Bar Ilan University

Epistemology and Creative Thinking in Jazz Pedagogy

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Ph.D. Thesis

Submitted to the Senate of Bar-Ilan University

Ramat-Gan, Israel December 2016

This work was carried out under the supervision of:

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Acknowledgements

I would like to express my sincere gratitude to my two advisors. Without their devotion and support, this dissertation could not have been accomplished:

Prof. Andre Hajdu who recently passed away, was a great inspiration to me. I had the great pleasure of having long enlightening conversations with him. I feel privileged and honored knowing that I was the last doctoral student to be advised by this great music educator. May he rest in peace.

Prof. Deborah Court was a great source of light for me throughout the long process of conducting this research. A true educator, she had the magical ability to lift me up when times were tough, keeping an optimistic smile on and wisely helping me to seek, extract, develop and weave my ideas into form. Her belief in me and her support make her an outstanding model for every mentor. I could not have imagined a better advisor; I owe her my thanks.

I also wish to thank Prof. Lia Laor, who was the head of my master's degree program. She introduced me to the field of philosophy of music education and started off my curiosity. I thank her for believing in my vision and for encouraging me to continue my studies and to conduct this current doctoral research.

The jazz community is often discussed in this research. Being a jazz musician and a music educator I wish to thank my inspiring community: musicians, educators, music education students and jazz music students – with whom I have encountered throughout my career. The mutual passion we share for creative music-making has acted as the fuel for this work. I hope this research will serve them and contribute to the benefit of all of us.

I have lost my parents in the process of the last several years. Their unconditional love and belief in me enabled me to develop my career and to devote myself to my passion for music. I know they would have been proud of me for achieving this goal.

Last but not least I wish to thank my supporting wife and my two sons. Without their love and support I would not have been able to accomplish this achievement.

This dissertation is dedicated to all of you.

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Abstract

Creativity is as essential pillar in music-making and despite its importance, it is often avoided in music education. Similarly, the aesthetics of various musical genres implicitly hold unique a relation to musical knowledge, yet epistemology is rarely discussed among music educators, despite the fact that their main concern is musical knowledge.

Jazz music-making and pedagogy rely greatly on the development of creative thinking and implicitly hold a unique epistemology which should not be overlooked, yet, jazz music-making and pedagogy are seldom examined and discussed in these terms. The identification, analysis and understanding of the creative aspects and unique epistemology of jazz as a discipline are important for both jazz and general music educators in their quest for an authentic reflection of music-making processes in their pedagogy. While music educators tend to speak in terms of aesthetics, creativity and epistemology are inseparable elements of music making and should be addressed in music education.

Scholars define creativity as integration between persons, processes and products and stress the importance of the collective aspects of group creativity in the learners' community. They also criticize music education for often avoiding the addressing of creativity in the music classroom.

Polarizing approaches towards aesthetics dramatically affect music education. Formalists stress that music-meaning lies in formal music elements, and they focus their teaching on canonic repertoire through listening, analysis and discussion – while praxialists argue that music-meaning can be extracted only through direct engagement with music-making. The debate around aesthetics in music education also encompasses the discussion about formal and informal music learning.

Learning is engaged with knowledge and implicitly mirrors our assumption of it. Positivist and constructivist paradigms offer different approaches to the nature of reality, our relation to knowledge and to the ways through which we seek knowledge. In addition, theories of knowledge have a great impact on the construction of educational systems, differing school subject frameworks and higher research disciplines. The discussion of epistemological aspects is crucial for education.

The aim of the current research is to analyze the aspects of creative thinking and epistemology which are tacitly embedded in the aesthetics of both pedagogy and

music-making processes in the jazz realm. The research aims to relate creative thinking in jazz pedagogy to advanced educational concepts of knowledge and higher learning. A theoretical model for a jazz curriculum has yet to be proposed. An additional aim of this research is to construct such an effective model, based on the findings and conclusions of the research. This model is one of the main contributions of this research. The model is offered for examination and modification to other realms of music education. In ordered to achieve these aims, a qualitative theoretical-conceptualization based content analysis methodology was used for the analysis of two types of sources. An analysis of learning materials as primary sources provided insight into jazz methods and pedagogy. In addition, a body of research on jazz music-making in communities was analyzed as a secondary source for the completion of a view of the common methods and practices of this realm.

The analysis of the findings highlights the notion of a pedagogy which authentically reflects the discipline's music-making processes. I suggest that both pedagogy and practice dramatically promote the development of creative thinking, the confluence of convergent and divergent thinking, an ecological system of collective group creativity, paraxial aesthetics, experimentation, informal learning, peer learning and a personal constructivist learning process in which learners are responsible for their paths. I argue that jazz epistemology relies on positivist, stylistic, formulated musical knowledge but essentially on the constructivist 'research' which learners conduct for the excavation of personal knowledge from primary sources, the innovation of new knowledge, and its transformation and sharing in their community. Most importantly, jazz epistemology embodies a research discipline organizational knowledge paradigm from the early stages of the learning process.

The holistic view yielded by the conclusions of this analysis of jazz pedagogy and music-making review has been translated into the construction of an integrative theoretical model for jazz curriculum. The suggested model encompasses the linear development of knowledge, skills and abilities of various types and synoptically integrates them. Moreover, its design offers teachers the space needed for the expression of their own jazz pedagogical content knowledge, students' creative thinking development and the unique disciplinary epistemology of jazz.

The conclusions and implications of this research constitute a contribution not only to jazz education but to music education in general. I hope that educators will examine, develop and modify the suggested model to fit to their needs, and benefit

from this study's conclusions and methodologies for their own examination of creativity and epistemological aspects in their pedagogy. Finally, the study's conclusions offer ideas for future research in music education beyond jazz.

Introduction

Creativity is at the essence of music making; creative individuals are engaged in creative processes that produce creative products. One would expect that creativity and its development should be a center pillar in music education. While scholars (Balkin, 1990; Hickey & Webster, 2001; Webster, 1990) stress the importance of the development of creative thinking in music education, they also question its actual status in the music classroom, hinting that it is frequently absent. The engagement with students' creative thinking development in the music education cannot be taken for granted.

Webster (1979) suggests that among the various creative processes with which students and musicians are engaged, improvisation involves higher levels of creativity than does the reproduction of composed pieces. Still, while improvisation is at the core of jazz music practice, the development of creative thinking and its manifestation in jazz pedagogy has not yet been addressed in scholars' writings about creativity in music education.

As a jazz musician, music has always been a creative way to express myself and the role of creativity in my jazz music-making has never been doubted. As a music educator, this issue has been under examination: what is the place of the development of creative thinking in jazz pedagogy?

It is important to identify, analyze and discuss the means by which jazz music-making and pedagogy manifest the development of creative thinking in order to better the implementation of creativity in education: jazz and music in general.

But there is more to investigate in jazz education. In contrast to traditional Western music's celebration of canonic masterpieces (Cook, 1998; Taruskin, 1989), the aesthetical focal point of jazz shifts towards artists' performances of improvised music. Jazz performance is highly related to complex theoretical and practical knowledge which musicians manifest as they perform. The music that jazz musicians perform is not laid out in their music sheets; most of it is in their heads and they make it along their way, while keeping track of tunes' forms and collectively communicating with their group members in a dynamic musical surrounding. Clearly, jazz performance tacitly embodies a unique approach to musical knowledge.

Musicians tend to discuss their art in terms of music aesthetics and not terms of knowledge theories (i.e. epistemology). However, since teaching is about knowledge, educators ought to also discuss jazz's unique epistemology in the translation of music practice to pedagogy; jazz must be analyzed also in terms of the concept of knowledge underlying the creative processes of its music-making and pedagogy.

Therefore, the understanding of both creative processes and unique epistemology underlying jazz's music-making is essential for educators in order to successfully and authentically reflect them in music pedagogy.

Research Aim

The aim of this research is to analyze and discuss the implicit aspects of development of creative thinking and unique epistemology underlying jazz pedagogy and music-making processes – and to explore their implicit possible relation to polarizing approaches to musical aesthetics. The research aims to relate creative thinking in jazz pedagogy to advanced educational concepts of knowledge and higher learning. Although jazz education is being academically discussed, the unique epistemology (and aspects of creative thinking) that underlies jazz music-making and pedagogy has not yet been researched. In addition, based on its findings and conclusions, this research aims to construct a theoretical model for an effective jazz curriculum which has not yet been proposed in the literature.

Theory Review

Creative Thinking in Music Education

Creativity is an acquired behavior that is essential for human development. It is often mistaken as a synonym for talent; however both terms are not equivalent. In the same manner, there is no absolute correlation between creativity and intelligence. Yet creativity is strongly connected to creation; the actual act of doing (Balkin, 1990). Educators often regard the issue of creativity in education in terms of creative thinking, focusing on the mental process of creativity and its function in teaching and learning (Webster, 1990). In music, creative people are engaged in creative processes that produce creative products. Hence, music educators (Hickey & Webster, 2001; Webster, 1990) generally define creative activity as an interaction between three elements: person, process and product. Some music educators also address the musical classroom, as the fourth interacting element.

The creative *person* is one whose features are originality, fluency, flexibility and elaboration ability (Balkin, 1990; Hickey & Webster, 2001; Kratus, 1990). Originality is the person's ability to come up with unusual or uncommon answers and reactions. Fluency describes the degree to which a person arrives at a number of solutions to a problem. Flexibility describes the extent to which a person's solutions are versatile and different from each other. In terms of music education, creative students are imaginative, open to solving music problems and more musically independent (Kratus, 1990, p. 34).

The creative *process* is a thinking progression of planning a creative product that is characterized as idea generation, problem solving, modification, evaluation and re-evaluation of tentative solutions (Kratus, 1990). Webster (1990) and Balkin (1990) proposed a creative thinking scheme based on a four-stage thinking process model first conceived by Wallas (1926) that include: preparation, incubation, illumination and verification. Preparation occurs when an individual looks for or comes up with a creative problem to work on, starts thinking and collecting materials or ideas for the product. During the stage of incubation ideas are being sorted and combined in the subconscious often when a person is away from the creative problem. Illumination occurs when ideas come to mind as solutions for the problem ahead. During the stage of verification one combines the ideas and tries them out. This stage allows testing, editing and re-editing; in many cases the four-stage thinking process starts all over

again until the creator is satisfied (Hickey & Webster, 2001). Kratus (1990) points out that while elements such as reflection, revision and modification are present in the processes of composition, improvisers who are engaged in the creative process of simultaneous composition do not have a chance to revise or modify their work.

This creative *process* relies on a movement between convergent and divergent thinking (Balkin, 1990; Hickey & Webster, 2001) Convergent (factual) thinking is involved in finding a solution for a task that has only one correct possible answer (Webster, 1990, p. 23). Typical convergent thinking tasks teachers may assign students are to state the year Mozart was born, to construct a triad chord or to find the tonic chord in a given harmonic progression. The answers for these questions may be found in the text books(?) or on the internet. Divergent (i.e. imaginative) thinking is the ability to produce a variety of possible solutions to problems that are open-ended and have more than one possible answer (Sawyer, 2011, p. 10; Webster, 1990, p. 23). Divergent thinking is used when students are asked to imagine sounds or to compose a simple melody constructed of four different tones. Defining creativity as *possibility thinking*, Cremin, Burnard, and Craft (2006) emphasize seven habits of mind: posing questions, play, immersion, innovation, risk taking, being imaginative, and self-determination. During the creative process students express themselves while being engaged with music in an active practical manner (Kratus, 1990).

The outcome of the creative musical activity is the creative *product* that can take the form of composition, performance and improvisation.

The act of composition requires the composer to follow a problem solving process in actualizing musical thought and to organize sounds according to personal taste and knowledge and sometimes intuition. During composition, musical ideas are subject to endless modifications. Music performance may be viewed as the translation of symbolic sound structure, whether written or improvised – into aural terms. Performances of individuals may be influenced by various aspects but are subject to the performers' choice of particular expressive subtleties (Webster, 1979, p. 229).

Webster (1979) stresses the uniqueness of the creative process of improvisation in comparison to performance reproducing pre-composed music:

> The performer who improvises is placed in a dual role of composer and performer and is subjected to elements of both processes. The final product of improvisation is, in many ways, uniquely more creative then the performance

product that is based solely on interpretation of strict written symbol (Webster, 1979, p. 229).

Another creative product that is often avoided and unstudied is *music analysis*. Drawing conclusion based on music in the form of symbols, numbers, words, graphs or unwritten mental representations – is essentially creative, yet suffers from the misunderstanding of the nature of process and the product (Webster, 1979, p. 230).

The definition of a creative product as original, unique, valuable or pleasing - is relative, personally and socially contextualized. Assessing element such as originality or value of a creative product may be complex. Creative products of individuals are being valued in comparison to former products along their growth process and to their learning surrounding and classmates' products; students' creative products are observed in comparison to the products of other students in the class, at a specific period and compared to their own progress (Hickey & Webster, 2001). In this manner, a creative product of a sixth-grade student cannot be judged under the same criteria as one of a professional musician. In addition, where an unintentional random exploration disconnected from reflective thinking might sound original, educators caution that intent or a plan is needed alongside originality for a creative product to be valuable (Hickey & Webster, 2001). Kratus (1990) suggests that the creative product cannot be predetermined by the teacher since no single correct response or solution exists. This is an interesting notion in relation to the divergent thinking involved in the creative process.

Despite the relevancy of individual's focused creativity models offered by researches such as Webster, Hickey, Kratus and Balkin aforementioned hereby, they may be insufficient in trying to explain certain types of phenomena. During recent years, there has been a new shift in the view of creativity offering yet another angle.

Group creativity. Theories by Lev Vygotsky (1978), published posthumously, suggested that creativity, as other activities of the mind, cannot be separated from obvious behavior, from external materials being used, or from the social context in which these activities take place (Borgo, 2007, pp. 67-68). This proposed notion has influenced recent views of creativity.

Researchers such as Borgo (2006), Csikszentmihalyi & Jewell (1987) and Sawyer (2003), argue that creativity needs to be discussed not only from an individual's point of view, but also from a holistic view point of a web of network

interactions of all scales involving individual, social, cultural and historical dimensions. Observing the practice of ensemble members improvising free form music together, they state that creativity it is often short-lived and most importantly, collaborative in nature.

Sawyer (2006) identifies three characteristics of group creativity:

> *Improvisation*: in most forms of group creativity, the creativity happens in the moment of the encounter. The performers are not mere interpreters; they are creative artists. *Collaboration*: the creativity of a group cannot be associated with any one person. All members contribute and their interactional dynamics result in the performance. *Emergence:* emergence refers to collective phenomena in which, as it is said, 'the whole is greater than the sum of the parts'. Recent studies of emergence by complexity scholars suggest that emergent phenomena are unpredictable, contingent and hard to explain in terms of the group's components (Sawyer, 2006).

Borgo (2006) explores creative activity of a free-form improvising ensemble in terms of *swarm intelligence* and complex networks characterized by decentralized decision making processes. This 'system' view indicates that individuals do not act in an isolated vacuum. There is a reciprocal influence between their action and their social and cultural surrounding. In this manner, improvising musicians, being involved in freer forms, develop a 'group mind'. This creative group "can have capacities and capabilities that extend beyond the scope of any of its participating members" (Borgo, 2006, p. 9).

> The ways in which individual improvisers can be heard to be "picking at" a shared body of modern techniques and sensibilities but in resolutely individualistic ways, or to be following their own creative spark while also being sensitive to and dependent on the evolving group dynamic, may bring to mind the behavior of social insects that seem to have their own agenda while also working in ways that organize the group without supervision (Borgo, 2006, pp. 4-5).

> A pedagogical approach that views musical creativity from an ecological perspective can help to overcome the tendency to separate musical 'materials'

(the tools and theory of music) from musical 'behaviors' (the application of those materials in context) (Borgo, 2007, p. 87).

Borgo (2007) stresses the importance of the integration of free improvisation in the classroom for introducing students to group creativity, allowing them to experience "high-level" aspects (p. 77) of interaction, listening, negotiation of gestures, free-form conversation and to "improve communication outside of traditional structures" (p. 87).

Without the constraints of pre-dictated formal elements "free jazz may offer an especially appropriate and fruitful avenue for exploring the dynamics of complex systems" (Borgo, 2007, p. 86).

Emerging studies in the field of *swarm intelligence* indicate that complex behaviors and efficient solutions can be achieved without a dominant leader; swarm decision making can be made without a leading organizer or coordinated without a coordinator (Borgo, 2006, p. 5).

Researchers focusing on individual creativity, support the distinction between the illumination–ideation stage, where divergent imaginary thinking produces a musical idea in a rather non conscious manner, and between later stages of conscious evaluation where ideas are revised, edited, tested and evaluated again. The new ecological system perspective of creativity identifies a complex non-linear ideation and evaluation order that may become externalized into a group process during ensemble performances (Borgo, 2006). It is clear that this web ecological structure view of creativity suggests a complex, often unpredictable and very challenging model.

Although the theories of *swarm intelligence* and complex networks are still in their infancy, they should not be ignored, but incorporated alongside individuals' perspectives of creativity investigation.

The classroom and the teachers have an important role as the enabling conditions for students to think and act creatively. Hence Hickey and Webster (2001) suggest a fourth important element: the *creative place*.

The role of creative thinking in the music classroom. Music educators stress the importance of the engagement of creative thinking in music curriculum; they call teachers to encourage students to try original and unique musical ideas and to enable students to be engaged in creative activities as a pervasive component of

their teaching philosophy. The creative class where enabling conditions are available "encourages rather than squelches creative thinking; is one that is psychologically safe, contains many rich sound sources for frequent and engaged exploration, and promotes an atmosphere of risk taking (allowing for failure)" (Hickey & Webster, 2001, p. 21). Central cognitive abilities to music as art, are being exercised when students are encouraged to think in sound. Practicing creative thinking provides students the opportunity to experience music in a personal manner and to discover feeling and meaning beyond the notes themselves (Hickey & Webster, 2001). It allows students to be involved in both convergent and divergent thinking (Webster, 1990), in problem solving and in authentic decision making and in a "much higher level of musical thinking" (Hickey & Webster, 2001, p. 22).

All of the aforementioned educators agree that creative thinking is at the heart of music practice and should be addressed in music education. However, despite its importance, teachers and institutions often tend to avoid addressing the issue of creative thinking:

> It seems most expedient for teachers to focus less on student involvement in this part of music making and more on telling students how to play, listen, compose, and improvise. The ironic truth is that if at least some time were devoted to asking students to think in sound and make aesthetic decisions, the resultant learning about music would be so much more powerful that far less time would be required in subsequent rehearsals and classes to reach musical goals (Hickey & Webster, 2001, p. 22).

Hickey and Webster (2001) argue that teachers tend to reserve creative explorations until students have learned the fundamentals of music. This postponement may take weeks, months or even years before students are truly engaged in creative thinking. If learning is to be effective, it must be experienced in an active manner and in context as suggested by researchers such as Phillips and Soltis (1998), then creative thinking activities must be embedded as part of musical skill building, starting from the first step of the music teaching-learning experience (Hickey & Webster, 2001).

A possible reason for the abandonment of creative thinking development in the class room may be due to the challenges it sets to curriculum planning and

evaluation. The assessment of the elements within the creative thinking development process is very complex. Educators are required to move away from the standardized paper-and-pencil tests for musical knowledge and traditional product rating towards new ways of evaluation focused on process as well. (Hickey & Webster, 2001). The difficulties in assessing students' creative processes and products make it hard to determine the effectiveness of teaching (Kratus, 1990, p. 37).

The aforementioned writings of scholars such as Balkin (1990), Kratus (1990), Hickey and Webster (1990, 2001), discuss creative thinking development in a rather general manner without relating it to a specific musical style. In their eyes, creativity should be integrally practiced in all styles. Indeed, Borgo (2006, 2007) and Sawyer (2003, 2006) investigate creativity in jazz, but their writings reviewed hereby, mainly concentrate on free-form improvisation. During the late 1950's an outstanding group of innovative jazz artists have started to experiment with the deconstruction of accepted formal structure (e.g. form, harmony, melody and rhythm), forming *free jazz*: an important sub-genre branch in the jazz idiom. However, mainstream jazz has always used formal structures; mainstream jazz artists have always relied on form and structure in order to creatively express themselves.

While mainstream jazz music making is highly engaged in improvisation (while maintaining form and structure), its pedagogy is rarely discussed in terms of creative thinking. This research will examine the assimilation of aspects of the development of creative thinking in the practical application of methods and pedagogy in jazz.

Aesthetics in Music Education

One of the central issues around which the dynamic debate about music education revolves is aesthetics.

> Aesthetics may be defined generally as that field of inquiry concerned with the comprehension, reflection, debate, and judgment on the nature of art, and the status and 'value' of those objects or phenomena which are described as art (Barrett, 2002, p. 68).

Schaper (1964) characterized aesthetics as "a living debate of issues concerning the concepts involved in speaking about the arts and the appreciation and creation of arts works" (p. 11). Defining aesthetic as essentially contested concept

enables a dynamic view which is responsive to developments within and beyond the domain of music education (Barrett, 2002, p. 69).

Educators such as Bennett Reimer (1989) suggested that the central aim of music education is to develop ability for aesthetic knowledge in musical experience. This view is known as *music education as aesthetic education* (MEAE) (Barrett, 2002, p. 67).

Formalism and formal thinking. The traditional attitude towards aesthetics in music has sought to detach aesthetic criteria (i.e. formal musical elements) from extra-musical context criteria. This approach defines the value and nature of music within the autonomous and self-sufficient music itself. Despite the fact that music reflects thoughts, lives, beliefs and aspirations of its creators, they all "should disappear" and be separated from music (Reimer, 2003, p. 40). Hence, the very nature of music is found in the *form.* Form is discussed not by traditional terminology such as *rondo*, *sonata*, *minuet* etc., rather it is seen as the interrelation of the elements constructing a piece, the sense in the way sounds relate to each other, the colors, shapes, lines and so on (Reimer, 2003).

Formalism reflects Kantian philosophy determining the beauty of music not by the timbre of individual sounds but the relationships between them. *Absolute formalism* views music as autonomous and de-contextualized from its social, political and cultural settings (Barrett, 2002).

> To appreciate a work of art we need bring with us nothing from life, no knowledge of its ideas and affairs, no familiarity with its emotions. Art transports us from the world of man's activity to a world of aesthetic exaltation. For a moment we are shut off from human interests: our anticipations and memories are arrested; we are lifted above the stream of life (Clive, 1914, p. 25).

Formalists have understood music in terms of Western European culture sharing a common aesthetic viewpoint. For them music was characterized as:

> ...large, complex forms, expressed in an elaborate notation, conceived by composers able to master the enormous intricacies entailed in creating it, performed by specialists, often in large groups requiring the coordination of

> conductor and offered for the edification and delight of an audience capable of appreciating all this complexity (Reimer, 2003, p. 42).

Due to the importance formalists relate to the musical piece, the role of the process is often overshadowed, along-side many related aspects (Reimer, 2003, p. 42). In traditional music, two entities are involved in the process, the composer of the original piece, and the performer who is engaged in its reproduction. Extreme formalism seeks to eliminate both, in order to highlight and focus on at the autonomous musical piece. The famous French composer and teacher, Nadia Boulanger was quoted: "To me, the greatest objective is when the composer disappears, the performer disappears, and there remains only the work" (Kendall, 1976).

For formalists such as Eduard Hanslick and Clive Bell the experience of art is primarily intellectual and while the recognition and appreciation of the form for its own sake is intellectual in nature, it is referred to as *aesthetic emotion* (Reimer, 2003, p. 42). Formalism has led to the development of complex intellectual analysis systems by theoreticians such as Heinrich Schenker in which Western music culture and pedagogy are highly involved.

The study of theoretical and historical knowledge leads to *formal knowledge* that is verbal in essence. It can be achieved without direct contact with music making (Cutietta & Stauffer, 2005, p. 128). Formal knowledge is also referred to as *declarative knowledge* (Nickols, 2000, pp. 15-16) and it will be discussed in depth in the *Epistemology* chapter to follow.

Praxialism and procedural knowledge. In *Music Matters* (Elliott, 1995), David Elliott strongly advocates the importance of *praxial* (i.e. practical) musical experience as the central key of music education. This term is used in the Aristotelian sense of "critically reflective action in context" (Elliott, 1995, p. 3). Praxialists emphasize the actual music making process of those who create it and argue that the essence and meaning of music is in the act of doing it (Reimer, 2003, p. 48). Practical music making, such as: playing, improvising, composing and conducting, is the means through which music meaning can be achieved (Elliott, 1995, p. 14).

The MayDay Group, founded in 1993, advocates praxialism in music education:

> Musical action that is fully mindful of musical results is the necessary condition of music-making and, therefore, of an effective music education. The indifferent application of concepts, information and technical skills taught for their own sakes leads to music-making that lacks musical integrity…any formal education of musical skill, knowledge and insight must similarly involve critically reflective, rather than unthinking or superficial, music-making (MayDay Group).

Active music making leads to *procedural knowledge* which is also essential for the development of listening expertise. Music practice may also lead to the development of formal knowledge through the practical engagement of problem solving. Technical knowledge (e.g. how to play the trumpet) is also a component of procedural knowledge (Cutietta & Stauffer, 2005, pp. 127-129). Procedural knowledge is also referred to as *tacit knowledge* (Nickols, 2000, p. 16). Procedural knowledge is discussed in depth in the *Epistemology* chapter to follow.

The debate regarding formalism and praxialism in music education.

Against formalism. In his seminal text *Music Matters*, Elliott (1995) has argued against the Eurocentric view of music as an autonomous object that accented passive listening and verbal response to music rather than active music practice (Barrett, 2002). Although Reimer was often considered a formalist due to his early publications, his later writings (Reimer, 2003, pp. 51-52) showed a shift in his point of view over aesthetics. He criticized extreme formalism, claiming that music is too complex to be dependent only on one dimension (p. 43); hence, musical meaning cannot rely only on the understanding of formal elements.

Reimer (2003) argues that formalism is elitist since formal significance can be found only by gifted or highly educated individuals and the only music worthy of being experienced this way is that of the western classical tradition (Reimer, 2003, p. 45). The artistic vision of classical aesthetics is exclusive in the way it is based on the concept of canonic pieces whose value is essential and timeless - regardless of audiences' appreciation (Cook, 1998, p. 82).

> The aesthetic philosophy assumes the wrong paradigm for music education. It assumes that teaching of music is the same as teaching nonperforming arts such as literature, painting and sculpture…aesthetic curricula prepare students

for what music is not: the isolated, asocial consumption of aesthetic objects (Elliott, 1995, pp. 102-103).

Against praxialism. Praxialism has been criticized by music educators such as Reimer (1997) who argued in his early publications that this paradigm is narrow and elitist since "students are all music enthusiasts but not performers" (p. 37).

> Most people of praxial bent are likely to value the "doing" aspects of music highly, of course, which is the traditional, long-standing position of American music education. So in a real sense, praxialism…has been the dominant view throughout history (Reimer, 2003, p. 53).

> Music educators have neglected the musical needs of the majority of people in our culture. Most people do not perform and music education needs to serve the need of those who do not play (Reimer, 1997, p. 33).

Coexistence between formalism and praxialism. The debate regarding the polarization of formalism verses praxialism and its implications for music education brought here, is echoing strong advocacy of behalf of each side. However, many educators try to fuse them and call for coexistence. Barrett (2002) calls for a new "situated" view of music aesthetics. She suggests that in order to understand formal elements and derive meaning, knowledge and understanding of non-formal elements such the context of the piece, is needed. In addition, formal elements such as structure, form and the way sounds relate to each other are the actual means by which non-formal extra-musical meaning is expressed. "Knowledge of extra-musical meanings may illuminate our understanding of intra-musical factors" (Barrett, 2002, p. 70).

Green (2006) suggests two types of musical meaning: *Inherent meaning* is the listeners' personal response and understanding of the relationships between formal musical elements. *Delineated meaning* is rooted in the cultural, social, political and historical context of the music.

> All music must carry some delineated meaning arising not only from its original context of production, but also from its contexts of distribution and reception. No music can ever be perceived as music in a social vacuum. Even

> music that is regarded as being autonomous nonetheless carries the notion of its own autonomy as one of its prime delineations (Green, 2006, p. 105).

Inherent and delineated meanings coexist and are inseparable "even though listeners may not be aware of them" (Green, 2006, p. 105); therefore both should be addressed in music education.

Borgo (2007) also shares this holistic view of music meaning and expands this notion to its implications for musical knowledge:

> By conceiving of musical “knowledge” as individual, abstract, relatively fixed, and unaffected by the activity through which it is acquired and used, music programs have devalued the experiential, exploratory, and collective qualities that make for compelling improvisation and, more generally, that inform the development of musical ears, memory, instincts, sensitivity, and, ultimately, creativity (Borgo, 2007, p. 66).

Listening to music in music education. Listening has been a part of music education ever since broadcasting and recorded performances became available. The role of listening to music in education is often debated, as a product of the long lasting arguments regarding formal and praxial aesthetics. Elliott regarded listening as passive in comparison to practical music making (Barrett, 2002) and subordinate to it.

Others claim its importance. Reimer (1997) stresses that since the beginning of the twentieth century the way people experience music has changed: Singing and playing music are no longer essential for musical experience. All music is accessible to all people through listening to recorded performances or studio works. However, music education is still primarily involved with performance (Reimer, 1997, p. 37).

Cutietta and Stauffer (2005) brilliantly examine various characteristics of listening and find interesting notions about its significant relevance in light of Elliott's praxialism. Elliott does state that listening is crucial for the practical aspect of music making, as both interlock in an "intentional human activity: music making and music listening" (Elliott, 1995, p. 42) and both occur in a sociocultural context that *musicers* (i.e. music makers) and listeners share (Cutietta & Stauffer, 2005, p. 124). They state that: "music making and music listening are human actions that together constitute musical practices. Music listening is a covert form of thinking and knowing in action and both music making and music listening are culturally situated actions" (p. 124).

Two types of listeners are defined by Cutietta and Stauffer (2005): 'Inside listeners' are music makers that listen to their own musical action or to music that other produce while being involved in the process; listening is an integral part of their music making action. 'Outside listeners' listen to recorded or live performances of music from a view point of an observer. In addition, 'inside listeners' may also be engaged in music making within a context of recorded performances by others, such as a jazz practitioner practicing improvisation while listening to a recorded playback track. In both cases of 'inside listeners', making music and listening are simultaneously operative. Elliott's' praxialism implies that in listening to music, music makers have the advantages as expert listeners over 'outside listeners' for their practical experience; they have more inside knowledge acquired through music-making (Cutietta & Stauffer, 2005, pp. 125-126).

Procedural and verbal musical knowledge. Cutietta and Stauffer (2005) suggest several ways of knowing and types of knowledge implied by Elliott's vision, regarding listening and practical engagement that are relevant for music educators (2005, p. 127). Learning can be verbally based, or procedural and non-verbal.

In verbally based learning, musical knowledge is mediated through words; ideas are discussed and explained, they may be written, read about and questioned. This *verbal knowledge* is fundamentally not musical and requires knowledge of a language and its rules (Cutietta & Stauffer, 2005, p. 127).

In contrast, *procedural knowledge* is acquired through the active engagement of music making and listening. It is unmediated and active as the listener is in direct contact with musical sounds and thinking musically (Cutietta & Stauffer, 2005, p. 127).

> The procedural essence of music listening consists in such covert, nonverbal acts as constructing coherent musical patterns, chaining musical patterns together, making same different comparisons among and between patterns, and parsing musical patterns together (Elliott, 1995, p. 85).

In simple words, music is experienced directly through procedural knowledge, and indirectly through verbal knowledge.

Verbal learning leads to *formal knowledge* of terminology, historical information, rules as well as theory. Direct engagement with music making may lead

to formal knowledge, but it is not the only means through which formal knowledge is learnt (Cutietta & Stauffer, 2005, p. 128). Activities that are indirect to music making such as reading about music history and theory, attending lectures or concerts, may also lead to formal knowledge. Formal knowledge is also referred to as *declarative knowledge* which can be explicit or implicit (Nickols, 2000, pp. 15-16).

Procedural knowledge acquired from direct music making, produces numerous types of knowledge. *Technical knowledge* of how to produce a clear tone from a trombone for example, is rather mechanical and developed through actual playing. *Informal knowledge* is "knowing how to listen critically – in relation to authoritative principles of musical interpretation and performance" (Elliott, 1995, p. 98). *Impressionistic knowledge* is used to develop "a refined emotional sense or feel for what is musically appropriate, original, and artistically significant in the music one makes or listens for" (Elliott, 1995, p. 98). Finally, *supervisory knowledge* is the way the music makers and listeners "monitor and direct their listening in relation to the several dimensions of meaning" and "the ability to continuously retarget one's attention forward to new details or problems in the music one is making or listening for (Elliott, 1995, p. 100). It is the cognitive awareness that enables music makers to monitor and redirect their own thinking during the act of listening.

Challenging the praxialism superior view of listening. According to Elliott's praxial philosophy, in order to better students' listening skills, educators must make sure that they are involved in meaningful music making. The importance of the practical aspect of music making is a repeatedly accented motif in Eliiots' writings.

Cutietta and Stauffer (2005) challenge the hierarchy Elliott ascribes to music makers verses listeners in regard to their listening expertise and meaning-making abilities. They describe four profiles of listeners: Listeners of the first type are highly involved in music-making which is rooted in a music-culture context. They are located on the highest rank of listening expertise according to Elliott. Listeners of the second type are not actively involved in music making and have no engagement in a musical cultural context. These listeners have little understanding and few capabilities to make meaning of the music they hear. Listeners of the third type are music creators who have little or no understanding of the musical cultural context (e.g. classically trained musician listening to traditional Creole music). Music is meaningless for them, in spite of their skills. Listeners of the fourth type are individuals who are highly involved in the musical culture but have no understanding or experience in

actual music-making. According to Elliott's theory, listeners of the third type have an advantage over listeners of the fourth type in meaning-making through listening. However it is more likely that type four listeners have the advantage because of their experience of engagement in the music culture context and deep repeated listening experience in the specific genre. Many music enthusiasts, such as opera and rock fans are deeply involved in the music culture and have no music-making experience, yet their involvement and repeated listening experience grants them an advantage in meaning-making through listening over listeners of the third type (Cutietta & Stauffer, 2005, pp. 130-134).

Cutietta and Stuffer conclude that while actual music making may contribute to listening expertise, it is not guaranteed that *musicers* are better listeners. Expert listeners are the exception, not the rule in most Western societies.

The aforementioned writings have not discussed another important aspect of listening. Oral music traditions including various aspects of jazz, are critically dependent on learning by ear and transcription from recordings which serve as primary sources of musical knowledge; listening in vital for jazz since much of its knowledge is unwritten. This issue will be discussed in later chapters of this research.

It seems that although music educators may not directly discuss it, they still work within an aesthetic criteria framework. In order to better understand music education this aspect needs to be addressed and discussed. This research aims to unravel the common approach of jazz educators to aesthetics and the way it affects jazz pedagogy.

Formal and informal music education. Another important aspect of music education to be examined is the place of formal and informal music learning in jazz practical methods.

Lucy Green (2006) has identified and distinguished the characteristics of *formal* and *informal* music learning practices as follows:

In formal learning teachers usually select the music they want to expose their students to. In informal learning student pick music to engage with by themselves. It is mostly music that they are already familiar with on a certain level. Formal learning relies heavily on notated music, verbal instructions and exercises. Informal learners often copy recorded music by heart and rarely rely on notated music. While expert supervision of experienced, skilled, and knowledgeable adults guide students in formal learning, self-teaching and group learning characterize informal learning.

Often, learners are engaged in conscious and unconscious peer-learning in which they discuss, listen, watch, copy, and imitate each other. In the realm of formal learning teachers tends to choose and use materials with a clear escalating hierarchy of complexity, often organized in curriculum, followed by syllabus. Graded exams, specially composed exercises and pieces are common. Informal learners use 'real-world' pieces of music of their own preference and therefore assimilate skills and knowledge that are personal in an unplanned and unorganized manner. Formal teaching-learning procedures emphasize reproduction. Performing, improvising, composing and listening skills are often treated separately in formal learning. Informal learners tend to integrate these skills with an emphasis on creativity (Green, 2006, p. 106).

Rodriguez (2009) suggests that the character of teaching–learning processes (i.e. formal and informal) has a significant impact on students' creative abilities and independence:

> Because creative decision-making is not a significant part of formal music education, formally-trained students display a heavy reliance on guidelines. They are conditioned to being told what to do, and adopting someone else's ideas of how the music should go, such that they are often not adequately prepared for the individual freedoms informal learning provides (Rodriguez, 2009, p. 44).

Green (2006) relates dominating traditional formal learning processes to classical music in comparison to informal processes commonly found in popular music. She argues that these opposing processes are critical aspects in the inherent meaning of each of these music styles.

> It has been a central part of musical ideology from rock to hiphop, soul to reggae, that the music is a direct, unmediated and authentic expression of feeling, untrammeled by the dictates of convention, and arising naturally from the 'soul' of the musicians (Green, 2006, p. 106).

Therefore, the reason that music educators have failed to bring popular music into the classroom is because they have insisted on teaching it in the traditional formal

ways of the classical realm, ignoring the informal learning processes of popular musicians (Green, 2006).

> Production of the inherent meanings of popular music seems devoid of the kinds of skills and knowledge normally associated with long and arduous study, such as those appropriate for music education within the classical sphere (Green, 2006, p. 106).

There is a great importance to the way music is produced and transmitted for the nature of its inherent meaning and delineations. If music education and its strategies are devoid of the music's authentic practices of production and transmission, then "we will be dealing with a simulacrum or a ghost of popular music in the classroom, and not the thing itself" (Green, 2006, p. 107). This conclusion specifically addressed popular music, but it is clear that it is right for every musical genre brought to the classroom devoid of its natural inherent meaning.

Green also sees a great potential benefit in incorporating informal learning into a traditionally formal classical realm:

> When they engage with music's materials themselves, especially through aural, informal learning practices, pupils are touching on an aspect of inherent meaning that is virtually freed for a moment from social context. They are bringing inherent meanings into being and are able to imbue the music with a new delineated content of their own. They touch a quality of musical experience which, precisely because of its fleeting freedom from delineation, at the same time exposes the inevitability of delineation (Green, 2006, p. 113).

Green suggests that the learning practices of classical musicians used to be much more informal, where learners acquired their skills and knowledge in a community of apprenticeship and musician-family networks. These original contexts were removed over time from the learning practices which now became "inauthentic realm of formal educational principles and procedures" (Green, 2006, p. 114).

Summing up her important essay, Green calls for authenticity in music education, not of the musical product, but of the musical learning process; 'music-learning authenticity' that would approach the music's inherent meanings in ways that are more authentic to how the music is actually created (Green, 2006, p. 114).

This research will examine the ways in which jazz practical application of methods incorporates formal and informal music practices and the ways jazz pedagogy reflects them.

Theories of Knowledge - Epistemology

All learning - formal and informal, is engaged with knowledge of some sort. There are various types of knowledge and their definition is important for education. Nickols (2000) differentiates between knowledge which has been articulated and frequently recorded (i.e. explicit) and knowledge which is reflected in a person's capacity for action and internal state (i.e. tacit and implicit).

Types of knowledge. *Explicit knowledge* is knowledge which has been articulated and can be commonly found in the form of text, diagrams, tables, etc. It is formal and systematic and can offer scientific or mathematical formulas (Nickols, 2000, p. 3), or music theory for example. This articulated knowledge may be found in the textbook or on the internet; it consists of descriptions of facts, methods and procedures and therefore is a synonym for *declarative knowledge*.

