros
- MIDI controllers
- Editing MIDI: Program Change and CC commands
- Session View: Fixed Length & Quantization tools for LIVE looping
- Composition Technique: Quartal Voicings & Clusters

Project Showcase #3

Module 8

Film Scoring & Postproduction in Ableton Live

- Ear Training: Chord & Melodic Dictation *- Harmony 4: Modal Harmony Concepts
- Post-Production Workflow
- Foley
- ADR
- Sound FX: Sound Design
- Film Scoring
- MIDI to XML Noteflight
- Composition Techniques for Film: Superstructure Triads

Module 9

Mastering in Ableton Live 10

- Ear Training: Chord & Melodic Dictation *- What is Mastering?: Maximizers & Limiters Explained
- Mastering workflow
- LUFS Metering & Loudness interpretation

- Dynamic Equalizers
- MID / SIDE Compression
- Concept/ Tonality/ Color of the finalized product
- Publishing for Spotify, Apple Music, Youtube & more

Project Showcase #4

Some innovative approaches to music education emerged during the twenty-first century due to the rise of technology-assisted learning and research. However, few researchers have shown exactly how efficient assisted technology instruction is and what contributions technology research and ideas made to music pedagogy. As a result, a contemporary music teaching trend focuses on learning goals, a new threshold for competition, and practicing immersing in a virtual environment. The MusicLab Academies tap into the student mindset by adopting during play such as creativity, imagination, and state of flow applied to learn in virtual behaviors. This study aims to make the community conscious of the relevance of coexisting with a technology-assisted education model in recent years. Rees suggests,

> The music education community has been slow in adopting these processes, probably because of a combination of skepticism, lack of access to technology in discomfort with learning how to use computer-based applications; however, new generations of more accommodating music hardware and software, more powerful computers, and improved audiovisual resources over the internet address some of the concerns that may have kept music educators from employing them.[6]

Technology-assisted music learning has become an effective motivational system inspired by the harmonic and melodic modal algorithms produced by the continuous research of the music technology industry and the latest innovations. Therefore, it is crucial to incorporate the digital audio workstation default options to coexist with the curriculum and study online and

[6] Fred Rees, The New Handbook of Research on Music Teaching and Learning: A Project of the Music Educators National Conference (New York: Oxford University Press, 2002), 257.

face-to-face content. Furthermore, it reinforces the understanding of the elements of music using an innovative new way of teaching and learning with creativity while inventing contemporary teaching techniques. Such an analysis will help the field and music instructors and practitioners to instruct their students using the best practices.

Virkkula argues that "the change in the teacher's role from the distributor of information to the educational planner of many-sided supportive environments and the coordinator of learning is a justified area of pedagogical development work in music institutes."[7]

At MusicLab, the expansion of progressive learning forms a crucial freedom environment where mistakes can occur by playing music with technology tools encouraging originality. In addition, MusicLab fosters spaces where students can take away the knowledge from their teachers and apply it not only in theoretical exams or tasks but in practical exercises, creating and performing music without the fear of judgment from the teacher and their peers.

Background

Traditional Music education is losing ground quickly; newly emerging modern technologies and video games have overtaken music consumption. In addition, instant access to music genres distances curiosity, making music education less enjoyable. The American public school curricular music education program dates to early 1838 when public schools in the United States initially designed and developed musical programs as part of the learning process. The Boston Academy of Music was the first American school and Institute of higher music education in the United States. After the Academy was founded in 1832, its multidimensional program became vastly successful because it combined music-making with music listening to create a

[7] Esa Virkkula, 2016. “Communities of Practice in the Conservatory: Learning with a Professional Musician.” British Journal of Music Education 33 (1): 27–42. doi:https://doi.org/10.1017/S026505171500011X. [Crossref], [Web of Science ®], [Google Scholar].

profound musical teaching and learning experience. According to Elliot, "the nature of music and musical works have three significant characteristics. First, it views music as a cognitive activity. Second, it heavily prefers “musicing” to 'merely' listening, and it views a musical work as a multidimensional achievement rather than an object."[8]

Music is a numeric subject as part of the upper structure of knowledge. "Etymologically, the Latin word trivium means "the place where three roads meet" (tri + via); hence, the subjects of the trivium are the foundation for the quadrivium, the upper-division of medieval education in the liberal arts, which comprise arithmetic (number), geometry (number in space), music (number in time), and astronomy (number in space and time). Educationally, the trivium and the quadrivium imparted the students' seven liberal arts of classical antiquity."[9] Each art must be crafted and researched to achieve cognition as part of human practice.

The step to achieving greatness is to share knowledge with the people, granting a gold medal to The Boston Music Academy as the cornerstone of curricular music teaching and learning in America. However, after almost two hundred years, it has been challenging for the community to approach music professionally; thus, innovation is crucial to keep music an essential profession. A music performance achieves intended changes of a musical kind through actions taken up deliberately or at will. We are unleashing the power of music in multimedia, like cinema or commercials, where music is the core of the emotional flow of the images; imagine a scary scene without music. A musical concert will lead the audience to person writers,

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[8] David J. Elliott, “The Nature of Music and Musical Works,” in *Paraxial Music Education*, ed. David J. Elliott, *Reflections and Dialogues* ed., 22 vols. (Oxford: Oxford University Press, 2005), 81.

[9] George Bugliarello, *A New Trivium and Quadrivium*, ed. Technology and Society, vol 23, issue 2 ed. (New York: Bulletin of Science, 2003), 107, May 27, 2015, accessed March 23, 2022, https://journals.sagepub.com/doi/10.1177/0270467603251296.

poets, sculptors, and movie directors to sprint and unleash their imagination for future collaboration within the multidimensional experience. Praxis in music performance shapes the musical object and elaborates upon reactions of memories and impulses.

Historically, musical events generated massive community congregations and changed public music education, where music was adopted as a curricular subject in the nineteenth century. The Boston Academy of Music received extensive financial support to enhance its musical program and, as a result, set a new precedent for the success of funding music education. Consequently, in 1832, the Boston Academy of Music became the first Institute in music higher education in the United States. In addition, the Boston Academy of Music was the first American school to create a formal music education in Boston, designing and developing musical programs as part of the learning process. It aimed to help students develop theoretical musical skills for religious services and designed and developed musical programs as part of the cognitive learning process.

Lowell Mason, one of the Boston Academy of Music founders, was among the writers and publishers who produced the first *Manual of Instruction*. This textbook influenced music learning throughout the country in the following decades. To develop musical skills in schools, numerous teachers adopted Mason's manual. Later, due to the success of this first textbook, several authors published other texts to guide students in healthy vocal techniques. Thus, Mason became the first teacher to teach music education in Hawes public school. The accomplishment of this venture encouraged the local school committee to integrate musical education in the entire school.

School communities then agreed that music education must be among the prioritized subjects in the school curriculum. As a result, the Boston Academy of Music grew dramatically.

It developed numerous higher education institutions within the United States while the field of music itself experienced a great deal of innovation and development. Birge states, "In Europe, the same nineteenth century saw the work of Monteverdi, Caccini, Scarlatti, Lully, Purcell, and the rest, struggling for a new form of expression, new instruments, new combinations, and new forms of writing music."[10] At the same time, music teachers worldwide rushed to universities and colleges for five, four, and three-year music programs to effectively train themselves to deliver music instruction to students. This influx of students encouraged exponential music and other arts growth in higher education.

The twentieth and twenty-first centuries saw substantial global, diverse, and complicated changes in numerous governments and organizations. Issues like global warming, misuses of technology, pandemics, and war have out sensed the human mind. However, technology has served as a tool helping to prevent a social outbreak from breaching interaction and communication; during the pandemic, higher education institutions resume classes thanks to the solid technological infrastructure already intrinsic in institutions. MusicLab Academies are reaching out to unserved communities to attend the online program as part of the cultural aesthetical vision of the rounded projected citizen in Latin America, where, unfortunately, not everyone has access to a quality music education. Reimer suggests, "One cannot simply ignore the world in which people live as one goes about helping them become more sensitive to the aesthetic qualities of the world."

Furthermore, political developments in multiple social sectors have become more prevalent in the past three decades; issues such as racism, genre parity, and the new electric era

[10] Bettine Birge, *History of Public-School Music in the United States*, (Bloomington: Oliver Ditson Company, 1937), 72.

have opened doors to innovation. Therefore, teaching music and any subject need to be oriented in an innovative social and cognitive context. Gies states that "reflectiveness and the ability to adapt to changes requires professional frameworks that are elements of academizing higher music education. And not only strengthening the study programs' employability orientation but also extending the horizon of a professional identity inspired by the professional ethos of the craft."[11]

In addition, since the arrival of video recording and transmission techniques, first on television and then on the internet, music enthusiasts have acquired the possibility to enjoy performances they could not attend in person. Currently, music students have more exposure to broadcast music due to the emergence and improvement of digital multimedia technologies. While unfortunately, much of the latest literature has focused on the belief that has gradually consumed professional musicians' impression of how music is taught at public schools.

Advanced technology has opened doors to reshaping twenty-first-century education in many aspects, redesigning fun, game-oriented technology tools as alternative approaches to transmit knowledge from one topic to another. Williams and Webster state, "exploratory software encourages the student to explore resources about a topic positively, moving from one topic to another in an approach that makes sense."[12] In addition, technology coexists with instant communication, surpassing boundaries, globalization, overseas trades and markets, production techniques, advanced technology, the internet and networking, and global communication have

[11] Stefan Gies, 2019 . ¨How music performance education became academic: On the history of music higher education in Europe¨ in “Becoming Musicians: Student Involvement and Teacher Collaboration in Higher Music Education.” NMH Publications 2019 (7). Oslo: Norwegian Academy of Music. https://hdl.handle.net/11250/2642235.

[12] David Brian Williams and Peter Richard Webster, *Experiencing Music Technology: Software, Data, and Hardware*, 2nd ed. (New York: Schirmer Books, 1999), 128.

entered common parlance. Therefore, technology has become vital to approaching online music instruction design and delivery.

According to McMurrer, "college curricula have undergone continuous reforms to create and deliver all courses over the Web."[13] The possibility of teaching and learning music through specialized software is one of the most important driving forces for educational change. Awarding access to the possibility of teaching and learning music through the internet might narrow the cultural bridge and allow music education for everyone.

Theoretical Framework

Instructional delivery is an essential practice that teachers must master to effectively instruct students to maximize knowledge and skill acquisition and evaluates what the learners know, which is crucial in teaching. However, students might not understand the concepts behind the instructional setting and their significance, such as why some teacher's willing to keep up with traditional methods instead of active instruction. Furthermore, Carlsen suggests, "excessively free and personal interpretations will often not be encouraged by traditional juries, which may contribute to a deplorable lack of imagination and courage in performance. Students should choose what is right for them, but you must be aware of differences and possibilities. Likewise, institutions must ask themselves whether their teaching aligns with their basic values." [14] Why not move forward with the trends and modern technology in the field? Education

[13] J. McMurrer, "Choices, Changes, and Challenges: Curriculum and Instruction in the NCLB Era," *Washington DC: Center on Education Policy*, 2007, https://www.scirp.org/(S(lz5mqp453edsnp55rrgjct55))/reference/ReferencesPapers.aspx?ReferenceID=1857056.

[14] Morten, Carlsen. 2019 ¨ Maestro or Mentor? On cultural differences in performance education¨ in "Becoming Musicians: Student Involvement and Teacher Collaboration in Higher Music Education." NMH Publications 2019 (7). Oslo: Norwegian Academy of Music. https://hdl.handle.net/11250/2642235.

continues mastering efficiency, motivating, and maximizing classroom engagement; MusicLab's vision is to embrace the students inside an interactive musical acoustic dome evoking a spaceship with controls as computers where the environment helps cognition and motivation impulses teamwork. The student stimulus affects their interest and morale in learning, and successful instruction efficiently balances teacher criteria engaging student motivation conditioned to environmental behavior.

As Van Els confirms,

> "It is a setting where authority is a natural element in teachers joining students in working, learning, and exploring. It provides a daily-life experience with collaboration on distinct levels and in varying situations. And it creates abundant space for learning. Student-led education, as I see it is not about us withdrawing; it is about stepping in, being there, actively providing guidance, taking the risk of doing instead of telling, taking responsibility together, on the spot, when and where learning happens, with the students designing their learning pathway and their future in art."[15]

MusicLab Academies' vision of instruction has multiple assessment challenges that continuously process feedback to enhance instructional theory. The assessments are solid to measure the pace of where technology is better or worse in terms of balance between traditional and technology-assisted instruction. Considering DAWs and computers as new instruments is crucial to keep pace with the industry. Education holds hands with industry as a working force for the future.

Knowledge participation and assessments are critical instructional competencies to maximize instruction. Tennyson suggests that "the background to instructional theory dates back to the nineteenth century when the early educational psychologists desired to establish a

[15] Susanne van Els. 2019 ¨How (not) to teach¨ in "Becoming Musicians: Student Involvement and Teacher Collaboration in Higher Music Education." NMH Publications 2019 (7). Oslo: Norwegian Academy of Music. https://hdl.handle.net/11250/2642235.

connection involving the science of psychology and the realistic appliance of knowledge theory in academic situations."[16] However, the location of the instructional practice has been reflected in the general trend and behaviorism in recent days. Behaviorism is a learning theory based on the idea that all behaviors are acquired through conditioning, and training occurs through interaction with the environment. Music education is not the exception, as the music environment is enhanced with many innovative ideas to motivate and find an immediate response to music stimulation, awarding motivation to teamwork. According to Tennyson, "attempts to integrate psychology and instructional technology had emerged during and after World War II as educational psychologists became involved with the U.S. military to research and develop military training materials and instruction."[17] Immediately after World War II, educators began developing instructional system design methodologies. These methodologies relate to concept theories, the interrelationship of components and automation, control of information, task analysis, and careful decision-making and planning.

Problem Statement

Music must be seen as a core subject, just like math and grammar. Researchers have shown that music develops language and cognition through diverse cognitive activities, such as synchronizing musical elements to create a musical object, like writing and learning grammar. For instance, reading a book will trigger imagination, and listening to Chick Correa motivates you to add fantasy to the effort. Likewise, the elements of music coexist with the characteristics of nature necessary to understand the concept of the paradigm of order.

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[16] Robert D. Tennyson, *Learning and Cognition* (University of Minnesota: Department of Educational Psychology, 2010), 89.

[17] Ibid, 90.