In contrast, *tacit knowledge* cannot be articulated. This term describes a whole and gestalt type of "knowing more than we can tell", such as recognizing a person's face without specifically being able to explain how that is done (Polanyi, 1997). Performing without being able to describe exactly what we know or how we do it, indicates that often "knowing is in the doing" (Nickols, 2000, p. 3).

Implicit knowledge is knowledge which can be articulated but has not. It can be implied by observable performance. In formulating and analyzing such knowledge, implicit knowledge is becoming explicit (Nickols, 2000). For example transcribing a jazz master's solo, writing it down and analyzing it transforms implicit to explicit knowledge.

Procedural knowledge is knowledge that manifests itself in the doing of things and reflected in motor or manual skills and in cognitive or mental skills (Nickols, 2000, p. 4). Riding a bike or producing a round fat sound from a trombone involves procedural knowledge; it is difficult to reduce the after the fact realization of actions to mere words.

It can be argued that if procedural knowledge is the knowledge about how to do something and if it describes the steps and tasks of this doing, then it is no different from declarative knowledge. Nickols (2000) objects to this view and argues for a clear

differentiation; declarative knowledge describes facts and things while procedural knowledge is the "application to situations in which the knowing may be said to be in the doing" (p. 5). Procedural knowledge is tacit, not explicit nor articulated and cannot be captured from books. Describing a task representing a process is mere representation of the act, yet it is not the act itself (Nickols, 2000, p. 5).

Knowledge types transformation. Nickols (2000) cites Nonaka (1991) who discusses possible knowledge transformation and creation. Explicit to explicit knowledge transformation occurs when different sources of explicit knowledge are combined for the creation of new explicit knowledge. Tacit to tacit knowledge creation is acquired through observation, imitation and practice of someone else's tacit knowledge. Internalizing explicit knowledge may transform it to tacit knowledge; intuitive understanding and knowing. Nickols (2000) argues that tacit knowledge cannot be transformed to explicit knowledge; it cannot be articulated. Skill is often developed on the basis of the acquisition of explicit, declarative descriptive knowledge. The continuous practice of that skill improves learners' proficiency and eventually they "reach the point at which our ability to perform the task is automatic, we no longer have to think about it" (Nickols, 2000, p. 6). Although not explicitly noted by the writers, through repeated practice, learners eventually develop their own tacit procedural knowledge, hence tacit knowledge cannot be articulated but it can be communicated and transferred.

What is missing from Nickols and Nonaka's writing is the notion that in contrast to other types of knowledge, tacit procedural knowledge is utterly personal and can be created and developed only through the individual's own personal engagement in the process.

Paradigms of knowledge. Our assumptions regarding knowledge are critical for education systems and the way they are constructed. They may be explicit, but in some cases, as will be shown ahead, they are implicit and rarely discussed. In any case, our assumptions concerning knowledge must be examined for better understanding of education and teaching-learning processes.

Epistemology, our theories of knowledge, defines our view of the nature of reality, the relationship between the learner and the objects of knowledge, the ways in which learners search for knowledge and the way we learn about reality. These aspects are structured by our basic set of assumptions and beliefs about knowledge;

our paradigm in which we work and operate. These paradigms also set the basis upon which research is constructed (Shkedi, 2003).

Positivist and constructivist paradigms. The *positivist* paradigm that is associated with science and quantitative research differs from the *constructivist* paradigm that is associated with qualitative and naturalistic research (Shkedi, 2003).

Positivist ontology (i.e. the way we view and characterize the nature of phenomena) is scientific, predictable and objective. This view argues that the elements constructing phenomena may be set apart and examined separately. It tends to present knowledge as hierarchical wherein its elements are subordinate or superior to each other, based on their position.

The positivist epistemology (i.e. our relation to knowledge) is of an objective scientific knowledge which is based on facts; objective knowledge is 'correct', real, factual, while subjective knowledge is only partially true and changes with new subjective experience (Maykut & Morehouse, 1994, p. 20).

Positivist methodology (i.e. the ways through which we seek knowledge) is used when researchers assume the existence of scientific ontology and objective epistemology. The positivist paradigm is based on the search for a universal view and understanding of the truth. It relies on a formal and a mathematical set of explanations and leads to solid theory, precise analysis, logical proof and empirical exploration (Shkedi, 2003).

Constructivism offers a complementary paradigm to the positivist-conservative tradition in terms of our relation to knowledge.

The constructivist ontology accents the holistic nature of phenomena; it views reality as complex, multidimensional, subjective and contextual (Shkedi, 2003). Hence, the elements constructing a phenomenon cannot be set apart for examination; the phenomenon must be seen as a whole (Maykut & Morehouse, 1994). Constructivist epistemology views experience as the basis upon which we construct meaning: reality is subjective and its meaning is dependent on our interaction with it (Guba & Lincoln, 1989). The existence of relative ontology and interactive epistemology requires qualitative and constructivist research methodology (Shkedi, 2003). The constructive paradigm revolves around vast holistic sets of explanations and meanings. It often manages and organizes concepts of reality through a narrative discourse (Shkedi, 2003).

Based on essentially contrasting axioms and assumptions, the positivist paradigm has been dominant during the last century more than has the constructivist paradigm - which was misunderstood and relatively unaccepted (Guba & Lincoln, 1989). Shkedi (2003) concludes that both positivist and constructivist paradigms are legitimate views of reality. Although every culture relates to each of them in a different manner, all cultures use both.

The philosophy of creative thinking which emphasizes creativity, active involvement, naturalistic and direct experience as keys for meaningful learning is rooted in the constructivist paradigm (Ellis & Fouts, 2001).

Constructivist paradigm in music education. The constructivist paradigm has been well known and widespread among educators for many years. But only during the last decade have music education researchers and teachers begun to address it. Inbar (2013) points out that the dominant effect of the application of the constructivist paradigm in music education, is the shift of focus away from a systematic organized knowledge base that views music as a self-contained aesthetic object, to an interface between music and the listening, performing and creating person.

> Each person must construct his or her own reality. Experience is the key to meaningful learning, not someone else's experience abstracted and condensed into textbook form, but one's own direct experience (Ellis & Fouts, 2001).

Constructivist teaching demands of teachers a change of paradigm, both in their epistemological conceptions and their teaching methods. Hence, there is a need to abandon traditionally accepted practices where teachers are the source of knowledge and their pupils listen and observe. Learning must be experienced in a workshop-like manner and the teacher's role is to plan and enable learning opportunities revolving around genre, problem, subject, intra or extra musical terms, while students are actively involved in the creation of the learning experience. The constructivist paradigm calls for learning that is based on research, discovery, creative experience and reflection (Inbar, 2013).

System and ecological theories of knowledge. Throughout the years, Western educational philosophy has regarded knowledge as conceptual which can be abstracted and disconnected from the situations in which it is learned and used. New pedagogical orientations of *system* or *ecological* theories object to this dominant

approach and claim that Western education has underappreciated the physical, psychological and social dimensions of the learning experience. The ecological view of knowledge insists that it is compounded by the knower, the environment in which knowing occurs and the activity in which the learner is engaged. Hence knowledge is "embodied, situated and distributed" (Borgo, 2007, p. 61):

> Embodied in the sense that mind is not only rendered possible by our bodily sensations and actions but is in fact coextensive with them; 'situated' in the general sense that all knowledge is in part a product of the activity, context, and culture in which it is developed; and 'distributed' because knowledge as action rather than artifact exists not simply in the mind of the individual, but rather as something shared between individuals in a physical and social setting (Borgo, 2007, p. 61).

The ecologic and system view of a sociocultural approach to knowledge is rooted in the writings of Vygotsky (1978) who stressed the function of communities in the intellectual development of children. According to his theory, higher mental processes including problem solving and consciousness originate as relationships between individuals. They are constructed through interactions of individuals with their social and physical world. Vygotsky points that in fact, self-awareness and inner speech develop only after communication and socialization. The interpersonal precedes and illuminates the intrapersonal (Borgo, 2007).

While understanding disciplinary paradigms of knowledge is highly important for educators and for the construction of educational systems, jazz pedagogy is rarely discussed in these terms. This research will study the way both paradigms (i.e. positivist and constructivist) are fused in jazz music-making methods and pedagogy.

Disciplinary and pedagogical knowledge. A holistic view of education in context shared by constructivism and progressive theories, offers an encompassing significance and applications to a vast array of various disciplines including music education.

According to Schwab (1973), experts engaged in translating scholarly material into curriculum must regard it as having three "faces". First, "it is that which it conveys, its purport". Secondly, it is a product, an outcome of an originating discipline (Schwab, 1973, p. 515). Hence, a musical piece is a product of a discipline which selects, organizes, structures and arranges musical material. Third, scholarly

material is a "compound object, a complex organization requiring certain access disciplines".

Music allows composers and performers to express themselves, manifest emotions, ideas and philosophy. It is working within a cultural, social, and political context of individuals and groups. It is a product of a creative process involving problem solving and decision making.

> We ought to consider as curricular possibilities the conveyance of such knowledge about and exemplary experience with originating disciplines that the student (1) is better prepared to master those disciplines which give access to the finished outcomes of the scholarly disciplines; (2) is equipped with insight into the methods and principles of an originating discipline sufficient to add a critical component to his access disciplines (Schwab, 1973, pp. 516-517).

All three "faces" of the discipline should be manifested in the curriculum. It is suggested that a first-hand experience of a discipline vastly sharpens one's understanding.

In summary, Schwab (1973) calls for a correlation between the curriculum and the true nature of the discipline approached from a holistic point of view of all faces.

Schwab's theory supports the implication that music education should reflect the wide range of aspects involved in the discipline: it should reflect not only the understanding of formal elements constructing it, but also other aspects including development of creative thinking and processes of creativity. In other words, teaching ought to manifest the true nature of the discipline and include all facets of its philosophy and practice (Schwab, 1973), hence music education should mirror both positivist (i.e. formalist) and constructivist paradigms in order to reflect the true nature or music practice.

Shulman (1986) refers to the amount and organization of knowledge in the mind of educators as *content knowledge*. Teachers' understanding and transmission of content knowledge within each of the disciplines is complex and is constructed of various categories. *Subject matter content knowledge* refers to the understanding of the substantive and syntactic structure of the concepts and the elements of a discipline; it requires deep understanding of the structure of the subject matter. This disciplinary knowledge is based in both theory and practice.

Moreover, teachers' *pedagogical content knowledge* (PCK) is the set of the most useful forms of "representing and formulating the subject that makes it comprehensible to others", the effective analogies, examples, illustrations and demonstrations (Shulman, 1986, p. 9). Teachers must master alternative forms of representation, deriving from research in combination with "wisdom of practice". Shulman (1986) stresses the essential need for the correlation between the theoretical and practical aspects of the discipline (i.e. disciplinary knowledge) and its teaching (i.e. the application of pedagogical knowledge).

Such research-based knowledge, an important component of the pedagogical understanding of subject matter, should be included at the heart of our definition of needed pedagogical knowledge (Shulman, 1986, p. 10). *Curricular knowledge* represents the full range of programs dedicated to the teaching of each subject at different levels included the available instructional materials. Shulman criticizes education systems for not teaching pedagogical knowledge in teacher education programs and for neglecting the importance of curricular knowledge (Shulman, 1986, p. 10).

> How many individuals whom we prepare for teaching biology, for example, understand well the materials for that instruction, the alternative texts, software, programs, visual materials, single-concept films, laboratory demonstrations, or "invitations to enquiry?" Would we trust a physician who did not really understand the alternative ways of dealing with categories of infectious disease, but who knew only one way (Shulman, 1986, p. 10)?

This research will examine the translation of Schwab's and Shulman's philosophies to jazz education, the ways in which jazz pedagogy echoes its disciplinary knowledge, and the correlation between the practical methods of jazz music making and its pedagogy.

Polarizing approaches to heritage reflected in music practice. Common music practices often use polarizing approaches to music aesthetics. Certain styles center on the reproduction of canonic written music, allowing minor interpretive nuances (Taruskin, 1989), while other unwritten styles regard canonic heritage as raw material to be modified, transformed and improvised on (Aebersold, 1967; Baker, 1968-1971; Coker, 1964).

Taruskin (1989) portrays a dynamic discourse among musicians and scholars of traditional Western music regarding the controversial issue of the interpretation of canonic music. He elaborates in great detail on the opposing interpretations and performances in the name of 'authentic' reproduction of Beethoven's ninth symphony. Few questions at the heart of the discourse regard the pursuit of the composer's original intention: how can we find it? Can we really know what the composers' original intention was? Can we really authentically interpret nineteenth century music, or are all our efforts merely "a truly authentic voice of the late twentieth century" (Taruskin, 1989)? He concludes that despite all efforts, major interpreters have always engaged in "recasting tradition in contemporary terms and according to contemporary taste" (Taruskin, 1989, p. 243).

Reproduction is a central keyword in the common tradition of *'classical music'*; performers are reproducing written music with various levels of interpretation.

Cook (1998) argues that popular music, jazz and non-western musical traditions are performance oriented traditions rather than the classical "performance of" traditions. He stresses that jazz masterpieces as such have their own history, but their meaning and value are primarily manifested in their performances. The opposite cannot be argued, since the only common elements to all the various performances of these jazz masterpieces are sketchy outlines of the melody and harmony. This is fundamentally different from the Beethoven's ninth symphony score (Cook, 1998, pp. 81-82).

This discussion demonstrated by Taruskin (1989) regarding the interpretation of canonic music, which revolves around the ways performers seek to keep the authenticity of musical heritage and the extent to which they allow themselves to elaborate its interpretation in the process of reproduction, is common in the Western traditional music, yet it is absent in the jazz realm. The comparison of the ways musical heritage is treated in the Western traditional and the jazz realm may reveal different approaches not only to musical aesthetics, but also to musical knowledge.

Organizational knowledge. The conception of knowledge has a great importance to the way educational systems are constructed. Karmon (2007) distinguishes the concepts of content (i.e. the subject matter that is studied) and teaching (i.e. the activity of teachers in the classroom) from what he refers to as the *institutional organization of knowledge*.

Every educational system has a unique structure for organizing knowledge that affects the ways that institutions handle knowledge. According to Karmon (2007), institutions of formal education, are characterized by four levels: mind, teaching, content and institutional organization of knowledge. The *mind* level refers to the way knowledge is organized in the learner's mind. The *teaching* level refers to the way teachers organize the learned knowledge. The *content* level refers to the selection and sorting of content knowledge. The procedure of arranging knowledge that precedes the act of teaching is referred to as the *institutional organization of knowledge*.

The institutional organization of knowledge is the most dominant level: it creates a structured setting for the other three levels to work in. Karmon (2007) distinguishes between two main organizing frameworks in modern educational institutes: *school subject* (i.e. primary through high school) and *research discipline* (i.e. universities). Each framework organizes and spreads educational knowledge in a different manner.

The main cognitive aim of the school subject framework is the inculcation of existing knowledge. The main cognitive aim of the research discipline framework, which is practiced in universities (mostly in the post-graduate stage), is the production of new knowledge. Each model achieves its main objective in a different way, characterized as follows.

The preferred cognitive performance that articulates the highest goal of the school subject is the matriculation exam or final exam. This test measures the success of the inculcation of knowledge that was selected to be taught in a particular subject. Throughout their studies, students are given tests, quizzes "as the most important feature of school studies" (Karmon, 2007, p. 612). In contrast, although academic learning is followed by exams, the preferred cognitive performance of the research discipline is the research paper, where the main aim is the production of new knowledge: the importance of exams decreases while the importance of research papers increases (Karmon, 2007). The difference in the preferred cognitive performance is embodied in the following aspects.

School teaching typically uses closed questions that relates to a single condense piece of knowledge and have only one correct answer which is known to the teacher and may be found in the textbook (Goodlad, 1984; Sarason, 1996). In contrast, the teaching of research disciplines relies on what Kuhn (1970) refers to as *scientific riddles* such as research question. The accepted procedures for answering

these questions are known in advance to the scientific paradigm of each discipline. This process requires an extensive amount of time and employs solutions which are not known in advance.

In correlation, school characteristics of knowledge selection would generally be basic, conventional and confirmed knowledge of the content area. This knowledge is uniform, holds no controversies and is presented as a coherent organized collection of well-known facts (Bernstein, 1990; Bourdieu & Passeron, 1977; Karmon, 2007). During the first stages of academic studies, knowledge selection may resemble school subject framework guidelines, but it is followed discussion of disagreements about problematic areas of uncertainty. The advance research guideline is to inquire into uncertain and controversial realms. Students are then involved in the conceptual framework and research procedures of the studied field paradigm (Karmon, 2007).

Learning in a school subject framework relies on secondary sources such as textbooks and teacher talk, producing an environment isolated from the environments external to the school (Karmon, 2007, p. 614). School text books are summaries of packaged inert knowledge that is the end result of particular disciplines (Gardner, 1991). Karmon (2007) criticizes school textbooks in terms of the way the knowledge is organized and presented: "there is no significant difference between textbooks in physics, history, or grammar" (p. 615); they are summaries of packages of knowledge that is the "end result" of particular disciplines (p. 615).

Research disciplines widely use primary sources that are accepted in a particular discipline, such as laboratory work, chemistry experimentation, examination of historical evidence, or anthropological field study. Instead of summarized textbooks and teachers' talk, the central source of information is the study of a discipline's members of its reality (Karmon, 2007).

The *mind* level refers to the way that learners process knowledge in their minds. This level is an important characteristic of the *institutional* level which differs between school subject framework and research discipline (Karmon, 2007). For over a century philosophers and psychologists have identified the knowledge gained within the school subject framework as inert and not active; learners do not apply it to new situations nor use it outside the context of the school (Gardner, 1991; Karmon, 2007; Perkins, 1992). Researchers (Gardner, 1991; Page, 1999; Wineburg, 1991) have shown that school subject teaching manner is non-disciplinary; it does not utilize the disciplines' unique ways of thinking. In simple words, school students do not think

like history researchers when they study history. "The new knowledge that is learned there is inert; it does not become active in the learners' minds nor does it replace the intuitive knowledge that preceded it" (Karmon, 2007, p. 617).

During later stages of studies, learners gradually obtain the particular disciplinary ways of relating to knowledge; in research disciplines students are required to apply new disciplinary perspective to an array of new contexts:

> Students who engage in research are, in fact, practicing how to utilize the disciplinary perspective they are learning in order to be able to tackle new (at least from the students' perspective) scientific riddles (Karmon, 2007, p. 617).

This practice and utilization of new knowledge in new contexts gradually transforms intuitive theories to substantive thinking which is based on disciplinary knowledge in a complex transitional manner.

School's conception of knowledge is often characterized as positivist. Positivist conception is a product of an examination and justifications of sources of knowledge. It carries an emphasis on sensory experience and deep skepticism towards abstract concepts. But school knowledge is not really positivist; contrary to the characteristics of positivism just described, the common epistemic environment found in schools is the product of an organization of knowledge that indoctrinates "as is" knowledge that has been produced somewhere else (Karmon, 2007, p. 625). In other words, it ignores the critical skepticism of positivist understanding of knowledge (i.e. metaphysical realism).

This sheds new light on the philosophical discussion about knowledge. It has:

> …tended unknowingly to focus on knowledge in the context of its production, concentrating on the various sciences, while rarely analyzing the conception of knowledge in the context of its transmission (Karmon, 2007, p. 626).

Karmon (2007) concludes with a call for a fundamental change in the institutional organization of knowledge commonly found in schools. Such change should aim not to produce the typical pupil, but rather to "create young thinkers with complex conceptions of knowledge" (p. 628).

Organizational knowledge in the arts. Karmon (2007) briefly mentions an interesting exception to usual school content areas that uses different sources of information rather than secondary sources:

> …high schools classes in the arts…utilize sources of information that are not "school secondary sources"…but rather are "primary sources" which are characteristic of the arts themselves. In general, the organization of knowledge used in teaching these classes is different from that which we find in the teaching of regular school subjects. In my opinion, this is one of the reasons, other than the fact that the arts classes are electives, that we find such impressive levels of commitment and effort among pupils in these fields (Karmon, 2007, p. 631).

This phrase by Karmon (2007) is very interesting. High school art classes use primary sources and a different organization of knowledge, and the commitment of students to these classes may be a proof of a powerful learning process. But I suggest that there are some key elements that Karmon has not spoken about in this article, regarding art classes and regarding higher levels of organizational knowledge.

Another important aim of this research is to discuss jazz music-making methods and pedagogy in terms of a framework model of organization of knowledge.

Jazz pedagogy research. In addition to the sources discussed thus far in this Theory Review chapter, it is important to briefly list the issues which are at the focus of research conducted in the field of jazz pedagogy in the last few decades. Such review will crystalize the unique place of this current research among others and emphasize its potential contribution.

Jazz improvisation achievement predictor variables. Researchers, listed by Watson (2010), have conducted various studies examining the variables that might serve as predictors of instrumental jazz improvisation. The obvious potential benefit of such research conclusions is the addressing of identified factors in music teaching strategies in order to better the teaching-learning processes. According to Watson's review (all the following sources are cited in Watson, 2010), variables that have been examined as possible predictors include gender (Bash, 1983; Heil, 2005; Hores, 1977; Madura, 1996, motivation (Ciobra, 2006), academic achievement (Ciobra, 2006; Greennagel, 1994), jazz ensemble experience (Greennagel, 1994; Heil, 2005; Madura,

1996), time spent practicing improvisation (Ciobra, 2006; Heil, 2005; Madura, 1996), aural skills (May, 1998) and jazz listening experience (Ciobra, 2006; Greennagel, 1994; Heil, 2005; Hores, 1977; Madura, 1996; May, 1998). Watson (2010) argued that some of the emerging findings of these studies were conflicting.

Content analysis of jazz pedagogical materials. Watson (2010) suggests that "limited work has been done in the area of content analysis of existing pedagogical materials" (p. 385).

Witmer and Robbins (1988, in Watson, 2010) studied jazz pedagogical materials from the 1950's through the 1980's finding common teaching strategies emphasizing tonal principles, mechanical exercises on chords and scales. Watson (2010) indicated that "the authors presented no systematic content analysis data as evidence for their conclusions" (p. 385).

Zwick (1987, in Watson, 2010) analyzed and compared teaching strategies which were stressed in text books, in addition to questionnaires he sent to jazz teachers to learn about their preferred strategies.

Herzig (1997, in Watson, 2010), examined jazz piano method books, identifying dominant instructional components.

Pedagogical materials and pedagogical methods effectiveness. Researches have also investigated the effectiveness of various pedagogical strategies and methods. Studies were conducted by Heil (2005) and Laughlin (2001) investigating aural instructional materials. Flack (2004, in Watson, 2010) has also investigated the effectiveness of the use of Aebersold' play-a-long sets - for the advancement of learners' improvisational skills. Some of today's researchers also focus on the integration of modern computerized technology for the aid of teachers, such as Venesile's (2010) study on vocal teachers' use of a software visualization of singing process components.

Creativity in jazz research. The investigation of the connection between aspects of creative thinking and common jazz practice and education is one of the aims of this current study. Indeed, researchers such as Borgo (2007), Csikszentmihalyi & Jewell (1987) and Sawyer (2006), have discussed group creativity in improvisation, but they have focused on the creative processes and group members' interaction in free improvisation scenarios. Contrary to free improvisation, most common and popular practices of jazz in the community utilize form-based composition, ordered harmonic settings, chord progressions and stylistic vocabulary.

Their conclusions of group creativity shed an important light on practitioners' processes, but don't examine its manifestation in common jazz practices, nor do they inspect aspects of creative thinking in jazz pedagogy.

Other researchers have investigated the relationship between creativity and jazz improvisation achievement as follows (Watson, 2010). Researchers such as Madura Ward-Steinman (2008) tested the relationship between improvisation achievement and creativity using the Torrance Tests of Creative Thinking Verbal Form. Sternberg and Lubart's (1999, in Watson, 2010) creativity study focused on personality, motivational and sociocultural variables as sources of creativity (Watson, 2010). Wills (1987, in Watson, 2010) investigated biographical material of jazz musicians, searching for a possible link between psychopathology and levels of creativity in jazz.

However, this current research investigates creativity from yet another point of view: it aims to reveal the underlying aspects of the development of creative thinking which are implicit in jazz pedagogy and music making. In addition, none of the studies reviewed hereby has investigated the creative thinking aspect in jazz pedagogy and common practice and related its aesthetics to concepts of knowledge. None of the reviewed researchers examined jazz pedagogy from an epistemological point of view.

The research presented hereby attempts to offer a new holistic point of view connecting creativity, aesthetics, and epistemology in common practices of jazz music-making and teaching – and to offer a theoretical model for jazz education. I argue that this connection has not yet been suggested, nor has a holistic theoretical model been presented to the community of jazz and general music educators. The absence of such a needed model has been directly stressed by Watson (2010).

Theory Review Summary

In this chapter's review of theory, it has been seen that researchers stress the importance of the engagement of the development of creative thinking in music education. Their analysis of the nature of creativity accents the interaction between the creative person, process and product, while pointing out the importance of the enabling conditions for creativity in the music classroom (Balkin, 1990; Hickey & Webster, 2001; Kratus, 1990). Creativity is discussed as a mental process engaging problem solving, divergent and convergent thinking and a personal learning process (Sawyer, 2011, Webster, 1990). Recent studies (Borgo, 2006; Csikszentmihalyi &

Jewell, 1987; Sawyer, 2003) add a wider holistic point of view of a network interaction involving individual, social and cultural dimensions of creativity.

Music education philosophers have been debating about aesthetics in music education, comparing contrasting poles of formalism verses praxialism and examining a possible mid road between them (Barrett, 2002; Cutietta & Stauffer, 2005; Elliott, 1995; Reimer, 2003). Educators' approaches towards aesthetics have a significant implication for the teaching-learning process; determining whether it is based on listening and analysis (i.e. formal orientation) or on a direct practical music-making (i.e. praxial orientation) - and setting the balance between both poles. Another interesting aspect of music leaning that has been reviewed, is the comparison between formal and informal music education and its implications for the authenticity of the teaching-learning process in regard to the way it reflects the ways music is actually created (Green, 2006).

Since theories of knowledge (i.e. epistemology) are a key element to this research, various types of knowledge have been reviewed, discussing: explicit, declarative, tacit, implicit, and procedural knowledge, and their possible transformation (Nickols, 2000). It has been shown that polarizing positivist (i.e. associated with science) and constructivist (i.e. associated with naturalistic research) paradigms of knowledge have a critical importance to the way education systems are constructed (Shkedy, 2003). It has been shown that while the positivist paradigm has been dominant during the last century in educational systems, creative teaching – learning processes are rooted in the constructivist paradigm (Ellis & Fouts, 2001) which calls for learning that is based on research, discovery, creative experience and reflection (Inbar, 2013). Recent theories of knowledge call for an ecological view of knowledge, in which knowledge is embodied, situated and distributed (Borgo, 2007).

The importance of the correlation between the curriculum and the essence of the discipline approached from a holistic view of all its faces has been demonstrated in the writings of Schwab (1973) and Shulman's (1986) theory of pedagogical content knowledge.

The fundamental differences between school subject and research discipline, regarding the way knowledge is conceptualized, has been demonstrated in the writings of Karmon (2007). Organizational knowledge commonly found in school subjects is criticized for producing typical pupils instead of creating young thinkers.

Hence, school educational systems are called to make a change in the way knowledge is conceptualized.

The scholarly writings review presented hereby lays the theoretical foundation on-which the following research questions will be examined.

Research Questions

How can the epistemology of jazz pedagogy be characterized?

What is the place of creative thinking in jazz pedagogy?

What are the elements of an effective model of jazz pedagogy?

Methodology

The current qualitative research is a theoretical-conceptualization based content analysis on jazz learning materials and a body of research on jazz music-making in communities.

An a-priori conceptualization of development of creative thinking and educators' approach towards aesthetics which are found in music education and the modes of knowledge and knowing, so called 'epistemologies' in education - yielded the conceptual 'lenses' that were used for the analysis of the two types of sources described as follows. Hence this research aimed at understanding the elements of development of creative thinking and epistemologies which underlie jazz teaching and take part in constructing its pedagogy and music-making practices. Qualitative content analysis can be used to construct a model to describe a phenomenon in a conceptual form, and this was a central analytic goal of the current research. The present analysis used both inductive conceptual analysis – deriving concepts from the data (sources), and deductive conceptual analysis – structuring the investigation on the basis of previous knowledge (the a-priori conceptualization described above) (Elo & Kyngas, 2008).

Data collection and resources

Two types of sources were used in this research as follows.

Primary sources – pioneering pedagogical literature. In order to answer the research questions, a review and analysis of jazz instructional methods and pedagogical literature as primary sources, in light of the aforementioned theories, was conducted and is presented in the *Review of jazz pedagogy* chapter.

The literature that has been chosen for review in this research is from the beginning of the second half of the twentieth century. It marks the beginning of serious attempts to define theoretical, analytical and practical knowledge of this idiom as follows.

Improvising Jazz (Coker, 1964) is a theory book, analyzing jazz harmony, improvisation techniques, band members' function, and offering instructions for the practice of learnt theories.

Jazz Improvisation Vol. 1 – Tonal and Rhythmic Principles (Mehegan, 1959) is an analysis book focusing mainly on jazz improvisation. Practical assignments for

the development of improvisational skills are also embedded in many of the lessons offered by this book.

Jazz Improvisation Vol. 2 - Jazz Rhythm and the Improvised Line (Mehegan, 1962) provide an in-depth analysis and a discussion of jazz stylistic rhythm and improvised lines.

How to Play Jazz and Improvise (Aebersold, 1967) is a kit containing a book and a play-along vinyl record (replaced by a CD in later issues). It presented a revolutionary pedagogy in the jazz idiom, offering students theoretical explanations, examples, practical guidance and means by which learners can practically exercise improvisation techniques with the recorded stylistic accompaniment tracks played by a real rhythm section (i.e. piano, bass and drums). This kit was eventually developed to a series of 133 kits and jazz programs which successfully run to date.

The four volumes of *Techniques of Improvisation* (Baker, 1968-1971) are practical guides focusing on improvisational practicing routine of musicians. They offer an overwhelming collection of hundreds of improvisation exercises of melodic lines, patterns and motifs and few explanations. Each of the books focuses on a different harmonic or modal function: Book 1: Lydian chromatic concept, Book 2: IIm V7 progression, Book 3: 'Turnbacks' (or 'Turnarounds'), Book 4: Cycles (of 5^{th}'s or 4^{th}'s).

In addition, jazz musical notated texts in repertoire compilation books such as the jazz *Real Book* (Anonymous, 1974) and the *Charlie Parker Omnibook* (Slone & Aebersold, 1978) were analyzed for focused meaning extraction.

Pedagogical material choice considerations. Nowadays jazz pedagogy is practiced worldwide, modified according to the preferences and needs of each local educational scenario and community. However the essence of jazz practical methods and pedagogy is common to all of them and it is laid out in the remarkable, well accepted pioneering works of jazz educators and theoreticians presented hereby. This pedagogic literature is accepted as establishing the essence of jazz educational practice to follow (Beale, 2000, p. 759; Berliner, 1994, p. 57; Prouty, 2012, p. 75). Whyton (2006) suggests that the "American model" of jazz performance studies commonly use the "ABC methodology" i.e. Aebersold, Baker and Coker as the "formulaic model for success" (p. 77).

Secondary sources – scholars' writings on jazz music-making in the community. In order to answer the research questions, in addition to the analysis of

the pioneering pedagogical materials, this research investigated the common practices in the jazz realm regarding knowledge, to provide yet another point of view. The sources that were chosen for this review are leading scholars' and ethnomusicologists' writing about the jazz culture, offering a wide range of perspectives including personal testimonies from within the jazz community. This review is presented in the *Jazz culture in the literature* chapter.

Many superlatives have been awarded to the monumental work By Paul Berliner (1994) *Thinking in jazz*, which is "presently the Mount Everest of jazz ethnomusicology and analysis" (Ake, 2002, p. 292). This work portrays in great details the actual musical practices in the jazz realm and over its 900 pages includes many interviews and testimonies of jazz artists, review of scholars' writings and 150 pages of transcriptions. It remains to this day "a landmark" (Martin, 2002, p. 141) in the jazz literature.

A critical review of today's jazz education was provided by Beale's (2000) Jazz Education in the *Oxford companion to jazz* and the works by scholars such as Kennedy (n.d.), Watson (2010) and Whyton (2006).

The Cambridge companion to Jazz (Cooke & Horn, 2002) offered an impressive collection of in-depth experts' articles providing social, cultural history, music analysis, economics and ethnographical perspectives on the vibrant world of jazz by leading scholars such as David Ake, David Horn, Travis A. Jackson, Bruce Johnson, Peter J. Martin, Ingrid Monson and Stuart Nicholson.

In addition, a critical reading into jazz community, pedagogy and their relation to the canon in the information age was provided by Ken Prouty's (2012) *Knowing jazz*.

Data analysis methods

The features and the concepts which were yielded in the *Theory review* chapter, regarding creative thinking and aesthetics in music education, and theories of knowledge are not directly discussed in the primary and secondary sources aforementioned. Jazz educators speak in terms of stylistic content and practical methods, and ethnomusicologists and critics speak in terms of the way jazz is celebrated in the community. In order to extract categorized features each of the sources was conceptually analyzed thru the 'lenses' as follows.

Characterizing Features.

Development of creative thinking. The sources where reviewed in light of scholars' theories regarding creative persons' characteristics such as originality, fluency, flexibility and elaboration ability, and processes involving idea generation, problem solving (Balkin, 1990; Hickey & Webster, 2001; Kratus, 1990), the reliance on a movement between convergent and divergent thinking (Sawyer, 2011; Webster, 1990, p. 23), habits of mind including: posing questions, play, immersion, innovation and risk taking (Cremin, Burnard, & Craft, 2006). In addition, features of the theories by Borgo (2007) and Sawyer (2006) regarding the collaborative aspects of group creativity, and ecological system of collective creativity were examined as well in the reviewed sources.

Aesthetics in music education. The sources were examined for characterizing features in regard to the debate of formal vs. praxial theories in music education (Barrett, 2002; Cutietta & Stauffer, 2005; Elliott, 1995; Reimer, 2003) and features of informal learning processes presented by Green (2006)

Theories of knowledge. The sources were examined for characterizing features regarding scholars' theories of types of knowledge (Nickols, 2000), constructivist vs. positivist epistemologies (Guba & Lincoln, 1989; Maykut & Morehouse, 1994; Shkedi, 2003), constructivism in music education (Inbar, 2013), disciplinary pedagogical knowledge (Schwab, 1973, Shulman, 1986) and organizational knowledge (Karmon (2007).

Ways of analysis. The analysis of the review of instructional pedagogical materials and scholars' writing on the processes of jazz music-making in the community through the 'lenses' (which were constructed in the *Theory review* chapter) has yielded findings as follows.

Findings. The data which was collected through the analysis of the sources using the 'lenses' was categorized in the *Findings* chapter and provide insights regarding aesthetics, the relation between formal and practical accents, the community's approach towards canon and traditional musical knowledge, underlying aspects of creativity and innovation, informal learning processes in the community and analysis of educators' critical reading of jazz education.

Discussion, conclusions and implications. A further synthesis of the findings with the theory review produced conclusions regarding jazz's unique epistemological

balance between positivist and constructivist paradigms and provided a broad holistic view of jazz as discipline and its music-making processes.

This holistic view was then developed into implications regarding the construction of an authentic jazz curriculum. These implications are manifested in the theoretical integrative model for the construction of jazz education curriculum which is suggested for the possible use and modification by jazz educators.

Research boundaries

Research scope - This research has reviewed the writings of leading scholars in the fields of creative thinking, aesthetics in music education and theories of knowledge in education. It does not, nor can it, encompass all scholars' works in these fields.

In addition, the primary sources of pedagogical materials which were chosen are the pioneering works of jazz educators which have paved the way and established the essence of jazz pedagogy up to our days. Still, regardless of the immeasurable importance of these pioneering works, not all of the pedagogical materials and strategies available today have been reviewed.

Research limitations. Thus, this current research has its obvious objective limits; a true view of the 'whole picture' is practically impossible. Underlying qualitative research is an interpretive paradigm: the researchers bring their experience, knowledge and perspective to bear when analyzing and interpreting the results. Thus, as in any qualitative study the researcher is part of the picture. Nevertheless, every attempt has been made here to extract meaning from text, and to ground interpretations in theory.

It is important to stress that this research, its conclusions, implications and discussion are not intended to dismiss any of the successful traditions, nor to claim exclusivity of a single 'correct' jazz pedagogy. Rather this research suggests another possible view of jazz education. It is offered for music educators' further discussion, development and modification.

Personal voice and input

For most of my adult life I have been an active jazz musician. For the last two decades I have been concentrating on music education for the young generation as well as for future teachers. My love and passion for jazz music, as a musician as well

as an enthusiastic listener, has acted as the fuel for this current study. The meaning I have found working with my students as a music educator has driven my desire to better my teaching; it has ignited my curiosity and the need to deepen my understanding and expand my horizons.

Throughout my teaching career more and more questions have emerged regarding the art of music education and jazz in particular. But I was curious about meaning and essences rather than local formulas and strategies; top rather than bottom. I began to understand that in order to answer those questions, I need to search into the philosophical aspects of music education.

Square one was the notion that jazz music, of all styles I have engaged with, enabled me to express myself in the most profound and creative manner. I realized that the key-word for the starting point of my quest was creativity. I also understood, at a certain stage, that creativity in music education and especially in jazz embodies a unique way of dealing with knowledge; it is not only an art form but a way of thinking and negotiating with knowledge. Hence my growing interest in the epistemology of jazz music pedagogy. Looking for studies which connect jazz pedagogy to epistemology I have found no threads to hold to; no other studies in jazz music education have addressed jazz education from an epistemological point of view. This stage was my personal eureka; my research was set on an unstoppable top gear.

But I did not want my research to focus on me, nor on my students. Studying my own surroundings or my background as a kind of case would have limited my research to mere local, narrow application of a much broader way of thinking. I was searching for essences and concepts which are at the heart of the philosophy of jazz education – rather than studying how this philosophy is practiced in any type of local setting.

The only method suitable for my quest is conducting this present research as a pure theoretical content analysis study. This choice meant that throughout the study, I must put my personal voice aside.

In contrast to field studies, in the process of my research there was no option for me to influence the content of the data flow: there were no questionnaires which I composed and handed out, there were no interviews conducted, there was not any type of interaction with actual people nor was there any type of observation. My only interaction was with text.

My own voice did come into action in the desire to make a change and contribute to the field of music education. My vision was the motivation for me to set out on this quest. My experience as a musician and as a teacher helped my orientation in the flourishing research materials of music education; it helped me focus and pin-point the relevant materials to collect. Finally, my own way of thinking enabled me to tie all the threads in a unique manner; eventually, every research of any discipline is signed with the researcher's fingerprint.

Review of Jazz Pedagogy

Coker, Jerry (1964). Improvising jazz

This is a theory book, encompassing the different aspects of jazz improvisation. It contains theoretical explanations of jazz harmony, aspects of solo construction, harmonic consideration in improvisation, jazz band members' function, rhythm and it also provides practical guidance for jazz practitioners.

Preface and introduction. In the preface Gunter Schuller reviews the background in which this book was written and explains the need for it. It is mentioned that during the 1920's young jazz musicians learned their skills playing in jam sessions and in big bands, by trial and error, experiencing practical everyday challenges of creating music. This book attempts to "fill the gap left by the demise of the jam session and the road-traveling band" (p. viii). He adds: "Jazz has arrived at the stage where it can develop its own teaching and analytical methods, relative to its own special needs and standards" (p. viii).

Schuller elaborates about the common myths which regard the creation of music, including jazz, as a vague, nebulous act, a state of inspiration from 'above'; ingredients such as thought, work and any intellectual activity are anathema to 'true' artistic creativity. However,

> The creative process occurs at all levels of consciousness ranging from minimal to total awareness...Inspiration occurs precisely at that moment when the most complete mental and psychological preparation for a given task has been achieved (p. ix).

The meaning of this notion is essential for jazz pedagogy and education: the intellect is an inseparable element of jazz improvisation and should not be neglected in the educational process. It can, and it should be taught (p. x).

Therefore, the aim of this book is to provide the students with rudimentary musical theoretical tools that would practically serve them in jazz improvisation.

In his introduction, Coker praises jazz for bringing about a renaissance in improvisation (p. 1). This style is conducive to spontaneous creation by utilizing standard musical elements such as form, standardized instrumentation, stylized

melodies and rhythms, etc. (pp. 1-2). Improvisation offers the musicians the opportunity to utilize their technical ability to its fullest extent, while enjoying the creative freedom of spontaneous composition. "In our present culture the bulk of activity in improvisation is in jazz music" (p. 2).

Coker's intention is to equip the student with the understanding of the theoretical principles in jazz. It is advised that students have some technical proficiency and acquaintance with major and minor scales as a pre-requisite. It is stated that all of the information in this book is technical and every player will develop his or her own individual style based on personality, intelligence, talent etc., all of which are beyond the scope of the text (p. 2).

The improviser's basic tools. Coker considers that jazz players' improvisation outcome is influenced by five factors: Intuition (originality), intellect (technical planning), emotions (mood), sense of pitch (practical hearing ability), and playing habit (dexterity and instrumental mastery). It is claimed that the intellect is the only completely controllable factor. The "most artistic accomplishment requires academic training" (p. 4). Therefore, this book approaches improvisation solely through this factor.

Coker insists that improvisers must know and understand the technical and formal elements on which they base their improvisation. Such elements are: song form, thematic and harmonic construction, tonality, modulation to other keys, the chords in the progression – their function, chord scales (i.e. scales which are derived from the basic four chord tones 1,3,5,7, used as a skeleton, added their connecting passing tones 2,4,6), etc.

Coker examines a twelve bar blues form in light of these elements and makes a remarkable notion:

> The terms tune and song are used in a liberal sense here, since the original melody is largely ignored and obscured by the jazz player's improvisations. His creative endeavor is enriched by his own melodies, based on the chord progressions on the tune he uses (pp. 4-5).

By doing so, he diminishes the importance of the original composed melody, and reduces the focus of improvisation to form, chord progression and style. This attitude might be considered rather radical; however it resembles common jazz

educators' approach towards the improvised melodic lines as subject to the harmony. This notion has a great importance and it will be discussed in the following chapters.

The basic principles of chord construction and symbols are briefly explained in order to establish a linguistic common ground. Triads (i.e. chords constructed of three tones) are skipped and the discussion concentrates on seventh chords (i.e. chords constructed on four tones), followed by an analysis of the chord progression in a twelve-bar blues form.

Coker explains the scales on which melodies are based, as constructed of four 'important' *chord tones* (1,3,5,7) added with *melodic jointers* (degrees 2,4,6) between them. These scales are commonly referred to as *chord scales* in jazz theory. A short explanation instructs how to use a major scale on an XM7 chord (e.g. CM7, or Cmaj7) and how to modify it to an X7 chord (Dominant 7^{th} chord, e.g. C7) by lowering the 7^{th} scale degree.

The commonly found IIm7 and V7 harmonic progression is discussed in its relation to the tonic major scale. In correspondence to the explanation presented hereby, each chord's tones (1,3,5,7) create a skeleton onto which key diatonic jointers (2,4,6) are added. This forms related *modes* (Dorian, Mixolydian and Ionian) on each of the scale's harmonic degrees: IIm7, V7 and IM7 (Imaj7).

It is important to note that Coker's view of modes reflects the commonly found practice and analysis in jazz theory. Modes are not been seen from a pure modal point of view. The jazz music that Coker analyses is tonal (major or minor) and functional; it is not modal. Therefore the Dorian and Mixolydian modes are not being examined as stand-alone modes, as they are often approached in traditional theory, but as modes functionally being derived from the major tonal center and scale. The Dorian and Mixolydian modes may simply be used in order to improvise over the IIm7 or V7 chords found in major keys (see *Appendix*, figure 1).

Coker assigns students to 'projects' combining their understanding of learned knowledge with its practical application to their instruments: they are instructed to spell chords according to chord symbols, play them, and write down their related scales. The scales are also assigned to be practiced with the appropriate chords played in the background in a modular manner, as well as in a pre-set short form of a chord progression (pp. 9-11).

An introduction to melody. Coker discusses the elements constructing melodies: periods, phrases, motifs, patterns, theme and variations and *through-composed* melodies, followed by figures of short analyzed examples (pp. 12-13).

The importance of the study of transcribed solos of jazz artists is accented. It is strongly advised that if no printed transcriptions are available, students should invest efforts in transcribing solos by themselves, according to their ability. The act of transcription helps students to develop their ear and pitch memory to the extent that they will "eventually be able to transcribe their own ideas while they are improvising" (p. 14). In addition, this helps students to study the styles of jazz masters, to deepen their understanding and to discover various methods and ideas for improvisation.

Coker advises that students of all levels should be engaged in the composition and collection of original musical ideas and motifs to be used in future improvisation (p. 14). Students are encouraged to learn how to use motifs and pattern repetition and development in their improvised solos. The delicate balance between the usages of motives verses through composed melodies in the creative process of improvising is left for the players based on their set of decision making, personal preferences, taste and style. Learnt and composed motifs and patterns can be played 'as is', but they can also be modified and played over various harmonic settings. These general explanations are followed by a few notated examples. Coker repeatedly mentions the process of decision at the hands of the improviser: "Common sense and tastes are the only guides to finding the 'correct' chord" (p. 17).

This chapter concludes with assigned projects: students are set to start their engagements with solos transcription, collection of original motifs and the development of these ideas.

The rhythm section. Coker presents the players of the rhythm section (i.e. piano, guitar, bass, drums and percussions) as the "providers of the pulse, meter, rhythmic accents, compassionate or sympathetic balance, rhythmic 'swing' and harmony constituting the heart of an improvising group" (p. 20). However, the rhythm section members are reminded to have a greater responsibility for dynamic interaction between themselves and the soloist, and becoming one entity, an improvising group. Coker limits this chapter to the very basic foundation of rhythm section playing of drums, bass and piano and their function within the band as follows.

Drums' basic function is described separating each ligament: basic *swing* quarters and eighths strokes on the ride cymbal using a stick or a brush, hi-hat cymbal

on beats two and four using a pedal. Improvised accents (left to the drummer's taste) are added using the bass drum pedal or stick strokes on the snare and tom-tom drums.

The fundaments of bass playing are presented as both chordal and scale-like function, followed by some notated examples. Coker discusses the process of decision making left to the bass player regarding his choice of notes and the balance between the selection of chord verses non-chord tones (diatonic or chromatic).

Piano players enjoy the freedom from maintaining steady rhythmic patterns. Although they may occasionally repeat rhythmic figures, they usually interact with the rest of the band members and act upon their personal taste. They must be prepared with a wide variety of harmonic voicings (i.e. the actual voice spreading of the chords on the piano keyboard) for the played chords and demonstrate flexible abilities in improvised accompaniment (pg. 23-24). A notated example of suggested five possible voices spreading of an Fmaj7 chord over the piano keyboard is provided. Students, who wish to utilize them in other keys, will have to transpose them by themselves.

Coker concludes this chapter with individual projects assigned to each of the rhythm section members (drums, bass and piano), in order to practice the rudiments of their part. The practicing guidelines provided are rather general, summarized and concise. Many performance issues are left to the decision of the students.

The first playing session. Coker suggests that before the first session, each of the band members must prepare themselves by studying the material to be improvised (p. 26); all materials should be memorized and practiced by exercised arpeggios, chord scales, patterns etc. This mental and practical preparation must take place prior to the actual playing session in order to free the improviser's mind to concentrate on the important aspects of playing: "establishing melodic form, developing the meter sense, mood and swing and planning and controlling the intensity of a solo in chosen or inspired moments" (p. 26).

Coker offers a step-by-step gradual practicing routine. He instructs the rhythm section to start playing the chords progression in a simplistic manner. Gradually, the rest of the members in the band should join in, playing the roots of the chords as whole notes, adding other chord tones, basic ascending and descending seventh-chords arpeggios. The importance of guide tones (3^{rd}'s and 7^{th}'s of the chords) usage is demonstrated over a blues form, followed by a notated example. The use of prepared pattern embedding in an improvised phrased is demonstrated in a few figures.

The project assigned in this section is a composition of an original solo over a blues form, using a couple of motifs from the students' own collection (p. 33).

Development of the ear. Coker insists that improvising music necessitates translating abstract imagined sound into music played on an instrument. Composers use a nearly identical mechanical process when they translate heard or imagined music into notation. Hinting at the mental and practical mastery of musical knowledge demanded of musicians, he writes:

> The contents of improvised solos are not all fresh and original, but are a collection of clichés, established patterns, and products of the memory, rearranged in new sequences, along with a few new ideas (p. 36).

This sense of pitch and hearing ability can be developed mainly through the practice of learning by ear from recordings and directly imitating artists' performances on one's instrument (rather than writing it down); students are advised to learn by ear artists' recordings not only as means of learning stylistic nuances, but as a practice routine designed to develop their hearing abilities. It is important to stress that Coker relates learning by ear to actual direct instrumental playing rather than a translation of heard music to notation using a pencil and a paper.

Learning by ear as a practice routine, has a great importance regarding knowledge transformation. It will be discussed in greater depth in later chapters of this dissertation.

Further study of chord types. Jazz musicians often alter and change the chords in the harmonic progression according to their personal taste, knowledge and abilities. This chapter discusses the alternate substitutions of chords. Coker's explanations contain certain practical tips, but they are rather simplistic, straight forward and lacking the depth that might be found in a parallel harmony book: "Sometimes a m7 (i.e. minor 7th) chord may be replaced by a half-diminished seventh chord (Ø7)" (p. 39). Again, the decision of what, how and when to use substitute harmony is left to the player:

> All the newly given alternate chords may be used in place of their given and more common chord family member quite freely, sometimes depending upon the harmonization of a given melody (p. 39).

Several figures and tables show the construction of a variety of common seventh-chords and their matched possible choice of scales.

Assigned projects focus on the construction of chords, their relative scales and modes in all keys and their practical practice on the instrument (p. 43).

Swing. Coker describes *swing* as one of the most important aspects of jazz playing concerning the rhythmic interpretation and unity. The importance of swing is discussed both abstractly and practically. Coker notes that this rhythmic feeling cannot be instantly achieved and its development is dependent of the player's experience, confidence, mastery, personal taste and preferences, and more (pp. 45-46).

The suggested exercises are dedicated to the development of rhythmic interpretation, focusing on articulation and accents (pp. 47-49).

It is surprising that the assigned practice is of notated phrases. Swing, as a rhythmic feel, is like a lingual accent: it cannot be notated. Based on the importance Coker gives to transcription, it would have been expected that an additional practice of transcription and imitation would be assigned.

The diminished scale. The popularity of the *diminished scale* (i.e. symmetrical compound of contiguous half and whole steps pattern) among jazz players has led Coker to dedicate a small chapter to it. The scale's structure and the common uses of it over minor and special dominant seventh chords, is discussed, followed by a table, listing all the seventh chords and the choices for accompanying scale.

Students are assigned to write and practice diminished scales and to utilize them in their blues practicing sessions.

Analysis and development of melody. Coker discusses the usage of *motifs* and their development from three analyzed angles; shape (contour), rhythm and essential pitches. These elements are examined as short concise ideas, followed by a few notated examples. A demonstration of the usage of motifs and their development is presented in various notated examples.

A relatively comprehensive practical exercise of motivic development is assigned for the students. The extent of the practice advised for the students may hint at the importance that Coker assigns to motivic development and the student's responsibility for self-exploration and search rather than repetition of pre-composed ideas.

Chords superimposition. The superimposition of tensions (i.e. 9^{th}, 11^{th} and 13^{th} intervals) above seventh chords is presented in a short, plain schematic manner, despite its complexity. Instead of deeply elaborating on the intricate theory involved, Coker chooses to present its summarized conclusions in the form of a table showing the possible tensions superimposed over each type of seventh-chords. The variety of possible additions is vast, especially over dominant seventh chords and the decision of what to use, is left to the player:

> It is common practice among jazz musicians, to add more than one superimposition to some chords, when possible…you will become aware of new problems, aside from that of memorizing the possible superimpositions ...these often do not sound well when played abruptly…find ways to approach these notes from simpler chord notes…these will evolve out of your experiments in improvisation and there is no way for guaranteeing that what sounds pleasing to you will also please everyone else, or even yourself at a later date (pp. 65-66).

The discussion about superimpositions is developed to the examination of *poly-chords* (i.e. simultaneous playing of two different chords, e.g. $^{C}/_{D}$). Coker chooses not to elaborate on the intricate theory involved; this wide complex idea is discussed in a very brief manner, followed by a table presenting the possible impositions of one chord over another.

Students who wish to deepen their understanding of poly-chords would have to search thorough discussions in jazz harmony books. Once again, there is a lot of research and decision-making left to the player. The assigned projects concluding this chapter involve individual and group experimentation with possible use of poly-chords.

Functional harmony. Ten pages of the book are dedicated to a summary of functional harmony. Chords are categorized according to their function: *Tonic*, *Dominant* and *Subdominant*. The analysis of the chords in the harmonic progression is given in Roman numerals (e.g. I, II, III, etc.), according to their position in relation to the tonic, in addition to indication of the quality of the chords (e.g. IM7, IIm7, IIIm7, etc.) (pp. 71-72).

The usage of modulation to different tonal centers is demonstrated using chord symbols and their analysis and explained in a brief simplistic manner (p. 73).

Further discussion revolves around the most commonly found chord progressions in jazz tunes. The discussion about the common chords' functions is rather simplistic, e.g.: "VI7…precedes II" (p. 76), without the expected deeper explanation of *secondary-dominant* functions which may be found in harmony books. Concise as-is presentation of common harmonic function, deprived of theoretical examination, is often used: "bIIIm7…substitutes for VI7 or Vim7…occurs between IIIm7 and IIm7" (p. 76).

Coker offers a 'general function structure': a schematic system for the study of tunes by grouping portions of the harmonic progression to areas of the tonic, subdominant, and dominant function. This system is supported by a quote from Richmond Brown:

> The only thing left of a tune after it has really been worked over in modern jazz is the general functional structure – in very broad terms too. The exact root progression is usually gone; the melody is gone, but the number of bars in the tune remains the same…you reach the tonic, dominant, or subdominant on the same measures as they occur in the original version of the tune…the functional structure of the tune is its identity…(pp. 77-78).

Note: these explanations are somewhat abstract and general. They are not sufficiently developed from the basic idea to a full practical methodology. However, they do supply a vital point of view, regarding the common free attitude towards melody, harmony, structure and other formal elements.

Extra discussion is dedicated to common harmonic progressions, moving down fifths, or half steps. These are not followed by specific examples, but rather, they are generally discussed (pp. 78-80).

Besides some technical practice regarding harmonic progressions analysis, students are assigned to listen to prominent jazz players and to discuss their work according to the aesthetic criteria presented in the following appendix.

Appendix A. Aesthetic criteria for evaluation of a jazz artist. Coker stresses that the "growth of the student of jazz will depend to a great extent on the influence of recorded music" (p. 81). Students must learn to absorb and evaluate what

they hear. Coker makes a very interesting argument regarding some definite aspects that are necessary for a well-rounded evaluation, as follows:

Choice of materials - regards the songs that are appropriate to the player's style and interpretation.

Emotional content – regards the player's ability to project emotions and 'aliveness'.

Versatility – regards the different moods, new musical environments, excitement, thoughtfulness, sincerity, sweetness and melancholy.

Taste – regards the chosen mood and the musical situation, moderation and economy in using materials and techniques.

Originality – regards the player's innovation. Coker makes an interesting note regarding this issue:

> Though he might show that he has absorbed the qualities of other players, is there a considerable amount of material which seems to be his own, so that one is actually able to distinguish him from other artists of a similar style? Does there seem to be a creative urge about him which causes his style to be constantly enriched with new ideas? (p. 82).

Intellectual energy – regards the player's ability to hold one's interest with only the stimulus of his ingenuity. "Is the player physical, cerebral, or both?" (p. 82).

Although no specifically practical workout is assigned in this section, these issues are meant to provoke a critical self-contemplation and discussion within the students' minds regarding aesthetic criteria that is at the heart of their own music making; it may be assumed that Coker expects students to start evaluating their own music.

Appendix B. Piano voicings. Coker offers some possibilities for left hand voicings for piano players, omitting the root of the chords, followed with notated examples of tonic, subdominant and dominant chords. In accordance with the improviser's freedom of creating new melody, one of the basic roles of harmonic instrumentalists (i.e. piano, vibraphone, guitar), is to master the various ways and sounds that the harmony may be applied to the instrument.

Again, Coker leaves many options and unanswered questions for the practitioner, to search, explore, experiment and to make aesthetic decisions.

Appendix C. Chord progressions of popular forms. This section offers some schematic analysis, given in Roman numerals, of common chord progressions and their alterations such as: blues form, popular 'A' and 'B' sections of AABA structured tunes and common *turnarounds* (e.g. I Vim iim V7 I) (see *Appendix*, figures 2-3).

Appendix D. A collection of tunes. This section provides Roman numerals schematic analysis of harmony of a collection of tunes, categorized according to their characteristic harmonic progressions. The original composed melodies of the tunes are absent, hence ignored; only harmony is discussed in this section.

Coker does not even provide the titles of the tunes he analyses; it is left to the students to find out the correlation between this analysis and the selected tunes. It should be noted, that the fulfilment of such a task cannot be taken for granted. There are important implications to Coker's approach, which will be discussed in later chapters of this dissertation.

Aebersold, Jamey. (1967). How to play and improvise jazz (Vol. 1)

This book is part of a kit also containing a *play-along* vinyl record (replaced by a modern CD in later issues). It was originally published in 1967 and it was revised six times by 1992. It is one of the early publications that have provided a solid practical pedagogy for the jazz idiom. This kit is the first of a successful series of 133 books and records/CD's published by Aebersold to date.

In his discussion of recent studies which have investigated the effectiveness of aural instruction materials, Watson (2010) quotes a research study conducted by Flack (2004) who tested the use of Aebersold's play-a-long recordings on a group of college jazz studies majors compared to a control group and found that while both groups improved from pre to post test, the experimental group improved by a larger percentage than the control group (Watson, 2010).

Aebersold's kit provides preliminary guidance for jazz playing and improvisation for entry level students, focusing on the practical aspects of learning jazz music. The book contains a wide array of explanations, examples and exercises regarding practical jazz playing and improvisation.

In general, Aebersold's book offers a complex mapping of his view of creativity, improvisation, theoretical and practical guidance and philosophy regarding the jazz experience. All of these elements are woven into each other, not necessarily

in a linear categorized manner, but webbed and delivered in a somewhat personal eye-leveled manner. Phrases such as the following are common:

> Take your time and feel good about not going quickly through the material and ideas I am presenting (p. 2).
>
> I have never met a person who couldn't improvise. I have met many who think they can't. Your mind is the builder and what you think…you become (p. 3).

For the convenience of the reader of this dissertation, the main ideas of Aebersold's book have been categorized and grouped as follows.

Play along Record/CD. All of the exercises suggested by the book are meant to be played along with the supplied recordings of a rhythm section (i.e. piano, upright bass and drums), providing a stylistic accompaniment for these exercises. These play-along recordings are commonly referred to as 'minus one'; the only person missing from these recordings is the practitioner her/himself. Each recorded track is dedicated to a particular group of exercises. Students get the chance to virtually play on the band stand with a 'live' rhythm section; to feel the sense of a 'real life' playing scenario. The students are instructed to apply the learnt exercises on each new track of the play-along record, as a preparatory stage before actual improvisation (p. 22).

Mental preparation and thought stimulation. Aebersold devotes the first pages of his book to his philosophy regarding learning and practice. The book supplies a great list of practical tips for improvisation. Some are mental, encouraging the young student to take chances and overcome fears (p. 6). The elements categorized hereby, are woven into each other and often integrated in later practical stages of the book.

Right brain, left brain. Aebersold stresses the great importance of the creative aspect involved in jazz playing and jazz practicing routines. He calls for a balanced combination of the "left brain knowledge, with the creative right brain" (p. 2). Therefore, jazz practitioners and artists must be fluent with formal elements such as scales, chords, patterns, licks (i.e. commonly used phrases and lines) and also be "spontaneous, creative, surprising, imaginative and ready to take a chance" (p. 2). "Jazz improvisation, insists that YOU use your mind and consequently reap the rewards of creativity" (p. 4).

Aebersold's view of creativity and its importance are shared with the readers and are repeatedly embedded throughout the book.

Personalization of the creative process. Students are often encouraged to search for their own personal say in their creative process: "Make each new idea YOUR idea. Then use your imagination" (p. 9). Aebersold reminds that:

> The jazz musician has always taken liberties with the melodies to songs. They personalize the actual melody and alter the rhythms as they follow to the dictates of their mind; (p. 24).
>
> Don't be afraid to personalize the melody to a song. Play the melody like you would sing it…let it tell a story, make the melody YOURS (p. 30).

Developing creativity. The importance of the creative processes involved in jazz practice is demonstrated in a set of questions students are being asked to give thought to, regarding aesthetic decision-making of their creative processes:

> At what part of your instrument will you begin your idea? How do you want to begin? What note of the scale do you want to begin with? Do you want to ascend, descend? Do you want to use pick-ups? Once you have begun your phrase, how long are you prepared to maintain your continuity, thoughts, ideas? Have you thought about it? Does your mind already 'hear' the notes in rhythm? Can you actually play them? Is your idea coming from your mind or is it something that your fingers have picked out? (p. 24).

It should be noted that this set of questions regarding personal aesthetic criteria and decision making is asked in a rather early stage of the book. This notion is meaningful and its importance will be discussed in later stages of this dissertation.

Experimentation of knowledge. Throughout his book, Aebersold stresses the importance of the practical act of playing and exploration of the potential of learnt knowledge. Thus, all acquired knowledge serves the actual act of exercising improvisation. "This book will give you knowledge and understanding. Only if you can apply knowledge do others appreciate it. In music, a played example is worth many words" (p. 2). Students are called to explore, to experiment and to improvise the written exercises: "the main objective is to improvise rather than play exercises" (p. 4). Hence the written material is a basic raw idea to be modified; it should not be

practiced as notated. The process of exploration that is being manifested in improvisation over the suggested material is integral to the exercising routine starting from the very first stage of the learning process.

During later stages of advancement, Aebersold repeatedly reminds students that all of the learned exercises are basic materials and tools for creative improvisation:

> By now we can see we have several scales that we can incorporate in our solo…these can all be played over the first several recorded tracks. This should allow you more variety in your solo construction and is a start at enabling you to produce on your instrument the sounds that are swimming around in your head (p. 31).

Memorization. Memory plays a major role in the process of this mastery. Memorization of the various elements helps the players to navigate through the form, and frees them from the distracting need to follow written notes while striving to be creative (pp. 4, 11, 15). Students are advised to memorize all musical elements: form, scales, chords, etc.: "try to memorize them, so you can take your eyes off the written page and concentrate on making music" (p. 4).

Imitation and inspiration. Throughout the book, students are encouraged to learn how to play through imitation of other jazz players by studying the transcriptions of their performances (p. 8). Studying the tradition of the style is gained by referring students to recordings of jazz masters such as Duke Ellington, Count Basie, Woody Herman, Thad Jones - Mel Lewis and many others (pp. 17, 20, 45, 50). Referring to recordings of jazz artists provides the student a source for instrumental sound, phrasing, articulation, note choice, dynamics and stylistic imitation (p. 23).

> Jazz has traditionally been passed down by listening and imitating those around us who play musical ideas we enjoy (p. 10).

> This art-form was originally learned aurally…listen to records and copy the sound of the artists (p. 21). You have to hear the music in order to play it (p. 23).

In addition, time, feeling, articulation and melodic development, are all learned by the imitation of great jazz artists: "I can think of no better way to learn to

improvise melodically than listening to the masters and trying to emulate their playing concepts" (p. 45).

Hearing and singing. Aebersold stresses the role of the hearing ability in improvisation: "concentrate on hearing, mentally, each tone before you play it…this requires constant anticipation and awareness" (p. 21). Keeping up the form of the choruses (i.e. the repeating cycles of the song's form) played by the rhythm section is crucial at all times. This ability can be achieved only by practicing listening to the rhythm section playing over a given track before students start practicing.

Aebersold accents that players do not follow notes while they improvise; they are dependent on their hearing ability. "Your playing…will reflect your ear's knowledge…you'll play things which reflect your knowledge, and this can be extremely helpful for others in their musical quest" (p. 25).

Students are encouraged to first sing musical ideas before applying them to their instruments (p. 36), since:

> The voice (singing) usually can approximate the pitches, rhythms, and nuances of what the mind hears better than the actual instrument (p. 23)...what you sing is often closer to the REAL YOU than comes out of your instrument (p. 36).

Singing musical ideas can be also practiced within the mind without a musical surrounding. It is suggested that jazz musicians often practice mentally, away from their instruments.

Theory and practice. Aebersold offers instruction regarding the practical mastery of formal elements such as scales, modes, chords, melodic lines, 'licks' (common stylistic phrases), etc. This mastery is the basis of the musicians' ability to keep up the form and to improvise over a given harmonic setting or any tune. Aebersold stresses that: "the only reason to practice exercises is to gain freedom on your instrument so you can improvise spontaneously" (p. 23).

It is repeatedly instructed that the presented improvisation exercises must be transposed and practiced in all keys. It is important to note that in many cases, these tasks may be quite challenging for the beginners and even for the intermediate level students.

Advanced stages of the book provide a concise explanation about *dominant, major, minor and half diminished Bebop scales* (p. 28), major and minor *pentatonic*

scales, *blues scales* and their uses (p. 30), followed by few notated examples. Students are assigned to practically experiment with these elements freely and over previously presented forms accompanied by the recorded tracks. The use of *chromaticism* is demonstrated in a relatively thorough manner in four pages of exercises and examples (pp. 32-35).

Aebersold dedicates a chapter to the *blues*, (pp. 36 – 41) addressing the different harmony (i.e. chord changes and re-harmonization) which is often found in various styles, ranging from traditional blues, rock, gospel, soul, country to 'modern' jazz. Chords modifications and alterations are common and often used by musicians in the jazz realm: "it is expected for this music to change" (p. 37). There are no explanations provided for these options, but rather, just a practical laid out list of possibilities over a twelve-bar blues form. Additional suggested exercises regard the emphasized usage of the 3rd's and the 7th's of the chords in the progression during improvisation (i.e. *guide tones*) and *blues scales*, followed by basic written demonstrations. There are no thorough theoretical explanations provided for these musical elements.

The construction of *seventh chords* is briefly discussed, only approaching the middle section of the book (p. 41); seventh chords have previously appeared with no discussion or explanation provided up to this point. These explanations are followed by some tips for improvisation using seventh-chord tones.

Additional points of consideration for the student are given to the issue of *time* and *feel* and the varying options ranging from on top (i.e. ahead of the beat), right on to laid back (i.e. behind the beat) feeling (p. 43). *Tension, release* and the elements which produce them, are briefly discussed without any notated examples; however, Aebersold provides a few graphs outlining possible tension buildup and release schemes. Students are referred to a list of dominant jazz artists such as Charlie Parker, Louis Armstrong, Sonny Rollins and more, as models for inspiration regarding melodic construction (p. 45).

Modes (i.e. Greek or Church modes) and their relationship to the major scale are presented in a few paragraphs followed by notated examples. Emphasis is given to the Dorian, Mixolydian and Ionian mode that can be used while improvising over the commonly found IIm7 V7 Imaj7 progression (pp. 46-47).

Preparatory exercises towards improvisation and self-evaluation. A decent amount of preparatory gradual step by step exercises are provided over ten pages (pp.

10-19), in order help students to become practically familiar with some basic elements in their first steps of experimentation. The first improvisation experience is not being practiced over a jazz tune, but rather, over a modular repetition of a few chords. The exercises start off from playing specific *Dorian modes* related to Fm7, Ebm7 and Dm7 chords. These minor 7th chord scales are instructed to be played as whole notes, halves, quarter and eight notes, in coordination with the supplied recorded accompaniment.

Chord-scales are assigned to be practiced as steps (1,2,3,4,5,6,7), triads (1,3,2,4,3,5,4,6,7,9,8), chords' arpeggios [(1,3,5), (1,3,5,7), (1,3,5,7,9)] and patterns combining chord scales and arpeggios. Soon after gaining mastery over these simple exercises, students are invited to take initiative and vary the rhythm of the elements and to take liberties with the given exercises (p. 17).

First steps in improvisation. The next step is actual improvisation using the play-along recording. Students are advised to use the previously practiced materials and combine them in their own way:

> Try playing any rhythm you choose, and play just notes found in the scale... experiment at this point with anything your mind can come up with... Improvise! Take some chance…there is no such thing as a wrong note... (p. 20).

Aebersold challenges students toward musical decision making:

> Don't limit yourself by beginning every phrase in the low register…combine ascending and descending motions…avoid limiting yourself to the middle or the most comfortable register of your instrument…memorize the scale you use…vary your dynamics…use a variety of articulations…concentrate on hearing, mentally, each tone before you play it…listen to yourself, every note…try to make the notes you play have a sense of direction…do you like the sound you are getting? (p. 21).

Pages 21-27 are devoted to the discussion of the mental processes involved in improvisation. This deliberation is brought in many shapes and forms: practicing tips (p. 21), check lists (p. 22), thought sharing about creativity development (p. 23), tips for melodic construction (p. 24), a list of musical fundamentals to be considered (p.

25), coordination with internal hearing (p. 25), step by step memorization tips (p. 26) and rhythmic displacements of chord tones (p.27). There are no examples provided for this vast array of important elements; they are simply meant to stimulate thought and contemplation after the first improvisation experience.

In other cases, elements are plainly suggested for the student to practice in a direct manner:

> Beats 1 and 3 seem to want roots, 3rd's 5th's, 7th's and 9th's. By doing so the listener can plainly hear the intended harmony…since the 3rd and 7th of the scale/chord are the most important tones of any scale, placing them on beats 1 and 3 is vital…players utilize this important rule in playing jazz…classical music also does this. Look at anything by Bach (p. 27).

Practical exercises for the recorded tracks. Basic preparatory exercises are presented, aiming to help students to get practically familiar with major, mixolydian and Dorian scales and arpeggios and to gain speed and dexterity needed for the students' first steps in improvisation (pp. 62-63). All of the exercises are demonstrated in the key of C, and are expected to be transposed to all keys. An extra set of example exercises is provided for the practice of dominant 7^{th} chords, minor to dominant (i.e. IIm7 V7) designed to be applied to tracks 9-10 of the record.

The actual practice of playing with the recorded tracks starts with the practical application of previously learnt scale and arpeggio exercises. Short sequences of 8 bars accompany the students as they apply simple to complex exercises and patterns, "a few of countless possibilities" (p. 65) (see examples in *Appendix,* figure 4). Playing the given exercises, while following the recorded tracks, is not the final goal. Students are asked to experiment and make up their own patterns. "The written exercises presented here can serve as a springboard for your imagination" (p. 65).

Later stages of improvisation techniques practice with the recorded tracks revolve around chord scales of minor chords, dominant 7^{th} chords, blues forms in two keys, cycle (down a 5^{th}) of dominant 7^{th} chords, 24 measure 'song' (represented only by a chord progression; no melody is provided) and a decending IIm7 V7 progression (see examples in *Appendix,* figure 5).

A few tracks on the CD supply recorded examples of various melodic exercises applied over the recorded accommpaniment. One track also demonstrates a

stylisitic example of soloing over a blues form which gradually devlops from the use of basic pentatonic minor scale, to blues scale, modes, chord arpegiation, and chromatic approach to chord tones.

Articulation and sound. Aebersold stresses the importance of *articulation* and *sound* as elements which from the 'musician's personality' (pp. 48-50). The discussion is followed by notated examples. "After note choice, articulation is THE most important element in playing jazz…without good articulation you have no jazz voice" (p. 48). Some suggested exercises practicing articulated scales are provided in this section, but like many other musical elements, articulation is suggested to be copied through imitation of jazz masters, not in order to sound like them, but to eventually enable finding one's personal fingerprint. Aebersold offers a long list of jazz artists, whose recordings may serve as sources of inspiration, featuring musicians such as Freddie Hubbard, Sonny Rollins, John Coltrane and more.

The importance of Aebersold's notion about articulation and sound will be discussed in later chapters of this dissertation.

Tune learning. Students are instructed to listen to performances of songs over and over until they can memorize their melodies and sing it. Listening carefully to the bass line and the harmony helps students to get a sense of the form of the tunes. Students are instructed to try to play the melody of tunes from memory first, and then play it along with the recording – copying inflections, articulations, dynamics, phrasing etc. After studying the chords of the tune, they are instructed to learn and memorize the chord scales. Learners are invited to improvise original melodies over the harmony based on what their 'minds' hear. The lyrics of the song must be learnt, songs should be mentally sung and while playing the melody students are instructed to "fall in love with the melodies…play them like YOU wrote them" (p. 56).

It is important to note that there are absolutely no discussions about any written music as a source for tunes learning; tunes are to be learnt by ear, not by reading form printed music sheets. In addition, there is no discussion about the possible reproduction of the composer's original intention laid out in the music sheet. Such a discussion is often found in the practice of traditional music. The only accuracy demanded from the students is to the recorded performer's interpretation, just as means to develop their own interpretation.

Nomenclature and scale syllabus. A one page section lists chord-scale types (e.g. Lydian-Dominant) and their related common abbreviated chord symbols (e.g.

$C7^{+4}$) (p. 51). The list of chord-scale type and abbreviated symbol is rather dense and might look puzzling at first glance.

A dense table provides formulas for the construction of scales organized in columns, listing: chord symbol, scale name, steps of construction, scale in the key of C and basic chords in the key of C. The scales range from *major*, *dominant*, *minor*, *half diminished*, and *diminished* (p. 53).

The vast choices of the dominant 7^{th} chord scales selection is brought in a concise one page, providing related formulas in the key of C followed with some advice: "This is the basic dominant 7^{th} sound. Be careful how you treat the 4^{th} tone, use it as a passing tone" (p. 54).

Ionian, *mixolydian*, *Dorian*, *diminished whole tone* and *half diminished* scales are presented in all keys (p. 60) followed by some notated exercises for scale practicing.

The fact that there are no thorough explanations provided for the construction of these chords and scales hints that Aebersold assumes a basic theoretical understanding of the students' background; beginners would find it rather challenging.

Referrals to other sources. Aebersold refers students to a range of sources for supplemental studies in various fields, in order to deepen their knowledge, understanding and better their performance (p. 52). These sources list:

Creativity (Scott Reeves, *Creative jazz improvisation*), 'how to' (Jerry Coker, *How to listen to jazz*; David Baker: *How to practice jazz*), improvisation techniques (Jerry Coker, *Improvising jazz*; David Baker, *Jazz improvisation*), transcribed solo books (The Jazz AIDS (pub.), *The bass traditions*; Charlie Parker's *Omnibook*; *Hank Mobley solos*; *J. J. Johnson solos*; *Modern jazz tenor sax solos*; *28 modern Jazz trumpet solos*), ear training (David Baker, *Ear training tapes*), scales (Dan Haerle, *Scales for jazz improvisation*) and chromaticism (Dave Liebman, *Chromaticism*).

Aebersold lists his recommendations of the essential discography representing "a small but important sample of the great recorded jazz history" (p. 58) as good sources of music to listen to.

Jazz musicians are expected to know many standard jazz tunes and Aebersold provides two lists of them. The first is for beginners and the second lists the 'cream of the crop' categorized as: jazz standards, ballads, blues lines, bossa novas, bebop tunes, sambas, modal tunes and waltzes.

CD content. Track 1: eight bar phrases of Fm, Ebm and Dm Dorian modes. Track 2: four bar phrases of Fm, Ebm and Dm Dorian modes. Track 3: eight bar phrases of Cm, Dm, Ebm, Fm, Gm, Am and Bbm Dorian modes. Track 4: four bar phrases of Cm, Dm, Ebm, Fm, Gm, Am and Bbm Dorian modes. Track 5: four measures IIm7 V7 Imaj7 cadences in six keys. Track 6 blues form in Bb. Track 7 blues in F. Track 8 Cycle of Dominant 7^{th} chords. Track 9: ABA 24 measures 'song' form (chord progession with no specified melody). Track 10: IIm7 V7 cycle decending down a second.

Mehegan, J. (1959). Jazz improvisation 1 - Tonal and rhythmic principles

This book is one of the first attempts to analyze jazz improvisation. Although it is defined as an analysis book, there is notable emphasis in it dedicated to the actual act of music playing and practice. Many of the lessons in this book are followed by practical assignments targeting the development of improvisational skills that are based on the discussed theoretical aspects.

In the introduction, Mehegan makes an interesting remark, probably disputing common misconceptions about jazz improvisation:

> This process is not a mysterious and esoteric rite arbitrarily enacted without discipline or precise knowledge. Rather it is a concise application of logical and comprehensible musical concepts, which attains amazing heights of expression when utilized in conjunction with a trained and imaginative talent (p. 6).

Fundamental elements. In section 1 Mehegan reviews the basic elements of Western harmony. All of the discussed materials are followed by notated figures and practical assignments to be applied over the piano keyboard. In addition, students are advised to memorize the learnt materials, to play them by heart and to detach themselves from the need for printed music. The following topics are reviewed in this section:

The major scale and its diatonic scale degrees, the structure of diatonic seventh chords and their Roman numerals analysis (i.e. I, II, III, etc.) are presented and transposed to all twelve keys. The usage of Roman numerals analysis instead of chord symbols enables the students to understand the actual proportions of the chords in the harmonic progression. Mehegan continues with intervals, chord qualities (p.

16), alterations of chord qualities (pp. 18-19), chromatic and altered chromatic scale-tone chords and a sixty chord chart, consisting of the five common chord types transposed to twelve keys (pp. 19-21).

Chords application. In section 2 Chords from the sixty chords chart are applied to a notated example of a popular tune. The melody of the tune is fully notated, while instead of the chords symbols a Roman numeral analysis of their function is provided. The actual stylistic chord voicings (i.e. spread) and inversions over the keyboard are not discussed at this stage. Hence, the discussion at this point is purely theoretical.

Mehegan briefly explains suspensions, in a rather simplistic manner. Other examples of popular chord progressions are also notated in Roman numerals rather than chord symbols. Students are assigned to practice the transfer of notated manuscript sheets to this form of notation: single melody with Roman numeral chord progression analysis. The next step assigned for students is the transposition of various manuscripts to different keys (pg. 26-33).

Inversion. In section 3 Mehegan discusses chords inversions and their analysis according to the traditional western figured-bass method, followed by notated examples of the four inversions of all sixty chords (pp. 35-39). The examples of common chord progressions and their inversions are presented in a schematic manner, using Roman numerals, rather than notated or by chord symbols (pp. 41-43) (see *Appendix*, figure 6).

Modulation. In section 4 Mehegan discusses harmonic modulations from one key to another within the form of tunes. They are commonly found in the jazz idiom and in popular music. Modulations are "seldom indicated in sheet music although jazz musicians think in these key changes" (p. 44) (see *Appendix*, figure 7).

Students are assigned to translate harmonic progressions presented in Roman numeral analysis, to actual chord symbols and apply them to a manuscript paper.