Music provides an oversupply of cognitive exercises for your brain, as other core subjects do. Indeed, the theme utilizes all parts of the brain, creating enhanced neural structures, and the earlier it is studied, the larger certain areas of the brain become. There is much research on the neuro-cognition enhancement of the brain. According to Frode, "music engages many regions distributed throughout the brain, including those usually involved in other cognition. As a result, music increases brain growth-enhancing cognition."

Furthermore, research shows a causal relationship between music and enhanced awareness. A 2015 study showed that those who took music classes had higher IQs, extending this advantage across the IQ subtests. Music as a choice could be the well-being of a future member of the artist community.

In Ecuador, curricular music education started in Academia Cotopaxi and Alianza Americana; international K-12 schools worked with an offshore administration. However, it was not until 1995 that Universidad San Francisco de Quito (USFQ) founded the seeder school named after USFQ. It is a private K-12 institution with an American curriculum system. However, all these private institutions operate under a private plan since the educational endeavors that hold curricular music programs are a personal business in Ecuador, making music a luxurious and exclusive commodity. Still, fortunately, the power of music successfully unifies the community. Thus, these schools receive ample support from the board, parents, and principals, partially maintaining the endeavor's relevance.

Unfortunately, there is no curricular music instruction in the Ecuadorian public school system. As a result, music and arts have never been relevant in the most Latin American public-school districts. The lack of support for the arts is a cultural gap in underdeveloped countries. Overall, acquiring skills is a symbol of a country's wealth and the economic well-being of the

people, and it is ironic to think that many artists throughout the last centuries have been disadvantaged.

Nowadays, the music industry has long overpowered culture; the knowledge of culture and the arts is relevant to everyone. However, music education is a privilege for only a few in Ecuador. Music is delivered as a core subject only in private schools like Colegio - Menor, allowing only wealthy people to afford a robust music program education, a considerable obstacle to solve.

The problem expands because private schools in Ecuador recently changed their earlier favorable policy on the arts due to the economic crisis. As a result, the music program experienced curricular cuts, and some teachers were laid off. Unfortunately, pursuing curricular music education in the Ecuadorian education public system and countries in the region is challenging since music education is not considered relevant and with no option to get grants.

The challenge brings music education awareness, and filling the music cultural gap in Ecuador has inspired the genesis of MusicLab Academy's program, an innovative initiative to spread the knowledge of music and create various educational musical objects. MusicLab is the only Ecuadorian institution with an open administration and private funding, the first organization to design a pathway to deliver music education to everyone, particularly K-12 students. Furthermore, MusicLab is part of the Berklee City Music initiative, the only international network focusing on music education. Music education aims to enlighten societies by teaching innovative ways and generating new spaces, fostering the making of musical objects that reflect people's spirit. John Benham suggests that "curricular activities are primarily cognitive events, not merely activities. Thus, although they contribute to students' social, academic, intellectual, expressive, and communicative development, music education is also

curricular for some convenient reasons."[18] Considering the importance of taking music as seriously as any other subject, Benham is right to pursue education. Fortunately, MusicLab's extracurricular approach is an excellent first step to bringing the culture of music education to the Ecuadorian and the entire regional community.

MusicLabs' vision is to teach underprivileged youngsters and help them develop pathways toward higher education through MusicLab, the Universidad San Francisco de Quito, and Berklee College of Music. In addition, private funding aims to foster education through innovation and collaborative success.

MusicLab gives one full scholarship for every ten students enrolled based on their socioeconomic status, audition, and interviews. Progress brings people together and supports a community. The curriculum is instrumental-based and centered on praxis. According to Zhukov and Sætre," students reported being inspired by working with teachers on a professional footing, learning effective rehearsal techniques, improving their understanding of styles, and developing a range of performance skills."[19] Compared with the traditional method, the MusicLab process generates a place where students learn through real-life industry tasks, inspiring them with music they can relate to and gaining discipline through their motivations and impulses by the program. Students receive theory instruction in the lab, where the student performs with sequencers and software to shape a musical object, just like a painting. As stated by Mina Micheal, "users who are engaged with an in-game tutorial that utilizes active teaching will retain more information

[18] John L. Benham, *Music Advocacy: Moving from Survival to Vision* (Lanham: Rowman & Littlefield Education, 2011), 40.

[19] Katie,Zhukov, and Jon Helge Sætre. 2021. "Play with Me: Student Perspectives on Collaborative Chamber Music Instruction." Research Studies in Music Education, doi:https://doi.org/10.1177/1321103X20974804. [Crossref], [Web of Science ®], [Google Scholar].

than users who rely on more traditional static learning methods, such as video or written tutorials. Applying this teaching style to Daw's digital audio workstation makes DAWs more accessible and understandable by non-musicians."[20] Musiclab's administrative philosophy is linked to student success with zero tolerance for fear. MusicLab combines musical elements and human components to improve talent and creativity. According to the University of Granada researchers, "musicians have higher neural connectivity than non-musicians in the brain's default mode network, the nodes of which play a crucial role in higher cognitive processes. Furthermore, musical training throughout life brings a foreign intelligence that could entail better decision-making and critical thinking skills."[21] Musicians are solid analytical people, and opportunity is always behind the doorway.

Significance of the Study

Despite substantial technological advancement in education, such as access to computer software to enhance instruction, little seems striking in the current music education school. According to Meiselwitz, "Almost all educational activities have followed the technological advancements and adopted ways of profitably consuming this technology, with music education and its aspects gradually dwindling."[22] Innovating education using technology tools to enhance instruction has become critical to several teachers and policymakers who have realized the pace

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[20] Micheal, Mina M. “Interactive Music Systems: Tutorials for Digital Audio Workstations,” in “A report submitted to Worcester Polytechnic Institute in accordance with the requirements of all degrees in Engineering,” special issue, *Department of Humanities & Arts* (2015): 13, accessed September 6, 2021, file:///C:/Users/emoli/OneDrive/Desktop/Learning_A_Daw_IQP_Paper.pdf.

[21] Miriam Albusac Jorge, “Musicians Are Better at Decision-making & problem-solving, Study Shows,” *Department of History and Music Science of the University of Granada* (March13,2018), accessed March 31, 2020, http://www.ugr.es/en/about/news/musicians-are-better-decision-making-problem-solving-study-shows.

[22] G Meiselwitz, Using the Web to Maintain the Benefits of Small Class Instruction in Large Classes (n.p.: Journal of Computing Sciences in Colleges, 2002), 137.

of music education in schools. However, according to Stevenson, colleges and universities are losing momentum as other subjects gain technological competence."[23] Stevenson's statement is relevant to the study's rationale as it aims to adopt a music education technology model in the education system.

Statement of Primary Research Questions

The following are the research questions in this study:

Research Question 1: How can technology influence the choice to study music as perceived by middle and high school students in MusicLab Ecuador Berklee City Music Global Network?

Research Question 2: What are the differences in students' music theory achievement, motivation, and artist personality as demonstrated by their music theory test scores and projects post-sophomore year among residential conservatory students and those trained in a technology-based format?

Hypotheses

The following hypotheses of the research questions are:

Hypothesis 1: Technology can influence the choice to study music as perceived by middle and high school students in MusicLab Ecuador Berklee City Music Global Network regarding accessibility, creativity, and drive for music knowledge.

Hypothesis 2: There is a difference between residential conservatory students and those trained in a blended format in terms of performance, production, and mindsets on student motivation increased in the hybrid program by approaching the musical object, engaging, and

[23] R. Stevenson, *Educational Trends Shaping School Planning, Design,* (2010), http://www.ncef.org/pubs/educationaltrends.pdf.

understanding the entire spectrum of the musical object, establishing strong self-confidence, and supporting personality.

Identification of the Variables

The research process entails considering measurable factors that are subject to change due to circumstances. However, the elements show how effective technology can be in understanding musical objects. For example, MusicLab Academy's vision is to eliminate the leading causes of musical absence. In addition, MusicLab is reinventing how music is taught in conservatories, achieving better multidimensional music knowledge with faster and more concrete results.

Variable 1 - The time it takes for students to acquire a musical skill.

Variable 2 – Student motivation builds self-esteem, character, and encouragement over two years.

Core Concepts

Video game technology has overpowered music. According to Chin-Hung Ko, "humans have been more attracted to virtual video games since the begging of the direct hit of energy given by video screens. Video gaming has become one of the most popular recreational activities, with approximately 2.5 billion people playing games worldwide. Therefore video games are more addictive than music performance."[24] However, according to Tumbokon, "some scholars also claim that, besides addicting them to gaming, video games can make your kid

[24] Chih-Hung Ko et al., "Identifying Individuals in Need of Help for Their Uncontrolled Gaming: A Narrative Review of Concerns and Comments Regarding Gaming Disorder Diagnostic Criteria.," *Journal of Behavioral Addictions* 9, no. 3 (forthcoming September 2020): 573, accessed March 31, 2020, http://dx.doi.org/10.1556/2006.2020.00058.

creative."[25] The Michigan State University's Children and Technology Project study found a relation between video game playing and greater creativity, regardless of gender, race, or video game. The Michigan University Project Study set the foundation for the MusicLab initiative. It uses music and video as multidimensional game technology to trigger students' imaginations and allow them to learn pieces by being creative in real-time, like performing a jazz solo.

Before electricity music needed to be performed live, the electric revolution brought about an entire spectrum of possibilities. However, it is essential to continue with tradition to sustain the essence of the philosophical and historical importance of the arts. The late nineteenth century is the testimony of the beginning of the electric revolution. "The Russian scientist Alexander N. Lodygin, for example, contributed to the development of the incandescent lamp before Thomas Alva Edison; in 1872."[26] Since Lodygin invented electricity, music started to drop in relevance and become hard to match with the rapid proliferation of innovative technologies. The twenty-first century is marked by multimedia manifestation in the current cyber-human socialization. N. B. Kirillova suggests that "a critical feature of media, or communicative, culture is that it includes the communication between the new era and the old one, the preservation and development of the whole society perceived a social whole"[27]

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[25] Ronaldo Tumbokon, "The Positive and Negative Effects of Video Games," *Childhood in the digital age*, June 5, 2021, 2, http://www.raisesmartkid.com/3-to-6-years-old/4-articles/34-the-good-and-bad-effects-of-video-games.

[26] Timo Myllyntaus, "541," in "Electrical Imperialism Or Multinational Cooperation? The Role of Big Business in Supplying Light and Power to St. Petersburg before 1917," 26, no. 2 ed. (Helsinki: Business and Economic History, 1997), http://ezproxy.liberty.edu/login?qurl=https%3A%2F%2Fwww.proquest.com%2Fscholarly-journals%2Felectrical-imperialism-multinational-cooperation%2Fdocview%2F220060521%2Fse-2%3Faccountid%3D12085.

[27] N. B. Kirillova, "Evolution of Media Culture in the Context of McLuhan's Typology: History, Reality, Prospects," *Global Media Journal* 26, no. 14 (June 2016).

Kirillova's statement is especially relevant in the post-Covid-19 era; after the beginning of the Covid pandemic, humans have learned to interact and coexist with technology to keep up with instruction. Likewise, music and technology have coexisted since Mac computers first entered the market in the early nineties, especially with Apple computers introducing innovative advanced music software as an intrinsic introductory feature of the computer software core.

Erin Wash suggests that "technology used to enhance instruction and learning in the music classroom is sure to be both interesting and beneficial. There is an excellent push in education to integrate technology into teaching and to learn in all content areas."[28] However, until recently, the music community has not been using technology to expose and instruct musical objects. Nevertheless, after Covid, using music technology to continue instruction online has become a common feature of education worldwide. Consequently, music can be studied on a technological platform opening a global communication pathway. In addition, incorporating technology in music instruction reinvigorates music classrooms allowing the student to learn from unique remote places, forming strong self-confidence, and encouraging the behavior.

Behaviorism and habitat are crucial elements to motivate instruction. On-campus MusicLab students enter a room shaped like a spaceship capsule evoking fantasy as the first introduction to the musical object, a magnificent display of electric energy unveiling the spectrum waves elaborating the sound within the central opening effect flow towards music.

[28] Erin Wash, “Using Technology To Enhance Instruction And Learning In The Music Classroom,” a Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Music Education Liberty University (May 2019): 11, https://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=1571&context=masters.

MusicLabs geodesic dome generates a different first encounter with music granting the MusicLab student an emotional impact, innovative, and unique music learning experience.

Avangard technology has developed advanced musical instruments, machines with harmonic modal bundles of sounds such as melodies and rhythms, introduced as imaginative means to teach music in practical, entertaining ways. In addition, thanks to technology and its research in music, musicians have entire affordable production and recording home studio capabilities.

MusicLab's learning method is based on conceptualizing the music performance student as a research artist. As Stefan and Sætre state, "this method captures, in their view, the active, artistic student with an artistic and professional agency, which is in the center of their learning process. The conceptualization is therefore interesting from the viewpoint of student-centered approaches to learning."[29] The MusicLab method works through each student's perspective. The theoretical understanding of the musical object is discovered through active research of who they are as artists and their role in the music they compose and perform.

MusicLabs' musical knowledge is understood by students as a solid object that faces the entire physiological body of music as a multidimensional form—introducing a reinvented approach to music education incorporating solid music technology learning foundations. Music remains essential for entertainment and spiritual value despite competition; however, music education in Ecuador requires private funding. The mission is to have thriving private facilities – demonstrate that behaviorism conditions improve knowledge and *cognitive* abilities. Rizk and

[29] Gies, Stefan, and Jon Helge Sætre, eds. 2019. "Becoming Musicians: Student Involvement and Teacher Collaboration in Higher Music Education." *NMH Publications 2019* (7). Oslo: Norwegian Academy of Music. https://hdl.handle.net/11250/2642235.

Davies maintain that "motivation and innovation are keywords to consider when we need support to enlarge our music community." [30] The technology found ways to make colors, sound, and game-type elements in digitally mediated communications more 'fun' and aesthetically pleasing.

MusicLab's facilities focus on improving students' commonwealth and work as a safe space for students to develop their voice in their creative process. As Moberg and Sætre state, "in their interviews with a high school student: it is important to know what can separate me from others, while other claims that you become crazy if you are being molded into a form. In short, you need to have your own opinions, make decisions, and not rely on others."[31].

MusicLab attention is centered on individual student desires, allowing the students to express their imagination and creativity while making music as they compose, perform, and produce in real-time. Musiclab ethics also concentrate on teamwork, recognizing that the music perspective focuses on student confidence to work in groups and learn the importance of collaboration in music development. Rumiantsev, Maas, and Admiraalargue suggest "that group lessons need to be explicitly designed for collaborative learning and not only thought of as one-to-one tuition in groups and that staff could seek guidance from educational specialists on the design and set-up of joint activities."[32] MusicLab's innovative method of collaboration through

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[30] Jessica Rizk and Scott Davies, ""Can Digital Technology Bridge the Classroom Engagement Gap? Findings from a Qualitative Study of K-8 Classrooms in 10 Ontario School Boards.," Scholarly Journals, search-proquest-com, 2021, accessed April 13, 2021, http://ezproxy.liberty.edu/login?qurl=https%3A%2F%2Fwww.proquest.com%2Fscholarly-journals%2Fcan-digital-technology-bridge-classroom%2Fdocview%2F2476766766%2Fse-2%3Faccountid%3D12085.