Arpeggios. In section 5 Mehegan makes an interesting statement about the relationship between the original composed melody and the improvised line: "The basic problem of jazz improvisation is to abandon the melody and build an improvised line on the elements of the chords in a tune" (p. 49). Therefore, it is stressed that it is important to exercise chord tones (i.e. root, third, fifth and seventh) arpeggiations and their embedding in improvisation. Arpeggios are assigned to be applied on the piano keyboard using both hands: while left hand applies the chord,

right hand arpeggiate the chord tones over two octaves. Arpeggios are also assigned for practice over the harmonic progressions of jazz tunes. Notated examples are provided for the exercising of arpeggiations of: eighth notes (pp. 54-56) (see *Appendix*, figure 8), eighth notes added rests and triplets (pp. 57 -63) (see *Appendix*, figure 9) and sixteenths combined with various note-values (pp. 64-70).

It should be noted that these exercising examples make a great challenging leap and may seem quite incomprehensible for the average student.

Modes. In section 6 Mehegan explains modes as related to the major scale; major scales which are played from their different melodic scale degrees create modes. "A mode is a displaced scale from root to root of the chord" (p. 78).

The view of the theory of modes as related to the major and the minor tonality reflects the common practical approach in the jazz realm. Modes are not being discussed from a pure *modal* point of view that might be found in other theory books.

> These modes built on the twelve major scales represent one of the most important elements of jazz improvisation. They are highly effective in building a horizontal blowing line so long as the harmonic line moves in the normal scale – tone chords without alteration or chromatic adjustment (p. 78).

Students are assigned to construct and to practice the seven modes of each of the twelve scales. Further assignments exercise the practical application of modes to a chord progression of a tune. Again, Roman numerals analysis is supplied instead of common chord symbols (p. 78) (see *Appendix*, figure 10).

The usage of the various types of scales and modes is discussed, in relation to their harmonic function as follows.

The *major* scales, are used over the I chords, or the 'temporary I' chords (pp. 81-82).

The *dominant* scales (i.e. Mixolydian modes) are used over the Dominant V7 chords and over the commonly found *secondary dominant* chords (i.e. V7/II, V7/III, etc.). They are not analyzed in the traditional manner, but rather as: Ix, IIx, IIIx, etc. (pp. 83-84).

The *minor scales* are found on the II (Dorian), III (Phrygian) and VI (Aeolian) chords. Mehegan adds that it is often found that the IIIm and the Vim chord modes are not treated in a pure diatonic manner, but rather as a IIm (Dorian). The decision of

which mode to apply to these chords while improvising, is left to the students: "Actually the responsibility should rest with the student in deciding the particular status of the III or VI chord" (p. 88).

Diminished scales are used over commonly found diminished chords and are generally constructed on whole / half tones pattern. All of the diminished scales are notated in this section and suggested keyboard fingerings are added (pp. 92-94).

Lesson 47 (p. 94) stresses the importance of the sixty scales (i.e. modes applied to each of the sixty chords) for the jazz musician: "The importance of these scales cannot be overstated in building the material for jazz improvisation" (p. 94). It is assigned that all five qualities of chord scales (i.e. Ionian - major, Mixolydian – dominant, Dorian - minor, Locrian - half diminished and whole/half - diminished) should be practiced on all possible twelve roots (p. 94-98).

Scales and arpeggio alterations are briefly discussed in lesson 48 (p. 98). Lesson 49 discusses the practical exercises of a variety of eight note scale fragments (e.g. 1234, 1235, 5431, 3457, 7653, 5672, 2175, etc.) over various chord progressions (p. 100-104). The extension of the practice of fragments to triplets and sixteenths is demonstrated in lessons 50 and 51. Additional exercises combine various note values (p. 105-122).

Chromaticism. The usage of *chromatic tones* which are commonly used in the jazz idiom is demonstrated in section 7. Chromatic tones may be played before target chord tones (i.e. 1, 3, 5, 7 and 9), approaching from above or below. Double chromatic approach techniques from above and below (e.g. Ab, F# to G) are discussed as well. Notated examples illustrate possible application of chromaticism over the harmonic progression of a tune (pp. 123-127).

The discussion in this chapter continues to "sensitive tones" (i.e. tensions 9, 11, 13) (pp. 128-132), syncopation (pp. 132-136) and accents (pp. 136-139). Each is followed by notated demonstrations.

Transcription. Lesson 59 focuses on a study of transcribed performances of jazz artists. Here, a fully notated saxophone solo of Coleman Hawkins over *Sweet Lorraine* is presented. However instead of notated harmony or chord symbols, a Roman numerals analysis of the chord progression is presented (pp. 140-144). "The reproduction of one of these masterpieces (i.e. improvised solos) can do much to reveal to the student all of the elements studied" (p. 140).

In addition, a concise study of pianist Art Tatum's re-harmonization treatment of *Sweet Lorraine* (originally recorded: 2.22.40 on Decca label 8715) is brought in Roman numerals analysis (pp. 144-145).

It should be noted that the translation of such intricate complex symbols to actual application over the piano keyboard, is a rather challenging task, even for intermediate level students.

The blues. In section 8 Mehegan presents the blues as a commonly found fixed set of chord changes over a twelve bars form, involving the I, IV, and the V chords. Charlie Parker's contribution to the evolvement of the traditional blues to a more complex re-harmonized version is illustrated, again, in Roman numerals analysis (p. 148) (see *Appendix*, figure 11).

Mehegan discusses some key elements regarding the aesthetics of the blues:

> There is no 'melody' for the blues. Many tunes using the term or title of the blues are not 'blue' in the sense referred to in this chapter. These tunes evoke a mood sometimes referred to as 'blue' – this is a poetic reference, not a musicological one (p. 148).

> The melodic aspect of the blues is of much greater significance than the isolated chord charts…the blues represent, along with Ragtime, the basic substrata of all jazz (p. 149).

Harmonic patterns. Section 9 discusses harmonic patterns: the cycle of fifths, diatonic patterns, chromatic patterns - and their common usage in jazz harmony. Few examples illustrate bass progressions of jazz tunes in Roman numerals analysis, while students are assigned to practically translate these analyzed formulas to actual chords playing over the piano keyboard.

Lesson 65 discusses minor scales (i.e. natural, harmonic, melodic) and the commonly used series of diatonic chords (i.e. I-maj7, IIm7b5, bIIImaj7 #5, IVm7, V7, VIm7b5, VIIIdim7) (p. 157). The diatonic series of chords of all keys is illustrated in root position.

Lessons 68 and 69 discusses the ‘axis of the seventh’ open position piano voicings (i.e. left hand: 1st & 5th, right hand: 3rd and 7th), and the ‘axis of the third’ open position piano voicings (i.e. left hand: 1st & 5^{th}, right hand: 7th and 3rd).

Illustrations demonstrate the practical application of this technique over the variety of chord types, and over a chord progression of jazz tunes (pp. 163-171). Lesson 70 discusses the combination of mixed axis of open position (pg. 171-174).

Lesson 71 discusses 'basic professional piano technique': melody played in the top voice (i.e. soprano), while the lower four voices play mixed axis (3rd & 7th) open chords (pp. 175-181). Lesson 72 (pp. 182-192) discusses piano 'shell' voicings (i.e. root, 3^{rd} & 7^{th}), followed by notated examples and exercises.

Lessons 68-72 conclude with practical assignments requiring students to translate the learnt materials to actual playing.

Practicing guidance. Lesson 73 in section 12 (p. 193) provides essential guidance for standard procedure 'towards a professional jazz performance'. A long list of tasks is assigned for students to practically practice and apply learnt theoretical knowledge:

> Explore the melody and chords in several keys…explore scales of each chord...play chords in the left and, apply rhythm combinations to arpeggios…combine previous elements into an improvisation…stylize left hand as in lesson 72, etc. (p.193).

Ear training. Mehegan accents the essential importance of ear training for jazz players in lesson 74. "It goes without saying that the hearing demands in jazz are extremely high and no effort should be spared in the development of the ear" (p. 194). Ear training is addressed in this lesson in a very brief and concise manner. This lesson lists essential challenging steps toward the development of a 'pre-hearing' ability (p. 194).

Memorization. In lesson 75 Mehegan stresses that memorization is as essential for jazz performance as the knowledge of harmony and rhythm. Memorization in jazz focuses on "the procession of the chords in their rhythmic frame" (p. 195). Memory operates on three levels as Mehegan analyses:

Mental memorization involves thinking about the Roman numerals of the bass line. *Muscular memorization* involves 'automatic playing' which "can be found in all professional playing, particularly in the classical field" (p. 195). *Pre-hearing memorization* means 'memorized hearing' which is heard in anticipation of the moment of playing.

Mehegan does not assign specific exercises addressing the development of memorization; rather he advises students to repeat previously learnt exercises, which would eventually aid memorization ability development.

Sheet music conversion. In lesson 76 Mehegan lists some of the challenges in the conversion of sheet music to a simple harmonic structure for improvisation. Based on their knowledge, musicians must conduct a study to "isolate the fabric of a tune from the melody and orchestration of the sheet music" (p. 196). Hence, the printed music is not a sufficient ready-made substance for improvisation. Musicians must convert chord symbols to Roman numerals (i.e. analyze the harmonic progression), convert notation in bass and treble clefs to Roman numerals (i.e. extracting chords progression from an arrangement) and compare these two results for the best practical solution (p. 197).

Recordings. Mehegan's view of the importance of recordings as primary sources is demonstrated in the next paragraph.

> Unlike the literature of classical music, jazz literature does not and cannot by its very nature appear as written or notated music. Recordings are the only document of jazz literature and the responsibility of becoming familiar with this literature rests heavily upon the student (p. 199).

This notion has a great importance regarding primary and secondary sources of knowledge in the jazz idiom. Its meaning will be discussed in later chapters of this dissertation.

Mehegan lists some of the major jazz instrumentalists and arrangers whose discography practitioners are advised to study. It is very important to notice that famous composers such as Arlen, Rogers, Heart and even Ellington, are not listed, nor are their compositions and tunes.

Figured bass analysis of jazz tunes. In section 13 Mehegan provides figured bass analysis of harmonic progressions of nineteen popular tunes commonly played by jazz artists (pp. 203-211). Mehegan maintains his methods of treating songs as forms of harmonic platforms; the original composed melodies and the lyrics are omitted and ignored yet again. One exception is pianist 'Fats' Waller's interpretation of *Carolina Shout* that is fully notated and analyzed (pg. 212-223) as an "ideal example of Waller's stylistic contributions" (p. 199).

Note: It should be noted that regardless of the significance of Mehegan's pioneering work, a few parts of the analysis system he uses have not lasted. While Roman numerals analysis of chord functions and proportions is common in jazz theory, the traditional indication of their inversions in figured bass analysis is rarely used. In addition, the ImL representing I minor triad added a major 7th (e.g. G-maj7) and the Vx standing for a V dominant 7th chord (e.g. D7), are forms of analysis that no longer found in later jazz literature.

Mehagen, John. (1962). Jazz Improvisation 2 - Jazz Rhythm and the Improvised Line

This volume provides an encompassing analysis and a discussion about the schematic history of rhythm and improvised lines in the jazz idiom. The aim of this book is purely theoretical analysis of jazz rhythm. It also provides an impressive review and analysis of rhythm and polyphony of the various jazz styles throughout its history.

It was published three years after the first volume and although both books share the same title and are marked as two volumes of the same work, they are different in essence. While the first volume combines both analysis and practical guidance for learners, the second volume concentrates solely on analysis.

Although it was reviewed during the preparation stages of this dissertation, its review will be omitted from this chapter, since this volume does not address learners, nor does it provide any guidance assisting their development as prospective musicians. Despite its importance as an analysis book, it cannot be considered as a pedagogical material to be reviewed.

Baker, David. (1968-1971). Techniques of improvisation (Vols. 1-4)

General overview

All of the four volumes of Baker's *Techniques of improvisation* are practical guides targeted at the actual improvisational practicing routine of musicians. Baker first published volume 1 and 2 in 1968 and volume 3 and 4 in 1971. Each of the volumes is separately reviewed in the following pages. However, there is a logical sense to see all of them as one body of work in this dissertation, for their homogeneous contents and methods.

This work offers a thorough collection of improvisation exercises of melodic lines, patterns and motifs. Each volume contains hundreds of exercises focusing at different harmonic and modal functions: Vol. 1 (1968): Lydian chromatic concept, Vol. 2 (1968): IIm V7 progression, Vol. 3 (1971): 'turnbacks' (i.e. turnarounds), Vol. 4 (1971): cycles (of 5^{th}'s or 4^{th}'s).

Baker was an award-winning active jazz player and an educator. It is very likely that this impressive collection of exercises is based on his performance experience in the jazz realm and his familiarity with the lingo and vocabulary of the style. In Vol. 1, Baker lists recommended recordings of selected jazz artists who utilize the scales and exercises he suggests, as sources of inspiration and knowledge. It may be assumed that these lines are partially a direct or modified product of his transcriptions of solos played by jazz artists. Baker encourages students to combine these two sources of stylistic vocabulary; to master the exercises in the book and to study (i.e. transcribe) the performances of jazz artists.

In general, other than the overwhelming comprehensive array of exercises, these books provide no analysis of any formal aspect of music (e.g. theory, harmony, melody, composition, form, style, etc.). In fact, in its more than five hundred music pages, this work has only eight typed pages containing mostly short practice guidance and practically no theoretical explanations at all.

In addition, all of the exercises are notated in the key of C. The adaption of the provided exercises over various chords, harmonic progressions and twelve keys is left to the improviser's choice and decision.

The aim of these books is not directly specified. Yet, it may be assumed that the intention of Baker's pedagogy is that exercising these lines and patterns in all keys, in conjunction with the recommended study of the recordings of jazz musicians who use similar lines, should enrich the improviser's vocabulary and improve their improvisational skills.

The following sections review the contents of each of the volumes' unique focal points.

Baker, David (1974) Techniques of Improvisation: Vol. 1. The Lydian Chromatic Concept. This volume, first published in 1968 by Today's Music, offers an extensive collection of exercises designed for the development of improvisational skills through the practice of scales and patterns. It is based on the theory presented by George Russell (1959) in *Lydian Chromatic Concept of Tonal Organization for*

Improvisation and it is suggested that the materials in this volume can be effectively used in conjunction with Russell's concept (p. 3). However, "this book can be used by itself if the student will study some of the following recommended recordings" (p. 3). Baker lists jazz players' specific recordings that utilize the discussed concepts for extra source of inspiration and examples. This list counts leading jazz artists such as: George Russell, J.J. Johnson, Bill Evans, John Coltrane, Miles Davis, etc.

Baker claims that the volume is designed for the use of "any musician at any level of accomplishment" (p. 3). However, even skilled musicians may find it rather demanding and complex. There are merely a few guiding words throughout the 96 pages of this volume. The music sheets are condensed with hundreds of exercises which are all handwritten, even in the 1974 7th edition. All of the exercises are written in the key of C and should be transposed to all twelve keys by the students.

There is not a single song or tune in this volume, neither any chords progression nor any analysis of chord function. There is also no explanation why these exercises are important or how they may help the jazz player.

The first notated page of the volume presents the nine scales of the Lydian concept as follows: *Lydian*, *Lydian augmented*, *Lydian diminished*, *auxiliary diminished*, *auxiliary augmented*, *auxiliary diminished blues*, *major, blues*, and *Lydian chromatic* (p. 6) (see *Appendix*, figure 12).

The next sections of the volume provide a massive number of exercises designed for the practice of a specific scale or a group of scales: general exercises (pp. 7-32), major and Lydian scales (pp. 33-54), auxiliary augmented scale (pp. 55-68), auxiliary diminished and auxiliary diminished blues (pp. 69-78), Lydian augmented (pp. 79-81) and Lydian chromatic (pp. 86-96) (for examples, see *Appendix*, figure 13).

Baker, David (1974) Techniques of Improvisation: Vol. 2. The II V7 Progression. DB Music Workshop Publications, Chicago, Illinois. (First printing (1968), published by Today's Music). This volume offers 75 pages of a wide-scale collection of melodic exercises and patterns for the practice of the IIm7 V7 chords progression: the most commonly found progression in jazz standard tunes. Baker claims that "most of the success of the improviser rests on his ability to successfully handle this progression" (p. 2). It is assigned that these exercises should be transposed to all keys, practiced on different tempos (tempi) and combined in various ways. Since all the examples are presented in the key of C, their transposition to other keys rests on the students' shoulders.

Some of the exercises use non-diatonic elements such as chromatic approach, chord-scale alteration (e.g. V7 b5, #9, b13) and even *four tonic systems* (e.g. p. 9, example 9) (see *Appendix*, figures 14-15). Yet, Baker provides neither analysis nor explanations for simple and complex exercises.

Baker, David (1974) Techniques of Improvisation: Vol. 3. Turnbacks. DB Music Workshop Publications, Chicago, Illinois. (First printing (1971), Maher publications, division of John Maher Printing Co., Chicago, Illinois). Baker's foreword for this volume briefly explains the term *turnback* as a harmonic progression consisting usually of four chords, serving a number of purposes: helping define the form of a composition, providing a link from one chorus to another, preventing static harmonic background and providing rhythmic and melodic interest at the ends of sections within compositions (p. 1).

The reason for exercising turnbacks is given in the following page:

> The turnback…is one of the most important formulas in jazz. The ability to cope with turnbacks makes the improviser's task infinitely easier…virtually every composition written in the jazz and pop idioms can be enlivened and made more interesting by the interjection of well-placed turnbacks (p. 2).

Like the previous two volumes, this third one offers a wide assortment of melodic exercises and motifs that may be applied over commonly used harmonic settings. All of the examples are given in the key of C and are expected to be transposed to all twelve keys. Again, Baker provides neither theoretical explanations nor analyses, even for complex non diatonic examples (see *Appendix*, figure 16).

Baker, David (1971) Techniques of Improvisation: Vol. 4. Cycles. This volume proposes two hundred fifty pages of thousands of melodic lines and motifs for the exercise of *cycles*. This term refers to the consecutive down a fifth root progression of dominant 7^{th} chords, commonly found in jazz tunes (e.g. A7, D7, G7, C7). Baker briefly lists the common possible occurrences of cycles where players may apply the lines provided in the following pages.

Baker offers some suggestions for using this volume that shed light on his view of the practitioner's responsibilities and freedom. On one hand students should extend the practice beyond the given exercises:

> All cycle exercises should be practiced starting on all degrees of the chromatic scale, in all tempi, all meters using varied articulations, attacks, volume, etc…Make frequent use of register changes…don't just play where it's comfortable, use the entire instrument (p. vii).

On the other hand, Baker emphasizes the freedom which the practitioners ought to take in order to personalize their experimentations:

> The player should try to use the materials in this volume in a musical manner. He should strive to use the material in a manner consistent with his personal convictions and aesthetic judgment. However, he should not let his imagination and ingenuity be stifled by fear of the unfamiliar .The player must always try to bring something of his personality to every musical situation (p. vii).

There are no further explanations or theoretical analysis for any of the exercises in this volume as well (see example in *Appendix*, figure 17).

Musical texts – Fake, real books and ready-made transcriptions

Real book. From 1942 to 1960 popular music was printed on three by four inch index cards geared for professional musicians who were asked to 'fake' popular songs at 'gigs' (i.e. professional performances) such as cocktail parties. *Tune-Dex* cards presented simplified notated melodies of the choruses and verses, lyrics, chord symbols and legal copyrights notices for each song. This *lead sheet* format was a huge, immediate success and ran up to 25,000 cards by the 1960's. The first *Fake Book*, an illegal bootleg collection of *Tune-Dex* cards, was published in 1949 containing lead sheets for hundreds of popular songs (Kernfeld, 2003; Witmer & Kernfeld).

Although their identity was never officially confirmed, in 1974 two students at the Berklee College of Music, Pat Metheny and Steve Swallow, created the first jazz *Real Book* (Anonymous, 1974): a collection of their transcriptions of selected jazz musicians' performances in addition to a few original compositions. It contained contemporary jazz repertoire harmonized with stylistic chord changes and completely disregarded composers' royalties. The illegal *Real Book*, has become an enormous success (Kernfeld, 2003; Witmer & Kernfeld); a biblical reference work for young practitioners, standardizing lead sheet notation (see example in *Appendix*, Figure 18).

Real Book notation is handwritten, often inaccurate, lacking exact correlation to the original compositions and performances (Berliner, 1994, p. 89). It ignores the original keys of the tunes and their exact harmony. This notation provides no indication of the lyrics, the arrangements, the orchestrations, the performance nuances (e.g. tempo, accents, dynamics etc.) and sometimes, even full sections of the original compositions are omitted. However, this minimalistic style enables players the freedom needed to perform; players have been using it for decades as raw guidelines for their improvised performances. The repertoire in this book is a transcription product of artists' performances; hence the *Real Book* has canonized theses selected artists' interpretations (Witmer & Kernfeld).

Other bootleg books have been anonymously published and printed, such as: *The Real Book Vol. 2, The Real Book Vol. 3. The Colorado Cookbook, Jazz LTD* and *Library of Musicians' – Jazz*. The popular usage of lead sheet notation appearing on the illegal *Real Book* and other fake books has led publishers to print an impressive number of legal books such as: three volumes of *The New Real Book* (Bauer & Sher, 1988, 1991, 1995), *The Ultimate Jazz Fake Book* (Wong, 1988), Hal Leonard's *The Real Book 6th Ed*. (Hal Leonard, 2006) and many more. They all share standardized lead sheet notation. It is important to note that the publication of legal books has not diminished the illegal printing of the *Real Book*; it is still very popular among jazz practitioners. In fact, practically every jazz musician owns a copy s/he has bought 'on the street'.

Musician Howard Levy points out how problematic the use of contemporary fake books can be:

> Some modern fake books have really raw or incorrect changes which aren't in the spirit of the music. Also, they will put in their own idea of the substitutions instead of the basic changes, which distracts you from the main thing that's going on, taking you one step away from where the tune is and getting you away from the root from which you should be able to substitute (Berliner, 1994, p. 89).

Despite the disadvantages presented hereby, fake books are still an important source which cannot be ignored when musical knowledge is being discussed.

As opposed to notation in traditional music, where each player's exact part is fully notated, lead sheet readers must analyze the melody and chord symbols, extract, and simultaneously make up their own parts according to their abilities, skills, practical stylistic knowledge and personal taste.

Readymade transcribed materials. Exact notation of canonic jazz music is available in readymade transcriptions of selected artists' performances. Published transcriptions have been available since 1927 (Beale, 2000, p. 759). The most popular example is the *Charlie Parker Omnibook* (Slone & Aebersold, 1978), offering transcriptions of selected solos by the great bebop artist.

Throughout the years transcriptions of famous artists have been published in books such as: *Bill Evans, A Step-by-Step Breakdown of the Piano Styles and Techniques of a Jazz Legend* (Edstrom, 2003) and *Oscar Peterson Jazz Piano Solos* (2005). Today's market offers countless collections of transcriptions; many are available as PDF files over the internet web. It should be noted that transcriptions are used for studying purposes and are practically never performed as is.

Jazz Culture in the Literature

The Jazz Experience: Community, Traditions and Informal Learning

Jazz requires a great deal of training, expertise and practice that takes many years simply to play at a novice level (Berliner, 1994). Jazz requires of the performer a deep knowledge of complex harmonic structures and a profound familiarity with the large body of pieces that have been traditionally played by jazz artists for decades.

It took many years for jazz to enter the academia and for jazz pedagogy to be established and formally practiced in institutions (Prouty, 2012). However, much of the jazz tradition has been preserved, transferred, adapted, transformed and developed in an informal manner. Informal aspects of music making and learning have been an integral characterizing essence in the practice of the jazz community.

> Traditionally, jazz musicians have learned without the kind of support provided by formal educational systems. There have been no schools or universities to teach improvisers their skills; few textbooks to aid them. Master musicians, however, did not develop their skills in a vacuum. They learned within their own professional community – the jazz community (Berliner, 1994, p. 35).

Many jazz artists report their informal learning processes. Pianist Walter Bishop Jr. recalls: "I was a high school dropout, but I graduated from Art Blakey College, the Miles Davis Conservatory of Music and Charlie Parker University" (Berliner, 1994, p. 36).

Professional musicians and students as well, often participate in musical 'hang outs' which have characterized the informal learning procedures that occur in the jazz tradition and still play an important role in the present.

For more than a century, the jazz community has functioned as a large educational system for producing, preserving and transmitting musical knowledge, preparing students for the artistic demands of a jazz career through its particularized methods and forums (Berliner, p. 37).

The dynamics in the sessions in which young artists informally share information, demonstrate and learn from each other is described by trumpeter Tommy Turrentine: "Most of the guys were self-taught, but they really went at the academics,

the mechanics of the music so thoroughly. Other guys went to school and they would pass their knowledge to one another". His own learning process was described as: "by asking about things I didn't understand" (Berliner, p. 37).

Jam sessions. It has been a tradition, since the early days of jazz, for learners and musicians of different professional levels to meet on stage and play together on jam sessions. In these sessions, students "gain experience by participating in one of the most venerable of the community's institutions" (Berliner, 1994, p. 42) At these informal 'hang-outs' "improvisers are free of the constraints that commercial engagements place upon repertory, length of performance, and the freedom to take artistic risks" (Berliner, 1994, p. 42). Jam sessions offer musicians a ground for exchange of ideas and practical exercise with their colleagues, where they can express their own individual art and work together.

Jam sessions may be spontaneously organized by musicians at homes and practice studios. Sessions are also formally organized by jazz societies, festivals, clubs, concert halls, where local musicians have a chance to play with out-of-town visitors. Good natured rivalry among participants sharing mutual respect is commonly found in sessions, where musicians try to 'blow each other out' in 'cutting sessions' (music contests, all for the sake of artistic transcendence) (Berliner, 1994, pp. 42-44).

The community has an important function outside the formal student-teacher relationships. Jam sessions enable musicians to learn from their peers and apprentices to learn from their mentors (Berliner, 1994, p. 37). The bandstands and the jam sessions scene play a central role in the local informal jazz education as places where young aspiring musicians absorb the aesthetics of the language and the behavior of role models. These scenes also serve as venues where the core jazz repertoire is established and maintained (Ake, 2002, p. 258). This community encourages students to 'sit in' with more established musician and experience important aspects of performance. The competitive 'cutting contests' which occur during sessions, enable young musicians to be exposed to and to compare themselves with their peers (Ake, 2002, p. 259). Beale (2000) stresses that "In jam sessions, learning tended to be slower, based more on the ear than on written music, more on the lived experience of the music than on abstract facts and concepts" (p. 757).

The jam session community is also informally used as a tough competitive laboratory. Individuals and especially newcomers are under the critical inspecting eyes of more experienced band members. Sometimes players would call a challenging

tune, played in a difficult key or a fast tempo, just in order to put the newcomers to a test. "Many well-known musicians were cold and critical. They would play some very difficult song or take a fast tempo they thought you would sound bad on", saxophonist Harold Ousley recalls in an interview (Berliner, p. 53).

The great Miles Davis recalls the tough scrutiny on the jam session scenes hosted by Charlie Parker 'Bird' and Dizzy Gillespie at Minton's Playhouse in the 1940's:

> The way (it) went down up at Minton's was you brought your horn and hoped that Bird and Dizzy would invite you to play with them up on stage. And when this happened you better not blow it... People would watch for clues from Bird and Dizzy, and if they smiled when you finished playing, then that meant your playing was good (Davis, 1990, p. 50).

From the newcomers' point of view, jam sessions serve as informal tests for their own musical abilities. A successful jam confirming their musicianship and performance skills is an entrance ticket to the musicians' milieu. A failure sends them back to 'the wood shed' for more practice, self-exploration and preparation for their next attempt. The slights in case of a failures reflect "the tradition's high performance standards, revealing the prevailing view that students learn best when they figure out things by themselves…they must be discouraged from taking a passive stance in their education" (Berliner, p. 54).

The importance of the community in the jazz realm cannot be underestimated. "Numerous performers have stressed the full integration of aural, physical, and intellectual aspects of the music, as well as the notion that learning and development can only occur within a supportive community" (Borgo, 2007, p. 62). This notion is highly important and it will be further discussed in chapters to follow.

Sitting in at concerts. Young prospective musicians are often invited to 'sit in' with professional musicians at concerts before paying audiences. The respect that veterans offer young musicians by their invitation or simply by consenting to perform with them in public provides invaluable encouragement (Berliner, p. 44). Trumpeter Art Farmer recalls having no hesitation to partake in 'sitting in' experiences as a teenager because he "always had in mind that these people love music, and the only

thing we were trying to do was learn how to play from them. And that's the way they were. No one ever said 'Ah, get away kid!'" (Berliner, 1994, p. 45). Making his first steps in sitting in, drummer Leroy Williams was advised by a band leader: "Don't be apologizing for yourself. Anytime you have heart enough to come on this bandstand, it's okay for you to be here. You have to believe you can play in order to play" (Berliner, 1994, p. 44).

The sitting in experience of young apprentices is not always as smooth as Farmer and Williams described. During the 1950's, while Charlie Parker was enthusiastic about hosting new musicians and learning from them, other young band members resented them, especially if they failed to uphold the band's standards. In some cases, unknown gifted guests were even seen as threatening the position of other band members (Berliner, 1994, p. 45).

Once younger practitioners interact with and are guided by professional band members, they start to informally learn and apply their technical knowledge and to get a sense of their responsibility for the music (Berliner, 1994, p. 50).

Personal growth, learning and individual paths. The jazz community has traditionally provided venues in which the development of young musicians has been supported by peers, teachers and masters. However, despite the importance of their support, these venues do not set the actual course students must follow in order to better their musicianship, nor do they provide the only place where students exercise their skills. Much of the responsibility of discovering the paths learners must take rests on the students' shoulders.

Following the steps of their masters' practice routines, young learners spend long hours in solitary practice sessions, developing their sound (i.e. tone production) and technical dexterity on their instruments (i.e. scales, arpeggios etc.), mastering melodic patterns, phrases and the repertoire of tunes, practicing memorization, exploring different possibilities of melodic and harmonic expression in various frameworks, and so on (Ake, 2002, p. 260).

Berliner (1994) claims that "the jazz community's traditional educational system places its emphasis on learning rather than on teaching, shifting to students the responsibility for determining what they need to learn, how they will go about learning and from whom" (Berliner, 1994, p. 51). Individual learners are set on a personal independent discovery voyage of 'trials and tribulation' in their efforts to gain and arrange knowledge which is often referred to as 'paying dues'. This process of

self-exploration is made without the guidance of teachers and makes for a challenging change of approach for students who are used to fundamental dependency on teachers (Berliner, 1994, p. 51).

Berliner summarizes:

> The value that the jazz community places on personal responsibility is especially appropriate for the artistic growth of initiates. Self-reliance requires them to select their own models for excellence and to measure their abilities against them. It enhances their powers for critical evaluation, cultivates their tastes, and provides them with an early sense of their own individuality. Over-all, the jazz community's educational system sets the students on paths of development directly related to their goal: the creation of a unique improvisation voice within the jazz tradition.
>
> These aspects of the young artist' self-awareness illuminate fundamental areas of the jazz community's musical life and artistry. Emerging improvisers, in coming to terms with jazz's varied conventions, do not simply absorb them. Rather, they interpret and select them according to personal abilities and values, formative musical experience and training, and dynamic interaction with other artists. Ultimately, each player cultivates a unique vision that accommodates change from within and without. It is clear, then, that from the outset an artist's ongoing personal performance history entwines with jazz's artistic tradition, allowing for a mutual absorption and exchange of ideas. These processes – and the complementary themes of shared community values and idiosyncratic musical perspectives – are already evident in the lives of learners soon after they begin to acquire knowledge of those formal structures of jazz on which their own performance will depend (Berliner, 1994, p. 59).

This notion has a great value to the analysis of the epistemology in the jazz tradition and it will be discussed in the chapters ahead.

Web type, non-linear learning. Learning does not always occur in an organized, hierarchal linear manner. Berliner (1994) describes the information available in the jazz community as a kaleidoscopic array where elements appear and reappear in different settings and are interpreted by the performers whom the students encounter. And so, "learners synthesize disparate facts in an effort to understand the

larger tradition" (p. 51). Musician Gary Bartz admitted he has learnt saxophone technique, dynamic and articulation and chords from different mentors (Berliner, p. 51). Playing on stage with different bands and attending jam sessions, taking private saxophone and solfeggio lessons, musician Greg Langdon "worked on a lot of things all at the same time…get a snatch of information from a workshop" and interacting with other musicians who would "turn me on to something else. Things I learned in one situation would be amplified in another" (Berliner, p. 52).

Peer learning and exploration. During hangouts young students often assume primary responsibility for educating others by forming bonds of casual apprenticeship. Pianist Tommy Flanagan recalls himself and his young peers as "learning from one another" (Berliner, p. 38). The informal learning session with his high school friends at one another's homes are remembered as important milestones in Flanagan's early years in jazz:

> One guy would try to play a tune from a new Bird (Charlie Parker) record and someone else would say, 'No, that's not right', and we'd hash it out together. Then we'd all go home and work on it and come back and see who had advanced the most (Berliner, p. 64).

Recordings' role in the learning process. Recording have been serving as primary sources of knowledge and inspiration for learners throughout the history of jazz.

> Recordings…are the core documents of the jazz tradition. Whether recordings are as 'real' as performance is irrelevant. They simply *are*, and the choice between live and recorded performance is a false one….Recordings are what they are, and they remain an important means of connecting artists and audiences through sound (Prouty, 2012, p. 41).

Prouty (2012) argues that while written materials are eminent in the classical tradition they are only a medium of "transmission between the composer/author and the player/learner" (p. 52). Recordings in the jazz realm are regarded as "the parallel pedagogical breakthrough" (p. 52). Scholars' writings about jazz education conclude that recordings are often treated as method books or textbooks for jazz (p. 52).

Ake (2002) Stresses that the sound recording has left a widespread long lasting impact on jazz skill acquisition more than any pedagogical tool; recordings act as physical texts of jazz and serve as the "pre-eminent textbooks of the music providing study materials for virtually all players" (Ake, 2002, pp. 260-261). Recordings enable students to familiarize themselves with the language of jazz and its nuances performed by artists (pp. 260-261).

> Beyond the pleasure that they derive from listening, students also treat recordings as formal education tools. Since 1917, this fixed representation of the historical literature of jazz on commercial recordings has, in effect, served as the aural musical score…recordings enable young musicians to apprentice unilaterally with artists they may never meet (Berliner, 1994, p. 58).

Hence, recording enable learning for students who grew up outside of certain jazz eras and neighborhoods. Recordings offer documentation of performances as well as shared body of composition, melodic, harmonic timbers and rhythmic fills (Ake, 2002, p. 261).

Trumpeter Lonnie Hillyer commented regarding the importance of recording: "All the great jazz musicians have also been great teachers. Their lessons are preserved for students on every recording they made" (Berliner, p. 58).

Musician Howard Levy explains his view of the process of learning from recordings:

> Really, the best way to learn is to take tunes of records, because you're utilizing your ear. It takes a lot of knowledge and experience to be able to do this, but it becomes so easy to hear pieces in their component parts if you actually do the work yourself. Then you start to write the changes out by ear. In the beginning, you're going to write out things wrong. You're not going to know what's right for the first few years that you do this, but in the end, you see your mistakes and you really learn it (Berliner, 1994, p. 93).

Berliner (1994) adds some very important notions regarding Levy's comment:

> The ideals and discipline embodied by these methods prepare students directly for the challenges that they face as artists. Improvisers must depend greatly upon their ears for repertory…in fact, much of the jazz repertory remains part

> of the community's oral tradition and is not published as single sheet music items or in fake books. Musicians must be able to apprehend the unique features of each rendition as they unfold during a performance, instantly adapting their parts to those of other players (Berliner, 1994, pp. 93-94).

Such methods practice is also common in formal teaching process, where teachers often refer their students to selected 'prescribed' recordings which summarize non-verbal communication rather than using notated music sheets to deliver and explore specific musical knowledge (Ake, 2002, p. 261).

Prouty stresses that recordings also have an important social role:

> Recordings, by their very nature, are social…a recording's social use beyond the studio or production facility is part of the conceptualization of the work itself. Recordings are made with the intent of being listened to, and thus the listening is part of the social process of its production. In a studio recording, what is the work of art? It is not simply a reproduction, but it is unique to that moment, at that time (Prouty, 2012, p. 42).

Repertoire. The pedagogical attitude in the literature reviewed in the previous chapter generally tends to avoid the discussion about repertoire and its buildup. As we have seen, their methods view jazz standard tunes as platforms of harmonic progressions onto which musicians apply their improvisation. However, repertoire does play an important and significant role in jazz practice.

Indeed, throughout the history of jazz, composed tunes (often referred to as 'standards') consisting of melodies and harmonic progressions have been the structure on which soloists expressed themselves in improvisation. Musicians usually perform their own interpretations of the tunes at the beginning of their performances, take improvised solos over the harmonic structure of the tune and recapitulate with the composed original melody at the end (Berliner, 1994, p. 63).

Saxophonist Lee Konitz explains that jazz musicians' repertoire of commonly played jazz 'standards' (i.e. tunes) includes:

> …popular tunes that were originally used in musical theatre. There are jazz standards from the thirties and the forties that have great melodies and harmonic sequences. More and more, musicians have been getting away from

the standards and writing their own songs". But learners must "become familiar with these tunes and their frameworks before taking any liberties in playing variations or in improvising" (Berliner, 1994, p. 64).

Building up repertoire enables young learners to perform jazz and to participate in sessions (Berliner, p. 64). It also provides them with a common ground of musical knowledge on which they can establish their interaction.

Memorization and reading. Educators encourage students to transcribe by ear, to learn tunes by heart and to memorize them. However students often gain access to additional materials through reading printed music available since the seventies. The development of students' reading abilities is highly encouraged by teachers and the music industry has always favored artists with strong reading abilities. The instant of reliance on written materials varies from one scenario to the other. Some ensembles hardly use any notated music, relying or memorized structures and 'head arrangements'. Roughly sketched notated music may be found on lead sheets compilation fake books, or as band members' general guidance of arrangements for their personal use (Berliner, 1994, p. 64). Exact notated arrangements are found in other ensembles such as big bands, where a tighter more complex performance is required.

Interpreting melodies and tunes. Jazz musicians embellish and alter the melodies of the tunes (i.e. 'heads') they play, presenting them in their own unique style. Trumpeter Lonnie Hillyer recalls he would "learn a tune from records and then go out and play it with different people, and they'd have their own little ways of doing it" (Berliner, 1994, pp. 65-66). Often melodies are altered from one performance to another by the same musicians. Vocalist Carmen Lundy commented: "After you have sung a song one hundred and fifty times, the chances are that you are going to begin doing little, different things with it" (Berliner, 1994, p. 66). Pianist and composer Thelonious Monk is one example of a long list of musicians who used to play their own compositions differently each time (Berliner, 1994, pp. 66-67).

In todays' CD re-issues of LP albums, in addition to the selected tunes appearing on the original print, extra takes of the same tunes are added. Listening to these takes reveals that musicians played the 'heads' of tunes differently from one take to another of the same recording sessions.

In addition to changing melodic features from version to version, musicians take liberties when performing a given piece adding their personal touch of accentuation, vibrato, dynamics, rhythmic phrasing, articulation and tonguing, "striving to interpret the melody freshly, as if performing it for the first time", explains saxophonist Lee Konitz (Berliner, 1994, p. 67).

Key transposition. In the jazz realm tunes are often called and played during sessions in different keys than originally composed.

This phenomenon of changing the keys of tunes is unprecedented in the tradition of Western classical music, where pieces which were composed in certain keys have been played in the same keys for decades and centuries. They are even catalogued by their keys: e.g. Bach, *Invention number one in C major* (BWV 772) or Mozart, *Sonata number five in G major* (K 283). In addition, traditional classical vocal music is composed for certain vocal range (i.e. soprano, alto, tenor, baritone and bass) and never transposed. Soprano vocalists sing parts that are designed for soprano voice and so on.

Jazz tunes are often transposed in order to suit the vocal range of singers, for the convenience of instrumentalists, or in order to fit a desired arrangement. Moreover, Gershwin's *A Foggy Day*, (originally sung by Fred Astaire in the key of E on *A Damsel in Distress*) is played in the key of Eb to suit the vocal range of Louis Armstrong, who sang the first chorus, and then transposed to the key of C, for the second chorus sung by Ella Fitzgerald - on the same recorded track (Gershwin, 1956).

The popular use of key transposition demands students to "train themselves to hear a piece's interval, that is, to imagine their precise sounds, at differing pitch levels" (Berliner, 1994, p. 66). There are many training methods and learning strategies designed to aid students to accomplish such a complicated task.

> The interval patterns of intricate ballads extending over thirty-two-bar progressions can be demanding, as can ornate, highly syncopated melodies of pieces that require seemingly endless repetition to master. Rapid, intricate bebop pieces such as *Donna Lee* and *Anthropol*ogy are formidable 'musical etudes' and keep improvisers in top form technically by providing challenges as great as any presented in 'method books for classical musicians' (Berliner, 1994, pp. 66-67).

Learning and discovering tunes. When learning tunes students are often engaged in discovering musical knowledge which is not explicit: as seen before, the use of notated music in not necessarily the default path through which tunes are leant. Students often use their ears in order to figure out melodies, harmonies and forms of the tunes they wish to learn.

When practitioners approach a tune they wish to learn to play, they may use printed lead-sheet music from various real and fake books, and cross it with several recorded performances of jazz masters. Each of the recordings portrays a different, sometimes radical, approach by the performers who strive for an identifiable uniqueness. Crossing the accumulation of musical knowledge in their learning process, learners gain an "explicit reference to the tradition of performance on that tune while at the same time transforming it" (Jackson, 2002, pp. 90-91).

In the process of learning they often change and alter both the melodies and the chords progression, thus inventing a personal way of playing tunes. Even when learning tunes from lead sheets, pianist Fred Hersch explains that he felt that he had to make his own voicings (i.e. the actual spread of chords' voices over the keyboard): "You have to be able to hear chords your own way. It's better than someone else telling you what to do and just formulaically filling in the chord symbols when reading charts" (Berliner, 1994, p. 89). Trumpeter Benny Baily recalls the great satisfaction in discovering the "secrets of how to add or take away chords from a standard tune and put in your own to make the thing flow. Once you'd learn the principle of it, you could apply it to any other tune, actually" (Berliner, 1994, p. 89).

Learning the harmony. Learning the harmonic structures of the tunes is an essential step which musicians must master; this structure is the basis on which they construct their improvisation. Lonnie Hillyer recalls his first session with Miles Davis, being a naive teenager and not having adequate preparation in terms of understanding and mastering the harmony of the tune; he thought inspiration would carry him through the session. Losing his place after only eight bars Davis grumbled "You don't know your chords, do you?" Miles sent Hiller home to master harmony before he dared to come back (Berliner, 1994, p. 71).

While pianists and guitarists are practically more familiar with harmony as part of their early instruction, horn players must adopt piano as a second instrument in order to better their harmonic understanding. Single-note instrumentalists develop creative ways to apprehend harmonic structures. Some learn to sing the roots and

arpeggiate the chords in the progressions, while others work through all of the chords, learning their symbols and names (Berliner, 1994, p. 73). Bassist Rufus Reid exemplifies his way of grasping harmonic progressions:

> All the time I was playing a trumpet in high school, I could never relate my knowledge about chords to improvising and melody line. The association never clicked for me until I learned the string bass and had to deal directly with playing chord progressions" (Berliner, 1994, p. 71).

The harmonic progressions of tunes are often learnt by ear and when available, musicians use lead sheets with caution: as discussed earlier, lead sheet music is often inaccurate and needs the players' modifications and corrections. Often learning and working out the harmony of tunes is done collectively by peers (Berliner, 1994, pp. 74-75).

Improvisers also learn harmonic principles and functions in a formal manner, by using textbooks about Western classical music and jazz. However, like melody, "the rules of harmony are meant to be broken, and these guys did it. They learned the theory of Western harmony, and then they went for themselves!" explains trumpeter Tommy Turrentine (Berliner, 1994, p. 73).

Original compositions. Eventually, musicians who routinely experiment with jazz repertory, develop a basis on-which original compositions evolve. Compositions may take many shapes and forms. Some compositions are composed on the existing harmonic structures of other pieces as Tommy Flangan's commented about his peers who used to "compose new songs based on Bird's progressions and played them for one another". Compositions often use progressions which are stylistically commonly found. Other compositions are based on modal harmony and vamps such as Miles Davis's *So What*, or Eddie Harris's *Jazz Freedom Dance*. Other compositions use odd meter like Bill Evans's *Waltz for Debbie* (3/4) or Dave Bruback's *Take Five* (5/4) (Berliner, pp. 90-91). Today's compositional spectrum is immense and borderless.

The creation of original composition and its importance will be discussed in chapters to follow.

Imitation of others' solos. After repeated listening to recorded performances of jazz artists, many students start to internalize nuances and subtleties by singing,

playing along with records and imitating melodic lines and performance nuances (Ake, 2002, p. 261).

Berliner (1994) lists a long lineup of musicians who report imitation as a central pillar in their learning process; the way they learned to "speak jazz" (p. 95). Jerry Coker, George Johnson Jr., Tommy Flanagan, and many more declare spending hours and days learning to imitate their favorite musicians' solos. For some musicians learning solos by imitation is a social activity: Trombonist Melba Liston reports that she and friends used to hang out at one another's homes "listening to records together, humming the solos till we learned them" (Berliner, 1994, p. 96).

The practice of aural grasp of a solo before its reproduction with a musical instrument is important for later stages in which students perform their own solos. Practicing imitation of solos, musicians gain deeper understanding and practical mastery along their way, while more and more details come up and the picture becomes more vivid. They follow the artist's breath, phrasing, line of thoughts, and "experiencing the same sense of urgency and shades of feeling that motivated the soloist's initial expression, young performers become engaged in an intimate union with their idols" (Berliner, 1994, p. 97).

Transcription. Students also find solo transcription to be useful; after learning to imitate by ear and playing the solos on their instruments, they prefer to actually notate the music on paper. Published ready-made solo transcriptions have been available since the 1920's and are very popular as valuable learning aids. However, educators "caution youngsters about becoming too dependent upon them"; students are advised to compare ready-made transcriptions to the original recordings for reproduction accuracy (Berliner, p. 98). This notion is interesting from an educational point of view: the act of educators who ask students to critically read and question pedagogical materials cannot be taken for granted. The importance of this notion will be discussed in chapters to follow.

The value of imitation and transcription. In essence, learning and analyzing someone else's solo are means by which students enrich their initial vocabulary, deepening their understanding, learning stylistic nuances in order to eventually develop their own personal artistic expression. Young students may learn to embed fragments of solos, or to use them as springboards in their own improvised lines (Berliner, 1994, p. 101).

Art Farmer recalls learning to imitate and transcribing "the fantastic things" his idols improvised, through which he learned "where their choice of notes came from. There's value in learning the licks just to see what people did, how a solo was constructed, and to see what you could do with chords" (Berliner, 1994, p. 105).

Tommy Flanagan commented about his personal experience of learning jazz giants' solos:

> It was almost like they put it down there for you, like they were showing you something…they showed you a general way of thinking about playing a song or a phrase…another way of looking at a chord, how it related to other things – like the way you can make one little phrase cover three or four chords. It was very interesting and a good study for the ear (Berliner, 1994, p. 105).

Canonic value. Quotations of excerpts, licks, phrases and patterns of jazz masters are familiar within the jazz community. They have a functional and pedagogical value as students learn, analyze, apply, master and embed them in their own improvisation. In addition, quotations from the historical literature of jazz construct the relationships of musicians to their larger tradition (Berliner, 1994, p. 103). Musician Arthur Rhames remarks about the canonic value of solos tradition:

> The great players always give homage to their predecessors by recalling certain things that they did. They give it in appreciation and in understanding of the validity of their predecessors. Being able to quote from songs and solos is always part of a mature artist because she/he is aware of the contribution of others and its impact, how valid it is. Something that is really timeless (Berliner, 1994, pp. 103-104).

Solos as raw material knowledge. The jazz vocabulary that students learn from veterans is never suggested to be end in itself. Instead, it is used as an example demonstrating what can be done. Trumpeter Benny Bailey explains: "If you hear something intriguing in somebody else's solo, the main thing is to find out how it works, to find out what's intriguing about it, and then to apply it differently in your own way" (Berliner, 1994, p. 142).

Students are encouraged by their mentors to experiment with ideas and phrases they learn which serve as models for invention. Through these

experimentations, students practice the same fundamental techniques that soloists use on stage when they are engaged in developing ideas and responding to ideas of other band members. The tools which students develop through these experimentations, aid them to interact appropriately with jazz bands (Berliner, 1994, p. 145).

Other musicians' solos reproduction on stage. Berliner (1994) confirms a well-known trait in the jazz community: although fragments of solos may be occasionally quoted, artists' solos whether learnt by ear or transcribed, belong to the creators; they are practically never performed on stage nor recorded by others. Bassist Rufus Reid explains that performers "couldn't play someone else's solo note for note; that just wasn't considered cricket" (Berliner, 1994, p. 101). From an epistemological point of view this notion is crucial. It will be discussed in following sections of the next chapter.

Creativity in improvisation. Improvisation is a complex multi-layered action involving many aspects of musical creativity. Improvisers transform old models to create new ideas and deal with dynamic conditions and processes underlying their transformation and creation. Their real-time composing involves instantaneous decision making of application and alteration of materials while conceiving new ideas. These processes are distinguished by players from the performance of pre-composed ideas which is formulated outside a current event, in the practice rooms or in previous performances (Berliner, 1994, pp. 221-222).

In their teaching, educators often assign students to compose original solos over chords progressions of tunes. Students notating their ideas enables them to think as composers without the pressure involved in live improvisation; it gives them a chance to plan the combination of their vocabulary with original ideas, evaluate, revise and rewrite their materials. Teachers and students can then analyze, examine and discuss musical elements and their possible development (Berliner, 1994, pp. 228-229).

Originality and innovation. Originality has always been one of the fundamental criteria for the evaluation of jazz artists and their contributions (Berliner, p. 273). Bassist Don Pate comments about innovation and originality which are products of their explorations: "What's intense about a solo is when somebody does something and it makes one think 'what that he's playing?' or 'where is that coming from', or 'how did he ever do that'" (Berliner, 1994, p. 253).

Commenting about originality, pianist Walter Bishop describes the definitive stages of artistic development of prospective jazz musicians as composed of the following elements: imitation of their idols, assimilation of ideas in their own vocabulary and finally innovation of musical ideas (Berliner, 1994, p. 273).

Although imitation is an essential stage in the development of young students' improvisational skills, they are constantly encouraged to experiment and explore original ideas.

> When I was young and just learning about jazz…I listened carefully to people like Duke Ellington, Count Basie, Charlie Parker…and many others. I learned how they phrased their notes. I copied their articulation because I wanted to sound like them. I ended up sounding like myself but using typical jazz articulation and phrasing (Aebersold, 1967, p. 48).

In addition to the community shared understanding of jazz tradition and language, jazz performers develop their own structuring elements:

> In private rehearsals they develop licks, melodic motifs that can be inserted into a solo for a wide range of different songs. Still, the choice of when to use one of these motifs, and how to weave these fragments with completely original melodic lines, is made on the spot (Sawyer, 2011, p. 12).

Advanced students who are engaged in self-exploration are encouraged to strive for higher levels of assimilation and originality. From a professional point of view, the jazz community does not highly estimate musicians whose improvisations may be comprised of "the same phrases you hear from everyone else, a string of acceptable, idiomatically correct pieces of jazz vocabulary, riffs and motives…strung together in a trite and uninspired way" (Berliner, 1994, p. 273). Even more experienced musicians who have absorbed an idol's precise style and improvise exclusively within its bounds would often be considered as 'clones' and subject to criticism. One famous musician commented: "You have to give him some credit just for being able to play that well. Still, it's odd to hear someone sounding so much like somebody else all the time" (Berliner, 1994, pp. 273-274).

Soloists who master the assimilative stage enjoy greater respect in the jazz community. Berliner suggests that "in fact, the emergent voices of most artists include

varied mixtures of their own stylistic features and those of an idol or idols" (Berliner, 1994 p. 274). These musicians develop their own individual voice within the farthest limits and compass of a special performance school. Artistically higher achieving improvisers progress from assimilation and forging of identities to genuine innovation. Their dominant personal artistic innovation is highly influential and may lead to the development of a new performance school. Other innovators' explorations may lead them to cross the boundaries of their own fields of personal identity. And finally, only a minority of individual leading innovators may pass through a progression of stages in which they influence others during their careers, developing different approaches to music making and establishing musical movements (Berliner, 1994, pp. 274-275).

Musicians, who speak of jazz as a way of life, refer to their constant preoccupation with the innovation of musical ideas and the notion of creativity. Self-directed studies of jazz history, analyses of works by other master improvisers, rigorous private practice routines, and interaction with other players in numerous bands continually sharpen abilities and replenish the artist's store of knowledge (Berliner, 1994, p. 486).

Martin (2002) concludes that improvisatory practice of most players, while motivated by the goals of self-expression and the quest for individual voice, still work within the "accepted framework of stylistic conventions that both influences their artistic choices and provides a foundation for what they do" (p. 138).

Sawyer argues that the tension between using stylistic licks (i.e. phrases and patterns) and playing original phrases is actually a tension between playing within the tradition and creating something new in a manner that is acceptable. "If the performance is too new, the audience won’t get it; respect for the audience requires the musicians to maintain a certain degree of continuity with tradition" (Sawyer, 2000, p. 181).

Ensemble as a collective improvisation organization. Jazz artists often discuss their group improvisation using metaphors such as 'conversation' or 'musical journey'. They are engaged in a group simultaneous invention; whether as soloists or accompanying members, they constantly interpret one another's ideas.

Band members take turns and temporarily lead the ensemble as they improvise their solos. The players of the *rhythm section* (i.e. piano, guitar, bass and drums) support each soloist providing an improvised rich background of harmony and

rhythm, described by trombonist Curtis Fuller as a "smooth carpet for them to walk on" (Berliner, 1994, p. 358). The role of the accompanying members is always supportive in regard to their responsibility for the soloist's success. Drummer Leroy Williams explains that his role is: "to keep the music swinging while embellishing what goes on around me. I am constantly playing, feeding, and helping everyone, making each soloist sound as good as I can" (Berliner, 1994, p. 358).

Jazz musicians' mutual improvisation may take sudden unpredictable directions, defying expectations while members are required to make quick artistic decisions regarding their own parts and interaction with their ensemble. "By the journey's end, the group has fashioned a composition anew, an original product of their interaction" (Berliner, 1994, pp. 348-349).

Pianist Kenny Barron commented about the group dynamics during an improvised performance creating mutual responses:

> Usually, everyone takes their cue from the soloist, but anyone could initiate something and we would all follow suit. Buster Williams may play something and I'll say, 'Oh yeah?' and try to follow him because it makes the group sound more cohesive. It's a matter of give and take (Berliner, 1994, p. 348).

Such interplay is very common in the jazz idiom. Saxophonist Lee Konitz explains:

> The piano player might just independently do something as part of the rhythm section that is attention-getting, something he is just directing at me. If I hear the piano player play a figure, I'll stop for a moment and then react to that (Berliner, 1994, p. 359).

The balance of the interplay between the soloist and the accompanying rhythm section members is varied and dependent on the dynamics of the artistic personalities of each one of them. Pianist Tommy Flanagan explains:

> Sonny Rollins doesn't need very much in the way of you chording for him, because he covers the whole thing in his solo, he plays the chords and the rhythmic part. Miles plays with a lot of spaces, so that leaves more room for the rhythm section to play fills and to do things as a whole (Berliner, 1994, p. 363).

The shared accumulated experience of musicians playing with each other enables them to develop mutual understanding of each other; it enhances the ease of conversation, interplay and personal and group innovation. This practical knowledge is not necessarily directly discussed among musicians, but tacitly learnt along with their experience (Berliner, 1994, p. 365).

Kenny Barron elaborated on his collaboration with his band members:

> Knowing when to play inside and when to play outside in Freddie Hubbard's band was really just based on listening to the solos more than anything else. You followed the soloist wherever he wanted to take the music, and many times he wanted to take it out. This was primarily signaled by the soloist's choice of notes and by his line. You could hear it if he started playing tonally and then suddenly he was doing something else with his line. That was a signal for you to follow suit with your accompaniment (Berliner, 1994, pp. 366-367).

Similar expression of mutual influence of band members on each other is presented by pianist Tommy Flanagan:

> You don't know what the other player is going to play, but on listening to the playback…you hear that you related your part very quickly to what the other player played just before you. It's like a message that you relay back and forth…You want to achieve that kind of communication when you play. It's like a conversation (Berliner, 1994, p. 369).

Sawyer (2000) argues that in an ensemble improvisation the creativity of the performance cannot be identified with a single performer since the performance is created in a collaborative manner: "the performance that results emerges from the interactions of the group" (p. 182). In an *emergent system*, interaction among improvisers leads to overall system behavior which "cannot be predictable from a full and complete analysis of the individual component of the system" (p. 183).

The testimonies and notions presented hereby regarding the complex interactions in group improvisation have remarkable importance for the understanding of the unique epistemology of jazz. This will be discussed in the following chapters.

Freedom of expression, democracy and tradition. The freedom of expression is one of the most celebrated of the jazz community's characteristics. Declarations such as the following by drummer Max Roach, hailing this aspect are common within the community:

> Jazz is a democratic form of music. When a piece is performed, everybody in the group has the opportunity to speak on it, to comment on it through their performance. It's a democratic process, as opposed to most European classical music in which the two most important people are the composer and the conductor. They are like the king and the queen. In a sense, the conductor is also the military official who's there to see that the wishes of the masters – the composers – are adhered to, and as a musician your job may depend on how you conform to the conductor's interpretation of the composer's wishes. However, in a jazz performance, everyone has an opportunity to create a thing of beauty collectively, based on their own musical personalities (Berliner, 1994, p. 417).

Players from the jazz community are expected to eventually develop and express a unique individual voice. Often musicians are hired not in order to functionally manifest the band leaders' directions, but in order to bring in their individual musical personality. Walter Bishop Jr. has commented about a repeated trend during his career:

> When a person like Art Blakey, Miles Davis, or Charlie Parker hires you, that means one thing: you have what they want already. They have heard you with other bands, they have heard you play on records. Bird never said, 'comp this way or comp that way', because he hired me to play the way I play (Berliner, 1994, p. 418).

Even in cases where ensemble members follow a tighter regulation of interactions by leaders, they are still expected to express their individuality. Trumpeter Wynton Marsalis explains: "Everybody has to follow the leader's concept, but add everything they can to it" (Berliner, 1994, p. 418).

Band leaders who were inattentive to their musicians' craving need for individual self-expression have gained a notorious reputation within the jazz

community. Players often complain of being unable to express their musicality under controlling leaders. One drummer explains his dislike for musicians who tell him what to play:

> It makes me hate myself, because I feel that I've evolved to the point as a performer where they shouldn't have to tell me. It hurts a bit because I feel either they aren't listening to me or I am still not as good as I should be. Of course, I will accept criticism from someone I respect, but it also depends how you lay it on me" (Berliner, 1994, p. 419).

Drummer Keith Copeland has become discouraged by the lack of creativity of the soul band he has been traveling with. Recalling the reasons for which he eventually quit the band, he said: "The guys often wanted me to play just like the drummers on the records, instead of making up my own parts" (Berliner, 1994, p. 32).

This freedom available at the hands of musician allowing them to express themselves also necessitates a great demand for responsibility. Jazz improvisers who do not perform pre-composed music are expected to compose the music on the spot. In order to perform, jazz musicians are demanded to possess mastery of an encompassing array of skills, which are unequal in the classical realm. Drummer Max Roach elaborates:

> For my bands, I look for musicians who have spent the time really developing themselves, trying to find their own individuality. It always helps if a person knows his instrument as well as or better than anyone else around, but I also look for other qualities. Are the musicians as well rounded as possible? Do they compose? Is their writing, the way they voice chords, as unique to them as their instrumental performance (Berliner, 1994, pp. 417-418)?

This aspiration towards an individual recognizable voice is mirrored in the way jazz music students practice their craft in comparison to other music genres. For example, while classical trumpet players are trained to develop a pure tone which would be similar to others in an orchestral environment, jazz players will be encouraged to develop a recognizable individual sound for which they would be praised as original. Under the same view, classical training tends to reward performances that "act mainly as a medium for the realization of a composer's

putative intentions", while jazz students are encouraged to develop an individual voice; a manifestation of their musical personality (Martin, 2002, p. 136). Thus, the repertoire of licks which musicians develop throughout the years and use in their improvised solos becomes yet another characterizing element in their recognizable style (Sawyer, 2000, p. 181).

Spontaneous intuitive improvisation. Berliner (1994) stresses that some of the popular definitions of improvisation which emphasize only its spontaneous intuitive nature and characterizing it as the making of something out of nothing are astonishingly incomplete. Improvisation depends, in fact, on thinkers having absorbed a broad base of musical knowledge, including myriad conventions that contribute to formulating ideas logically, cogently and expressively. Eventually, improvisers acquire the ability to tell stories, shaping ideas into a form that delivers a plot with a beginning, climax and an end (Berliner, 1994, pp. 492-493).

Amid practice sessions devoted to technical and theoretical studies, developing personal sound, expanding repertories, creating melodic ideas, and experimenting with varied applications in solo construction, improvisers live at the threshold of new possibilities for inventions, possibilities that expand dramatically with every discovery. Each requires disciplined drilling to ensure mastery over its use (Berliner, 1994, p. 493).

Improvisers as researchers. Improvisers' work involves constant selective judgments about materials for study in order to absorb and develop those that seem most compelling at the time. Decision making has a direct impact on the improviser's developing style of improvisation "further delineating the player's personal voice" (Berliner, p. 493).

Pianist Walter Bishop regards improvisation as:

> …the product of all that players have experienced, all the music they've studied, absorbed, deleted and refined. This music is an evolutionary thing. You study and apply. It involves the intuitive and the intellectual – learning from within and from without (Berliner, p. 494).

Bassist Chuck Israels explains: "The musical decisions that take place during improvisations are made instantly, but the work behind those decisions take place

over long periods of time – hours, days, weeks, months, and years spent considering all of the musical possibilities" (Berliner, 1994, p. 494).

Creating new knowledge: individuals and band members. During performance, improvisers often utilize materials which are pre-composed, pre-figured, fixed or known elements which they have mastered and incorporate them with musical ideas which are conceived in the moment. The improvised invention of the player may instantly join the "artists' general storehouse of knowledge, where, in relatively fixed form, it awaits further use and transformation during the performance or at some later opportunities" (Berliner, p. 495). In other words, the improvised invention, whether it uses pre-composed materials as a springboard, or is utterly fresh, is musical knowledge. This knowledge may continue to develop and evolve during the same moments of its creation or during later stages of practice, contemplation or performance. This jazz realm's typical cycle of idea generation, practical application and renewal takes place at every level of music making from adjusting delicate details to creating extreme changes (Berliner, 1994, p. 495).

This cycle is typical not only to individual improvisers, but also to the collective musical interplay. The training of the collective aspects of jazz is fundamentally essential. Musical models which are associated with arrangements of pieces, various instrumentations and the sessions where players interact with each other are all absorbed by students. Practice routines of students whether as individuals or as peers during informal get-togethers with other musicians, perfect technical skills and compositional procedures which their improvisation encompasses. Interacting students who share musical ideas perpetually influence each other in a cross related way. Their knowledge sharing transforms their performance, often leading to unanticipated results from which successful elements may be selected to be incorporated in their new formal arrangements, compositions or as basis for further exploration. The ensemble's balance between pre-composed and freshly conceived ideas considerably differs from one performance to another and is dependent on many aspects (Berliner, 1994, pp. 495-496).

Composition verses improvisation. The act of composition, in its traditional conception is related to the use of a written score. This process enables composers to revise, re-compose, apply and test their products until satisfying completion. Berliner (1994) stresses that the compositional conditions under which jazz players create music are essentially different. Improvisers juggle multiple tasks simultaneously,

making split-second decisions while their interactions with their band members constantly stream in unexpected ideas in a perpetual cycle of constant unpredictable innovation. Players are required to poses creative skills that enable them to imagine and actualize instantaneous solutions to compositional problems (Berliner, 1994, pp. 496-497).

Layers of knowledge conversation. Berliner (1994) stresses that the conversation which jazz improvisers are engaged in has many layers of interaction. In addition to the intricate interaction with their band members, improvisers relate the formal structure and elements of the underlying compositions over which they improvise. Hence, they converse with predecessors within the jazz tradition "creating new ideas in relation to established improvisation conventions and previous interpretations of the composition known to the player" (p. 497). Their inner dialogue comprises a conversation that they maintain with themselves, conversations they carry with their instruments based on idiomatic features of playing technique, style, etc. (p. 497).

The process of jazz music-making is often described by a metaphor of conversation in the sense that it is an interaction between musical personalities, not merely between instruments or formal elements.

> At every given moment…the improvising artist is always making musical choices in relationship to what everyone else is doing. These cooperative choices, moreover, have a great deal to do with achieving a satisfying musical journey (Monson, 1996, pp. 26-27).

Aesthetics: jazz verses classical – performers verses works. Since the mid-nineteenth century the art world of 'serious' music has been organized around the canonic compositions by great masters and their performance (Martin, 2002, p. 138). Horn (2002) accents that in various "highly public musical idioms" content generally dictates performance; "performance existed so that musical content could be made known" (p. 18). In contrast, in the jazz realm content is subservient to performance. Even in situations where stylistic context is apparently dominated by pieces and their arrangements, the concept of "performance individuality was to become sacred" (p. 18). Horn (2002) quotes Duke Ellington's announcement at his orchestra's performance in Carnegie Hall, the home of classical repertoire, making clear that the

purpose of the concert is not to deliver his music but is "primarily to present our instrumentalists in their solo and ensemble responsibilities to the best of their advantage, in appreciation of the fact that they are the inspiration of all the things that are written" (p. 18). Throughout its history, jazz has established an approach to the relationship between performance and a piece that grants a vast range of options. This approach offered musicians an opportunity for individual expression (p. 18).

> What the jazz approach did was create a context no longer controlled by notions of what was scripted and what was unscripted, with all their value connotations. It was the very fact that a jazz performance appeared as neither scripted nor unscripted that appealed to many, practitioners and listeners (Horn, 2002, p. 18).

Regarding the essential approach towards performance that lies at the heart of jazz aesthetics Horn (2002) summarizes that it constantly challenges ideas of set relationships between piece and performance and between preparation and realization. It also "continuously validates the idea that the initiative is always with the performer" (p. 19).

Echoes of these notions are found in the writing of Jackson (2002) who stresses that understanding jazz requires a shifting emphasis from static characteristics, to a "focus on the processes in jazz performance" (p. 90). Those processes which include ways of improvisation also reach more "fundamentally into the realm of human action and decision-making" (p. 90). Hence jazz might be defined not on the basis of its formal elements (i.e. form, harmony, rhythm, melody, etc.) but based on "what jazz musicians do with various performative elements....The recorded tunes, notated scores and arrangements are rarely, if ever, the authority with regard to performance; instead they are starting points" (p. 90).

Regarding the differences between the aesthetics of scores-based music and jazz, Johnson (2002) argues that score-based music aesthetics have served 'First World' modernism that dominates traditional art-music perspectives according to which genius composers have handed down "sacrosanct and autonomous work of art, a model of transcendence and permanence" (p. 103); under these conditions the scored compositions have become sacred and have diminished the importance of the act of performance. An illustration of this view is offered by Sorbonne musicologist

Andre Pirro, who has informed "I never go to concerts anymore. Why listen to music? To read it is enough" (p. 103).

Martin (2002) argues that while in European art-music traditions the composition of works is at the center of aesthetic focus, jazz artists' "greatest achievements have been the restoration of improvisation to the mainstream of western musical culture and the creation of an art world in which the practice of improvisation is the musicians' fundamental commitment" (p. 134). Hence, the central figure at the focus of the jazz art world is not the composer of works but the improvising artist (p. 137). Monson (2002) concludes that jazz as an African-American music which emerged during the twentieth century was developed "in a constant counterpoint to the modernist aesthetics" (p. 126). Unlike score based art-music performance, jazz performance introduces an "extraordinarily dense, unexpected and complex individual and collective decision-making processes in an acoustic field that is unscripted" (Johnson, 2002, p. 105). Hence, as the primary goal of jazz musicians is not the production of work, but the creation of performances (Martin, 2002, p. 137) of their individual musical personalities, one of the center pillars in the definition of jazz aesthetics is the 'heterogeneous sound ideal' promoting diversity of performance and interpretation (Monson, 2002; Wilson, 1992).

The Jazz Experience: Formal Learning

Common formal jazz education – criticism. The success of established jazz programs such as at the University of North Texas and Berklee College of Music stands as an exception, not as the rule, in American colleges, universities and conservatories.

The majority of these institutions are dedicated to the instruction of Western classical traditions. Even in high schools and conservatories, big bands which "defined the sole jazz outlets" may be offered to select students by directors whose responsibilities typically include concerts or marching bands. However these jazz big band directors generally overlook improvisation and tend to emphasize performance ideals that are highly valued in classical ensembles, such as note reading, section balance and unified intonation (Ake, 2002, p. 263). The setting of norms for tone, vibrato and pitch reinforced by some pedagogic approaches appear somewhat understandable in big bands and large ensemble scenarios where unity is needed. Throughout the history of jazz, it was the small ensemble's musicians who

traditionally symbolized the spearhead of artistic innovations and who have always been praised for their unique manipulation of timbre; however such aesthetics are not addressed in common school bands (Ake, 2002, p. 265).

Kennedy (n.d.) sums up the gloomy dominant situation in school bands:

> The jazz idiom per se is not really taught in most high schools. The class is run much like a concert band rehearsal, where the teacher imparts knowledge by 'rote'. The music is rehearsed over and over until most of the notes are right. The real concepts of jazz performance and feeling aren't addressed nearly enough. The main goal seems to be to "learn the notes" and not worry too much about stylistic concept and improvisatory skills.

Often administrators, band leaders and parents get caught in what Kennedy (n.d.) refers to as a "win, beat and get trophies" syndrome where "the joy of performance and creativity goes out the window. The band will literally learn four tunes for a whole semester and will perfect them (again by 'rote') until they can go to the contest and win a trophy".

Teacher training. Ake (2002) argues that according to the International Association of Jazz Educators' (IAJE) *Jazz Educators Journal* (1990, 1991) school band directors have little insight into improvisational skills, an absence mirroring their traditional Western European classical training. In 1997 the College Music Society listed approximately 2,100 oboe and bassoon teachers in US and Canadian colleges and universities. They outnumbered the entire listing for jazz instruction of all instruments. While the society lists categories for harpsichord, recorder and timpani - jazz saxophone or jazz piano are not provided (Ake, 2002).

These findings also mirror the situation in England: according to a survey prepared by York (2001), of 750 heads of music in the United Kingdom high schools, 75 percent of respondents had a classical music based degree. While 95 percent of them knew Vivaldi's Four Seasons and Beethoven's Ode to Joy, only 15 percent of them knew Miles Davis' *Kind of Blue* York (2001). Ironically, *Kind of Blue* is the best-selling jazz album of all time with over four million copies sold. Sloboda (2001) concludes that there is an implicit assumption in York's finding; there are more issues involved in teacher education and background than just genre differences.

> It is about different approaches to music, including ways of thinking about it and responding to it. One cannot just insert a popular genre into the set of classroom practices that have been developed to deal with classical music (Sloboda, 2001, p. 248).

Regarding the absence of correlation between teachers' training and their ability to teach jazz improvisation, Watson (2010) concludes that "music teachers often lack confidence in their own abilities to improvise, yet are increasingly being encouraged to incorporate this activity into their teaching" (p. 391).

Discussing education in general, Shulman (1986) asks questions regarding teachers' capabilities which are relevant to the music education as well:

> How does the teacher prepare to teach something never previously learned? …how does he or she employ content expertise to generate new explanations, representations, or clarifications? What are the sources of analogies, metaphors, examples, demonstrations, and rephrasings? What pedagogical prices are paid when the teacher's subject matter competence is itself compromised by deficiencies of prior education or ability? (Shulman, 1986, p. 9)

Standardized jazz education methods.

Pioneering methods: bebop, jazz theories and the Lydian chromatic concept of tonal organization. Prouty (2012) argues that since the emergence of bebop in the 1940's, "nearly every improvisational method on the market is comprised of concepts and/or patterns directly related to this style…bebop gave rise to a certain amount of how-to methods and instructional aid" (p. 54). Improvisational methods tend to rely on imitation and elaboration of recordings. However, most of the methods in the bebop tradition were unwritten and there was no agreement among jazz musicians upon one theoretical construct until the emergence of a structured theory by George Russell during the 1950's (p. 54). Russell was closely associated with many bebop musicians and his theoretical breakthrough was based on his familiarity with their inner process of improvisation and practice. His book *The Lydian Chromatic Concept of Tonal Organization* (1959), which is considered a landmark in jazz theory, has paved the way to the emergence of chord-scale theory which connected vertical harmonic structure and horizontal linear melody; it helped improvisers to relate

chords within the harmonic progression with scales which can be improvised on in a more linear fashion. This concept was widely known by cutting edge artists associated with Russell, who helped to develop improvisational and compositional techniques during the 1950's and the 1960's.

The importance of Russell's work goes beyond the establishment of a theoretical concept which was agreeable among the majority of jazz artists. It has also finally enabled jazz educators to discuss improvisational theory within the academic community; it has promoted the acceptance of the inclusion of "what had been considered an inappropriate subject of study in musical academia" (Prouty, 2012, pp. 55-56). Following Russell, musicians such as David Baker, Donald Byrd and Jackie McLean, have adapted these concepts and embedded them in their academic teaching. The entrance of jazz professionals to the academy led eventually to jazz's acceptance in the academy, and also to "jazz acceptance of academia" (Prouty, 2012, pp. 55-58).

Dominant pedagogical approaches in established jazz education. Pioneering programs establishing jazz education on an equal footing with classical music education include the Schillinger House in Boston in 1945 (later the Berklee School of Music) and the Lenox School of Jazz in Massachusetts in 1957. Towards the 1970's several colleges and universities hired jazz performers to assist in developing relevant music curricula. "African American music courses and specialized jazz programs multiplied across the country (the United States) by the mid-eighties" (Berliner, p. 56). Today's jazz education in specialized schools (e.g. the Berklee College of Music in Boston and the New School in New York) offer a greater emphasis on small ensembles and on the development of improvisational performance skills (Kennedy, n.d.).

Berliner (1994) concludes that in addition to ensembles and theoretical aspects of improvisation classes, the typical institutionalized jazz curriculum is also constructed of jazz history, stylistic jazz composition and arranging, in addition core Western classical music courses of history, education, theory and composition. Most of the students in these programs accent the importance of jazz performance in college. Colleges provide a learning environment where learners can interact with peers who share the same concerns (Berliner, 1994, p. 56).

Generally, performance is the center focus of musical studies in jazz education. Prouty (2012) explains how chief among the practices in jazz is the act of performance for its importance as the central activity in the music. "After all, without

performance, jazz is simply an idea; performance makes the ide real, tangible, and most importantly for our discussion, able to be shared from one person to another" (Prouty, 2012, p. 38).

Theory and practice in academic curriculum. The academic teaching-learning processes in jazz manifest the improvisation oriented characteristics of the core activity in the music. In leading institutions such as the University of North Texas, undergraduate students generally complete one year of jazz theory and one year of training before they can take improvisation courses; basic theory mastery is the prerequisite basis for improvisation studies. In other institutes such as Indiana University theory is generally discussed and learnt through improvisation studies; the learning activities during improvisation courses promote theoretical discussion (Prouty, 2012, pp. 60-61).

Academic improvisation course sequences may involve two to four and even more terms ranging from 'introduction to improvisation' to 'advanced improvisation'. While improvisation courses differ from one academy to another, their most common unifying force is repertory. In these curricular systems compositions are usually categorized and ordered according to their hierarchal complexity. Pieces of harmonic simplicity such as blues or modal tunes which are considered to provide an easier platform for students to improvise are usually used in the beginning of the improvisation courses' sequence. Later stages of improvisational repertory involve basic harmonic changes (e.g. IIm V7 Imaj7) which are commonly found in tunes such as Satin Doll, Pent up House, to minor harmonies found in Beautiful Love, What Is This Thing Called Love, etc. Pieces containing key modulations such as I Got Rhythm or Have You Met Miss Jones follow the sequence. More advanced stages of learning involve tunes which utilize complex harmonic structures (Prouty, 2012, pp. 61-62).

Prouty (2012) argues that there are two main pedagogical views of jazz improvisation teaching, both addressing the relationship between theory and practice from different points of view. The theory-based approach presents materials as they are related to harmonic and structural components of the repertory. This orientation focuses on the analysis of chord progressions and the application of chord-scale structures as devices for improvisation; theoretical knowledge of scales and chordal structures are used as the building blocks of improvisation.

The practice-based approach generally focuses on the development of 'vocabulary' of prevalent musical patterns in the repertory of improvised jazz music; this learning is highly engaged with the practical mastery of short melodic motifs, clichés, phrases and patterns (Prouty, 2012, pp. 63-64).

> Just as children learn to speak…by imitating older competent speakers, so young musicians learn to speak jazz by imitating seasoned improvisers. In part, this involves acquiring a complex vocabulary of conventional phrases and phrase components, which improvisers drawn upon in formulating the melody of jazz solo (Berliner, 1994, p. 95).

This linguistic vocabulary provides students with a supply of ideas for solos as a supplement for their own ideas. Patterns also provide examples and models which their examination helps students to build their own musical ideas. In addition, students use patterns to exercise fluency in applying them over different harmonic settings (Prouty, 2012, pp. 63-64).

Prouty (2012) stresses the theory-based and practice-based orientations are two sides of the same coin; "the same musical content seen from different perspectives" (p. 65). He also notes that within the teaching of jazz, theory and practice are often seen as different activities.

> …a distinction that is sometimes reinforced by the introduction of jazz-specific theory courses, spotlighting the distinction between these ideas; this can lead to the adoption of a curriculum in which theory is compartmentalized as a discipline distinct from performance, and not in a positive way (Prouty, 2012, p. 65).

Balancing traditional knowledge and technique with invention. Prouty (2012) recalls a performance jury he took while studying jazz at the university, in which he had been praised for not sounding like 'university jazz': "This left me puzzled; if a university jazz student was not supposed to sound like 'university jazz', then what are they supposed to sound like?" (p. 66). Years later he understood that "the answer, of course, lies with the fact that students are always judged against more than what is presented in the classroom, against the jazz tradition itself" (p. 66).

In the evaluation of the learning process of students, technical mastery of musical elements of the improvisation sequence cannot alone grant positive assessment, nor can an attitude which might seem as more creative but lacking in obvious actualization of virtuosity and technical mastery of the 'language'. Both theoretical-based and practice-based pedagogical orientations aim to negotiate between the technical and creative world, however success is not always granted. Moreover, "the dynamics of how teachers define what to teach and perhaps more importantly how to evaluate performance is not easy, nor is it without profound implications for the cultural environment of the music academy" (Prouty, 2012, p. 66).