[31] Moberg, Nadia and Jon Helge Sætre. 2019 ¨ Musicianship – discursive constructions of autonomy and independence within music performance programmes ¨ in "Becoming Musicians: Student Involvement and Teacher Collaboration in Higher Music Education." NMH Publications 2019 (7). Oslo: Norwegian Academy of Music. https://hdl.handle.net/11250/2642235

[32] Rumiantsev, Tamara W., Annemarie Maas, and Wilfried Admiraal. 2017. "Collaborative Learning in Two Vocal Conservatoire Courses." Music Education Research 19 (4): 371–383.

technology sets up an excellent example of a methodology where creative processes come first, giving a chance to the students to express their thoughts and ideas with their peers and collaborate to create and play the music they own.

Lamri and Hamzaoui suggest that "Mixing face to face and distance e-learning can provide an instructional balance between language and technology that helps update students' knowledge and stimulate their learning motivation. The blended learning approach combines the best elements of online and face-to-face learning. It is likely to emerge as the predominant model of the future."[33] Imagination is crucial to motivate and to produce knowledge. The success of online synchronic face-to-face learning opens a pathway to reaching more unserved communities with the gift of learning musical knowledge. Lamri and Hamzaoui's statement supports the future mission of MusicLab's Academies: to bring virtual music education to the entire South American region and Spain.

Definition of Terms

For clarity, the following terms and definitions will be helpful in the context of this research.

Composer: a person who writes music professionally

DAW: Digital Audio Workstation

Interval: the difference in pitch between two sounds

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doi:https://doi.org/10.1080/14613808.2016.1249363. [Taylor & Francis Online], [Web of Science ®], [Google Scholar]

[33] C. E. Lamri and H. Hamzaoui, “Developing ELP Students' Reading Skills through a Blended Learning Approach,” *Eurasian Journal of Applied Linguistics* 2, no. 4 (2018): 393, http://ezproxy.liberty.edu/login?qurl=https%3A%2F%2Fwww.proquest.com%2Fscholarly-journals%2Fdeveloping-elp-students-reading-skills-through%2Fdocview%2F2264295311%2Fse-2%3Faccountid%3D12085.

MIDI: Musical Instrument Digital Interface

Producer: the creative and technical leader of a musical project or recording

Music Scale: a sequence of notes dividing a pitch/frequency

MusicLab: Berklee City Music Academic Boutique and future on -line Institute

Musical Object: Multidimensional form of music

Musicing: Listening to music

Chapter Summary

This study will focus on how the students immerse and synthesize musical knowledge after two years of learning music with the help of technology, conceptualizing the complete shape and the multidimensional form of the musical object. The study aims to show how much progress can be achieved in music education through technology and to enable music teachers to incorporate it into the music classroom. King suggests that "technology's challenges and opportunities illustrate that teachers use technology designed to bring music education to schools with little or no music instrumental lessons within primary schools."[34]

Professional contemporary musicians are vivid entrepreneurs with a mindset trained to produce, compose, and sell music. To answer the research questions and fulfill the study's objectives, the study will measure the musicians' capacities of self-production, social media engagement (self-promotion), and talent in an instrument. The research will assess the multidimensional musical object constructed with harmony, melody, rhythm, and pitch knowledge in six music students, three of whom have been studying traditional learning methods and the other three with the MusicLab process for two years. This has improved to determine the

[34] Andrew King and Helen and Waddington-Jones Prior, Connect Resound: Using Online Technology to Deliver Music Education to Remote *Communities Journal of Music, Technology and Education* (2019): 217.

impact of technology on instructional delivery and demonstrate how much music learning needs to find ways to motivate through innovation. Data about this topic has been collected and analyzed, helping to understand the facts and assumptions bestowed in this study. The research employs qualitative and quantitative techniques. A qualitative method to evaluate the participants according to artistic criteria, such as sound, dynamics, and the vibe for motivation engagement, creates an emotional response incrementing self-esteem through music learning. The quantitative test measures the technical aspects of their music performance, such as tempo, rhythm, harmony, melody intonation, cause, and advantage or not, by utilizing MusicLab's model. It will consider not just a single performance but also participants' improvement based on the connection between learner and teacher.

The study reveals faster results in music performance using behaviorism as the core philosophical framework; Brannen suggests "multiple approaches to determine existing literature and measuring data document a mixed-methods model."[35]

MusicLab measures individual students' learning abilities, including harmony, melody, rhythm, and pitch knowledge, and the production and promotion of high school students in Quito, Ecuador. Music Lab's model approaches performance using technology to stimulate creativity and a musical mindset. Thus, MusicLab enhances students' knowledge by motivating them with a futuristic environment evoking behaviorism and fostering top-of-the-line academic music knowledge with individual assistance toward learning music.

[35] Julia Brannen, “Mixing Methods: The Entry of Qualitative and Quantitative Approaches into the Research Process,” *International Journal of Social Research Methodolgy* 8, no. 3 (2005): 173.

Chapter Two: Literature Review

Introduction

The literature review focuses on various issues related to the cultural gap, specifically in music education, and compares societies where music is a curricular subject in the public education grid with communities where music has never become curricular. The lack of music instruction as part of the liberal arts generates an aesthetic hole, and cultures lack praxis, motivation, and appreciation for the arts. The review also addresses how technology enhances music learning as a cognitive tool for people without previous musical training. Music education, as aesthetic education, helps people share the aesthetic meanings available in the form of musical experience. The core characteristic of music is that its sounds evoke emotion. According to Grekow, "all composers whose music has a tonal basis have used the same or closely similar melodic phrases, harmonies, and rhythms to affect the listener in similar ways."[36] The new cyber community has the means to develop better global music awareness in the twenty-first century. The internet has restructured the information barriers, shrunk the world, and made the planet more petite, setting a pathway to more accessible information. However, following Grekow, musical ideas and emotions remain unchanged; the shift consists of the growth of virtual access to the entire regional communities fostering a better audience and enlightening citizens.

Reimer writes, "One cannot simply ignore the world in which people live as one goes about helping them become more sensitive to the aesthetic qualities of the world."[37] Furthermore,

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[36] Jacek Grekow, "Musical Performance Analysis in Terms of Emotions It Evokes," *Journal of Intelligent Information Systems* 51, no. 2 (October 2018): 435, accessed March 31, 2020, http://ezproxy.liberty.edu/login?qurl=https%3A%2F%2Fwww.proquest.com%2Fscholarly-journals%2Fmusical-performance-analysis-terms-emotions%2Fdocview%2F2056072253%2Fse-2.

[37] Reimer, A Philosophy of Music, 69.

Reimer states, "music is the vehicle of emotion; thus, music is a diplomatic strategy to build community and culture in academic music programs. Praxis is the experience of music as the expressive form is the be-all and end-all of music education. For such an occasion, knowledge is the only way of sharing aesthetic music meaning."[38] Therefore, according to Reimer, "the music educator's language and techniques must be faithful to the nature of music as an expressive form."[39]

Learners' learning techniques depend on their self-awareness gained through critical reflection and commitment to the experience of music as a diverse human practice. According to Regelski, "Praxis is vital in empowering students to knowledge through innovative new teaching and learning skills, methods and approaches are directed to self-reset problem-solving and cognitive retention to actualize learners' understanding of guidance, evaluation, and knowledge acquisition."40 The concept of praxis regarding music and teaching is intended to overcome this deficiency and promote lasting attitudes, values, and dispositions toward music outside the school day and after graduation. Therefore, Regelski states, "such musicing, whether fostered by schooling, self-study or home and community models, contribute to the vitality of society and each member's life of the society." [41]

Action is a deliberation of learning by doing (Praxis) and acquiring knowledge through human emotions such as gentleness, happiness, anger, sadness, and braveness. According to

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[38] Ibid.

[39] Ibid.

[40] Thomas A. Regelski, "Pragmatism, Praxis, and Naturalism: The Importance for Music Education of Intentionality and Consummatory Experience in Musical Praxes.," *Action, criticism, & theory for music education.*, 2017, 105. Volume 16 Number 2.

[41] Ibid.

Regelski, "praxis and pragmatism share a root meaning in the Ancient Greek stem πρᾶγμα, in Latin, pragma, or concrete reality. For praxis, this focuses on 'action' (its typical English translation), and for pragmatism, the etymology refers to 'tangible acts.' Of crucial concern here is the philosophy of John Dewey."[42] MusicLabs philosophy relies on instrumental practice as the backbone of student approaches to music; performing contributes to strengthening the self-esteem and fostering the mature personalities of the students as they continue their experience on stage. This experience breaks language, and psychological barriers achieved only by the power of music.

Praxis brings attention to learning scenarios and teaching approaches as the natural deliberation of music, which also refers to performing new knowledge while socializing courteously. Fine arts consist of painting, sculpture, architecture, music, and poetry, with performing arts including theatre and dance. Fine art disciplines experience intellectual conclusions as signs or symbols of intrinsic emotion, a unique experience expressed by the action of creating. Regelski states, "one reason is that strictly intellectual art will never be as popular as music."[43] Generating illustrated audience comforting society of will robustness essential culture, knowledge, and community well-being.

One must engage and work as a holistic learning performance activity to understand knowledge. The nineteen twenties were revolutionary years in education when integrating active parent families and communities who made many educational decisions related to curriculum, methods, and teachers. However, teachers' colleges became more popular as teachers began to take on the role of experts. John Dewey, Maria Montessori, Jean Piaget, and Eleanor Roosevelt

[42] Ibid.,106 .

[43] Ibid., 107.

published many notable books on education during this time. In his 1897 manuscript My Pedagogic Creed, Dewey looked at learning as an interactive dynamic process. This manuscript and Dewey's philosophy were central to education debates throughout the twentieth century and helped lay the groundwork for experiential education. At this point, families usually determined the curriculum for their children, appointed teachers, and influenced instructional strategies. In most communities, homes, schools, and churches share many goals and integrate these goals within the local school or schools.

However, not all children were able to attend school. Cox-Peterson states that "only about 50% of U.S. children attended school during this time. Most students received an average of 5 years of schooling in total."[44] According to Dewey, "free interaction between social groups and changes in social habits build community and culture, which supports the assumption that learning is social and should be democratic."[45] Nevertheless, it is curious to mention that music achievements have sometimes been outstanding in undemocratic countries, such as Russia. Community culture tends to create a demand for democracy, as freedom is fundamental for the population's achievements. In addition, equality before the law and limited government provided under democracy help protect personal liberty. Social efficiency is a public good. Every student, therefore, will be educated to take a different role in society that will benefit the community. Education is considered a private good because it focuses on the individual rather than the broader good of humanity. Cox-Peterson also reveals that "social efficiency is a public

[44] Amy Cox-Peterson, *Educational Partnerships: Connecting Schools, Families, and the Community*, mbs direct ed. (US: SAGE Publication, 2010), 33, http://mbsdirect.vitalsource.com/reader/books/9781506341774/pageid/21.

[45] Ibid.

good; every student, therefore, will be educated to take a different role in society that will benefit the community."[46]

Over the last thirty years, technology has changed how people create music. Thus, composers can produce film scores from their home studios instead of the need to rehearse with and record an entire orchestra. Likewise, musicians can play for fans worldwide through live-streamed performances. The ins and outs of the modern music business and music education technologies are must-have knowledge to continue building community and culture to enhance education.

> Lane and Dorfman define collaboration between schools and communities as having two main goals: (a) to strengthen and increase social capital by forming strong social networks, developing active participation, and fostering a sense of trust and community, and (b) to increase the ability and capacity of the community to utilize social capital to produce meaningful and sustainable community renewal. Therefore, collaboration is process-oriented (building social capital) and task-oriented (using social capital to achieve outcomes that benefit people).[47]

Rees claims that in using technology to build community, "Increased emphasis by the educational community on student-centered learning and access to education for everyone has given rise to investigating new ways in which teaching and learning can occur."[48] Institutions seek ways to enhance modernized learning and embrace multimedia technology pervasive in the contemporary world.

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[46] Ibid., 35.

[47] Lane and Dorfman, “Musicians Are Better at Decision-making & problem-solving, Study Shows,” *Department of History and Music Science of the University of Granada* (March13,2018), accessed March 31, 2020, http://www.ugr.es/en/about/news/musicians-are-better-decision-making-problem-solving-study-shows.

[48] Fred Rees, The New Handbook of Research on Music Teaching and Learning: A Project of the Music Educators National Conference (New York: Oxford University Press, 2002), 257.

Teaching and learning music fall into an alliance. Rees also states, "collaboration is a process that seeks to engage parties with a common interest to work cooperatively on some endeavor toward mutually agreed goals or outcomes."[49] During the twenty-first century, new approaches to music education have emerged because of technology-assisted learning studies, such as music production, analog-digital recording, sound design, and virtual orchestration, to name a few. Still, the problem is a lack of knowledge of technology research and ideas' immense contributions to music pedagogy.

The literature review defines technological collaboration as a straightforward process to engage parties with shared interests to work cooperatively toward mutually agreed goals and outcomes. Partnerships and combinations are crucial for strong community participation and involvement. According to Rees, "collaboration usually involves some mutually recognized problem or goal that participants with complementary skills and knowledge wish to address."[50] Interactive technologies exist to help non-musicians acquire musicianship skills using software-based instruments. These systems are accessible to non-musicians, allowing them to create music, such as playing chords and scales, more efficiently than traditional acoustic instruments. A large part of this activity is based on the availability of new electronic technologies with innovation potential. Culturally developed communities support listeners: they produce live concerts motivating music-making and buy/stream recorded content as intrinsic cultural values to share with the district. The listener is an essential element of the musical object: Elliott's "views on the nature of music and musical works have three major characteristics. One of them views

[49] Ibid.