Students are required to demonstrate technical mastery; however their playing may be criticized for being too technical and lacking in creativity. On the other hand students are expected to sound creative; however boundaries-breaking creativity lacking in technical stylistic appropriateness may also be criticized (Prouty, 2012, p. 66).

Language verses creativity. In reflection of this duality, the two main forces that work in the evaluation of student performers have a profound meaning for education: elements such as vocabulary and technique are under the control of jazz educators, while individual creativity is largely not. The balance and the line that is drawn between the two are often difficult to define for both teachers and students.

In comparison to the creativity, technical elements in improvisation are easier to formulate and their practical demonstration is easier to evaluate. This notion, in addition to the institutional pressure for knowledge formulation, may cause educators to accent them in the curriculum. However, despite the difficulty in defining and evaluating creativity, creativity is no less important than knowledge in jazz education; teachers should not ignore creativity's essential role in the jazz idiom and its implications for education (Prouty, 2012, p. 68).

Improvisation in tradition, notation power in the academia. Prouty (2012) argues that "techniques of improvisation are found infrequently within the Western art music curriculum, and classical music's legacy of improvisation is often a mystery to novice musicians" (p. 68). Small (1987) adds:

> In the western classical tradition, the art of improvisation is today to all intents and purposes dead, and resists all efforts to revive it. The resistance,

surprisingly, comes largely from performers themselves, who mostly have little idea of what improvisation is or what it entails (Small, 1987, p. 283).

Throughout the years the absence of improvised musical forms has led to the establishment of notation as the medium of choice for musical pedagogy; musical transformation relied more on notation. Through this process musical scores have become sources of power, serving as tangible artifacts of canon, in addition to their role in the formulation of a 'conservatory culture community'. Hence, teachers as interpreters of the canonic artifacts became the gatekeepers of knowledge and power, and without them, the authority of teachers and the institution as a whole is questioned (Prouty, 2012, p. 70).

Criticism regarding standardized curriculum and pedagogy. Jazz education has dramatically grown since the 1970's. Jazz educators have invested many efforts in legitimizing it as a cultural form in the academy in ways that tried to satisfy administrators and critics who were skeptical of or hostile to jazz. Often, jazz curricula drew upon academic language in establishing their legitimacy; academia jazz programs have become more and more formulated and standardized (Prouty, 2012, pp. 72-73).

Soon, criticism within the jazz community started to emerge against the standardization of academic jazz programs. The main argument against such standardization is that students, who study the same harmonic principles under the same pedagogical methods, using the same sources of stylistic inspiration, would eventually sound the same. Such a situation stands in opposition to the traditions of jazz as a discipline according to which personal growth is achieved through self-exploration rather than through a unified curriculum. Some critics claimed that the great musicians' personal artistic expression was frequently developed because they had little training in theory: they were forced to find their own way (Collier, 1993, p. 155; Nicholson, 2005, p. 106). Educators and members of the community who criticize institutionalized jazz education have argued that historically jazz has evolved and developed outside the institutionalized academic realm and that pedagogy stifles both individualism and creativity. Critiques have stereotypically viewed institutionalized education as stifling despite the fact that "the mission statements of the majority of arts programs in higher education use the descriptors ‘innovation’,

‘creativity’, ‘originality’ and ‘creative thinking’ in the aims and objectives of individual courses" (Whyton, 2006, pp. 68,74).

Another debate revolves around the massive growth of improvisation method and theory books. Critics have been blaming the publication of pedagogical aids for turning jazz into "written traditions" (Hores, 1977, p. 2); such standardized pedagogy takes focus away from the self-exploration for individual artistic expression which lies at the essence of the jazz tradition.

The debate about jazz canonization. The establishment of a canon - based on archives, designed curricula with supporting materials, objective standards and a single-strand chronological narrative, "allows for benchmarking and uniformity both within and across institutional boundaries" (Whyton, 2006, p. 76). Indeed many educators see the canon as one of the center pillars in jazz education and promote it in jazz history classes, repertoire ensembles and in 'historic concerts' (dedicated to certain composers or styles) (Berliner, 1994; Bushard, 2013). However, the same resentment of the standardization of jazz pedagogy is mirrored in educators' criticism against the jazz canonic repertoire and idolized performers. Jazz educators often denounced the dominance of selected repertoire for offering a narrow view and emphasizing limited jazz styles and canonic players. Indeed, much of jazz pedagogy focuses on bebop-based stylistic conventions. Despite its depth and boundaries-breaking innovation, bebop has stylistically and technically limited the solos of students who became unable to create anything original in this idiom (Nicholson, 2005, p. 107; Prouty, 2012, p. 74).

Whyton (2006) explains the problematic canonization of jazz:

> The construction and celebration of a jazz canon has placed many jazz artists into the mythologized world of autonomous art, where music is deemed to transcend the social. This ideology of autonomous art creates a romanticized narrative where the iconic genius figure (typically male) transcends time and context; his work is treated in isolation and his music is regarded as conveying universal appeal. The construction and celebration of a jazz canon has dominated both pedagogy and the broader context of arts production and reception (p. 70).

In addition, Whyton (2006) argues that by submitting to the ideology of the canon, educators also "lose the power of critical insight that is afforded to education by its unique place in society" (p. 75).

These types of criticism against institutionalized curricula, standardized pedagogy, and the establishment of a jazz canon, are in fact very common in the literature of jazz.

Whyton (2006) suggests that instead of discrediting the jazz canon educators must construct a discursive framework from which they can evaluate conventional and non-conventional jazz (Whyton, 2006, p. 80). He concludes that a mid-way view should be adopted which aims to:

> …introduce a more inclusive, comparative and interdisciplinary approach to jazz studies, where the canon is subject to continual appraisal and discursive methodologies. By exposing the embodied dualisms - the polarities of power - within the wider social order, jazz education can clearly perform a number of roles, from the critical to subversive, creative to political. In this sense, jazz pedagogy has the potential to embed itself in the realities of the social, whilst exposing ideologies that support the romanticized conception of jazz culture (Whyton, 2006, p. 80).

Prouty (2012) argues that "in practice, improvisation has always existed on a continuum between conformity and innovation; the nature of improvisation in academia is one point on this continuum, drawn to either end by the power of historical and cultural practices" (p. 75).

Prouty (2012) summarizes and hints where responsibility for finding the midway between academic pedagogy, standardized curriculum and individual distinguished expression lies:

> The most damning criticism of jazz education is that student players sound alike, that there is little or no individual distinctiveness among them. Performers, not an institution or instructor, have the power to determine their own course through 'self-teaching', an essential marker of the non-academic jazz tradition (Prouty, 2012, p. 74).

This conclusion and its implication regarding the epistemology of jazz are highly important for this research and it will be discussed in the chapters that follow.

Evaluation and assessment difficulties in light of unity and innovation. The continuum of the power balance between conformity of standardized pedagogy defining stylistic lingual unity and students' distinguished individual identity makes standards of evaluation difficult to define. With formulated pedagogy, teachers' assessment of their students' achievements may easily fall into being solely based on the correctness of harmony and melody, mastery of patterns and clichés. This "might seem at odds with the self-teaching long held as integral to the jazz tradition, where the power rests mainly with the performer" (Prouty, 2012, pp 75-76).

The review of this chapter has provided a picture of the informal and formal experience in the jazz community, regarding the development of students' personal and collective musicianship, learning-teaching processes, creative innovation and tradition, musical knowledge and its development, aesthetics, pedagogy, curriculum and critical reading of standardized pedagogy. Correlation of this 'real world' picture with the former chapter's review of jazz pedagogy will be examined and discussed in the next chapter.

Findings

The analysis of the reviewed pedagogy and examination of the ethnography of the jazz community in light of the theoretical background portrays a sharp picture according to which, the two are highly interrelated: There is an explicit interaction in the way pedagogy reflects the manner in which learners develop into mature musicians in 'real life' and in the way that pedagogy has affected and contributed to these processes in the jazz community. The connection between the unique essence of a discipline and its pedagogy cannot be taken for granted and its importance cannot be underestimated (Karmon, 2007; Shulman, 1986).

Practical Mastery

Praxial jazz pedagogy. It is clear that the four volumes of Baker's, (1968-1971) and Aebersold's first volume of the Play-a-Long (1967) (as well of the other 132 following volumes) target the development of students' practical improvisational skills. Although some of the literature reviewed hereby is self-acclaimed theoretical (Coker, 1964) or analytical (Mehegan, 1959), its silent target is the practical development of performance skills; each segment in these books ends with practical performance assignments, as opposed to written assignments commonly found in theory and analysis textbooks. The practical focal center of this literature has been the prevailing paradigm in jazz education ever since the emergence of these pioneering works. "Jazz education is concerned specifically with learning to play jazz and with teaching students and others to be jazz musicians" (Beale, 2000, p. 756).

Thus, on the continuum regarding praxial, i.e. practical (Elliott, 1995) verses formal music education debate, it may be concluded that jazz pedagogy, as has shown in the reviewed literature and the common informal as well as formal institutionalized education, is praxial in essence. Jazz education is generally engaged in teaching jazz practice rather than teaching about jazz.

Jazz pedagogy balances between formal and praxial elements in a very unique manner as demonstrated in the following sections.

Theory and practice. All authors of the books reviewed hereby share the same insight about the crucial importance of theoretical understanding of formal musical elements for jazz musicians who play the dual role of both performers and composers of their improvised music. Moreover, jazz improvisation is dependent on the practical mastery of these formal elements, hence, the pedagogy does not separate

between theory and practice; they are two sides of the same coin. The practical mastery of formal elements may be practiced in varying ways from solitary to social sessions and through formal as well as informal venues.

The pedagogical literature fuses theoretical and practical aspects while each book offers a different balance between them: Coker (1964) emphasizes theory, Mehegan (1959) accents analysis of improvisation and Aebersold (1967) uses a more practical approach providing step-by-step concrete exercises for the learnt theoretical material. Baker (1968-1971) marks the extremist Spartan approach in which the mere brief theoretical explanations provided are outweighed by a massive array of challenging practice exercises.

Play-a-long. An outstanding embodiment of the balance between theory and its practical application is demonstrated in Aebersold's *How to Play and Improvise Jazz* (1967) method books and *minus one* recordings. This pedagogy reinforces the notion that both aspects - theory and praxis, are non-separable in the jazz idiom. This pedagogy has great proven success over than a hundred volumes. Minus one recordings are still a "key part of the world jazz education repertoire over thirty years later" (Beale, 2000, p. 760).

Improvisation technique mastery. Jazz pedagogy mainly targets the development of melodic, harmonic and rhythmic improvisational techniques. It challenges students with endless variety of exercises ranging from arpeggios, inversions, modes, chord scales and their alterations, to licks, patterns, motifs and phrases (see *Appendix*, figures 4-5). The mastery of improvisational technique is assigned to be adapted to various harmonic settings, chord changes, and song forms, learnt as schematic formulas and meant to be transposed and practiced in all keys and all harmonic settings. Performers must be highly analytically skilled and master complex improvisational techniques in order to perform; they need to understand in order to create.

Baker's four books provide an enormous amount of melodic interpolation over specific harmonic settings. His in-depth approach, which is a product of endless experimentations, serves as a model for practitioners who follow his steps while using this book (See examples in *Appendix*, figures 12-17). They learn about the countless possibilities of altering and manipulating melodic lines and so, students are also being called to experiment and to produce original ideas.

Formal Elements

In general, jazz pedagogy uses conventional-traditional western methods for the analysis and the discussion of formal musical elements. Jazz pedagogy often views musical text as a sketchy outline – unprocessed material to be manipulated and improvised by the artist. Various formal elements are treated differently in the sense of the relation between the original source and its alteration. The literature generally outlines the following approaches.

Harmony. Jazz harmony is based on the mainstream of classical harmony function; it follows the identical rules and conventions (Mehegan, 1959, p. 6). An abbreviated system of chord symbols is often used to describe triads (i.e. "C" for a C major triad – C, E, G) to even seven note chords (i.e. "$C7^{(9, \#11,13)}$" for C, E, G, Bb, D, F#, A). This trend is common in the reviewed pedagogic literature, as well as in all of the *real books* and *fake books* using lead sheet formats.

Voicings. The actual application of the chord tones on the instrument, often referred to as *voicing*, is left for the players' decision. Players of harmonic instruments such as piano, guitar and vibraphone, are addressed in chapters that are dedicated to the common stylistic voicings (Coker, 1964, pp. 23-24; Mehegan, 1959). However, these sections are very brief and general, they are probably meant to aid students with basic guidance to help them to get started and to stimulate personal search. The responsibility of the actual application of harmony onto the instruments rests on the shoulders of the students who are challenged to explore and experiment with these basic guidelines.

Analysis of chord progressions. All of the authors use schematic analysis of harmonic degrees and function in Roman numerals formulas (e.g. I, IIm, IIIm, V7/VI, VIIdim7, etc.). Students are expected to analyze and memorize song forms, based on their understanding of the function of the chords within the progression. Often, harmonic progressions of songs are discussed only by Roman numeral analysis, leaving the learner no choice but to follow these challenging analytical methods (see *Appendix*, figures 2-3). Hence, performers should be able to think in formulas and transpose their theoretical knowledge into all keys.

Voice leading. While *voice-leading* (i.e. the actual linear connection of each voice in the harmony from one chord to another) is deeply discussed in theory and harmony literature of traditional Western music, the harmonic discussion in the

reviewed books omits voice leading theory. Harmony is viewed in a rather vertical manner; its analysis concentrates mainly on the chords' functions and voice leading is left for the performers' decision.

Harmonic decision making. Thus, harmonic discussion tends to rely more on chord symbols and Roman numerals analysis of harmonic function, rather than on exact notation commonly found in traditional theoretical literature. The usage of harmonic function analysis in the form of Roman numerals is a repeated theme in many jazz theory and harmony books. On one hand, it demands a very high level of analytical thought from the improviser. On the other hand, once players get adjusted to this form of analytical thought, their melodic and harmonic ideas are easily applied to all keys. This high skill of thought in conjunction with a well-developed hearing ability makes it a powerful tool in the hand of the players, who are often challenged to play by heart, in various performance settings, in different keys, orchestration and styles, following their ears and their understanding of the harmonic function, rather than following printed chords.

Improvised harmony. In general, educators suggest that harmony may be altered according to the personal taste of the players, while keeping the basic, general harmonic function idea. This vision reflects the way jazz musicians regard harmony as "meant to be broken" as suggested by trumpeter Tommy Turrentine (Berliner, 1994, pp. 74-75). Common techniques for harmonic alteration count triton substitution of the V7 chord, additional non-diatonic tensions, chord progression substitution, voice spreading, etc. Thus, harmony at the hands of harmonic instrument players is improvised, based on their analytical skills, theoretical understanding, stylistic fluency, performance abilities and personal taste (Coker, 1964, p. 14).

Often, harmony is not explained, even in Coker's (1964) self-acclaimed to be theory book. General ideas are presented side by side with complex and intricate theories. But unlike later theory books such as Levine's (1995) *The Jazz Theory Book*, or specially designed academic harmony course books, Coker does not dive into the explanations of the complexities of harmony.

Instead, the literature presents raw, basic ideas of additions of tensions and chord superimpositions, adding some tables of possible common usages and manipulations and leaving the rest to the students. It is the learners' responsibility to explore, to search, to develop a personal taste, to rely on their ears and their senses and to find usages that suite their practical needs the best.

In general, it may be said that the literature reviewed hereby views harmony as the groundwork for improvised melody. This explains the involvement of the harmonic discussion in *modes* and chord-scales: the building bricks of melodic improvisation.

Melody. In contrast to the theoretical discussion regarding harmonic function and structure, brief as it is, the pedagogical literature reviewed hereby ignores the theoretical discussion of melodic aspects of songs and compositions. Mehegan (1959, p. 49) articulates the literal abandonment of the original melodies while improvisations built on the chord progression take over. Coker (1964) accents that tune melodies are being "ignored and obscured by the jazz player's improvisations" (1964, pp. 4-5). This tendency is supported by the rest of the reviewed literature.

Improvised vs. composed tune melodies. In this manner, where improvisation takes the focal center of music discussion, songs are stripped down from their melodies and left only with form and chord progressions (Coker, 1964, p. 86); they lose their identity and become schematic structures of harmonic function (see *Appendix*, figure 3). Throughout Coker's book there is neither exact, nor simplified notation of tune melodies over a standard music staff.

In Baker's (1968-1971) works melodic improvisation based on harmonic setting, is the sole element which is demonstrated, while no other musical formal elements are discussed. Thus, in sections where melody is discussed it is examined only in regard to the analysis of improvisation techniques (i.e. motivic development, patterns and phrases). Baker's overwhelming massive array of melodic patterns addresses improvisation techniques and never discusses composed tune melodies.

It has been seen that educators' writings present improvised melodies as products related to harmony: all of the melodic lines and experimentations evolve from and may be applied to specific harmonic settings.

Composed tune melodies are notated in lead sheets of compilation books in their most basic, raw presentation. Often, theses melodies are transcriptions of performances of jazz artists and subject to their interpretations. Addressing the exposition of tune melodies in their performances, educators encourage students to follow the common trend within the jazz community, to explore, experiment and to strive to play them in their unique recognizable personal manner.

Tunes as infrastructure for improvisation. The appendixes in Coker's book exemplify a common jazz educators' approach to tunes as harmonic infrastructures

onto which improvised melodic lines are applied. This view diminishes the importance and the role of the original melody and stresses the importance of form and harmonic progression. Understanding the harmony and chords' function enables the player to view the possible melodic and harmonic materials to be played and improvised.

Furthermore: This approach disregards fundamental elements such as key, orchestration and style; jazz standards may be played in keys, arrangements, orchestrations and styles that are different from the original composition or performance. Once jazz standards are laid out in such schematic manner of minimalistic charts formulating the relationship of chord function, they can be played by any jazz ensemble, in every given key and style. The common system of Roman numeral representation of the harmonic function and proportion demands a high level of analytical skills of the jazz player, and yet it is very efficient in terms of providing the player with the needed flexibility.

Implications regarding formal knowledge. There are a few implicit implications regarding musical knowledge in jazz musicians' and educators' approach.

First, the total abandonment of the original composed melodies in Coker's and Mehegan's pedagogy demonstrates a focus of interest on the harmonic progression of tunes' forms, rather than on their melodies. It reflects jazz musicians' common approach towards songs, as shown in reviewed ethnographic literature. Composed melodic themes of standards are often played in a loose manner, altered, interpreted and modified by the performers, according to their personal taste and completely ignored when they are engaged in improvisation. Hence, from this point of view, there is no apparent need to discuss composed original themes. Needless to say: melodic improvisation is not a variation of the original melody, but a purely genuine product based on tonal harmonic progressions.

Secondly, the basis on which musicians improvise is the forms and the chord progressions of tunes. Coker's concentration on the progression and harmonic function analysis reflects musicians' need to understand and to master these formal aspects; to mentally know the infrastructure and to practically master it in the most profound manner in order to improvise over it.

Third, regardless of their original keys, songs are being transposed to various keys, dependent on the needs and preferences of the performers. More than the need to memorize the actual chord sequence of a song, musicians must understand the

formulas of harmonic function in order to be able to transpose harmonic changes to various keys and to manipulate it. Therefore Coker insists on using analysis presentation rather than chord symbols. The purpose is to aid the improviser with a set of tools rather than a set of processed finalized facts.

The new improvised melody and the harmonic manipulation cannot be predicted, and neither can it be discussed or written; it has yet been composed and the role of its composition rests in the hands of the improviser. In this sense improvisers are responsible for the creation of new unwritten, implicit musical knowledge.

In simple words, once formal elements and their function are understood and practically mastered by improvisers, they are discussed in terms of Lego bricks; formal musical knowledge is learnt in order to be used by performers as raw material in a playful, creative manner, to be altered, manipulated and improvised forming new creation of musical knowledge based on the performers' personal understanding, taste and improvisational skills.

Knowledge sources and transformation

Since epistemology is one of the essences of this research, it is important to understand the nature of jazz musical knowledge, its sources, the means through which learners study it and the ways musicians are engaged with, transfer and develop it.

Tunes. Traditionally, the repertoire of popular tunes, often referred to as *standards*, has provided a common ground for musical communication between jazz musicians (Berliner, 1994). Tunes, as sources of musical knowledge have been available and spread in the community through recordings of artists' studio and public performances and compilation books. The attitude of the community towards tunes is varied as shown in previous sections.

Educators and musicians generally accent the musicians' need to familiarize themselves with the composed melodies of tunes; they are an important integral element of the tunes repertoire musicians ought to master, upon which they establish communication with other musicians (Aebersold, 1967). Tune melodies also serve as an important source for stylistic melodic and harmonic vocabulary (Berliner, 1994). Other educators disregard any discussion about tune's melodies, concentrating solely on their harmonic form (Coker, 1964; Mehegan, 1959).

The emphasis that educators place on to the improvised lines regarding their discussion of melodic aspects hints at the importance they consider improvisation to hold, in relation to melodic reproduction. It mirrors their desire to escape the traditional aesthetic view of the composed material; it is not the composed product but the process of improvisation which is at the heart of jazz practice. However, although not directly discussed, knowing and mastering tunes' melodies are almost taken for granted. For it is a repeated motif that tunes' melodies and their embellishments by artists often set the language of jazz and the repertoire that serve as vehicles for improvisation. Learning to embellish tunes' melodies is an acquired skill every jazz musician must master (Berliner, 1994; Monson, 2002)**.**

The common attitude within the jazz community towards tunes often treats them as basic raw forms of harmonic progression formulas; disregarding the manner in which they were originally composed, omitting full sections, eliminating their melodies, lyrics, disregarding their arrangements and keys. This aesthetic attitude focuses on improvisation and views tunes as schematic frameworks. Tunes are presented in a loose manner whether in notated printed books or in performances where at times, musicians' interpretations make them literally unrecognizable.

This approach is unprecedented in the traditional Western music pedagogy where composed materials are reproduced under tighter concerns regarding accuracy and a plan of commitment to the composers' original intention (Cook, 1998; Taruskin, 1989). This notion is meaningful for the understanding of the way knowledge is treated in the jazz realm.

Recordings. The main attention of the community to tunes, whether as artists or enthusiasts, is reserved for their recordings as performed by improvising artists. Through their pedagogy, educators stress the common attitude of the jazz community regarding the importance of recordings as the most significant primary sources of musical knowledge in this idiom. Educators repeatedly refer students to recorded documentation of jazz masters throughout all stages of their personal musical development (Aebersold, 1967; Mehegan, 1959). Recordings have the equivalent status of printed scored music in the traditional Western realm (Ake, 2002; Prouty, 2012). The way recordings are celebrated in this realm shifts the aesthetic focus from composers and their works, towards performers. This notion has a great value which will be discussed in the following sections.

Through their routine practice students study different recorded performances of jazz masters and cross-relate them to each other. Thus, students learn important stylistic elements such as: artists' interpretations of melodic nuances as they present the melodies, their unique recognizable accent and tone color, their harmonic concept reflected in their re-harmonization and their artistic choices reflected in their arrangements. These distinguishing artists' fingerprints are immensely important in the jazz realm, many of which cannot be transferred through notation, hence the importance of recordings as primary sources of musical knowledge.

More than being a center pillar in the establishment of musical knowledge regarding artists' performances of tunes, recordings are crucial sources for the study of the apex of jazz mastery: artists' improvised solos.

Solos studies. Mehegan's (1959) referral to Coleman Howkins's improvised solo of Sweet Lorrain as "one of these masterpieces" (p. 140) demonstrates the community's common approach to artists' improvised solos as the culmination of artistic expression. Where in traditional Western music compositions of renowned composers are at the center of aesthetic focus, it is the improvised solos of performing artists which are the celebrated products in the jazz community.

Educators repeatedly encourage students to study solos as sources of inspiration and musical knowledge providing linguistic vocabulary of phrases, licks, motifs, etc. as well as stylistic nuances, feel and accents.

It is very important to note that despite the great respect musicians share for the canonic improvised performances of great jazz artists, their improvised solos serve only as objects to be studied; they are never reproduced on stage. In other words, despite their significance as inspiring sources of knowledge and despite the admiration that students and colleagues share for solos, they belong to their creators.

In the jazz realm, the apex of musical knowledge in the form of improvised solos, are not meant to be reproduced. Thus, spontaneous innovation has a greater aesthetic value than celebrated canonic masterpieces, whether they are composed tunes or recorded performances.

There are two main types of practical knowledge students are engaged with in this process as shown ahead.

Imitation and transcription. Mirroring the community's traditional informal learning processes educators encourage students to learn to imitate the performances of jazz masters (Aebersold, 1967; Coker, 1964; Mehegan, 1959). They must use their

ears in order to excavate musical knowledge of formal elements constructing the melodic lines and harmonic progressions they hear (Berliner, 1994, pp. 507-511). In addition they learn stylistic nuances of tone color, breath, rhythmic feel and accents. In other words they must personally study and learn what musicians play and how they do it. The 'what' and 'how' are two different types of knowledge; declarative and procedural. In the act of imitation students must understand both types of knowledge, but they also must combine and personally utilize them as they act. Listening plays a crucial role in this act, for only through listening can students personally find and explore these types of knowledge (Berliner, 1994). They act within the limits of their hearing abilities, and develop it along their way. While praxis-oriented educators have denounced listening as passive in relation to the actual practice of playing music, jazz pedagogy offers a fresh view of active listening. The interesting aesthetic and epistemological meaning of this action will be discussed in the following sections.

Transcription. Often students transcribe the solos which they learn to imitate, in order to tangibly affix excavated personal knowledge for future reference and analytical study. The act of translation of heard music to notated symbols is complex and constructed on various layers of abilities and skills additional to those which are utilized in imitation: notation also necessitates the understanding of theoretical analysis of melody, harmony and rhythm, for the processing and compiling of heard music and its translation to a grammatical symbolic system in addition to the mastery of notation techniques. This unique knowledge transformation and its importance will be further discussed in the following sections.

Interpreation of raw material. Performing jazz musicians are expected to personally add their identifying musical fingerprint as they interpret the melodies of the tunes they play. In their pedagogic literature educators repeatedly encourage their students to experiment with interpretations of tune melodies and make them sound like their own (Aebersold, 1967). The comparison of the performances of artists playing their own version of the melodies of the same standards reveals the endless possibilities of variations and unique recognizable personal interpretations.

Interpretation is not limited to melodies. It is common for harmonic players (e.g. piano, guitar and vibraphone) to embellish and re-harmonize the chord progression. Personal interpretation of harmony, re-harmonization techniques and chord voicings are also elements constructing the players' unique fingerprint, for

example: Bill Evans' voicings on *So What* in Miles Davis' *Kind of Blue*, or McCoy Tyner's famous voicing in 4ths, to mention a few.

Music books. Jazz repertoire is available in real books, and fake books providing lead sheets for standards which have been traditionally used by the musicians of the jazz community to communicate among themselves and with their audiences. The examination of real and fake books' lead sheet notation as source of musical knowledge is fascinating. It has been shown that lead sheet notation offers vague and ambiguous presentation of the melodies and chord changes of tunes; both are presented as general ideas. No arranging directions, orchestration nor specific instruments parts are present. Real and fake books are inaccurate and often contain mistakes (Berliner, 1994). Playing the melodies as they are notated in real books would result in stiff style-less outcomes; melodies are never played as notated in lead sheets on performances. In addition, the harmonic background is not notated; rather it is replaced by basic chord symbols that can be interpreted in countless possibilities (Mehegan, 1959, p. 76). Hence, the printed music is not a sufficient ready-made substance for performance and improvisation.

In comparison, Western traditional printed music provides edited precise note-by-note performance instructions including detailed accents, dynamics and tempo marks. It is allegedly an accurate copy of the composition, originally hand written by the composer. Therefore, commonly found Western traditional printed music is essentially a primary source. In contrast, real and fake book music is a product of transcriptions of jazz artists' performances. In many ways, they stabilize the artists' interpretation of compositions, and not the composers' product; they preserve performances rather than composition (Witmer & Kernfeld). Notated jazz music commonly found in real and fake books and in transcription compilations, are secondary sources of knowledge. Unlike recorded documentation of performances, they are not a direct product of the improvising artists; rather they are the printed translation of third-party interpretation of jazz performances.

On one hand lead sheet notation offers freedom which is unprecedented in the traditional Western music realm; players may interpret these general guidelines as they wish. However, in order to produce music out of lead sheet notation, players must master the challenging facilities needed to translate these indefinite hints to practical stylistic music making (Mehegan, 1959) and cross the information with recordings to correct printed inaccuracy and mistakes.

The notion regarding musical knowledge that emerges from the above is, that commonly used lead sheet printed music is an insufficient source of knowledge with which jazz performers must combine their personal practical knowledge in order to produce a stylistically pleasing performance. Reading notated music and adding slight embellishment within the stylistic boundaries is too little of what is expected from the jazz player even at a beginner's level. In other words, in the performance sequence, even when jazz musicians present the tunes (often referred to as 'heads') prior to their improvisation, their interpreted performance is crucially dependent on the combination and balance of knowledge which might be available in print, with theoretical and practical knowledge they personally acquire through their development.

The review of ready-made notated transcription compilations of artists' performances (Edstrom, 2003; Slone & Aebersold, 1978) has shown a more detailed and accurate notation than the common lead sheet notation. As claimed beforehand, these transcriptions, as secondary sources of knowledge, serve only as pedagogic materials within the jazz community; students learn to play them as challenging etudes, analyze and extract phrases and improvisational ideas from these sources of knowledge. It cannot be stressed enough that solos and transcriptions are never reproduced on stage; they belong to their creators (Berliner, 1994).

Canon – standards and improvisers. Musicians and enthusiasts of Western traditional music celebrate the canonic composition of great composers dating from the medieval era to our time (Cook, 1998; Martin, 2002). The jazz community's attitude towards the canon is ambivalent and complex.

Compositions that have been repeatedly used as platforms for various improvisers to express themselves have been referred to as 'standards'. The jazz community has witnessed hundreds of jazz standards which have been endlessly improvised on and re-cast in many shapes and styles. They have served as a common vocabulary for the communication of performers between themselves and their audiences. Their forms of harmonic progressions have served as the fertile ground on which musicians have re-harmonized and developed inspiring solos. In addition, educators have used them as milestones for the construction of curriculum (Whyton, 2006); a hierarchical order of melodic, harmonic and rhythmic complexity.

However, the review of the pedagogical materials has shown a common tendency to regard standards mainly as platforms for improvisation, stripped down

from their lyrics, melodies, orchestration, keys, arrangements etc. and discussed mainly in terms of musical functional formulae. Since the main aim of jazz pedagogy is the development of improvisational skills, there is a clear shift of focus away from compositions towards becoming a performing improvising artist.

Improvising artists and the recorded documentation of their performances have become the main objects constructing the canon of the jazz community throughout the years (Whyton, 2006).

Original compositions. Reviewing the tune lists of the jazz discography throughout its history, shows that performers, especially post World War II, have been engaged not only in improvising over well-known standards, but, increasingly, in composing original tunes and using them for their improvisation. This trend has been accelerated throughout the years and reviewing today's discography reveals that original compositions dominate the tune lists while standards are rare.

Individuality, creativity and personal research

One of the dominant repeated themes in the foreground and in the background of the reviewed pedagogy is the immense responsibility which rests on the students' shoulders in their individual quests. Since the pedagogical materials reviewed hereby concentrate mainly on the development of tools and skills for improvisation there are more questions and possibilities suggested than answers and solutions; the possible paths which students may take are countless, each leads to new endless variety of possibilities. Therefore, in many ways, it is the students that are responsible for their individual routes; each has her or his own personal track.

Throughout their books, educators encourage students to search, explore and experiment with the suggested ideas (Aebersold, 1967; Coker, 1964; Mehegan, 1959). Even Baker who offers thousands of melodic exercises and provides almost no guidance, titles his works as *Techniques of Improvisation* and sends students to "study some of the following recommended recordings" (p. 3).

Educators' attitudes towards the personal voyage demanded from the students, echoes the nature of paths that musicians of the jazz community have always taken. Students were always responsible for determining what and how they learn, much more than their educational systems espoused (Berliner, 1994, p. 51).

Creative innovation. The integration of the study of theoretical aspects of music, the practical mastery of improvisational technique exercises and the stylistic

knowledge gained through the study of transcriptions is not the final goal of jazz pedagogy (Aebersold, 1967; Baker, 1968-1971; Coker, 1964). It is repeatedly stressed by educators that the learnt materials are not meant to be played as is, rather, theoretical and practical knowledge serve as the ground and basis for creative genuine self-expression. In other words, mastery of existing knowledge is not the final goal, but rather a necessary step towards the innovation of new knowledge. Therefore students are challenged to seek (their own) artistic personal innovation; to strive to create a genuine original product (Beale, 2000, p. 274).

It has been shown here that the community is greatly involved in the evaluation of genuine innovation as the highest virtue of artistic expression. Throughout the history of jazz it was not the musicians who had the greatest instrumental mastery of the language who were prized, but rather the artists who succeeded in making the extra leap of genuine distinguishable innovation. Jazz pedagogy reflects this attitude in a vivid manner.

Aebersold (1967), for example, asks students a long list of thought-provoking questions regarding their aesthetic decision making. This challenging inquiry appears in a rather early stage of the book and almost in the same breath with which the very basic formal elements are being first presented. Thus, the involvement of creative decision making in jazz practice routine is seen by educators as a necessary integral element starting from the first steps of improvisation experimentation.

Problem solving and finding. Performance dictations are rare in the jazz realm. The review has shown that notated music offers brief, short-hand, simplified general ideas rather than exact guidance which is commonly found in the Western traditional music realm. Jazz musical text is less than sufficient for musicians to perform as is. The freedom this enables musicians is unprecedented in the traditional idiom but it also demands unprecedented skills and abilities. A sketchy idea can lead an improvising ensemble of artists who interact with the musical material and more importantly with one another - to unpredictable, countless musical creative possibilities. Improvising musicians reacting to a constant stream of ideas generated from other team members are engaged in aesthetic problem solving based on their knowledge, experience and musical personality. Unlike the problem solving processes composers are engaged with, this process is spontaneous, and cannot be revised nor can it be modified. Borgo (2006) and Sawyer (2003) suggest that beginners often adopt a problem-solving approach as they start with a relatively detailed plan guiding

their work to accomplish it. However, experienced jazz players adopt a problem-finding approach in their group improvisation as their interaction stretches the boundaries of communication in unexpected directions. In this act they alter the musical situation in a dynamic dialogue, finding and creating new problems to be solved by the ensemble. Improvising artists are both problem solvers and problem finders.

Convergent and divergent thinking. By the aesthetic definition of the creative process in which improvising jazz artists are involved, two types of thinking are simultaneously engaged. On one hand they practically apply theoretical knowledge of stylistic formal elements. This knowledge is available in primary sources such as recorded or live music and secondary sources such as text books of harmony, theory and musical analysis in which musical knowledge is formulated. Their engagement with this knowledge necessitates convergent thinking. However this type of knowledge would not be sufficient in jazz performance, for creatively acting in the ever-changing dynamic surrounding that they and their ensemble member create, improvisers must necessarily engage in divergent thinking.

There is much more than one right solution for the problems they simultaneously encounter and create, for each problem can be resolved in various manners, and since these problems are unpredictable, none of their text books can provide them with the solutions. Therefore jazz pedagogy is mainly engaged in the development of knowledge, tools and improvisational skills that would enable students to divergently act upon their dynamic dialogue.

Epistemological aspects.

Declarative and procedural knowledge. The musical knowledge which educators have formulated has been serving as the theoretical infrastructure for the development of pedagogy and institutionalized curricula. Theoretical knowledge explains and analyzes formal musical elements such as harmony and melody, and explicitly describes stylistic musical practices. Either notated or literally discussed, this formal knowledge is verbal in essence and often referred to as declarative. Formal musical education, as seen in the reviewed literature, maintains that musical meaning can be extracted from the formal elements of music and does not require a direct engagement in music practice.

It has been shown that the essence of the aesthetical approach of jazz pedagogy is praxial; pedagogy is concerned with the extraction of musical meaning through direct engagement with music making. The pedagogic literature review stresses that educators focus mainly on procedural knowledge and the actual transformation of theoretical knowledge to its practical execution.

In the Western traditional realm performers reproduce the compositions of composers and while understanding formal elements may contribute to their interpretation, their performance is not dependent on it. Traditionally, compositions may be interpreted but not altered. It may easily be assumed that in many cases the theoretical knowledge of the composer exceeds that of the performing student's.

In contrast, jazz musicians compose the music they perform as they improvise. They construct musical elements based on their theoretical knowledge and its practical mastery; their performance is critically dependent on the combination of both theoretical and praxial knowledge.

Jazz musicians perform within the limits of both their theoretical and practical knowledge; what they perform cannot exceed their knowledge. Actually having almost no tangible performance directions in their hands, improvising artists cannot act without formal knowledge and its practical mastery; their performance is a product of the correlation of both. Raising the artistic level of their performance is not a matter of picking a challenging composition and polishing its performance, rather it is a matter of developing their theoretical and praxial understanding and their improvisational skills. While their equivalent Western traditional colleagues might pick a challenging Rachmaninoff piano piece in order to express a high level of performance mastery, experienced jazz musicians may create musical wonders using a 12 bar blues form based on a three chords concept.

The continuum – traditional and innovated knowledge. Whether students learn to practically apply theoretical knowledge learnt from secondary sources, or its practical application learnt from primary sources, they exercise knowledge created by musicians, educators and theoreticians. The complex learning process of musical knowledge of the jazz tradition described hereby is not the end goal of jazz students' paths. There is one more important stage of knowledge transformation in the cycle, since the main aim of jazz students and musicians is the engagement in the creative process of improvised innovation. Based on their theoretical and praxial knowledge of the tradition and the skills they have developed, students actually create improvised

knowledge interacting with their ensemble members. The new musical knowledge they personally create is genuine and unpredictable; it is not written in any textbook or learnt in any course.

Thus the learning cycle never ends as improvisers create new implicit knowledge which is experienced or "distributed" as Brogo (2006) refers to it, in their community whether in informal sessions, on stage, or in the recording studio. The innovation of knowledge which is highly evaluated by the community will eventually become a part of its shared traditional canon and serve as a start point for the cycle of knowledge transformation to begin again.

Community

It has been shown that community plays an important role in the jazz realm as the venue in which students and musicians learn, share and exchange formal and practical knowledge (Beale, 2000; Berliner, 1994; Borgo, 2007). The scale in which community collaborations act varies from local-scale informal sessions in which students learn from each other, 'sit in' with their mentors, take part in public jam sessions and attend live concerts - to global-scale where knowledge is being constantly shared through recordings of studio and live performances. These community activities maintain knowledge sharing and development as a dynamic perpetuated process, whether it is experienced and practiced locally or globally.

Informal learning processes. The dominance of the communal collaboration in the jazz realm affects the nature of learning: in addition to formal learning elements, jazz pedagogy promotes informal learning processes which occur in unofficial gatherings, jam sessions and performances. Stressing that music-meaning arises not only from its original context of production but also from the context of its social distribution and reception, Green (2006), who discusses music in general and not jazz, refers to the "delineated meaning" of music as rooted in its cultural, social and political context. The delineated meaning of jazz is constructed, among others, on these characterizing processes as follows:

In informal musical sessions jazz students often work without the supervising guidance of teachers and mentors. The unguided interaction among themselves allows learners to freely choose materials of their own preferences which challenge their skills and knowledge in a non-hierarchical manner. In addition to their use of sketchy notated music, their music making is dominantly un-notated and often learnt by heart

through listening, discussion and imitation. Conscious and unconscious peer learning is dominant in all local-scale practice routines and sessions where students watch, listen, imitate and learn by heart their associates' ideas, actively respond and contribute their personal input to the shared and reciprocal processes.

In addition to Green's (2006) characteristics of formal and informal learning processes, it should be added that as opposed to the formal traditional practice of the reproduction of canonic repertoire, individuals and collaborating practitioners who participate in informal learning sessions also frequently compose and perform original music, a phenomenon which is common in the jazz realm. In addition, during recent years, students informally learn hands-on video tutorials freely available on the Youtube internet channel, where they can copy and imitate demonstrators and tutors of higher levels of expertise, at their own pace.

While performing, improvising, composing and listening skills are treated separately in formal learning (Green, 2006) they are integrated by jazz learners, typically to informal learning processes. It has been shown here that pedagogic literature highly articulates the integration of formal and practical knowledge along with the development of abilities and improvisational skills. The high reliance on the creative decision making and individual freedom of students which characterize informal learning (Rodriguez, 2009, p. 44) are also typical to jazz learning.

All of the aspects of jazz pedagogy listed hereby are a manifestation of Green's (2006) characterizing definition of informal learning. They are essential elements in the "delineated meaning" (Green, 2006) of jazz learning. All are reflected in both jazz pedagogy and the actual learning processes which are commonly practiced within the community. Interestingly, while Green (2006) stresses that educators should examine ways of integrating informal learning processes in their formal practices, aspects of informal learning such as imitation, learning by ear, and the integration of improvising and listening skills are practiced also in institutionalized formal jazz learning.

System ecological view of collective creativity and swarm intelligence. During the 1940's alongside the disintegration of swing big bands playing commercial, arranged music led by conductors, small bebop ensembles emerged, relying on high expertise of improvising specialists stretching and challenging the borders of jazz. The jam session scene has altered the aesthetics of jazz in a non-return manner.

The process in which jazz improvisers have been involved ever since demonstrates the notion that researchers such as Borgo (2006), Csikszentmihalyi & Jewell (1987)and Sawyer (2003) stress regarding the collaborative aspects of creativity. Improvisers' interactional dynamics result in a complex unpredictable outcome which cannot be explained in terms of the group's components. In other words, "the whole is greater than the sum of the parts" (Sawyer, 2006).

Borgo's (2007) "system" view of a free-form improvising ensemble as a complex network in which decentralized decision making occurs is also applicable in many senses in the analysis of the typical jazz practitioner's music making ever since the emergence of bebop. The collaborative creative process of jazz practitioners forms a kind of *swarm intelligence* of a *group mind*, (Borgo, 2007), even when a general idea of a structured form sets the background of their group improvisation. In turns, ensemble members take temporary lead as they improvise solos while other members respond in a dynamic group dialogue. Problem finding and the efficient solutions to problems are achieved in ensembles without dominant coordination by a leading organizer.

The "ecological system" perspective (Borgo, 2006) highlights the identification of the collective aspects of creativity in which a complex non-linear ideation and evaluation order takes place and knowledge is created, exchanged and developed within the group.

Curriculum and Teaching

Genuine music making reflected in jazz pedagogy. The translation of a discipline to pedagogy is not a matter of triviality. The pioneering pedagogical literature reviewed hereby may apparently present different approaches of each of the educators to jazz pedagogy. Being jazz musicians, all share the same understanding of the essences of jazz practice - approached from a different pedagogical angle. The apparent view from which each of them approaches jazz as a discipline may be theoretical, analytical or practical, but their pedagogy stresses the integration of the three aspects. The analysis of their writings portrays a shared view according to which theoretical and praxial knowledge are inseparable.

On one hand they present formulated pedagogical knowledge which is a product of their research and analysis of the practical methods used by musicians in the jazz tradition. This knowledge is highly correlated to 'the field'; it is a translation

and a reflection of jazz music making. On the other hand, understanding that what may seem like a positivist point of view of the nature of knowledge in jazz is not the only one, their pedagogy emphasizes yet another view. By repeatedly questioning and encouraging students to conduct their own personal research, to explore, to experiment and by providing them with tools which would serve them in their personal quest, they shift the responsibility of knowledge construction to the hands of the students. Though not specifically declared by these educators the paradigm from which their pedagogy derives is constructivist.

None of the educators uses terms such as positivism or constructivism which are derived from the theories of knowledge and education; their discussion is purely aesthetic. Crossing this pedagogy with the ethnography of the jazz community reveals that the reason constructivism colors jazz pedagogy is because jazz methods are constructivist. The translation of these methods to pedagogy also mirrors their constructivist aspect. Although not directly addressed, this pedagogy is a manifestation of the notion presented by Shkedi (2003) regarding the need to address both positivist and constructivist aspects of the discipline in educators' teaching.

Borrowing Shulman's (1986) terms, this pedagogy reflects educators' "subject matter content knowledge" representing their understanding of the substantive and syntactic elements of the discipline. The unique methods they use in which they promote the integration between theoretical and praxial knowledge and positivist and constructivist paradigms reflects their "pedagogical content knowledge" which includes their understanding of the most effective forms of representation of the "wisdom of practice".

The authenticity of the way in which this pedagogy has reflected musicians' engagement in music-making in the jazz community is probably one of the dominant reasons for which it is highly valued.

Jazz programs criticism. It has been shown that researchers criticize the manner in which jazz is often approached in music programs. Ake (2002) stresses that music program directors often narrow jazz pedagogy to forming functional marching bands in which students follow notated directions and keep a unified intonation. Kennedy (n.d.) argues that in many cases teachers impart knowledge by rote and avoid the addressing of the essential concept of jazz. The analysis of this criticism in view of the findings presented hereby, demonstrates that music programs often fail to

translate the essences of jazz as a discipline to a comprehensive curriculum regarding its unique innate meaning, creative aspects and epistemology.

Teacher education and orientation. The problem for which music programs fail to construct and maintain successful jazz curriculum may be found in teacher education. Ake (2002) and York (2001) stress that in the United States, Canada, and the United Kingdom the overwhelming majority of teachers and heads of music in schools and universities are classically trained. Regarding the insertion of popular music into the set of classical oriented set of classroom, Sloboda (2001) argues that genre differences involve different approaches and ways of thinking.

In other words, classically trained teaches lack the practical musical experience, ways of thinking, understanding of the content and the pedagogical content knowledge needed to teach jazz. Jazz should be taught by teachers who are trained as jazz musicians.

Discussion, Conclusions and Implications

P for place, jazz's enabling conditions for creativity

In their definition of creativity, educators (Hickey & Webster, 2001) stress the important interaction of "person, process and product" and hint at the responsibility of teachers to provide students with the "enabling conditions" for the development of their students' creative thinking. I argue that the aesthetics of jazz have inherently shaped a musical practice that accents the integrated development of creative persons, processes and products in an unprecedented manner.

The way jazz aesthetics promote the integration of divergent and convergent thinking, problem finding and solving, experimentation, improvisation, personalization of the learning process, freedom of expression, knowledge sharing, development and transformation, collaborative creativity, peer learning and safe venues in the form of jam sessions – manifest jazz as the 'place' providing the "enabling conditions" for the development of creative thinking. Jazz education which authentically succeeds to reflect the actual music-making as celebrated within the community profoundly embodies elements of development of creative thinking. Thus, the delineated inherent aesthetics of jazz manifest the notion of genre aesthetics as possible enabling conditions for the development of creative thinking; a 'place' to be added as a forth 'P' to the interaction between person, process and product.

Defining epistemological aspects implicitly underlying jazz practice

Musicians relate to their art in terms of aesthetics. We have seen that the community practice of jazz music as an art-form has established a shift of the aesthetic focus from the reproduction of canonic compositions of prominent composers to the innovative performances of improvising artists. Jazz music educators, musicians who have authentically translated the actual practice of music-making to pedagogic materials, also speak in terms of aesthetics. However, implicit in the actual practices of music-making in the community and educators' pedagogy is a dominant unique way of relating to musical knowledge. It has been shown that aesthetics greatly affect epistemological aspects regarding the nature of the musical reality, the relationship between the learners and the objects of knowledge and the ways in which knowledge is constructed, handled and developed.

Music education, among other aspects, involves knowledge. Thus, in order to better their teaching, in addition to their aesthetic discussion, educators must fully understand the epistemological aspects underlying their discipline in order to authentically address them in their teaching and curricula; educators must also speak in terms of epistemology.

Positivist and constructivist paradigms of knowledge. In their effort to formulate standardized pedagogy, educators have collected stylistic practical elements from transcribed recordings and translated them to musical theories. Formulated musical theories and knowledge have eventually led to the development of theory and method books and to the establishment of courses and standardized curricula of institutionalized programs. The epistemological essence of this knowledge is positivist: formulated, organized, standardized and available as absolute ready-made knowledge. Indeed, many positivist formal elements are involved in the music theory of jazz which relies on Western traditional theories and analysis methods. The understanding of complex formal-theoretical knowledge and its practical mastery are crucial for performance: jazz performers must master formal knowledge in order to perform.

The community's attitude towards music, its creators and jazz pedagogy reflects yet another paradigm that works in conjunction with the positivist paradigm. By suggesting formal theory, practical technique for improvisation and mental preparation for students' creative journey, educators equip students with tools which are meant to enable them to construct their own knowledge. Their experience and informal interactions with other members of the community add to their contextual understanding and the construction of their artistic personal identity. Interviews with musicians within the community confirm that the learning experience of students is personal, relative and subjective, for, as shown in the review, students are personally responsible for their experience, interactions and exploratory paths. In other words, under the practice of jazz, students construct subjective meaning through experimentation and interaction.

The aesthetic shift towards innovative improvised performances highlights exceptional personalized music-making and learning processes which are divergent and contextual. Direct experience and experimentation are the means through which learners construct their individual knowledge and subjective meaning; dependent on their interaction with it, with their contextual surrounding and the complex ecological

systems of knowledge-sharing and development with their community. Thus, practitioners are engaged not only in learning knowledge but also in the contribution of knowledge development within their community (local to global, dependent on their level of artistic achievements). Learners also assimilate constructivist research methodologies in order to construct their knowledge: declarative and most importantly procedural.

Therefore, I argue that the constructivist paradigm dramatically colors the background and the foreground of jazz pedagogy, although in all the reviewed literature presented hereby none of the educators or the researchers discuss paradigms of knowledge. Their discussion is purely aesthetical, yet their practices utilize both positivist and more significantly constructivist knowledge, even if it is never discussed in these terms. I stress that in music, aesthetics define epistemology. This notion cannot be overlooked when educators translate aesthetics to pedagogy.

Knowledge conversion cycle. I suggest that the analysis of the ways musicians and students handle knowledge reveals that through their practice they repeatedly transform knowledge from one type to another in a unique cycle.

Jazz students use recorded documentations of artists' performances as primary sources of knowledge. Recorded music is a manifestation of the artists' praxial knowledge which is also dependent on their theoretical knowledge. However, unlike the explicit knowledge which is available in theory books, recorded knowledge is implicit; students must excavate it through listening in order to poses and examine it. While students try to figure out what they hear on the recordings, they transform implicit knowledge to explicit. Transcribing this new explicit knowledge allows them to visualize, analyze and transfer it to verbal theoretical knowledge which can serve them and other members of their community.

Trying to actually play and imitate masters' steps, students transform this newly understood explicit knowledge to praxial knowledge. At this stage they practically try out different techniques, fingerings, chord voicings, breath, articulation, etc. until they master it on their instruments; they personally "embody" (Borgo, 2006) practical knowledge of other musicians.

While practically working on micro nuances perfecting their performance students are engaged in developing personal tacit knowledge. Tone color, sound production, rhythmic nuances of 'drive' or 'swing feel' cannot be notated. They may be compared to a specific lingual accent. This personal practical knowledge is tacit; it is

individually developed through practice and it solely belongs to the performer. Students searching for their own 'swing feel' and rhythmic drive are also engaged in tacit to tacit knowledge learning and development.

It is important to underline that in their learning process from primary sources students must conduct constructivist research in order to excavate implicit knowledge and to transform it to other types. Students always work within the limitations of their ability: beginners' limited abilities allow them to explore basic simple sources. As their abilities develop and expand through their professional progress, advanced students are capable of extracting complex knowledge from challenging sources.

Thus, I argue that although musicians might not speak of it in this sense, these learning practices are a holistic exercise of knowledge transformation.

Research discipline organizational knowledge underlying creative thinking in jazz practice and pedagogy

Karmon's (2007) description of organizational knowledge and the distinction between "school subject framework" (i.e. school to graduate) and "research discipline" (i.e. most notably in post-graduate stage) is discussed regarding educational systems in general. However, his argument is relevant to common practices of music education as well.

Organizational knowledge in school music education. Although not directly addressed, some of the criticism brought in Karmon's (2007) writing is also echoed in the writings of music educators (Hickey & Webster, 2001) who call for the engagement of creative thinking in music education. There are two main implications concerning the current situation of music education and the enormous possible impact of the embedding of the development of creative thinking in music classes.

The risk of underestimating creative thinking in music education. First, according to the picture that has been portrayed by Hickey and Webster (2001), music education systems tend to avoid directly addressing the development of creative thinking and to postpone it to late stages. This tendency mirrors the common school subject framework organizational knowledge described by Karmon (2007) as follows.

The main cognitive aim of the school subject framework is the inculcation of existing knowledge, whereas only during advanced studies are students encouraged to creatively produce original music, to compose, or to improvise (Hickey & Webster,

2001, p. 22). The school subject framework's preferred cognitive performance is a final exam and such are theory and harmony exams using pen and pencils, or concerts where pupils are measured by the quality of their performance on a prepared piece. Original compositions and independent genuine performances are preferred cognitive presentations only during later stages of education. The teaching of closed questions in school mentioned by Karmon (2007) is equivalent to the commonly found harmony exams, in which students are asked to harmonize a figured-bass phrase or a given soprano line, to find the tonal center of the theme of a sonata and so on. These tests usually have one correct answer which is known to the teacher (Goodlad, 1984; Sarason, 1996) and may be found in the textbook. The selection of knowledge would generally be basic accepted knowledge of the content area (Bernstein, 1990; Bourdieu & Passeron, 1977; Karmon, 2007).

An important criticism raised by Karmon, is that the school subject framework often relates to knowledge in an inert manner that is non-disciplinary; although students learn subjects which are products of research, they do not learn to think in the unique disciplinary manner. While learning history for example, students do not exercise research thinking in the same manner historians do; instead, they learn about history. This is an important issue which music educators must discuss: does music teaching in the school subject framework authentically reflect the actual creative processes which are at the heart of music-making as a discipline? Borrowing Schwab's (1973) term, does teaching reflect the "faces" of the discipline's essence? Do teachers incorporate authentic *"pedagogic content knowledge"* (Shulman, 1986)? Do music pupils learn to actually think as musicians? According to music educators' criticism, the answer is often negative: by avoiding addressing the development of creative thinking, music teaching in the school subject framework tends not to utilize and nurture the unique way of thinking of music as a discipline.

Convergent thinking is fundamental for music education as it is for education of other disciplines. The packaging of positivist knowledge in textbooks and its transmission is important for structuring necessary pieces of information in the learners' minds. However, this 'as is' knowledge has been produced "somewhere else" and it is often viewed as material that students must digest (Karmon, 2007). Music educators must remember that music is a product of a constructivist creative process involving creative thinking. If students are engaged only in convergent thinking without being stimulated to divergent thinking, if students are not involved in problem

finding and solving during their learning, if music is not experienced in a personal manner and if music is not practiced in a creative manner, then music teaching-learning processes are detached from the true essence of the discipline: creativity. It has been seen in previous chapters that the fact that music - which is the creative product of creative collaborative individuals who are engaged in creative processes - is the learnt subject, does not necessarily guarantee that music education will be creative.

Organizational knowledge of creative thinking in music education. The other side of the coin is surprisingly optimistic. Music education which succeeds in implementing the development of creative thinking carries benefits beyond music education in ways that even educators have not yet articulated. Karmon (2007) comments about high school classes in arts (film, theatre, fine arts, music), in which primary sources of knowledge have been used instead of the common "school secondary sources". Arts students showed "impressive levels of commitment and effort" to classes in the field, in comparison to their other classes (Karmon, 2007, p. 631).

I assume that art classes involve the encouragement of their students' creativity and its development. I have suggested in previous chapters that the usage of primary sources of information in art classes is only one aspect of many which take place in a teaching-learning process which exposes students to a different paradigm than that which is common in the school subject framework: an organizational knowledge that is aligned with the discipline way of thinking, produces powerful teaching-learning processes.

According to the aforementioned writers, teachers who emphasize the development of creative thinking in their teaching, promote divergent alongside convergent thinking, experimentation, inquiry and problem solving and a personalized learning process. The development of creative thinking is dependent on the incorporation of a constructivist paradigm, an element that might be rare in the dominant positivist paradigm of the school subject. It is possible that the incorporation of a constructivist paradigm with a positivist paradigm is the key element allowing students to experience higher levels of knowledge organization; the very essential element of which research disciplines in comprised.

Research discipline organizational knowledge embedded in jazz education. Jazz as a discipline has been taken in this dissertation as an example, a

kind of case study, as it were, for music pedagogy, examined for its aspects of creative thinking and unique epistemology. It has been seen that jazz education which succeeds in authentically reflecting the essences of jazz music-making embodies profound elements of development of creative thinking and a unique epistemology. I suggest that the examination of jazz music-making as a discipline and its pedagogy reveals that there are many aspects which they share with the organizational knowledge of the research discipline as follows.

It has been seen that the cognitive aim of jazz practice and pedagogy is not only the inculcation of existing knowledge as commonly found in the school subject framework, but mainly the creation of new knowledge which is typical to a research discipline. Although students are expected to master traditional stylistic musical knowledge the preferred cognitive performance according to which they are evaluated, is the creation of original genuine knowledge, whether it is improvised or composed. It has been seen that jazz learning relies on knowledge that students explore by studying and transcribing the performances of their idols. Despite the great respect the community has for canonic knowledge, it belongs to its creators (Berliner, 1994, p. 101); learnt solos are never reproduced on stage. The way the jazz community regards knowledge and accents innovation rather than reproduction, resembles the research discipline's way: researchers base their work on the knowledge-infrastructure of previous researchers' works; however they are not praised for the reproduction of the accumulation of learnt knowledge, but rather, on the innovation of genuine knowledge.

Jazz students are expected to be creatively involved in both problem solving and finding, which are equivalent to what Kuhn (1970) refers to as "scientific riddles". The solutions for these problems are not known in advance either to the students or to their teachers; the performance of improvising jazz musicians cannot be expected in advance. During the primary stages of learning students are presented with basic conventional selected knowledge which resembles school subject framework guidelines, but at the same time they are stimulated to explore uncertain venues, to experiment and to challenge their limits. The inquiry into (uncertain) ambiguous realms is typical of a research discipline. Methods and theory books have been available for jazz students as secondary sources of information ever since the middle of the twentieth century. However, like a research discipline, jazz students rely

mainly on primary sources of information in the shape of recordings from which they personally excavate knowledge.

Researchers (Gardner, 1991; Page, 1999; Wineburg, 1991) have criticized school subject teaching for not utilizing the disciplines' unique ways of thinking (Karmon, 2007). A strong correlation has been demonstrated in this dissertation between the practical methods of jazz music-making and its pedagogy. The particular disciplinary ways of relating to knowledge in a research discipline where students are required to apply a disciplinary perspective, is embedded in jazz pedagogy from early stages of learning. This connection between pedagogy and the actual practices of jazz as a discipline cannot be taken for granted.

The dominant shift of responsibility for jazz pedagogy onto the shoulders of the student for constructivist self-exploration, where students are expected to construct their own disciplinary knowledge and to determine the paths they must take in order to accomplish musicianship, is parallel to the characteristic paths which individuals in the research discipline must take; learning relies on research more than on a structured institutionalized curriculum.

Therefore, I argue that jazz as a discipline embodies organizational knowledge of a research discipline.

School jazz program as a research discipline: Organizational knowledge autonomy within the school subject framework. The practice of an authentic jazz program in schools allows students to be engaged in profound constructivist disciplinary learning, to be engaged in creative thinking development, problem finding and solving, combing convergent and divergent thinking, and to experience personalized learning.

Moreover, school subject framework students have a chance to be actively engaged in *group mind ecological knowledge system* (Borgo, 2006) and to explore knowledge organization of a research paradigm as an autonomous realm within their school subject framework. In simple words, it allows school students to experience higher thinking of research realms while being in school. Given Karmon's (2007) criticism about the common knowledge organization in the school subject framework, this may be a rather rare opportunity and serve educators as a powerful tool. I suggest two main conclusions that can be drawn from this notion.

Institutions that have the facilities to provide authentic jazz programs should make the effort to do so, not just for the sake of experiencing a profound music

teaching-learning process, but also in order to enjoy the opportunity to enable their students to be engaged in research discipline organizational knowledge, higher thinking and an ecological group mind system - and to celebrate its autonomy within the school subject framework.

Secondly, I suggest that music educators should take an extra step beyond the aesthetics discussion - and expose their students to the meanings of knowledge systems and concepts underlying their jazz music practice. The discussion of these epistemological issues of their music-making is potentially important for students' understanding not only within the realm of their musical experience, but also as a lesson to be learnt and explored in the real world of other disciplines they encounter.

Deconstruction of criticism against the usage of canon in institutionalized education. Whyton (2006) calls for a critical reading into the canon of jazz and the way it is approached in educational systems and the community. Common criticism against the canon claims that it has idolized favorite artists, performances and compositions in addition to genres, improvisational approaches and eventually stifled innovation in institutionalized jazz instruction. He offers a mid-way according to which the canon can be accepted in its traditional role: forming the well accepted academic agenda regarding the aesthetics of jazz and linguistic common ground. In addition, he encourages educators to relate to it in their teaching in a critical manner and to expose the forces which work in the service of both views.

Supporting Whyton's argument, I wish to add that even without the academic discussion regarding the place of the canon in the jazz community, the way jazz is celebrated shows that regardless of the place where musicians have originally learnt and developed their art, the influence of the community is stronger than all aspects of formal education, including the institutionalized view of the canon. Listening to modern jazz it is clear that this art form has made a quantum leap in branching out and away from its traditions. It would seem that artists have taken the mission of personal innovation and research as a philosophy guiding their artistic way of life. The way jazz is celebrated in the community sheds light on the notion that more than a music style, jazz is a philosophy which allows the symbiotic coexistence of both canon and innovation.

The canon should continue maintaining its important role in the construction of music education as the basis of its stylistic and linguistic ground and its philosophical core as an art form. The way it is celebrated assures that the jazz

community will constantly defy the canon in its dynamic constant quest for innovation. I strongly agree that educators should express both aspects in their teaching.

Curriculum Planning of an Authentic Jazz Pedagogy - an Effective Model of Jazz Education

A holistic view of jazz music-making. We have seen that jazz musicians incorporate skills, knowledge and abilities of various fields in their creative music-making processes which are webbed and co-related in a complex manner. Skills such as instrumental dexterity and technique, ensemble expertise, abilities such as reading, melodic, harmonic and rhythmic - internal and instrumental hearing ability, musical memory, compositional and improvisational competence, and knowledge such as harmonic and compositional understanding and improvisational theoretical knowledge, vocabulary fluency, stylistic familiarity, etc., are woven and inter-connected. Jazz music-making necessitates a simultaneous coordination of all.

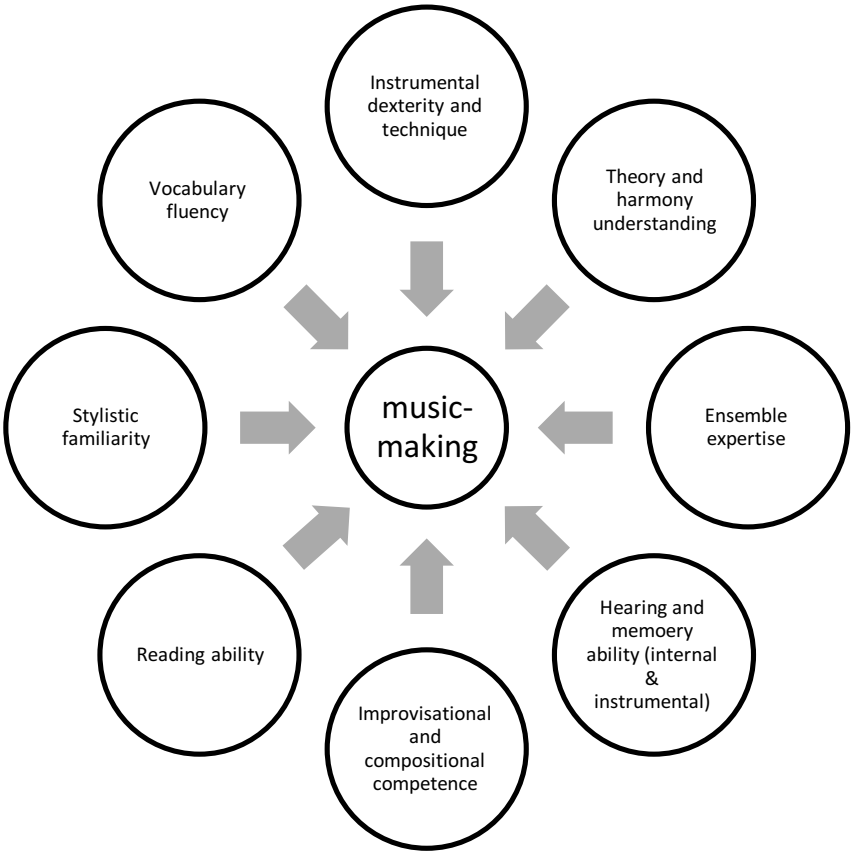

Diagram 1. Skills, knowledge and abilities incorporated in music-making.

Improvisers must master their instrumental technical skills in order to successfully execute and express their musical ideas. They must have stylistic knowledge which enables them to communicate with others and to come up with solutions for musical problems which they find and try to solve. Their hearing ability is needed in order to locate themselves in their ever-changing dynamic surrounding and their instrumental hearing ability aids them in translating their imagined ideas into actual playing. Hearing ability is also necessary for excavation of knowledge from recorded sources of knowledge. Improvisers' theoretical, compositional and improvisational knowledge all come into play while they construct their creative performance and all these kinds of knowledge contribute to the ecological conversation. Improvisers' practical mastery of theoretical understanding and linguistic vocabulary are used as they apply improvised melodic, chord voicings and rhythmical ideas as soloists or as accompanists and their practical knowledge of musical communication experience aids them to dynamically converse with their band members and creatively develop their stylistic improvised performance. All these elements are interwoven in a non-linear manner and are inseparably co-dependent on each other. It is clearly a constructivist process.

Commonly found institutionalized music courses. In their translation of music-making methods to curriculum, educators have unraveled them and developed separate linear courses in specific areas of expertise which are commonly found in institutionalized programs (Green, 2006, p. 106). Such courses include ear training, theory, harmony, music history, composition, improvisation technique, instrumental lessons, reading technique, etc. In these linear courses knowledge is organized in a hierarchical manner: new knowledge is learned on the basis of previously acquired knowledge. For example, triad chords (i.e. constructed of three voices) are learnt prior to seventh-chords (i.e. constructed of four voices). The need for hierarchal organization of knowledge is clear: the understanding of complex knowledge necessitates the establishment of concrete mastery of its basis as a prerequisite. The curriculum of each of these linear courses is based on the ascending degrees of complexity of the learnt subject and not necessarily in coordinated conjunction with the rest of the courses. Under these circumstances it is possible that in their private instrumental lessons students are challenged with pieces whose harmonic complexity is beyond their capability of understanding. In the same manner, in their harmony

classes students may learn intricate harmonic progressions which are beyond their hearing ability.

In a curriculum which is constructed of linear separate and non-correlated courses, the integration between skills, abilities and knowledge rests on the shoulders of the students; they constructively exercise this integration in the many ways listed in previous sections.

Holistic view translated to an integrative curriculum. Two important implications arise from these notions regarding the 'what' (content) and 'how' (pedagogy) of jazz curriculum planning.

First, regarding content, curriculum planning which is authentic to the epistemological underpinnings of jazz aesthetics must adopt a holistic view of the complex web of connections between skills, abilities and knowledge and to address each and every one of them.

Such a program should encompass a wide array of courses as follows. Classes dedicated to music theory, traditional and jazz harmony provide a comprehensive formal understanding which jazz musicians need in order to analyze their musical surrounding and construct formal musical elements in their improvised conversation. Improvisation technique classes are practical workshops where students learn, analyze and practically master theories regarding improvisation in relation to their understanding of music theory, harmony and style. In improvisation classes students also learn jazz masters' solos, transcribe, imitate and eventually work their way into developing the innovation ability of their own solos, while constantly analyzing, discussing, assessing and evaluating their progress. Hearing ability is probably one of the most important assets of every jazz musician. Ear training classes develop students' melodic, harmonic and rhythmic hearing ability and memory, both internally and instrumentally. Ear training courses must relate to theoretical understanding of formal elements. Instrumental instruction is necessary to guide students in their development of technical dexterity, stylistic vocabulary, specific instrumental soloing and comping technique and reading as well. Arranging classes equip students with tools for orchestrating and arranging music for their ensembles. Jazz music history classes provide an important understanding of the political, social and cultural background from which jazz has emerged and flourished from the end of the nineteenth century till today. They also provide an important source of inspiration, stylistic knowledge, understanding of the branches within the genre and leading

artists. Attending concerts and master classes and maintaining active discussions regarding inspirational sources are important in stimulating and developing artistic ways of critical thinking.

The crucial integration between declarative and procedural knowledge which has been discussed in previous sections, ought to be addressed in such courses. In other words, in theoretical courses students should not only learn about theory, but also and especially how to practically implement it in their music. Students should be challenged to compose original compositions, arrange pieces for the ensembles they participate in, harmonize and re-harmonize tunes as well as writing original compositions. In addition, it is important the students learn to practically apply learnt improvisational melodic and harmonic theory, experience and experiment directly with their instruments.

Second, regarding pedagogy, I strongly advise that jazz music programs should endorse the unique epistemological paradigm regarding disciplinary knowledge and the creative aspects involved in its music-making practice. It has been seen that research organizational knowledge underlies the creative music-making of jazz aesthetics, thus jazz students, like musicians, are expected to think as researchers.

Alongside the establishment of accepted knowledge students are to explore the innovation of new musical knowledge in a process which involves both convergent and divergent thinking. In addition to secondary sources packed in textbooks, learning processes should be based on the usage of primary sources of information from which students excavate knowledge though investigation and experimentation. The teaching-learning environment must promote constructivist engagement in creative thinking processes and ecological systems of collaborations which reflect the actual music-making practices in the jazz community.

This approach necessitates practical workshops promoting constructivist learning processes in which students are challenged to think as musicians, to explore and experiment, to be engaged in peer learning, to be creatively engaged in the integration of convergent and divergent thinking and to be involved in informal aspects of learning processes, to imitate, to learn by heart and to transcribe. In workshops students can exercise the suggested implications of research studies summed up by Watson's (2010) review. He found that among the predictors of jazz improvisation achievements are self-evaluation of improvisation, aural imitation, improvisation class experience and jazz theory knowledge. Workshops should provide

a safe play-ground for students to practically apply learnt theoretical knowledge and in addition to experiment, to explore unfamiliar venues and to be engaged in musical innovation. Following Borgo's (2007) suggestions, workshop teachers should also encourage free improvisation sessions, allowing students to experience direct engagement in decentralized "high-level" (Borgo, 2007, pp. 76-77) spontaneous collective improvisation and to explore the "interpersonal dimension of improvisation" (p. 68), beyond the pre-dictated formal aspects which are most easily represented by notation (p. 76).

Students must take practical part in authentic jazz ensembles and jam sessions in which they are engaged in collaborative creative improvisation as soloists and accompanists, experiencing group-mind, ideas sharing and knowledge transformation. Such ensembles may enjoy the canonic song repertoire of the jazz community as a common ground for group improvisation, but should also introduce newer compositions challenging the tradition, in addition to original compositions by band members. Facilities such as practice rooms, ensemble halls and recording studios must be offered for the students allowing them to work independently outside of school hours, without a supervising guidance, in order to informally and freely exercise collaborative group creativity. Educators should also consider Flack's (2004) conclusions presented in Watson (2010) regarding the effectiveness of Aebersold's play-a-long series and encourage students to integrate it in their practice routine.

Thus, a holistic view of the complex web in which jazz's unique epistemology is interwoven with aspects of creative thinking and the skills, abilities and knowledge necessitated by the discipline, leads to an integrative curriculum as characterized above.

This authentic assimilation of the practical application of methods of jazz music-making into a teaching-learning process integrates skills, abilities and knowledge according to its unique epistemology and embedded elements of creative thinking. This approach does not dismiss the hierarchal linearity of each of the learnt subjects in the curriculum, but offers a horizontal synoptic integration between all. By implementing this integrative approach into the teaching-learning process educators take part in the responsibility for the integration of these elements; it does not solely rest on the shoulders of the students. The ways in which this integration occurs were detailed in the *Findings* chapter.

Underestimating the importance of this integrative translation of the holistic view may lead to a failure of the music program to authentically mirror the true essence of jazz's unique aesthetics, epistemology and genuine creative music-making. It has seen that in the music classroom of common formal jazz education, jazz is often treated as classical music (Ake, 2002; Kennedy, n.d.).

In this manner, traditional Western music program teachers, forming a school's big-band of traditionally trained students, who play exact notated music of an arrangement by Duke Ellington, while soloists reproduce originally improvised solos by Ben Webster from notation, and members of the rhythm section tightly follow notated scores, may produce an impressive show. However, this is not what jazz is about.

Jazz program curriculum theoretical model. The model suggested in this dissertation (see diagram 2. For a visual representation) proposes two organizing views of the curriculum. First, the linear layout of each of the courses developing skills, abilities and knowledge (which their need is explained in earlier sections) is represented in vertical columns. Second, the integrative vision of the model is represented by the horizontal connections tying the linear columns. The visual separation between the vertical courses is meant only for the demonstration of the hierarchal linear aspect of their layout; they are actually woven into each other in an integrative manner.

The linear structure of the program is based on the combination of a gradual development of understanding of an ascending formal elements complexity - with its practical mastery reflected in hearing ability, instrumental dexterity, improvisational technique and its practical embodiment in private instrumental lessons, ensembles, workshops and jam sessions performance.

In order to manifest the horizontal integrative aspect of the program, teachers of different courses must be fluent in the curricular layout of each of the elements in the program and aware of their students' progress in the learning process. The synoptic view which is necessary for the integration of such a theoretical model cannot be taken for granted. It requires facilities allowing teachers' ongoing coordination, arrangement, assessment and modification.

The execution of such a model must allow flexibility and acceptance of interference. It has been seen that aspects of informal learning which are embedded in jazz music-making, involve non-linear and non-hierarchal unpredictable inputs into

the learning process. Educators must be open to considering and accepting students' choice of repertoire, original compositions, and unexpected directions which peer learning and collective creativity may bring into the dynamic ecological system of interacting students.

The theoretical model proposed hereby offers a general structure for a possible arrangement of the *content* knowledge of a jazz program. However, it should be remembered that the 'what' of this program is merely one half of the picture. Implicitly, this model also addresses the other half by offering teachers the 'space' for action in workshops, instrumental lessons, ensembles and jam sessions, where jazz can be celebrated. Educators must not forget the aforementioned suggested implications regarding 'how' jazz music should be taught. The pedagogical content knowledge, reflecting jazz aesthetics and epistemology emphasizing creativity and research organizational knowledge paradigm must maintain its ground as a dominant element coloring the background and the foreground of jazz teaching-learning processes. Using Borgo's (2007, pp. 71-72) words in metaphorical speech, music does not exists only in the notes but especially in the way we play them. In fact, the profound music-experience lies in the meaning musicians give to it beyond notation. In other words, this model offers a suggested infrastructure for jazz educators; the actual way they relate to it in their pedagogy in regard to jazz epistemology and aspects of creative thinking, will eventually determine the authenticity of the teaching-learning process to the discipline.

The aim of the following diagram (see diagram 2.) is to offer a visual lay-out of a suggested theoretical curricular model. Note that this is merely a general schematic structure for educators to consider rather than a step by step program of each course. The curved lines towards the bottom of the diagram indicate that the end of the page is not the end of the curriculum; its end cannot be determined. The topics which educators can discuss in their teaching are endless, and so are the innovations in the jazz community which are currently being developed.

Theoretical model for the construction of jazz curriculum

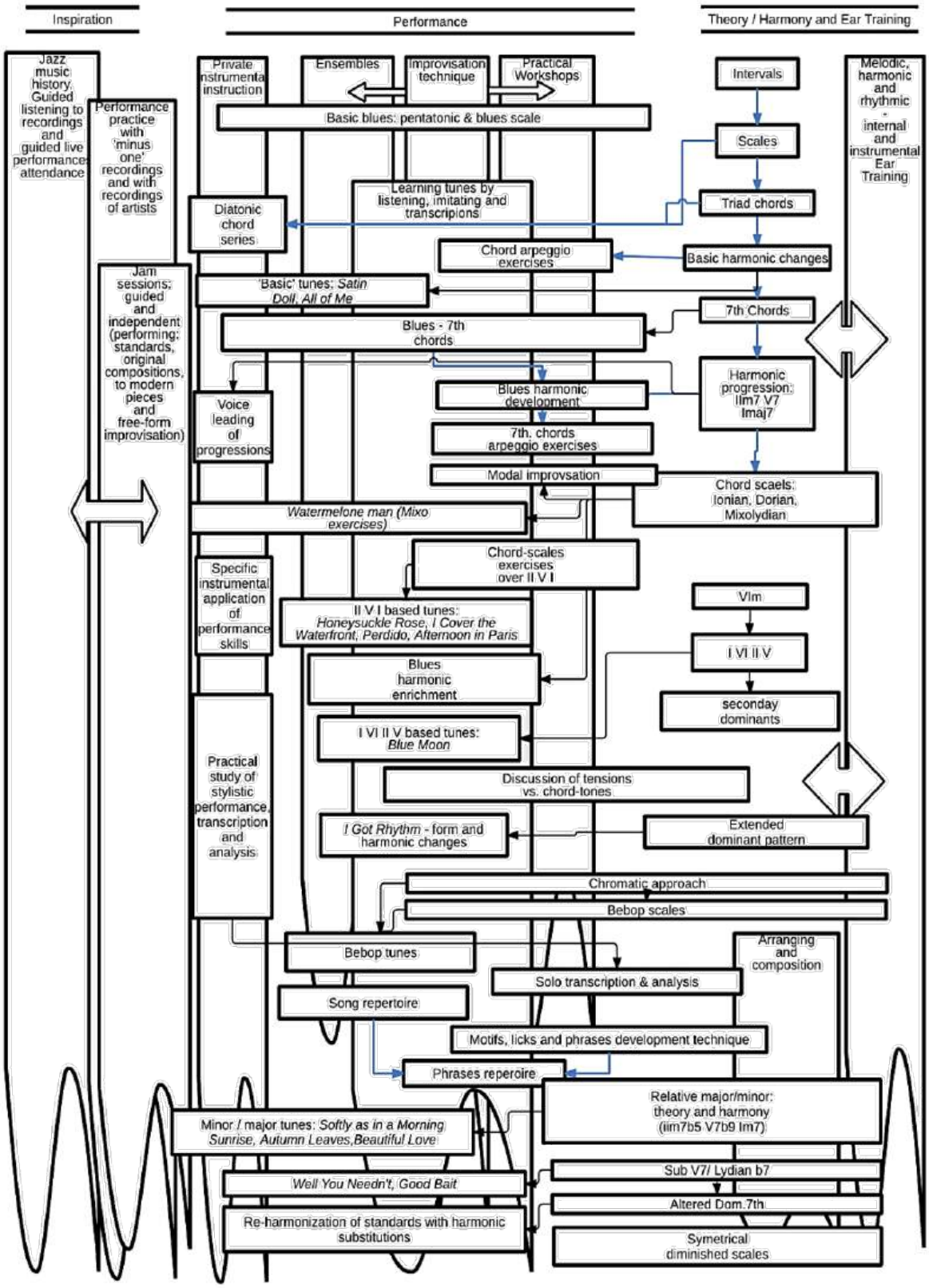

Diagram 2. Theoretical model for the construction of jazz curriculum.