[50] Ibid, 269.

music as a cognitive activity. It heavily prefers musicing to merely listening, and it views a musical work as a multidimensional achievement rather than an object."[51] Inspired by Elliott's multidimensional view, the study practices the harmonious object as a multifaceted achievement. Imagine you are four years old. Instead of being introduced to traditional music, you enter a music room that evokes a fantasy spaceship cockpit. Then picture your first day of music class in the conventional manner of learning about instruments and notes. Most musical devices in the American K-12 music program are band or orchestra-oriented. However, the impact of looking at music as a visual, musical object shaped on a computer monitor serves as a multidimensional presentation—the accent is less on mastering a particular skill or knowledge and more on gathering information about a topic, a motivational feeder that concludes with quicker learning. David Brian Williams promotes "Exploratory Software to encourage students to positively study resources about a topic, moving from one topic to another in an approach that makes sense."[52] Technology is a different pathway toward music, which helps build a new community of musicians performing with their computers and composers enjoying virtual sound libraries. As Mina Micheal states, "users engaged with an in-game tutorial that utilizes active teaching will retain more information than users who rely on more traditional static learning methods, such as video or written tutorials. Applying this teaching style to Digital Audio Workstations-DAWs allows DAWs to be more accessible and understandable by non-musicians."[53]

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[51] David Elliott, ""Music as Culture: Toward a Multicultural Concept of Arts Education.," *Journal of Aesthetic Education* 24, no. 1 (1990): 81, http://www.jstor.org/stable/3332862.

[52] David Brian Williams and Peter Richard Webster, *Experiencing Music Technology: Software, Data, and Hardware*, 2nd ed. (New York: Schirmer Books, 1999), 128.

[53] Mina M. Micheal, "Interactive Music Systems: Tutorials for Digital Audio Workstations," in "A report submitted to Worcester Polytechnic Institute in accordance with the requirements of all degrees in Engineering," special issue, *Department of Humanities & Arts* (2015): 13, accessed September 6, 2021, file:///C:/Users/emoli/OneDrive/Desktop/Learning_A_Daw_IQP_Paper.pdf.

Interacting with one's musical community as an academic asset in a music ensemble or a theory class increases social capital. According to Cox-Peterson, "social capital within a community includes diverse interactions and relationships, including participating in community activities, service, and volunteering."[54] In addition, Cox-Peterson state, "strengthen and increase social capital by forming strong social networks, developing active participation, and fostering a sense of trust and community."[55] Historically, social capital as a powerful force has existed for over one hundred years, even if it was not always called that. Thus, social technology capital is a powerfully present working force. When inquiring into the history of educational partnerships and policies from the past hundred years, Cox-Peterson states, "it is interesting to note how the potential for social capital and cultural capital has been addressed over time."[56]

Social capital is the best fortune any individual could hold. It takes time and leadership to gather people together to follow a dream and achieve the power to continue with the education trends. Partnerships and initiatives come from within the character's innovative spirit, liberating action to put people together. Therefore Cox-Peterson mentions, "many of the events and mandates that have taken place have been developed to increase social capital within the community by forming partnerships and initiatives. It takes time to build organizations to help make social capital by strengthening specific literacy, inclusive practices, nutrition, physical health, and various forms of knowledge. "[57] Although this is only a partial list related to seminal events, they helped define our current educational system and the potential for educational partnerships today. The vision of

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[54] Cox-Peterson, Educational Partnerships, 33.

[55] Ibid.

[56] Ibid., 34.

[57] Ibid.

developing social capital to explain and teach through interactive technologies is a cornerstone to help non-musicians acquire musicianship skills using computer software-based instrument technology.

The interlinkage with technology broadens an instructional system accessible to non-musicians, allowing them to create music, such as playing chords and scales, with greater ease than traditional acoustic instruments. Wash suggests "that technology that might enhance instruction and learning in the music classroom is sure to be both interesting and beneficial. As a result, education has an excellent push to integrate technology into teaching and to learn in all content areas."[58]

Music therapy uses music to help people improve people's moods and mental health. For example, it can help relieve anxiety, depression, and other conditions. However, music performance integrated into music therapy offers opportunities for personal transformation and playing music, constructing the behavior of academic music environment scenarios like MusicLab. Performing music with any instrument, including digital audio workstations, becomes a treatment just like the achievement of calmness of listening to the river water flow, detaching your consciousness to obtain a new consciousness and awareness of yourself. Like meditation, music can separate you from the past and future. Music, like extreme sports, lives in the now, avoiding the physiological time and achieving awareness on consciousness.

The therapeutic strength of music promotes mental health and rehabilitation, impacting numerous parts of the brain, including emotions and cognition. According to Li,

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[58] Erin Wash, “Using Technology To Enhance Instruction And Learning In The Music Classroom,” A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Music Education Liberty University (May 2019): 11, https://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=1571&context=masters.

> Today, researchers focus on positive ways to prevent negative emotions and events with the rise of positive psychology. Therefore, mental health education activities in primary and secondary schools should be based on the education and development of students, the development of positive psychological qualities, the realization of psychological potential, and the focus on the prevention and resolution of various psychological behavior problems in the developmental process. From this perspective, music belongs to an attribute within the category of ideology, which is mainly determined by the socioeconomic base and superstructure. At the same time, the doctrine also reacts to the socioeconomic base and superstructure.[59]

Technology engenders work in new ways, and music therapists have been beneficiaries of enhancing their work using digital audio workstations (DAW) in music therapy. In addition, studies are exploring how music therapists in a mental health setting experience using DAWs in their praxis. However, Aarvik suggests that "psychologists and therapists sometimes overlook technology based on prejudice and emphasize the relational aspect. Technology can, at worst, be an object that is alienating, distracting, or obstructing the therapeutic relation."[60] By approaching praxis via technology, students learn to utilize computer toolkit software to develop and design musical agents' behavior, and software elements automate some aspects of musical composition or performance. Martin and Craig suggest that "one focus in interactive computer music is on computational systems capable of autonomous musical performance in a way that is responsive to external musical factors."[61] The advantages of utilizing online technology to support learning are not new and widely used in music education and other academic disciplines. However, focusing

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[59] D. Li, ""Music Therapy in Mental Health and Emotional Diversion of Primary and Secondary School Students.," Occupational Therapy International Vol. 2022 8370682., National Library of Medicine, July 8, 2022, accessed October 8, 2022, http://dx.doi.org/10.1155/2022/8370682.

[60] Bård Aarvik, An Interpretivist Study of How Music Therapists in a Mental Health Setting Experience Working with Digital Audio Workstations, *Master Thesis in Music Therapy Grieg Academy - Department of Music Faculty for Fine Art, Music and Design*, Spring 2019, 15, accessed September 6, 2021, DOI:10.1080/15363759.2019.1579119.

[61] Aengus Martin and Craig T. Jin, Creative Experiments Using a System for Learning High-Level Performance Structure in Ableton Live, *Computing & Audio Research Lab Sydney University*, 2006 Australia, 2, accessed September 6, 2021, https://core.ac.uk/download/pdf/144846698.pdf. DAWS.

on specific technological developments and the research domain has involved the content and frameworks enabling these innovations. King suggests that "technology's challenges and opportunities illustrate that teachers use technology designed to bring music education to schools with little or no music instrumental lessons within primary schools."[62]

Music educators can also gain ideas by examining digital technology's impacts on a vital component of the educational socioeconomic gap—gaps in student classroom engagement. Whereas print literacy has long been a source of such holes, newer digital theories claim to unify classrooms that use digital technology to perpetuate them further. For example, technology enhances behavior, opens doors to improve motivation, and surrounds the space with creativity and innovation as keywords to consider when support is needed to enlarge the music community. According to Rizk and Davies, "technology appeared to find ways to make colors, sound, and game-type elements in digitally mediated communications making the feeling more fun and aesthetically pleasing ."[63]

As technology is the vehicle for learning, teachers function as the drivers, giving a chance to the students to learn from them as if they were working together like on professional musical ventures. Zhukov, Katie, and Jon Helge Sætre state that ¨similarly, when students reported cherishing 'the opportunity to collaborate with experienced staff and 'gain further insights into playing in a professional setting. They welcome a participatory learning mode in the sense of

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[62] King and Prior, *Connect Resound*.

[63] Jessica Rizk and Scott Davies, “Can Digital Technology Bridge the Classroom Engagement Gap? Findings from a Qualitative Study of K-8 Classrooms in 10 Ontario School Boards,” *Scholarly Journals*, search-proquest-com, 2021, http://ezproxy.liberty.edu/login?qurl=https%3A%2F%2Fwww.proquest.com%2Fscholarly-journals%2Fcan-digital-technology-bridge-classroom%2Fdocview%2F2476766766%2Fse-2%3Faccountid%3D12085.

performing activities central to chamber music performance as a professional, cultural practice¨[64]. As MusicLab offers a firsthand curriculum, students learn and develop their skills in an environment that emulates the professional environment. In that way, musicians' learning times and abilities compared to the amount of security, self-awareness, and teamwork the students develop when they start learning through practice and understanding the musical language while performing with their teachers and more advanced students.

[64] Zhukov, Katie, and Jon Helge Sætre. 2021. Let's play together: teacher perspectives on collaborative chamber music instruction, Music Education Research, 23:5, 553-567, DOI: 10.1080/14613808.2021.1979499

Chapter Three: Methodology

The research employed qualitative and quantitative techniques in undertaking this study—qualitative methods exploring motivation and engagement and quantitative practice measuring` music performance, artistic personality, and self-esteem level.

They used behaviorism as the core philosophical framework, advantaging MusicLab's model. Data is used to improve musical elements and enhance learner and teacher links.

The study was divided between a quantitative 1-hour and 30-minute multi-ability test and a 25-minute qualitative survey.

Six students divided into two groups: 3 MusicLab students and 3 Traditional Method students, all the same age, 18 years old, and with almost two years of experience in musical studies, were evaluated at the MusicLab facilities on Friday 10th, 2022, from 18:00 to 20:00.

The exam was held in MusicLab production, composition, and theory studio facilities. The exam consists of a 5-part 65-minute test that evaluates their knowledge of self-production, harmony, melody, rhythm, and self-promotion abilities. It is also a 35-minute performance test divided into interpretation and improvisation. The lab has various Digital Audio workstations, computers, and large screens, designing the perfect test scenario.

The test started with the quantitative multi-ability test:

Music Sufficiency Test- 1 hour and 30 minutes

PART 1 - 65 minutes

Production- Ableton Live- 30 minutes

- 1. Create a 16-measure beat using the Drum Rack.
- 2. Create a bass line and harmony with pads, guitars, or synths for the 16-measure. Sequence.
- 3. Create a melody for the sequence.

• 4. Record at least one voice or instrument for the sequence

• 5. Pre-mix the composition.

Social media engagement (self-promotion) - 5 minutes

• Please solve the following test: https://pulse.berklee.edu/vibe/?id=21&quiz=39

Harmony- 10 minutes

• Please solve the next test on harmony: https://pulse.berklee.edu/vibe/?id=21&quiz=97

Melody- 10 minutes

• Please solve the next test on melody: https://pulse.berklee.edu/vibe/?id=21&quiz=88

Rhythm- 10 minutes

Please solve the next test on rhythm: https://pulse.berklee.edu/vibe/?id=21&quiz=92

In the self-production task, students were requested to compose and produce a 16-bar project using Ableton Live, an interface, and the Ableton Push for creating, mixing, and recording audio. They were asked to save their 5-step project in a specific folder on each workstation—evaluated results for the number of tasks completed on time from 1 to 5. Then, for the remaining 35 minutes, they had to complete a series of 4 theory-scored tests using the Berklee Pulse platform. The skills evaluated were Self Promotion, Harmony, Melody, and Rhythm in that particular order. The tests were composed of multiple-choice questions in Level 1 of the Berklee Pulse platform. Students with two years of academic music studies could correctly answer this level. The students solved the test on the web using the computers at Musiclab, and the score was immediate after submitting the answers. Finally, students were asked to take a screenshot of their results to verify authenticity.

After the first part was completed, the researcher and assistant verified the results completed for the test achieved by each one of the students:

The self-production scored them by dividing the five steps into a score of 0 steps completed=0%, 1 step completed=20%, 2 steps=40%, 3 steps=60%, 4 steps=80%, and 5

steps=100%. Each one of the theory multiple-choice tests already showed the total percentage achieved by the student. Then the five rates were added and divided by 5 to get the global average of each one of the students in the 65-minute test.

The second part of the test was a 25-minute Performance type of Interview, where the six students were asked to audio record a 3- to a 5-minute file of them playing a cover or composition in their principal instrument. For that task, the MusicLab Staff helped them with the audio recording set up in the different instrument labs, and the students were asked to send the audio after finishing it. The second part was to audio record a 16-measure improvisation of a track they had never heard before. For this task, each one of the students waited for their turn to enter the Drum Lab at the MusicLab's Facilities, listen to the audio two times, and perform the 16-bar improvisation in their principal instrument. For this second part, the MusicLab staff audio-recorded each one of the students who could do it.

The second part of the test is - a qualitative survey.

Part 2. Performance Interview- 25 minutes.

• Audio record a 3- to a 5-minute file of yourself playing a cover or composition on your instrument.
• Audio record a 16-measure improvisation in one of the following practice exercises: https://college.berklee.edu/admissions/undergraduate/practiceexercises.

Warm-up and practice recording time: 10 minutes

Recording time: 10 minutes

Sending time: 5 minutes

Playing or soloing on a musical composition helps to free the spirit liberating the nerves. All the students did great on this part of the survey. Then they were challenged to record melodies on a 16-bar line in real-time.

After completing the test, the MusicLab Staff listened to the recordings and evaluated whether each task was completed. The score was 100% if completed, but if there was not a recording sent or incomplete, the study was evaluated as incomplete with a total score of 0%. Finally, the two scores were submitted, summed, and divided by 2 to get the global average.

For the qualitative test, an 11 questions survey was conducted on each of the students using the google forms platform, and all answered with their phones at the MusicLab Facilities.

List of 11 questions:

1. What is your name, age, and email?
2. From 1 to 10, rate how important the environment in which you study is.
3. From 1 to 10, How much does the presence of an external agent (teachers, classmates) influence your musical freedom?
4. From 1 to 10, rate how much your performance influences when you feel judged by experts.
5. Describe what music means in your life
6. Name the academies where you have studied music and its method.
7. From 1 to 10, rate how much coexistence with your teachers and classmates influences your musical development.
8. Describe what your ideal model of music education would look like
9. Have you felt the freedom of creation in the spaces where you have studied music?

10. From 1 to 10, rate how well the traditional educational model in Ecuador meets your expectations
11. Describe what the ideal place would look like for you to be able to make music without any restrictions

The purpose of the questions seeks to reveal the importance of the environment in which students had to answer ten questions summarizing their prior musical knowledge.

The research philosophy of the study implies achieving data from how behaviorism, meaning the external factors of the school they learned, conditions interpretive development.

The questions aim to find how the musical development environment (behaviorism) has affected each subject process for the two-year music study period. The test results were submitted immediately for the researcher to evaluate towards achieving scores.

The scores intend to evaluate future transition stages from adolescence to adulthood and student cognitive development by using the program. Environment plays a vital role in each part of the study. Therefore, the interviews seek to determine if behaviorism impacts the students' music performance and cognitive ability. For example, the music student often faces the stresses of feeling judged and underachieving performance in an atmosphere other than his comfort zones, such as his room or solo space.

It seeks to understand if there is a more considerable influence on musicians' performance if they are observed by the public or under an expert's eye.

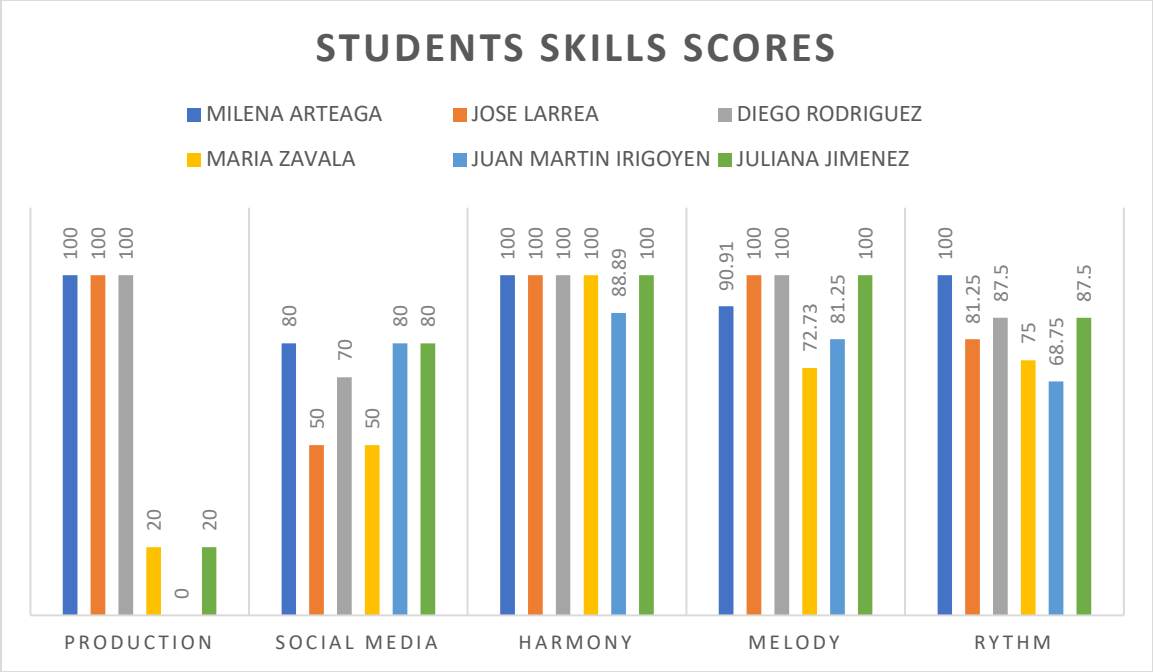
Chapter Four: Findings

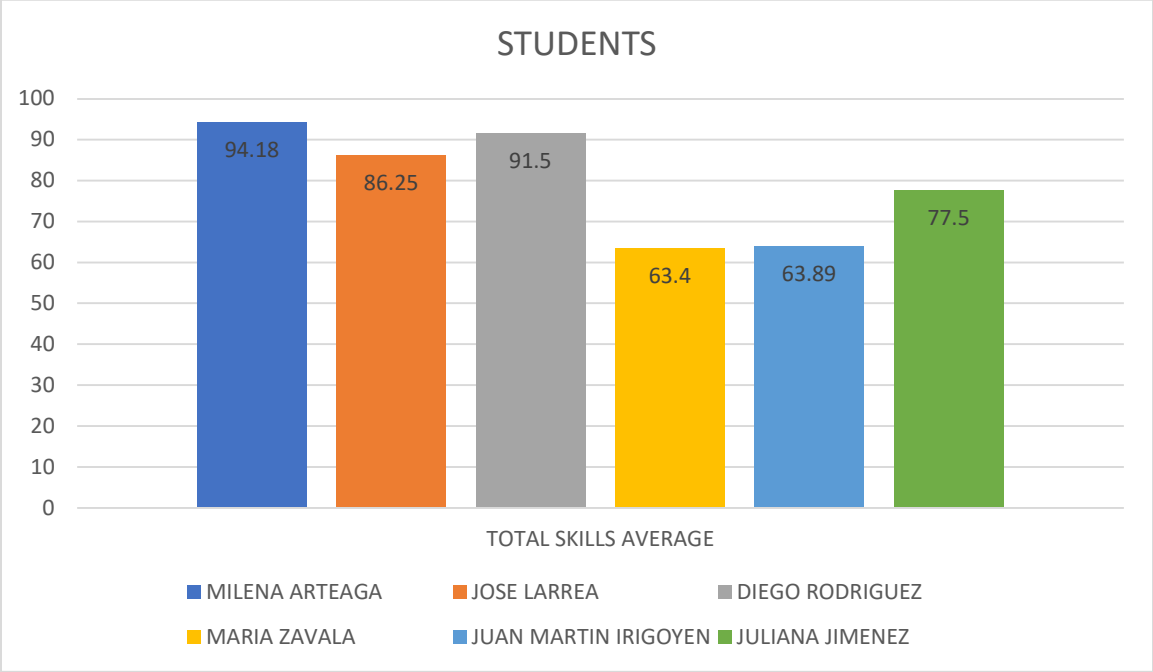
The following chart displays quantitative study results taken as Part 1 of the assessment. The marks of the six musicians, divided into two groups (Musiclab vs. Traditional Method), are shown in the sheet with average scores for each part of the quantitative test. The following two charts support the visual differences and similarities between the scores.

Results:

Part 1

Method	**MusicLab**			**Traditional**		
Musician Name	Milena Arteaga	José Larrea	Diego Rodríguez	María Zavala	Juan Martín Irigoyen	Juliana Jiménez
Production	Task Done 5/5 =100%	Task Done 5/5 =100%	Task Done 5/5 =100%	Task Done 1/5 =20%	Tasks Done 0/5= 0%	Task Done 1/5 =20%
Social Media Pulse Test	8/10 = 80%	5/10= 50%	7/10= 70%	5/10= 50%	8/10 = 80%	8/10 = 80%
Harmony Pulse Test	9/9= 100%	9/9= 100%	9/9= 100%	9/9= 100%	8/9= 88.89%	9/9= 100%
Melody Pulse Test	10/11 = 90.91%	11/11 = 100%	11/11 = 100%	8/11= 72.73%	9/11= 81.82%	11/11 = 100%
Rhythm Pulse Test	16/16 = 100%	13/16 = 81.25%	14/16 = 87.50%	12/16 = 75.00%	11/16 = 68.75%	14/16 = 87.50%
Total, Average	94.18%	86.25%	91.5%	63.4%	63.89%	77.5%





After completing the skills evaluations of the musicians who come from the traditional method and the Musiclab method, the following results were noted:

Of the five skills evaluated, the first task (Production Skills) denoted that MusicLab students have the tools to self-produce, record, compose, mix, and send their projects at given

times. On the contrary, while students of the traditional method know the interpretation of the instrument, when self-producing in a DAW, they could not meet the requirement in most of the five steps, including composition, digital and analog recording, and mixing.

Of the evaluation sections by percentages, both social media and harmony skills maintained equivalent results for both methods. However, in Melody and Rhythm, better results were obtained with the MusicLab method.

By making the sum and final total score average of each student in the five skills evaluated within each student's ideal integral musical development for the study.
Findings reveal that the Musiclab method meets the balanced learning criteria and takes on the higher scores in the five skills evaluated.

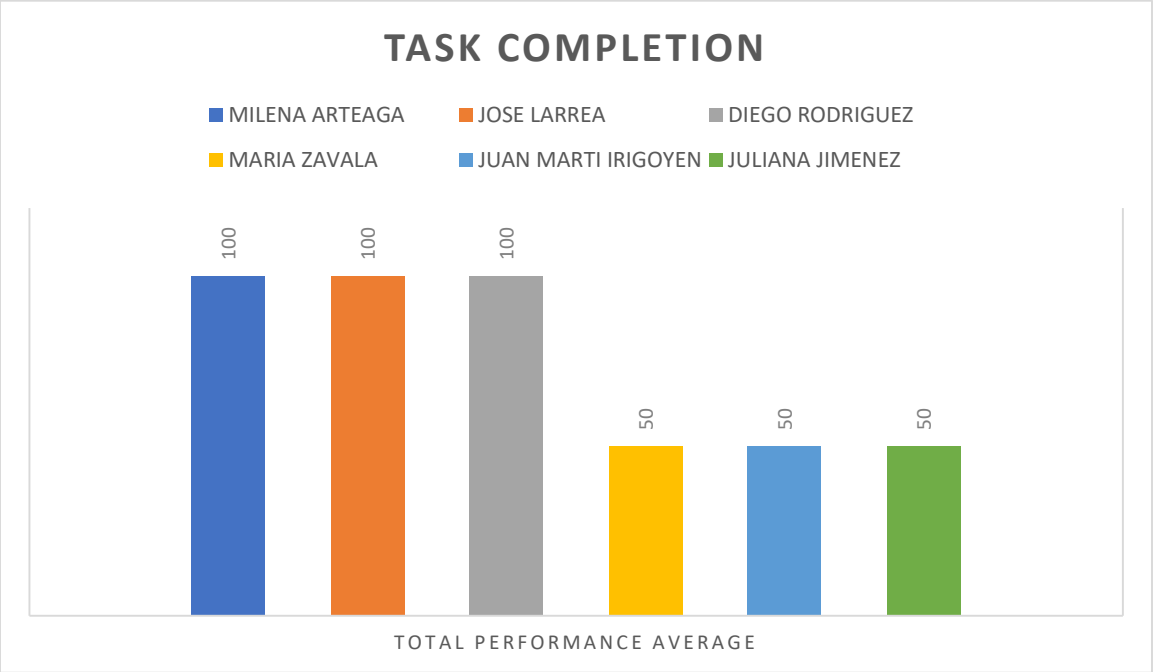
Part 2

The following chart displays the qualitative study results taken as part 2 of the assessment. The marks of the six musicians, divided into two groups (Musiclab vs. Traditional Method), are shown in the sheet with average scores for each part of the qualitative test. The following charts support the visual differences and similarities between the scores.

Method	**MusicLab**			**Traditional**		
Musician Name	Milena Arteaga	José Larrea	Diego Rodríguez	María Zavala	Juan Martín Irigoyen	Juliana Jiménez
Audio Record a 3 to 5 cover or composition	Task Done 1/1 =100%	Task Done 1/1 =100%	Task Dine 1/1 =100%	Task Done 1/1 =100%	Task Done 1/1 =100%	Task Done 1/1 =100%
Audio Record a 16-measure improvisation	Task Done 1/1 =100%	Task Done 1/1 =100%	Task Done 1/1 =100%	Task Uncompleted 0/1 =0%	Task Uncompleted 0/1 =0%	Task Uncompleted 0/1 =0%
Total, Average	100%	100%	100%	50%	50%	50%

Audio record a 3- to a 5-minute file of yourself playing a cover or composition on your instrument, and audio record a 16-measure improvisation using one of the practice exercises given.

Audios attached by name in this folder:
https://drive.google.com/drive/u/0/folders/1KGf1RH7XPvn_haZmMHbDbGn-3KW99E4O



The student musical knowledge diagnosed is centered on two groups

1- Traditional conservatory method

2- MusicLab method

In the traditional method, students can interpret a piece of music correctly, but when faced with improvisation on a track not heard before, they do not have the knowledge to do so. The apparent difference lies in how students establish their relationships with the musical object. The search in the traditional method is related to the improvement of the interpretation of a given

piece. At the same time, in MusicLab, the student experiences music virtual video game where imagination, sound, and discerning the standard conservatory solfeggio state enter music unconsciously.

After summing the total averages of the two parts of the test, a global average score was taken for each one of the students. These were the results:

Method	**MusicLab**			**Traditional**		
Musician Name	Milena Arteaga	José Larrea	Diego Rodríguez	María Zavala	Juan Martín Irigoyen	Juliana Jiménez
Part 1 – Total Score	94.18%	86.25%	91.5%	63.4%	63.89%	77.5%
Part 2 – Total Score	100%	100%	100%	50%	50%	50%
Total, Average	97,09%	93,13%	95,75%	56,7%	56,95%	63,75%

As a result of the scoring average, it can be concluded that in the search for multidimensional musicians, the MusicLab method students have demonstrated that in the different skills evaluated, they have an average score than exceeds the results of the traditional method students. Furthermore, MusicLab students have more tools to assume the contemporary music terrain in the middle of two years.

Survey Results

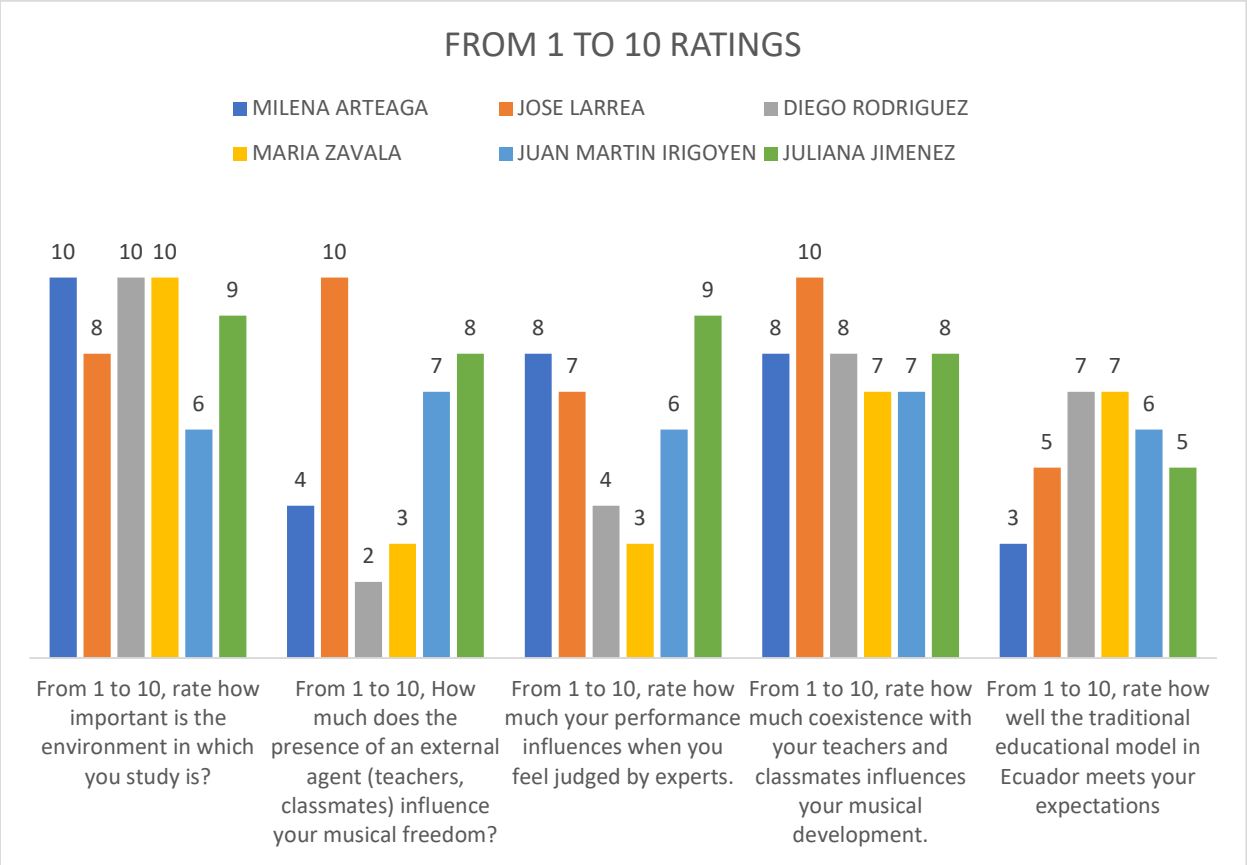
Methodology	**MusicLab**			**Traditional**		
Musician Name	Milena Arteaga	José Larrea	Diego Rodríguez	María Zavala	Juliana Jiménez	Juan Martín Irigoyen
Questions	10/6/2022 19:30:46	10/6/2022 19:33:38	10/6/2022 19:18:10	10/6/2022 19:22:06	10/6/2022 19:12:18	10/6/2022 19:16:09

What is your name, age, and email?	Milena Arteaga, I am 18 years old. milevale03@gmail.com	José Larrea / 18 / josealfredolarrea@gmail.com	Diego Alberto Rodríguez Bazante, 18 years old diego.rodban@gmail.com	Ma. Fernanda Zavala, 18, maferzavala99@gmail.com	Juliana, 18. julyjimen41@hotmail.com	Juan Martin Irigoyen, 18, jmirigoyen@gmail.com
From 1 to 10, rate how important the environment in which you study is.	10	8	10	10	6	9
From 1 to 10, How much does the presence of an external agent (teachers, classmates) influence your musical freedom?	4	10	2	3	7	8
From 1 to 10, rate how much your performance influences when you feel judged by experts.	8	7	4	3	**6**	**9**
Describe what music means in your life	It is what I want to do for a living. Music is where I feel free and belong; I do not see myself in	Music is everything to me, it finds me in some of my lowest moments, and I can count on it even when I cannot play it or	Music is everything. It is why I get up every day and dream of bringing my music to everyone. If I have that,	Music is my means of expression, presence, sharing, personal growth, and exploration. It is my life and	It is an essential part of my every day.	Music is everything to me. It is the place where I feel safe and without judgment. It is what I

	something else.	am not in the mood to practice just being able to listen to music.	there is nothing else I can ask for. That is all I want for my life.	the profession that I chose and want to practice shaping the life I want.		want to do every day.
Name the academies where you have studied music and its method.	Hot cold (Las lolas), Herbroz studios.	School: It felt more like a history class than a music class; everything was graded, and the only music skill they thought of was a reading sheet. / Gershwin: It was loose in what you were able to learn, and I did learn a lot of basic theory there. However, it was still strict and exhausting. / Personal Classes / Music Lab: It is where I still study, it allows me not only to learn songs but experiment with making my own, and it manages to teach theory, technique, and more through that	I studied at the Conservatory of Music when I lived in Venezuela, and it was a very academic method, old-fashioned, but exceptionally good anyway. I am now studying music performance at USFQ, where the teaching method is very modern. We cover many topics and are moving fast forward in everything. So, it is even a little more demanding sometimes.	Escuela de imagen y sonido Paradox	Conservatorio de Loja, Sinfin Academy. Their method is completely classic	Franz Liszt-classical method
From 1 to 10, rate how much coexistence with your teachers and classmates influences your musical	8	10	8	7	7	8

develop ment.						
Describe what your ideal model of music educatio n would look like	Freedom, where creativity is not determined by theory only.	The Music Lab seems ideal. Maybe if it were a bit stricter, I would not waste time trying to make up melodies.	This type of teaching develops all the students' talents while simultaneousl y allowing them to know their musical identity.	Space where you have the freedom to make mistakes. You are encouraged to investigate and learn the story behind what we do, one in which realistic and executable objectives are set. But most of all, one where the space is playful, so those learning moments stay with you.	To impulse musicians' creativity and curiosity. To learn about all kinds of musical styles	MusicLab is a place where I feel free and express myself. Also, it instructors me to be better.
Have you felt the freedom of creation in the spaces where you have studied music?	But they told me I could not reach certain things at some point because classical terms made a line between being creative and the "laws."	Yes, I have always been attracted to improvisation, even if I still have much to learn from it, so I often ask my teachers to help with that, leading to freedom to create and learn.	Yes, in some more than in others. Most of the time, the music is like that.	Yes, when I feel comfortable around Tun's classmates or professors, it is easier for me to create and share ideas.	Not much	no
From 1 to 10, rate how well the tradition al educatio nal model in Ecuador meets your expectati ons	3	5	7	7	6	5
Describe what the ideal place would look like	Freedom to create spaces for each task and being able to make and create	Somewhere where I feel free but not comfortable.	I do not want this to sound cliché, but that place is MusicLab and USFQ, where	It is easier to make music in an open space, with a lot of light and air flowing. It	A place that urges musicians towards diverse ways, not only	A place where I do not feel any judgment and the environment

for you to be able to make music without any restrictions	the genre you like without being judged, leaving the complexity of the music side. The Music Lab gives us a lot of freedom and opens our minds to different music perspectives.	That way, I cannot rest my time away, but I will want to make music, yet I can still experiment and learn from trial and error.	I can give everything of myself, do my best, express my ideas, and always have support or corrections that make me a better musician.	allows me to sit in the right mood and enjoy the process.	traditional methods. In MusicLab, one can find DJs, composers, and plenty of jazz scenarios to improvise with others.	impulses me to be the best musician I can be



The qualitative survey discovered that young musicians find music a safe and vital space. Music-making is their way of life; the six students and subjects found MusicLab an area where an environment of freedom, expression, and creativity accompanies skill development.

They agree that coexistence with their peers and teachers is essential in their musical development, and they are not completely satisfied with the traditional method of musical education provided in the region. Instead, they are looking for techniques to develop the musical object in a safe environment to foster creativity and freedom of voice. They can be allowed to commit mistakes and learn from the best musicians to become one as pupils grow as humans.

Chapter Five: Conclusion

The nature of the MusicLab curriculum encompasses the need to understand the musical object without separating those who study it from the search for becoming professional musicians or appreciating music for the well-being of human beings. The curriculum's success must catalog that the environment in which music develops must be fostered by teamwork, constant motivation, and peer working relationships. Therefore, it is critical to prioritize the environment-supporting spaces. Behavior is a reaction to environmental settings, and behavioral psychology is an approach to comprehending that all conduct is learned through interaction with the environment through training. Musical development is a companion in creative education and freedom of expression, revitalizing self-esteem. Technological tools communicate directly with the new early life and provide the foundation to fend for themselves in the music industry. Learning the curriculum at an early age generates the confidence to feel real-world challenges when interpreting an instrument, composing, or producing music—MusicLab's educational ecosystem projects real-life expectancy situations in the industry, from pre-production to post-production. The curriculum is based on projects from day one. It stimulates the search for one's voice in music.

Furthermore, it integrates emotional learning fostered by collaboration, where friendly music coaching becomes crucial in the individual and collective process. Music education is challenging; therefore, the mission has several expansion limitations due to the lack of governmental support. However, from the awareness and inclusion of integral musical development, the curriculum has the strength to be institutionalized in various universes with economic difficulties and make music reach worldwide. Technology serves as the pathway to shorten physical distances and achieve harmony. The curriculum development core is to

understand and expand increasingly inclusive spaces where creative freedom promotes culture through musical learning and cultivating music for everyone.

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Appendix 1

The attached videos provide examples of students who attended and did not attend the MusicLab program.

Screenshots of the first part test results are in this folder:

https://drive.google.com/drive/u/0/folders/1ttQUiG6WmB2xXxqKyOC05enDNvyGeKl8

Each one of the surveys in their original format:

https://drive.google.com/drive/u/0/folders/1WtYjDqpviR_VbbgUN-i1r9soJF7cN_Oi

Audio record a 3- to a 5-minute file of yourself playing a cover or composition on your instrument and audio record a 16-measure improvisation in one of the practice exercises.

Audios attached by name in this folder:
https://drive.google.com/drive/u/0/folders/1KGf1RH7XPvn_haZmMHbDbGn-3KW99E4O

Traditional Method vs. MusicLab Method Performance Videos:

https://drive.google.com/drive/folders/16RWgdmc6GNe-59Jb1jQbGYe5Oiotex81?usp=sharing

Appendix 2: MusicLab Curriculum

MusicLab Core

Modules

<table>
<tr><th colspan="4">Module 1</th></tr>
<tr><td colspan="4"><u>Ableton Live & Music Theory Basics Content</u></td></tr>
<tr><td colspan="4">• Harmony 1: Diatonic Chords – Major
• Song Structure
• Critical Listening: The use of effects such as Reverb, Delay and Compression, Frequency Balance, Instrument Choice
• Ear Training: Basic Rhythm Subdivisions: 1/4, 1/8, 1/16
• Ableton Live 10 Basics: Creating Tracks, MIDI, and Audio Tracks. Use of Session View and Arrangement View.
• Composition Technique: Chopping and Lifting uses.
• Producer Reference Playlist</td></tr>
<tr><td>Projects</td><td>Warm-up</td><td>Exercise</td><td>Objective</td></tr>
<tr><td>Music Producer Roles in the Industry</td><td>Discussion</td><td></td><td>Become aware of the separate roles a music producer can lean into.</td></tr>
<tr><td>Ableton Demo Project & First Playlist</td><td>Hear Music - Critical Listening Introduction</td><td>1.-Combine Clips in Session View.

2.-Create a "Scene."</td><td>1.- Understand the Basic Layouts of Ableton Live: Arrangement View and</td></tr>
</table>

		3.-Record "Scenes" in the Arrangement View.	Session View Elements
Compose Project - Use of Sounds and Drums	Hear Music - Critical Listening	1.- Select a Clip Slot in the "Drums" Track & write ideas using Push 2 2.- Select a Clip Slot in a "Sound" Track & record Ideas Using Push 2 3.- Adjust Loop Length	1.- Understand the Use of MIDI and Audio Tracks. 2.- Understand Push 2 Layout for Sounds and Drums. 3.- Understand the difference between Writing and Recording
Tempo Project - Understanding Tempo	Hear Music - Critical Listening	1.- Pick a Song and adjust Session Tempo (BPM) 2.- Change Time	1.- Know how to manage tempo and time signatures functions in

		Signature 3.- Activate Metronome	Ableton Live 10. 2.-Know the importance of using the metronome and how to activate this function.
Notes Project - Pulse & Triads	Hear Music - Critical Listening	1.- Login Berklee Pulse. 2.- Select Intro to Harmony 1. 3.- Learn how chords are made using the Major Scale. 4.- Use Push to create chords and typical cadences.	1.- Learn - Major Scale 2.- Learn - what are intervals. 3.- Understand how triads are formed. 4.- Understand typical cadences.

Limmerstreet Project - Live Set	Hear Music - Critical Listening	1.- Watch Limmerstreet Video 2.- Ableton Live Push 2 Jam Session.	1.- Understand the difference between a DJ set and Live Set. 2.- Ableton Live Push 2 Jam Session.
Beat For Acapella - Remix	Hear Music - Critical Listening	1.- Create MIDI Tracks. 2.- Drag Sounds and Drums. 3.- Write and Record Ideas accompanying the Isolated vocal.	1.- Understand the Concept of a "Remix." 2.- Learn how to add MIDI tracks into Session View. 3.- Drag Sound and Drums.
Order Sections Project	Hear Music - Critical Listening	1.- Choose the correct structure for the song.	1.- Song Structure 101. 2.-Understand the impact of different sections of a

		2.- Compare Answers and discussion.	song on the listener. 3.- Recognize Instrument density in each section.
Place Markers Project	Hear Reference Playlist	1.- Outline the song structure using Markers. 2.- Select the desired Sounds and Drums for the Module 1 Project.	- Preproduction Technique - Define the structure of a song. - Envisioning a Production - choosing the correct Elements.
Intervals 1 Project	Ear Training - Discussion	1.- Choose favorite songs, one ascending and one descending. 2.- Associate	1.- Learn Perfect Intervals: 4ths, 5ths, and 8vs. 2.- Understand Ascending and Descending

		intervals to songs	Intervals. 3.- Ear Training - Intervals -Study Techniques.
Rhythm and Chopping Project	Intervals	1.- Watch Robert Glasper NPR Video. 2.- Open the project, hear songs, and choose one. 3.- Replicate the drumbeat, then make a variation.	1.-Understand quarter, eighth, and sixteenth note options for Drums in Push. 2.- Learn Production Techniques "Chopping and Lifting" 3.- Learn familiar drumbeats.
Stems Project & New Playlist	Intervals	1.- Use solo, track activator. 2.- Identify volume fader and track pan. 3.- Adjust	1.- Learn the difference between stems and multitrack. 2.- Learn Mixing Essentials:

		volume and pan.	Volume and Pan.
Quantize Project	Intervals	1.- Select All → CMD + A 2.- Quantize Menu → CMD + Shift + U 3.- Use MIDI Quantization based on the smallest rhythm value used. 4.- Adjust Amount.	1.- Learn MIDI Quantization. 2.- Know when and how to use this feature
Project Revision	Intervals	1.- In-Class Project Revision and Questions. 2.- Record to Arrangement View	1.-Combine Ideas and Record them from Session to Arrangement View.

MP3 & MIDI Project Export, Intro to Noteflight	Intervals	1.- Bounce MP3 to Disk 2.- Export MIDI file 3.-Import the MIDI file into Noteflight.	1.- Learn how to export a project to an mp3 file. 2.- Learn how to export MIDI files. 3.- Noteflight Introduction.

Module 2			
Ableton Live-Instruments & FX Part 1			
• Ear Training: Consonant Intervals *- Harmony 2: Diatonic Chords Progressions - Minor and Modal Interchange (part 1) • FX Use: Reverb, Delay, EQ • Synths Basics: Use of Analog and Wavetable • Drum Rack: Recording, editing, and processing samples. • Envisioning Project. • Composition Technique: The Soli • Composition Technique: Applying Chopping			
Projects	Warm-up	Exercise	Objective
Student Production Pitch - New Project	Discussion Playlist - Add five more songs to use as a reference	1.-Envisioning the production of the new project	1. Choosing the correct elements to create a song.

FX Project - Reverb Basics	Hear Music - Critical Listening	1.- Go to Audio Effects 2.- Drag and Drop Reverb Module 3.- Adjust the Dry/Wet Knob 4.- Adjust Pre-Delay Knob	1.- Understand how digital reverb works. 2.-Learn several types of reverbs 3.- Learn the essential function of a digital reverb module.
FX Project - EQ Basics	Hear Music - Critical Listening	1.- Go to Audio Effects 2.- Drag and Drop EQ Module 3.- Search for bad-sounding frequencies 4.- Adjust Gain and Q Knob	1.- Learn how an equalizer works. 2.-Learn how to use the equalizer module. 3.- Use the equalizer as a corrective and a creative tool.

FX Project - Delay Basics	Hear Music - Critical Listening	1.- Go to Audio Effects 2.- Drag and Drop Echo Module 3.- Adjust the Dry/Wet Knob 4.- Adjust Feedback Knob 5.- Adjust Delay Division 6.-Adjust Sync & Time features. 7.-Adjust Delay type: Stereo, Ping-Pong, Mid/Side	1.-Learn how to use any delay module. 2.- Understand in which cases it is best to use this module.
Intervals 2 Project + Noteflight	Intervals	1.- Perfect Intervals	1.- Augment Intervals

		review. 2.- Choose favorite songs, 1 ascending and one descending, for 3rds and 7ths. 2.- Associate intervals to songs.	knowledge, this time: 3rds and 7ths. 2.- Recognize Minor and Major 3rds. 3.- Recognize Minor and Major 7ths.
DrumRack Project - Using Samples	Intervals	1.- Drag and drop a Drum Rack into a MIDI Track. 2.- Import samples in the drum rack. 3.-Adjust Simpler parameters such as Volume, Filter, and Transpose. 4.- Drag and drop	1.- Intro to the Instruments available in Ableton Live 10. 2.- Create a personalized Drum Rack for projects 2—3.- Learn what samples are and how they are incorporated

		audio effects to create unique sounds for each sample.	into Drum Rack and Simpler.
Drum rack Project - Record Samples	Hear Music - Critical Listening	1.- Set up an Audio Track. 2.- Connect a microphone to the audio interface. 3.- Record samples and be creative—4.- Crop samples. Select a clip area and press CMD+E to crop. 5.-Import samples into Drum Rack. 6.- Add audio effects to create unique sounds.	1.- Learn how samples are made. 2.-Learn to arm an audio track in Ableton Live. 3.- Basic editing in arrangement view, crop audio. 4.- Use samples to create pieces of music.

Analog Project - Bass Synth Sounds	Intervals	1.- Drag and drop the Analog into a new MIDI Track. 2.- Adjust Amp parameters: Level and Pan. 3.- Adjust Oscillator parameters: Shape, Pitch knobs. 4.- Adjust Filter parameters: frequency, resonance. 5.- Mix oscillators and route the signal. 6.- Assign LFO 1 to filter frequency 1.	1.- Introduction to synths 2.- Understand the Basic functionalities of a synthesizer: Oscillator, Filter, Amp, Envelope, and LFO and re-routing capabilities. 3.- Know how to create bass sounds using synths. 4.- Learn standard bass lines and rhythms.

Notes Project 2 - Pulse & Seventh Chords - NoteFlight	Hear Music - Critical Listening	1.- Login Berklee Pulse. 2.- Learn how seventh chords are made using the Major Scale. 3.- Select Melody →Level 2 Modal Scales. 4.-Learn primary scale colors. 5.- Use Push to create chords and typical cadences. 6.- Write 7th chords in Noteflight.	1.- Review chord construction. 2.- Learn how seventh chords are made. 3.- Introduction to Major Scale Modes (Colors) 4.- Learn how to play these chords using Ableton Push 2. 5.- Learn the basics of music notation using Noteflight.
Wavetable Project - Pad Synth Sounds	Intervals	1.- Drag and drop Wave Table into a	1.- Create unique sounding Pads

		new MIDI Track. 2.- Choose the correct shape for the oscillator to produce a Pad sound 3.- Adjust Oscillator parameters: Sub, Pitch knobs. 4.- Adjust Filter parameters: frequency, resonance. 5.- Adjust Amp envelope 6.- Assign LFO 1 to filter frequency 1.	using Wavetable synth. 2.- Learn more complex features of synths. 3.- Learn a new way of routing signals using a wavetable matrix.

Project Revision	Hear Music - Critical Listening	1.- In-Class Project Revision and Questions. 2.- Record to Arrangement View	
MP3 & MIDI Export	Intervals	1.- Bounce MP3 to Disk 2.- Export MIDI file 3.-Import the MIDI file into Noteflight.	
Module 2 Review	Hear Music - Critical Listening		

Module 3
Ableton Live Recording And Editing Essentials
• Ear Training: 3rds and 7ths - Harmony 2: Diatonic Chords Progressions - Minor and Modal Interchange (part 2) • Microphones 101 • Mono and Stereo Recording Techniques

• Applying Warp Functionalities • Pre-Production: Bring a Demo • Noteflight Intro: Lead sheet • Arrangement View: Live Advanced Editing Functionalities • Composition Technique: Voice Leading			
Projects	Warm-up	Exercise	Objective
Demo & References New Playlist	Discussion	1.-Envisioning the production of the new project	1.- Learn preproduction techniques: Introducing a Demo.
Student Pre Production Pitch - New Project	Hearing Music - Critical Listening.	1.- Comment and Analyze the whole class Demos. 2. Instrumental Production Proposal	1.- Producer/Artist Communication in Production
Warping Project - Demo Import	Intervals	1.- Create Audio Track 2.- Import Audio (Demo) 3.- Warp Audio 4.- Adjust Algorithm 5. Use Markers to	1.- Learn Ableton Live Warp Functionality. 2.- Apply Preproduction technique: Song Structure Layout.

		add a Structure Layout.	
Lead sheet Project Noteflight	Hearing Music - Critical Listening.	1.- Create a simple layout of the song using Noteflight. 2.- Write the correct time signature. 3.- Show song structure layout. 4.- Write chords and melody.	1.- Pre-production tools: the "lead sheet" and its importance. 2. Learn In-depth MIDI into Noteflight
Drum Editing Project	Intervals	1.- Identify tempo problems in drum instruments. 2. Quantize Audio using Ableton Warp functionalities.	1.- Learn Arrangement view´s advanced clip editing and tempo corrections. 2. Quantizing Audio through Warp functionalities.
Synth Sampling	Hearing Music -	1.- Create Pad or Bass	1.- Learn to sample

Project	Critical Listening.	Synth sound using Novation Ultranova. 2. Create an audio track and Arm it. 3. Record a note in different octaves to capture the complete range of the sound.	synthesizers. 2. Review the Audio track recording process. 3.- Review Synth sound creation.
Microphones 101 - Types, Polar Patterns and Usage	Hearing Music - Critical Hansen, Dee. *Handbook for Music Supervision*. Reston, VA: MENC, National Association for Music Education, 2002.	1.- Use and identify different microphone types and polar patterns.	1.- Understand Signal Flow, Gain Staging, Sample Rate & Mic Choice Considerations. 2. Learn Mono & Stereo

	Listening.		Recording Techniques to enhance production. 3.- Proximity effect and Frequency response of microphones.
Notes 3 Project - Modal Interchange	Intervals	1. Navigate in Arrangement View and combine clips of the major and relative minor scales.	1.- Learn the Relative Minor Scale. 2. Learn to Borrow Minor Scale Chords
Record Acoustic Guitar Project	Hearing Music - Critical Listening.	1.- Communicate Song ideas to the performer using a Lead Sheet. 2. Place different microphones, hear, and compare tones. 3. Create Audio Track,	1.- Incorporate recording techniques learned. 2. Producer/ Artist communication. 3. Choose suitable microphones,

		Adjust Sample rate, Monitor Settings, and add effects. 4.- Arm Track and Record.	hence, the tonality to enhance production.
Chord Recognition - Ear Training	Intervals	1.- Review of 3rds, 5ths, and 7ths. 2.- Sing Chord Arpeggios. 3. Recognize distances between notes. 4. Recognize Maj 7, Min 7, and Dom 7 chord types.	1.- Learn new skills to enhance ear training. 2.- Learn new ear training study techniques for music producers. 3. Importance of chord recognition in vocal production and arranging.
Record Vocals Project	Chord Recognition	1.- Communicate intention and	1.- Importance of knowing the

		dynamics to the performer. 2.- Place different microphones, hear, and compare tones. 3.- Control Sibilance and proximity effect by adjusting the microphone's distance. 4. Create Audio Track, Adjust Sample rate, Monitor Settings, and add effects. 5.- Arm Track and Record.	timbre and tonality of the singer. 2. Choosing the right microphone to complement singers. 3. Hear examples and learn how to control the sibilance and proximity effect to enhance vocal production.
Recording Percussion Instruments	Hearing Music - Critical Listening.	1.- Tune Drum Instrument 2. Place different microphones, hear, and compare tones. 3.- Control Attacks and Thumb using proximity effect adjusting the distance of the	1.- Learn how to tune a Snare and Kick. 2. Know how to choose the correct distance of the

		microphone. 4.- Create Audio Track, Adjust Sample rate, Monitor Settings, and add effects. 5.- Arm Track and Record.	microphone to the source to enhance the attack or thumb to the instrument. 3. Understand the use of polar patterns and their advantages in percussive instruments.
Project Revision		1.- In-Class Project Revision and Questions. 2.- Record to Arrangement View	1.- Each student needs to add a recorded instrument. Edit it and use Warp functionalities.
MP3 & MIDI Export		1.- Bounce MP3 to Disk 2.- Export MIDI	

		file 3.Import MIDI files into Noteflight.	

Module 4			
Ableton Live MIDI Effects and Composition Techniques			
• Ear Training: 3rds and 7ths *- Harmony 2: Diatonic Chords Progressions - Minor and Modal Interchange (part 2) • Microphones 101 • Mono and Stereo Recording Techniques • Applying Warp Functionalities • Pre-Production: Bring a Demo • Noteflight Intro: Lead sheet • Arrangement View: Live Advanced Editing Functionalities • Composition Technique: Voice Leading			
Projects	Warm-up	Exercise	Objective
Groove Pool Project	Hearing Music - Critical Listening	1.- Search for the desired groove feel. 2.- Drop clips into the groove pool 3. Apply this both to audio and midi clips. 4. Preview and adjust: Base, Quantize, Timing, Random, Velocity.	1.- Learn how to apply variations to the beat. 2.- Enhance rhythmic subdivisions. 3. Understand the Difference between swing

		5.- Commit Clip to Groove Pool Settings.	and straight subdivisions.
Auto-filter Project	Hearing Music - Critical Listening	1.- Select Filter Type, Frequency, and Resonance. 2. Use the LFO feature to adjust the Amount, Rate, and Phase. 3. Create a riser using noise.	1. Learn how to use AutoFilter to enhance and transform sounds. 2.- Use AutoFilter as a transitional tool in your song structure.
Arpeggiator Project MIDI Effect	Recognize Chords	1.- Create a chord progression 2.- Add Arpeggiator before tracking device/Instrument. 3.- Adjust: Style, and Sync Rate 4. Duplicate the track with the chord progression. 5.- Add another instance of Arpeggiator before track	1.- Learn how to re-arrange device, instrument, or effect modules in Ableton Live. 2.- Use of Arpeggiator as a variant tool for your chord progressions. 3.- Use Arpeggiator to

		device/Instrument. 4. Adjust: Style and Sync Rate until harmonies are created.	harmonize. 4. Understand the concept of harmonic density.
Chord Project MIDI Effect	Chord Build	1.- Create a simple melody 2.- Add Chord MIDI Effect before tracking device/Instrument. 3. Adjust Shift Knobs. 4. Transform melody into chords	1.- Learn how melody dictates harmony. 2. Re-harmonizing basics 3.Learn - what is a Voicing 4.- Create a custom preset with Interesting voicings.
Chord recognition 2	Hearing Music - Critical Listening	1.- Introduce Diminished 5ths and 7ths. 2.- Sing Chord Arpeggios. 3. Recognize distances between	1.- Learn new skills to enhance ear training. 2. Learn new ear training study techniques for music producers. 3.

		notes. 4. Recognize -7b5 and the Diminished 7th chord types.	Importance of chord recognition in vocal production and arranging.
Vocal Production - Pitch MIDI Effect	Intervals	1.- With the given melody: Duplicate, harmonize using Pitch, Pan, and Add effects. 2. Create a 2-part voicing and 4-part voicing.	1.- Learn standard vocal production techniques. 2. Understand how vowels affect the tonality of the voice. 3. Learn what is Voice Leading.
Vocal Synth Project	Hearing Music - Critical Listening	1. Create MIDI Track 2.- Add Simpler 3. Drag and Drop Voice Sample 4.- In Simpler Adjust: LFO, Envelope, and Filter.	1. Know How and When to Use Vocal Synths. 2. Learn how to make voice-based synth sounds like Vocal Pads.

Haas Effect	Intervals	1.- Add a Simple Delay to the given vocal track. 2.- Adjust the Left or Right Side with a range of 2ms - 20ms Delay	1.- Apply binaural psycho-acoustic technique as a creative effect to the main vocal to achieve a comprehensive and complete sound.
Random - MIDI Effect	Hearing Music - Critical Listening	1.- Create a basic drum beat 2.- Add MIDI Effect → Random 3.- Adjust Chance and Choices Values.	1. Humanize drum beats 2. Create Interesting Bass Lines. 3. Add Variation to a melodic line.
Chords V/ of - Notes Projects 4	Recognize Chords	1.- Navigate through the Arrangement view. 2.- Add the corresponding V7	1.- Understand the use of Secondary Dominant chords and their importance. 2.- II - V - I

		chord to each chord of the scale.	cadences throughout the Major and Minor Scales.
Velocity, Scale and Note Length Project - MIDI Effects	Chord Build	1. Add MIDI effects chain to assigned MIDI track →Scale, Velocity and Note Hansen, Dee. *Handbook for Music Supervision*. Reston, Va: MENC, National Association for Music Education, 2002. Length. 2. Adjust Scale→ Base Key to suit Key. 3. Adjust Velocity→ Random Function until hearing more dynamics. 4. Adjust the Note	1.- Learn how to make exciting lead synth tones by adding dynamics and articulation. 2. Learn how to make breathing percussive instruments full of dynamic range.

		Length to a staccato feel.	

MusicLab Advanced

Modules

Module 5		
Ableton Live Instruments & FX Part 2		
• Ear Training: Melodic Dictation 101 *- Harmony 3: Reharmonization & Chord Scales (part 2) • Physical Modeling Synthesis • Granular Synthesis • Instrument Racks • Audio Effects Racks • Envelope Automation • Multiband - Compression • Arrangement View: Live Advanced Editing Functionalities • Song Writing: Lyric Editing & Musical Embellishments		
Projects	Exercise	Objective
Sampling Project - Song	1.- Choose the desired song to sample. 2.- Crop Song Sample in Arrangement view and drag it to Simpler. 3. Adjust Simpler Mode to Slicing. 4.- Adjust Slices. 5.- Adjust tempo and warp options 6.- Add MIDI and Audio Effects	1.- Know the creative skill of sampling an existing song. 2. Make it unique by adding audio effects, Warping, and Randomized MIDI Input.
Operator Project Frequency	1. Add Operator to a MIDI Track 2. Choose or Draw Oscillator Shapes in	1.- Learn one of the most powerful and versatile synths

Modulation Synthesis	A, B, C, and D 3. Set Up four different Oscillators and Routing 4. Adjust the Level of each oscillator to create different timbres. 5.- Adjust Envelope ADSR and LFO. 6. Create a Pad and Lead Sound.	in Ableton Live. 2.- Create Complex synth sounds combining up to 4 oscillators. 3. Learn to route Synth signals in parallel and series. 4. Learn the difference between additive synthesis and frequency modulator synthesis -FM-
Electric Project Instrument	1.- Add Electric to a Midi Track. 2. Create a Basic Fender Rhodes type of sound using Electric. 3.- Adjust Mallet Stiffness and Noise level. 4. Adjust Tine Color and Level. 5. Adjust Damper Envelope) and Pickup Position.	1. Learn Physical Modeling Synthesis for Electric Piano instruments. 2.- Learn the basics of Physical Modeling Synthesis Parameters: Mallet, Damper, Noise, and Pickup.
Tension Project Instrument	1. Add Tension to a MIDI Track 2. Create Synth Guitar Sound 3. Adjust Excitator Mode 4. Adjust Termination: Find Mass, Fing Stiff, and Fret stiff 5.-	1.- Learn Physical Modeling Synthesis using Tension. 2.- Learn to program Tension to recreate stringed instruments. 3.- Transform sound Using

	Adjust Pickup Position. 6.- Adjust Damper parameters. 7.- Adjust Body Mode and Size.	Filter, Envelope, and LFO 4.- Learn to Use Portamento and Legato parameters in synths.
Collision Project Instrument	1. Add Collision to a MIDI Track and create Toms Sound. 2. Adjust Mallet Stiffness and Color. 3.- Add Noise and Filter it. Also, adjust the noise envelope. 4. Adjust Resonator Parameters, Tune, and Material. 5. Add Velocity MIDI effect. 6.- Give respective values to velocity parameters across the whole device. 7.- Use a Pitch Envelope.	1.- Physical Modeling Synthesis for percussion instruments. 2. Understand Collision parameters such as Mallets and Resonators. 3. Combine MIDI effects with Percussive instruments 4.- Learn to use a Pitch Envelope.
Sampler Project Instrument	1.- Add a Sampler to a MIDI Track. 2. Add Sample to Sampler. 3.- Adjust Sustain Mode. 4.- Adjust the Oscillator and Pitch Envelope 5.- Load More samples to the sampler and adjust zones. 6.-Create a custom sampled instrument.	1.- Learn the basic parameters of the Sampler. 2.- Learn Auxiliary envelopes and assign them to control any parameter within Sampler. 3.- Route Sampler MIDI functions. 4.- Learn the Multisampling tool in Sampler. 5.- Record samples of real-world instruments and

		combine them to create a unique instrument.
Amp & cabinet Project Audio FX	1.- Identify the DI guitar signal in track 1. 2.- Add Amp & Cabinet audio effects. 3.- Dial the correct parameters of EQ and voice. 4.- Choose the desired cabinet. 5.- Add more effects using Pedal.	1.- Learn how to dial any bass, guitar, or keyboard amp to suit your needs while producing a track. 2. Learn basic signal flow for these instruments. 3.- The importance of recording a DI signal.
Compressor Project Audio FX	1.- Add Compressor to the given vocal sound. 2.- Reduce dynamic range by adjusting Threshold, Ratio, Attack, and Release functionalities.	1.- Learn to control the dynamic range of any instrument, its benefits, and its importance. 2.- Learn how to dial a Compressor correctly.
Envelope automation in Session View	1.- Double click MIDI Clip. 2.- Shift+TAB to view the device. 3.- Identify Parameter to Automate. 4.- Activate	1.- Introduction to Automation. 2. Learn to Automate MIDI and Audio clips in Session view to create different sounds and effects. 3. Learn how Automation works

	Clip envelope 5.- Select Device and Parameter. 6.- Draw Automation Curve.	

Module 6		
Ableton Live Instruments & FX Part 2		
• Ear Training: Scale Recognition *- Harmony 3: Reharmonization & Chord Scales (part 3) • Mixing Fundamentals • Mono and Stereo EQ & FX • Series and Parallel Processing • In-Depth Compression • Advanced Automation • Aux and Busses: Advanced Signal Flow configurations • Arrangement View: Live Advanced Editing Functionalities • Composition Technique: Drop 2 & 2+4 Voicings		
Projects	Exercise	Objective
Mixing Basics Review	1.- Review: What is Mixing? 2. Review: Basic Leveling and Pan	Mixing Basics Review
Metering Project	1.- Learn to read RMS and Peak Metering.	Understand the use of Decibels
Utility Project	1. - Organize Sessions by Instrumental priority. - Know What Headroom is. - Learn how to effectively use Utility to Level tracks and Correct Phase to achieve maximum Headroom.	Learn how to prepare a finished song for mixing

Busses Project	1.- Know how to Group Tracks. 2.- Create and Route Auxiliary Tracks 3. Learn when and how to group Auxes. 4. Learn Pre Fader and Post Fader functionalities	Learn how busses enhance your final mix
Parallel Processing Project Sends and Returns	1. Learn What parallel processing is. 2.- Know when to use this. 3.- Know how to create Send and Returns. 4.- Know how to use this for Compression, Reverb, Delay, and other effects.	Learn how sends and returns enhance your final mix
Track Delay Project	1.- Learn what phase correlation is and how it affects the sound.	Correct phase canceling issues using Track delay.
Compressors Project	1. Learn what it is In-series Compression.	Know how to make an instrument stand out using two diverse types of compression in series.
Brauerizing Project	1.- Learn how to combine in-series and similar compression techniques using three or more types of compression.	Learn how to use a combination of in-series and parallel compression

EQ Handling Heavy Low End Instruments Project	Know the importance of High pass filtering across bass-heavy instruments.	Learn the Tools available in Ableton live to bring clarity and punch to Bass Heavy instruments.
EQ - Enhancing low End Project	Combine different filters in EQ eight to enhance low frequencies and focus on the sound without losing the attack.	Learn how to enhance the low end for your final mix
Parallel Compression Project	Enhance parallel compression with EQ and Saturation Effects.	Learn the benefits of parallel compressing.
Saturation Project	1. Dial the correct saturation parameters in different instruments.	Learn how to make any instrument pop with exciters and distortion.
Virtual Tape Machine Project	Excite a signal correctly using Tape Machines.	Learn the benefits of using tape machines to widen and enhance the tonality of the Mix.
Drum Buss Project	Learn how to use Drum Buss to bring the sound's attack, clarity, and fullness.	Learn How to Use Ableton Live 10 set of tools to enhance drum set sounds

MID/Side Processing Project	1. Master widening techniques processing the stereo signal. 2. Learn to eliminate rumble in the Mono Signal	Understand Mono and Stereo processing and how this affects the overall sound of the mix.
In-Depth Reverb Project	1. Review of the basic features. 2. Mono and Stereo Reverbs create spatial sound and depth.	3. Learn To use convolution reverb and advanced parameters of digital reverb.
In-Depth Delay Project	Master Echo Delay parameters including Filter, repetition reverb, and LFO.	Know how to utilize advanced Delay parameters to create unique sounds
Glue compressor Project	Master Buss compression techniques to either give punchy o fuller sound.	Learn how instruments grouped in a bus can merge using a gentle compressor.
Mix Buss Concept - Project	1. Know the importance of starting a Mix in the Mix Buss. 2. Learn how to create your own set of effects to affect all tracks based on the musical genre of preference or the production.	Mix Buss is a process of finishing different audio sections to group the tracks.
Arrangement view advanced automation Project	Manage mix dynamics and intention to achieve a bigger professional sound.	Learn to easily organize and adjust multiple parameters

		via automation in the arrangement view.

Module 7		
Ableton Live- Live Sets - Live Performances		
• Ear Training: Scale Recognition 2 *- Harmony 4: Vertical Harmony • MIDI environment: Understanding the MIDI language • MIDI signal flow • Macros • MIDI controllers • Editing MIDI: Program Change and CC commands • Session View: Fixed Length & Quantization tools for LIVE looping • Composition Technique: Quartal Voicings & Clusters		
Projects	Exercise	Objective
Intro Live Sets	Lean Production techniques setups to create a unique Live Set.	Review what is a Live Set
MIDI effects Rack	Use MIDI Effects racks to activate effects based on the velocity, the key, and the chain.	Learn to stack and combine MIDI effects.
Instrument Racks	1. Play several Instruments at once, adjusting chain range and instrument crossfade. 2. Activate the Instrument with velocity control	Learn to add multiple instruments at once, separating them by the register.

Audio Effect Racks	Learn versatile chain selector effects in Audio Effects Rack to process the signal in parallel.	Know how to use the Audio effects Rack to enhance the live performance of a Live Set.
Macros	1. Learn to assign macros and limit effects to the desired sounds. 2. Learn to assign intelligent controls to help Live Performance.	Learn to program quick access parameters using Macros
Performance Rack	1. Learn to use powerful volume, dynamics, and Pan effects to enhance Live Performance.	Learn to program quick access parameters using Macros
Deconstructing Song	Layout techniques for the Live performer; Legato launch modes, Sends and returns setup, chain selector, and MIDI mapping.	Deconstruct a previously created song in Ableton live to use its samples and effects.

Module 8
Film Scoring & Postproduction in Ableton Live
• Ear Training: Chord & Melodic Dictation *- Harmony 4: Modal Harmony Concepts • Post-Production Workflow • Foley

• ADR • Sound FX: Sound Design • Film Scoring • MIDI to XML Noteflight • Composition Techniques for Film: Superstructure Triads		
Projects	Exercise	Objective
Postproduction Workflow	Know how to import video to Ableton Live. Choose the correct Video codec to work fluidly without system throttle.	Understand the process to achieve the correct workflow while dealing with post-production work.
Scene Selection	Analyze and envision the production, considering Foley, ADR, Ambient Sounds, Music, and FX sounds.	Manage files and create a separate session for each part of the production.
Foley Project	1. Recreating the character. 2. Detailed reproduction of what the characters are doing. 3. Take technicalities such as microphones, EQ, and other effects before recording.	Use Ableton's Instrument Drum Rack to write Foley through MIDI and process sounds separately.
ADR Project	1. Learn how to set up an ADR Count In. 2. Importance of recording high sample rates in post-production	Learn how to process this type of Vocals correctly: Warp, transpose and add audio effects.

Ambient Sounds Project	1.- Learn recording skills to capture ambient sounds. 2.- Create Ambient sounds from scratch using a sound library.	Acquire recording and sampling skills
FX Project	Create complex sounds with synths and audio warping. - Organize FX sounds using Drum Rack and write them using MIDI.	Learn Sound Design Basics.
Film Scoring - Music Project	1.- Produce, arrange and create original music according to each scene and character. 2.- Sync Music and Video is adjusting Time Signatures.	Implementing Music production techniques to film scoring workflow.
Parent Session	Know how to import all separate sessions into 1.	Know how to manage files, use the correct metadata, and file folders.
5.1 and Binaural Mixing concept	Learn about all surround systems available. Mix in Binaural sound.	Learn How Film Scoring and Post-production are mixed.

Module 9		
Mastering Ableton Live		
• Ear Training: Chord & Melodic Dictation *- What is Mastering? Maximizers & Limiters Explained • Mastering workflow • LUFS Metering & Loudness interpretation • Dynamic Equalizers • MID / SIDE Compression • Concept/ Tonality/ Color of the finalized product • Publishing for Spotify, Apple Music, YouTube & more		
Projects	Exercise	Objective
What is Mastering	Critical Listening	Learn the process of music mastering and why it exists.
Loudness Project	Learn how to tailor it for each application. Learn to manage the loudness of a song using the LUFS metering scale.	Understand how different streaming platforms manage the dynamic range of a song
Multiband Compression Project	Learn corrective techniques to make a mix shine. Learn how to bring character, punch, and fullness through the whole spectrum of frequencies. Learn how to have a clear low end and de-rumble any song.	Learn how to balance a mix using multiband compression.

Mastering EQ Music Educators National Conference (U.S.). *The New Handbook of Research on Music Teaching and Learning: A Project of the Music Educators National Conference*, 273. New York: Oxford University Press, 2002. as. Techniques Project.	Learn advanced EQ eight techniques, combining filters to create a tilt EQ.	Learn how to use an EQ in mastering and why it is different in mixing.
Parallel Exciter Project	Know the Use of parallel Exciter and compression.	Learn Parallel signal process to bring punch to the mix
Export for CD Project	1.- Learn what dithering is. 2. Tailor the song's loudness and tonality for CDs and uncompressed exports	Export the final product to uncompressed exports

Export for Spotify Project	1.- Tailor the song's loudness and tonality for Spotify and Apple Music and compressed exports.	Export the final product to Spotify and Apple Music and compressed exports
Export for Video	1.- Tailor the song's loudness and tonality for video use and choose the appropriate sample rate based on the output frame rate of the video.	Export the final product for video use