Research Contributions

Theoretical contributions

Innate aspects of creative thinking. In their discussion of creative thinking in music education, most educators whose writings have been presented hereby, tend to speak in general terms without relating creative thinking to certain music genres. Others do discuss creativity in jazz, but concentrate almost exclusively on free-form improvising groups. In this dissertation main-stream jazz music pedagogy and its practical music-making methods have been examined for the existence of elements of creative thinking development. It has been shown that both pedagogy and practical music-making methods demonstrate profound dominant aspects of development of creative thinking which are innate in the aesthetical definition of the jazz genre as described above. I argue that this conclusion cannot be overlooked. I encourage music educators to examine the means by which aspects of development of creative thinking may be implemented in their teaching, and to study the findings and discussion of this dissertation to learn about the means by which they are manifested in the jazz realm. Jazz pedagogy is an effective example of successful embodiment of creative thinking in music education from which music educators can learn.

Aesthetics and implicit epistemology. In this dissertation I have related music aesthetics to epistemology and shown that different music genres relate differently, not only to aesthetics but also to knowledge. It has been shown that jazz music-making implicitly embodies an integral unique epistemology which is directly defined by its aesthetics. While musicians and music educators tend to discuss their music in terms of aesthetics, I stress that the understanding of the epistemology underlying jazz aesthetics is critical for the construction of an effective curriculum; in their translation of jazz music-making into pedagogy, educators must fully address both aesthetics and epistemology, for they are inseparable.

Research discipline organizational knowledge underlying jazz pedagogy. Karmon (2007) has stressed the differences between the school subject framework and research discipline organizational knowledge. I argue that the analysis of my findings reveals that jazz pedagogy and practical methods of music-making embody profound elements of research discipline organizational knowledge as described above. Jazz pedagogy and music-making allow students to be involved in higher thinking. They allow them to think as music researchers; as jazz musicians.

Theoretical model for jazz education. Weaving the findings and the conclusions of this dissertation regarding jazz aesthetics, pedagogy, music-making processes, aspects of creative thinking in music education and theories of knowledge, I have suggested a theoretical model for the construction of an effective jazz curriculum. This model offers a critical synoptic integration of various fields of disciplinary content knowledge (i.e. 'what') regarding skills, abilities, and knowledge - and the unique manner in which its pedagogy (i.e. 'how'), which emphasizes the development of creative thinking, relates to it. The model offers a translation of this holistic view into an integrative curricular infrastructure.

In *Charting Future Directions for Research in Jazz Pedagogy*, Watson (2010) suggests: "Berliner's (1994) landmark work on the thinking processes employed by improvising jazz musicians should be extended in order to develop theoretical models upon which jazz curricula could be based" (p. 391). I hope that the curricular model which I have suggested hereby will contribute to the jazz education community, and become an effective tool in the hands of educators. I offer this model for discussion and further development in future research studies.

Practical Contributions

Pedagogical implications: Jazz pedagogy as a model of effective music pedagogy. The analysis of the findings of the pedagogical literature and the actual music-making practices in the community portrays a holistic picture integrating music aesthetics, epistemology, creative thinking and a unique pedagogy. In their translation of jazz music-making in the community to pedagogical materials in the middle of the twentieth century, musicians-educators have sowed the seeds of the flourishing pedagogy which has been dynamically developing ever since. Their intention was purely musical, yet hidden between the lines of their writings are profound educational insights.

It has been shown that authentic jazz pedagogy, which embodies innate dominant aspects of development of creative thinking and a unique epistemology, offers an outstanding educational paradigm; it offers students higher thinking and research discipline organizational knowledge autonomy within a school subject framework. I suggest that the conclusions and implications presented here are relevant to general music education, jazz and other genres.

Implications for jazz pedagogy. Jazz teachers are encouraged to use this dissertation as a vehicle to examine their teaching beyond aesthetic criteria and to

question the extent to which their teaching authentically reflects jazz's epistemology and aspects of development of creative thinking. I encourage jazz educators to examine the theoretical model for the construction of jazz curriculum suggested hereby and to negotiate its possible implementation and modification adapted to the particular needs of their educational systems.

Implications for the jazz teacher's background and education. Ake (2002), Sloboda (2001) and Watson (2010) have pointed out that music teachers who are not trained in jazz music are not familiar with the different approaches to the jazz way of thinking. Their expertise, training and experience does not allow them to be fluent in the subject matter knowledge nor does it equip them with the pedagogical content knowledge needed to teach jazz as a discipline. Watson (2010) suggests that "investigations into the development of self-efficacy for improvisation would be beneficial to music educators" (p. 391). Indeed, deepening their understanding and practically developing improvisational abilities are highly recommended for all music teachers; however, this would not necessarily be sufficient to turn them into jazz teachers. The profound depth of the holistic view of the 'what' and 'how' of jazz disciplinary pedagogy, cannot be obtained by teachers whose expertise and experience are derived from a different discipline.

Therefore, I argue that jazz can be taught only by experienced jazz musicians who have the understanding of jazz's aesthetics and in addition have developed an understanding of its unique underlying epistemology and a mastery of its pedagogic content knowledge.

The suggested implication for music education programs is that rather than the construction of a general curriculum for all prospective teachers, in addition to the general courses which are relevant to all, specially designed courses should be developed for jazz musicians-teachers in order to address the discipline's unique epistemology and pedagogical content knowledge. In the same manner specially designed courses should be developed for each of the other disciplines.

Implications for general music education. Music teachers of all genres are encouraged to use the methodologies of this current examination of jazz and to apply them to the examination of their own realms. Music education is not only about musical aesthetics. Questions regarding the underlying epistemology of their aesthetics, its manifestation in their teaching and the extent to which the development of creative thinking is addressed in the music room, are relevant and critical for the

teaching-learning process of all genres. The philosophy underlying the construction of the theoretical model suggested hereby can be used as an example to be modified for the construction of parallel theoretical models of other genres.

The great jazz pianist Bill Evans stated:

> Jazz, as we tend to look at it is a style, but I feel that jazz is not so much a style, as a process of making music… We must remember that in an absolute sense, jazz is more a certain creative process of spontaneity than a style. Therefore you might say that Chopin, Bach or Mozart improvised music, that is to be able to make music of the moment was in a sense playing jazz... Jazz has resurrected the art of spontaneous creative music, again, it hasn't been heard since the seventeenth or the eighteenth century (Carvell, 1966).

In other words, if we are able to look at the essence of the creative processes of music-making and their epistemological implications in jazz beyond style, these paradigms may and should be applicable to other musical styles.

Implications and suggestions for education beyond the realm of music. The conclusions of this dissertation regarding the examination of the means by which jazz pedagogy authentically reflects its processes of music-making and its unique epistemology may even be relevant for the construction of parallel effective curricular models in other disciplines as well. Teaching of any discipline should be based in the unique disciplinary epistemology, thinking and performance patterns. Future research should explore the applicability of the ideas presented here to other realms.

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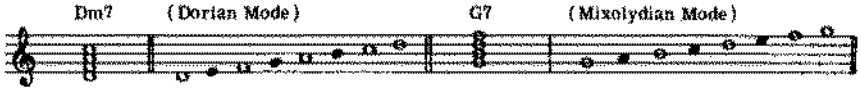
Appendix

The Dm7 and G7 chords, as stated earlier, are closely related to the key of C. Therefore a C major scale may be used on these chords, but with the scale beginning on the roots of those chords.



The above scale on D is an example of a scale construction known as the *Dorian Mode* which belongs to a family of modal scales discussed in music theory and music history texts. The scale on G, also shown above, corresponds to the construction of another modal scale from that family, the *Mixolydian Mode*. Hereafter, the scale which uses the same tones as a major scale of a major second (two half-steps) lower will be referred to as the *Dorian Mode*. Similarly, the scale whose root is the fifth degree of a major scale, and which uses the same pitches, will be called the *Mixolydian Mode*.

Figure 1. Modes. (Coker, 1964, p. 7).

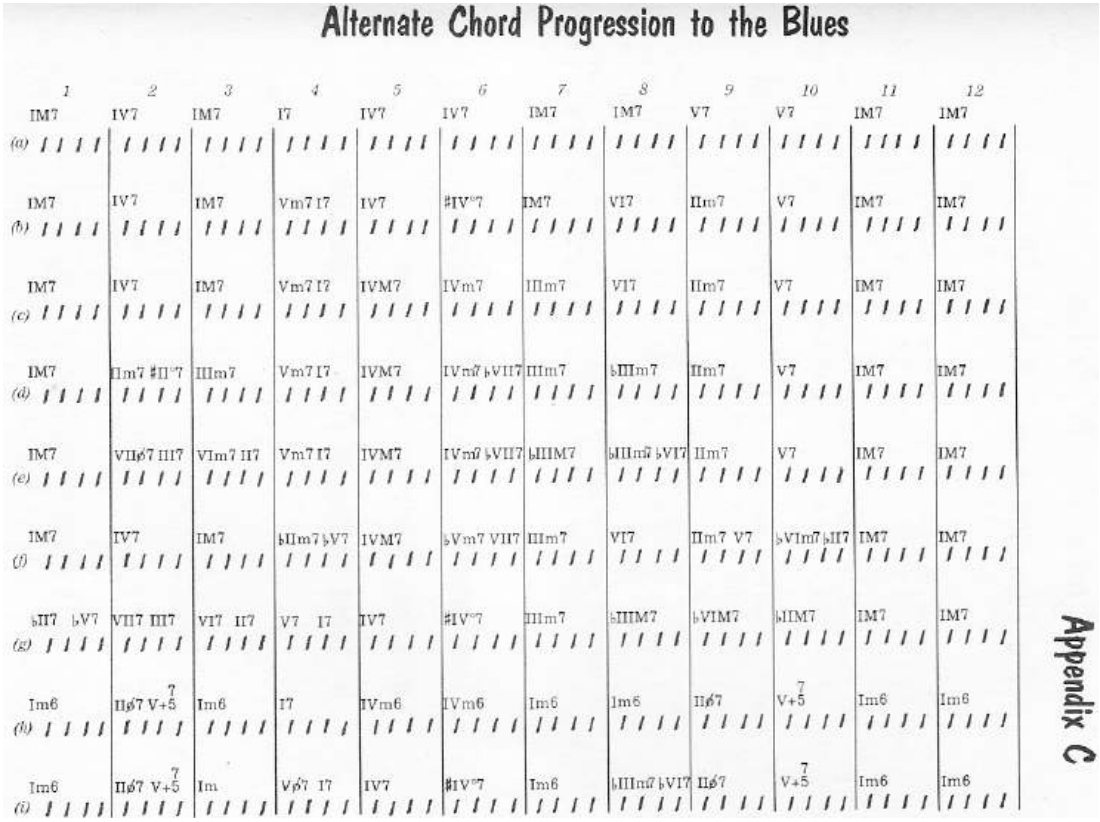


Figure 2. Alternate chord progression to the blues (Coker, 1964, p. 7).

Common and Similar Chord Progressions often Used as the "A" Section of a Tune Having an A-A-B-A Structure

	1	2	3	4	5	6	7	8
(a)	IM7	IIm7 V7	IM7	IIm7 V7	IM7 I7	IVM7 ♯IV°7	V7	IM7
(b)	I VIm7	IIm7 V7	IM7 VIm7	IIm7 V7	Vm7 I7	IVM7 IVm7	IM7	IM7
(c)	IM7	IIm7 ♯II°7	IIIm7 VI7	IIm7 V7	Vm7 I7	IVM7 ♯IV°7	IM7	IM7
(d)	IM7 VI7	♭VI7 V7	IM7 VI7	♭VI7 V7	Vm7 I7	IVM7 IVm7	IM7	IM7
(e)	IM7 ♭III7	II7 ♭II7	IM7 ♭III7	II7 ♭II7	Vm7 I7	IVM7 IVm7	IM7	IM7

Two Common Types of "B" Sections, with their Deviations often Found in Tunes Having an A-A-B-A Structure

type i

(a)	III7	III7	VI7	VI7	II7	II7	V7	V7
(b)	VIIm7	III7	IIIm7	VI7	VIm7	II7	IIm7	V7
(c)	III7	IVm7 ♭VII7	VI7	♭VIIm7 ♭III7	II7	♭IIIm7 ♭VI7	V7	♭VIm7 ♭II7
(d)	VIIm7 III7	IVm7 ♭VII7	IIIm7 VI7	♭VIIm7 ♭III7	VIm7 II7	♭IIIm7 ♭VI7	IIm7 V7	♭VIm7 ♭II7

Figure 3. Chord progressions of tunes (Coker, 1964, p. 7)

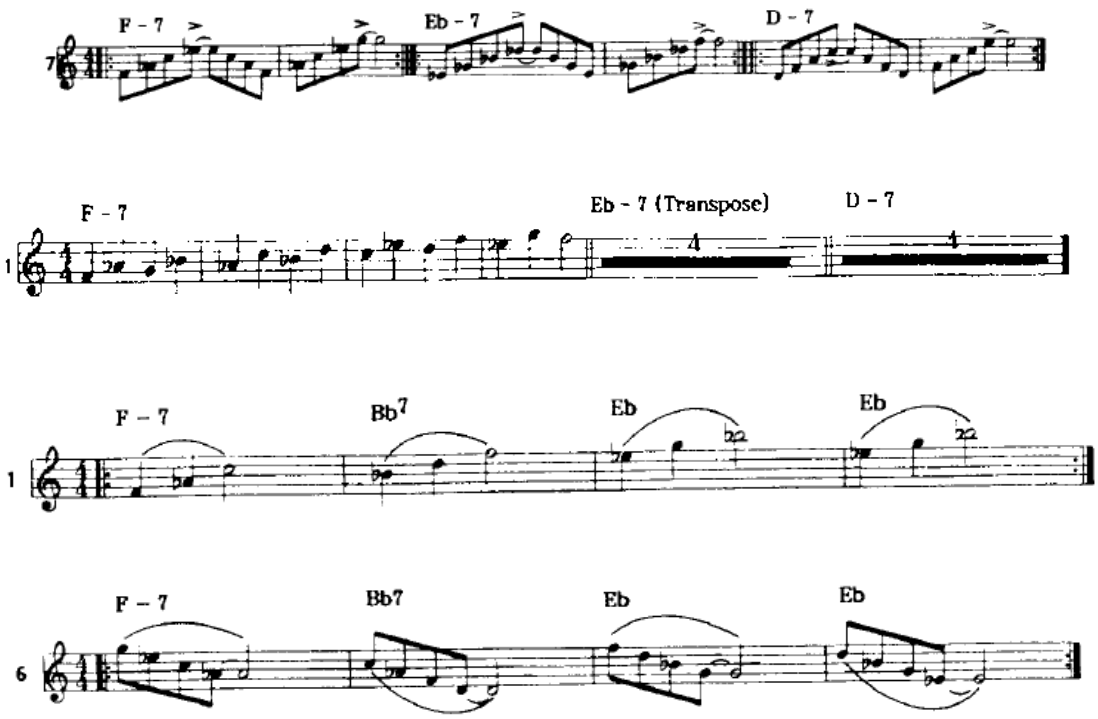


Figure 4. Melodic exercises (Aebersold, 1967, p. 66).

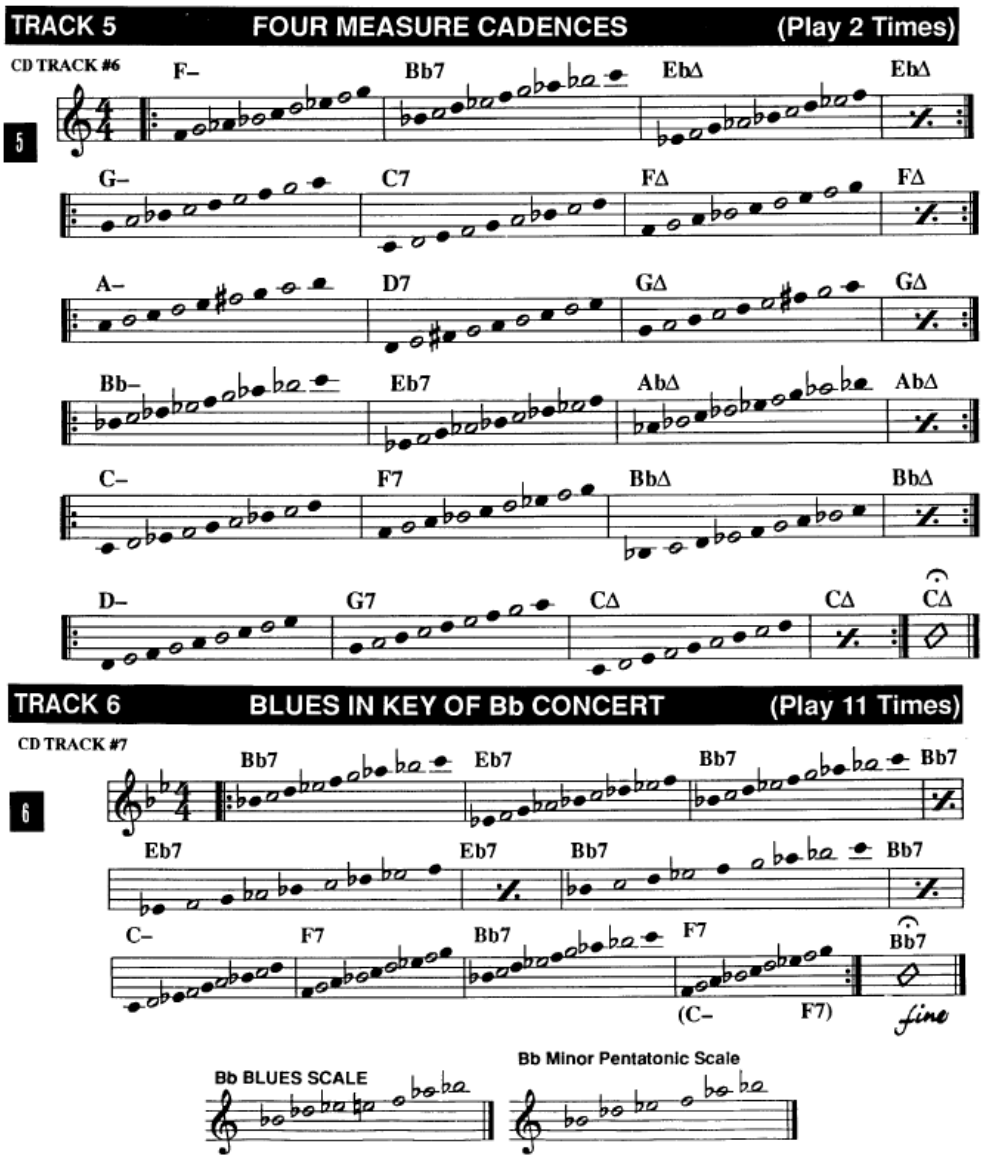


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Figure 5. Four Measure cadences and blues form (Aebersold, 1967, p. 69).

Figure 6. Figured bass analysis of *Liza* (Mehegan, 1959, p. 41).

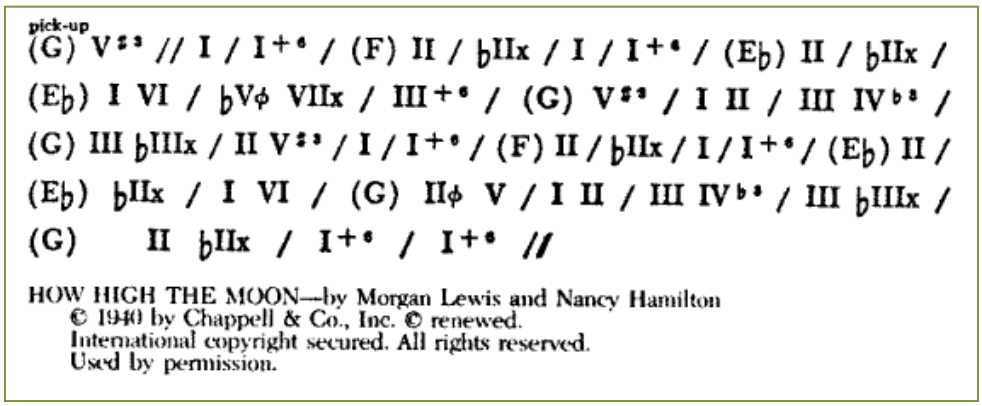

Figure 7. Harmonic modulations analysis (Mehegan, 1959, p. 44).

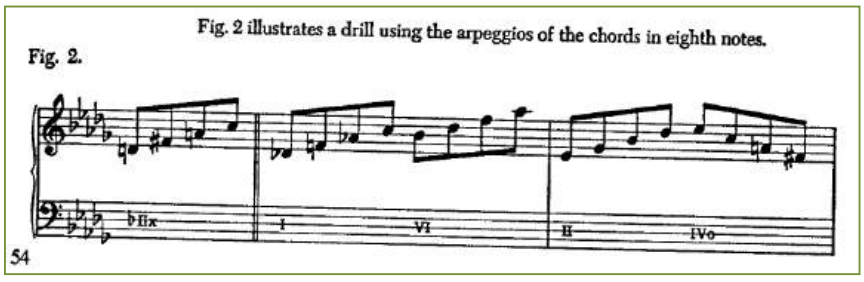

Figure 8. Eighth notes arpeggios (Mehegan, 1959, p. 54).

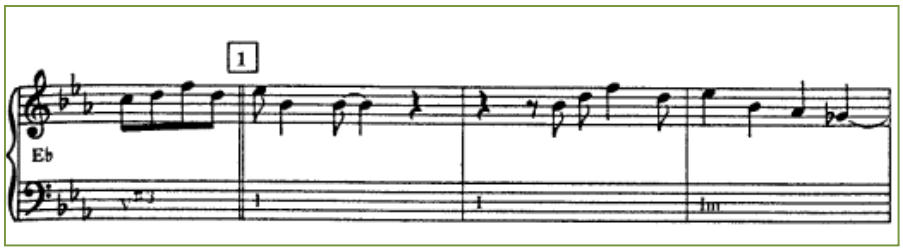

Figure 9. Eighth notes, rests and triplets (Mehegan, 1959, p. 57).

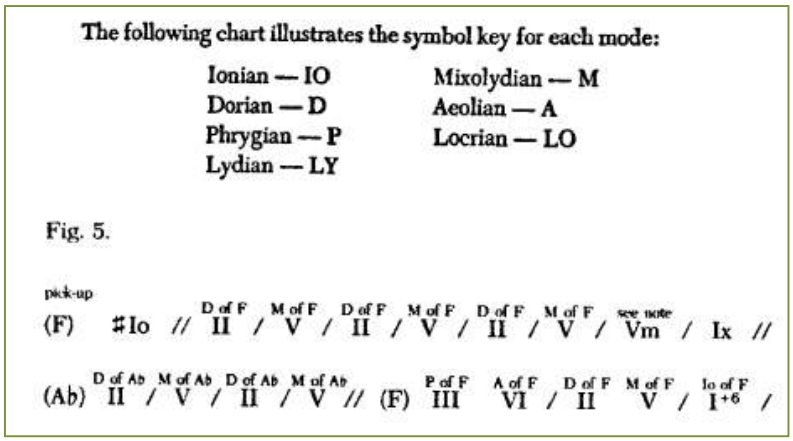

Figure 10. Modes (Mehegan, 1959, p. 78).

I+6	IV	| VIm	IIIxb5	| VI	IIx b5	| Vm	Ix b5	|
Im	IVx	| IVm	bVIIx	| III		| VIx		|
II	V	| II	V	| I	bIIIM	| bVIM	V	||

Figure 11. Charlie Parker's blues re-harmonization (Mehegan, 1959, p. 148).

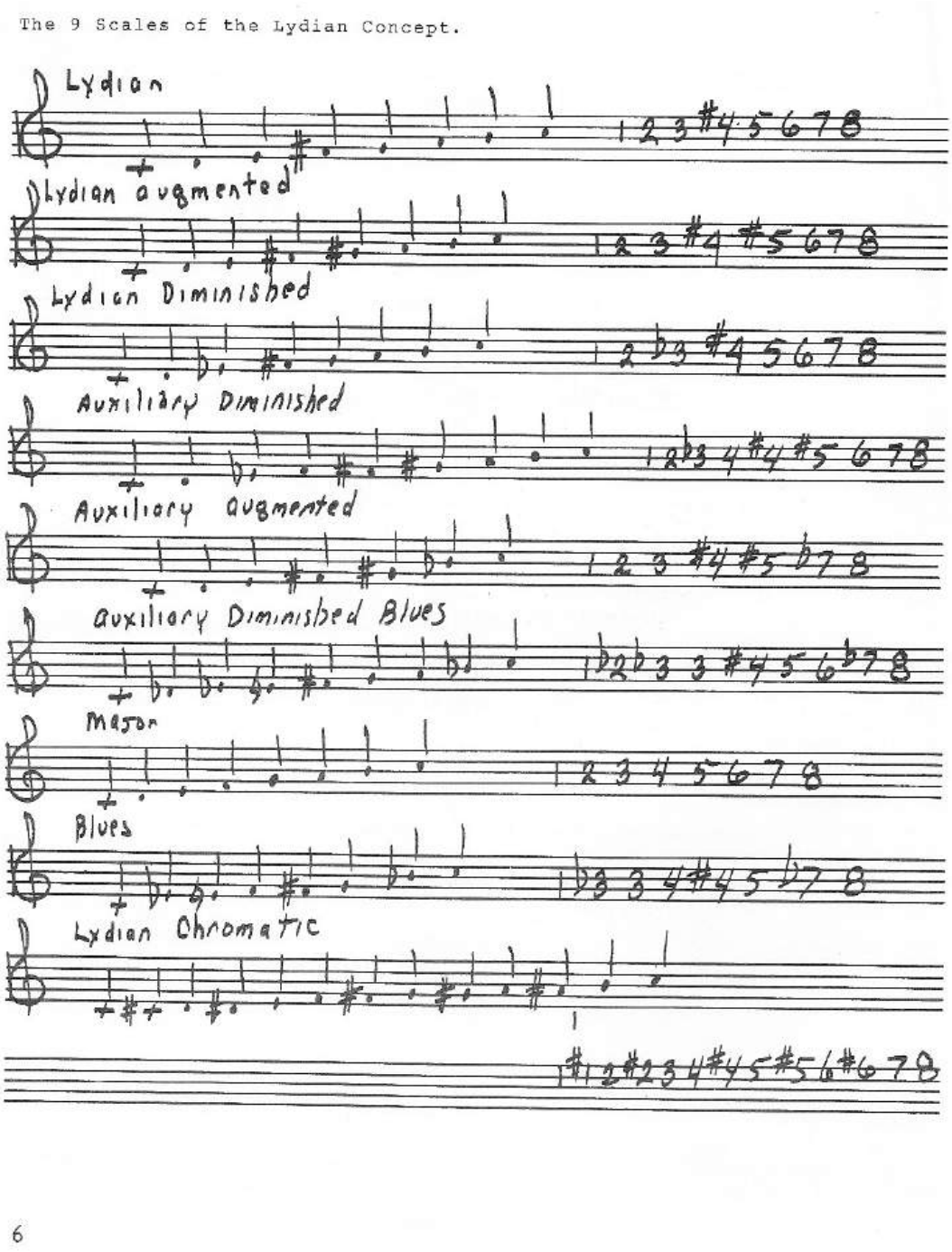

Figure 12. The nine scales of the Lydian concept (Baker, 1968-1971, p. 6).

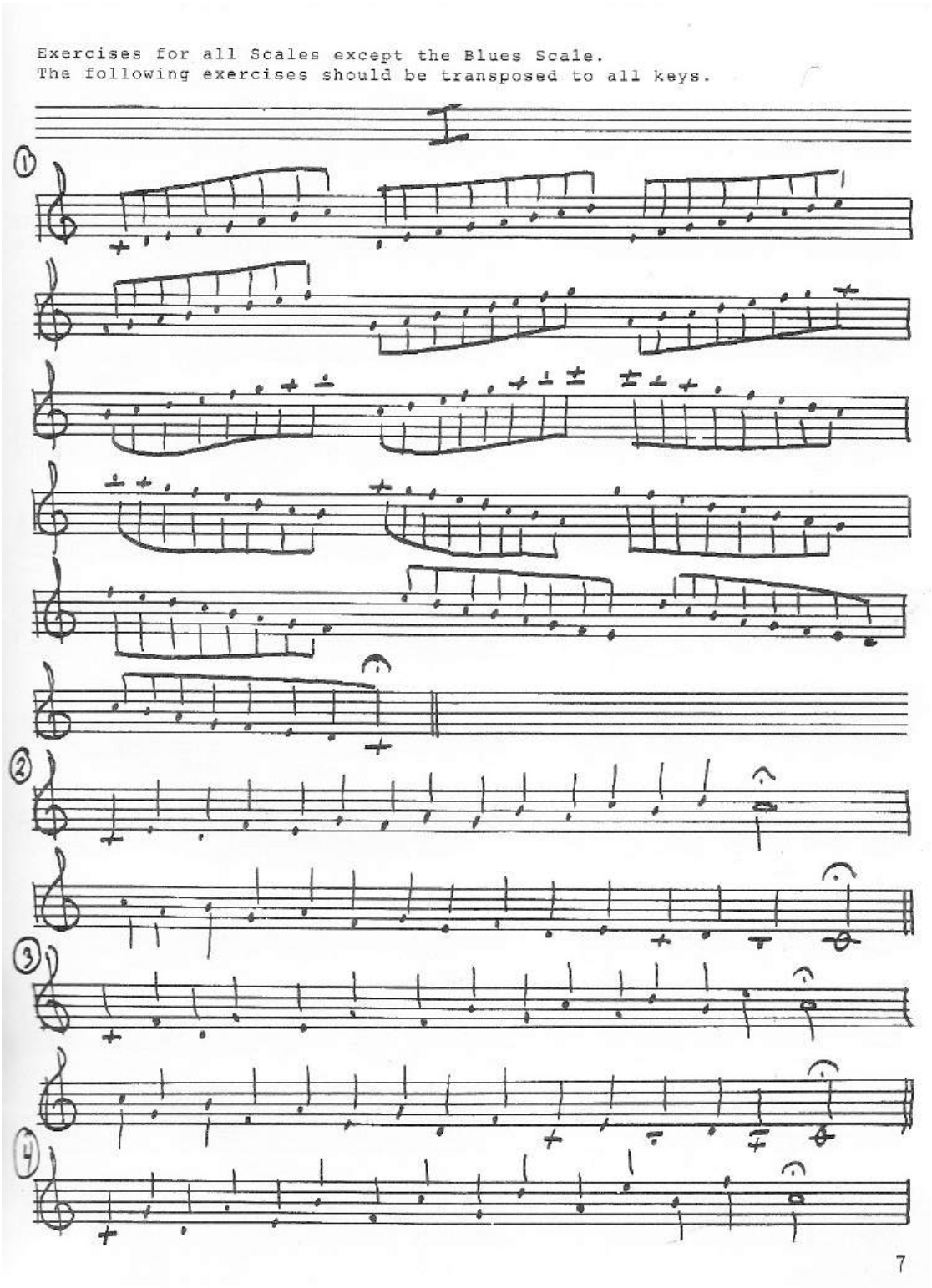

Figure 13. A typical page of the Lydian concept exercises (Baker, 1968-1971, p. 7).

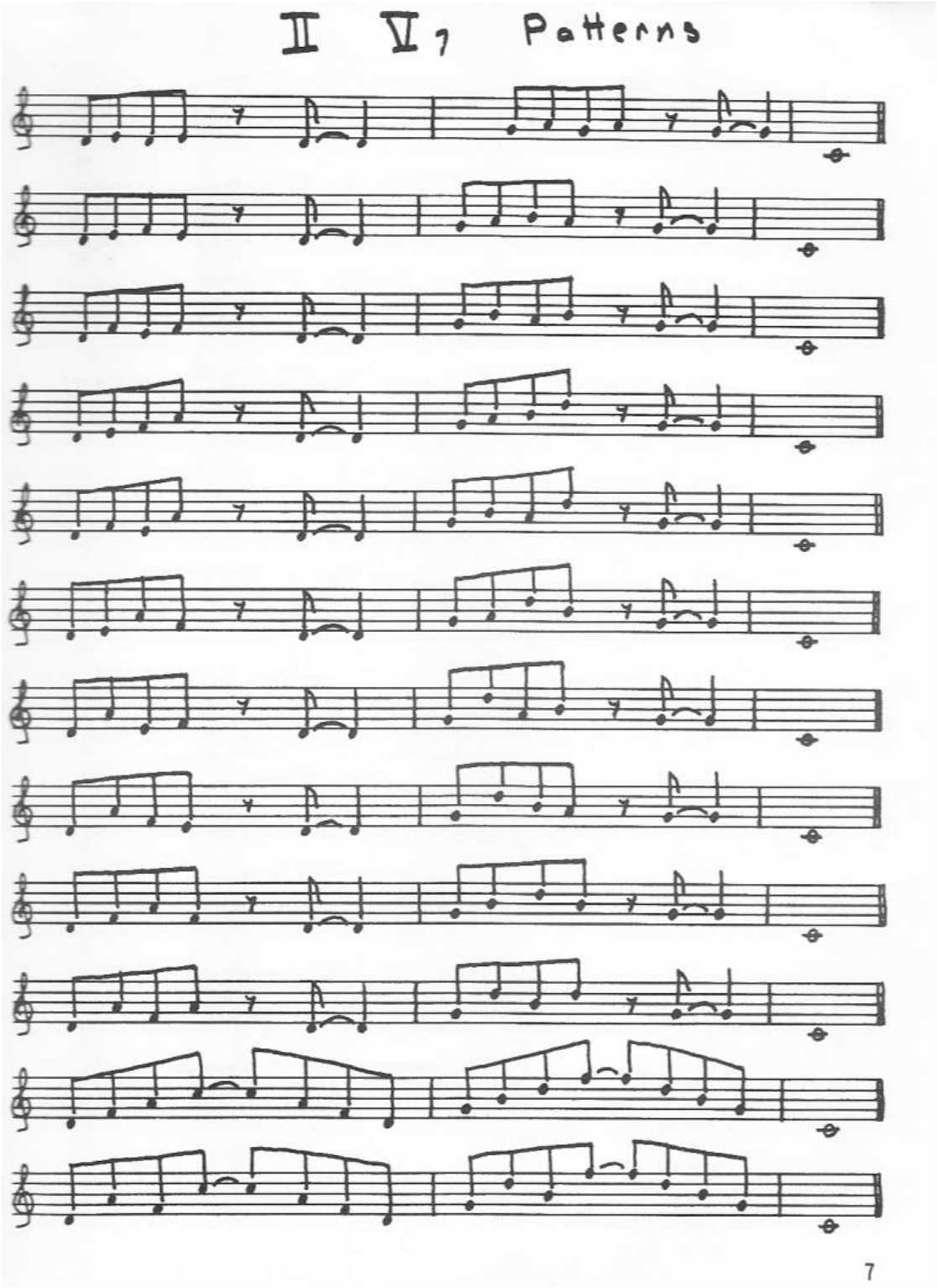

Figure 14. The II V7 progression (Baker, 1968, p. 7).

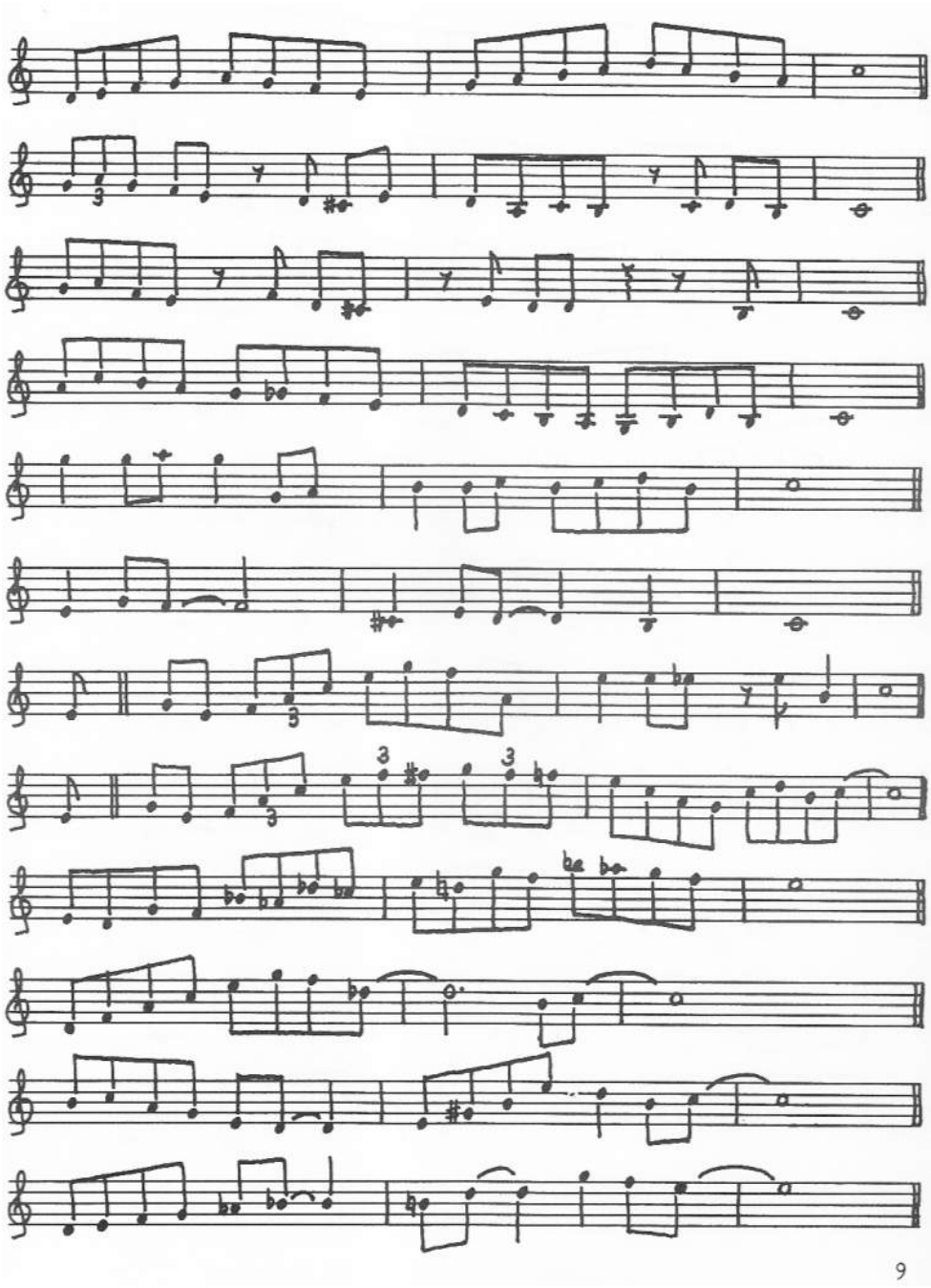

Figure 15. The II V7 progression: non diatonic exercises (Baker, 1968, p. 7).

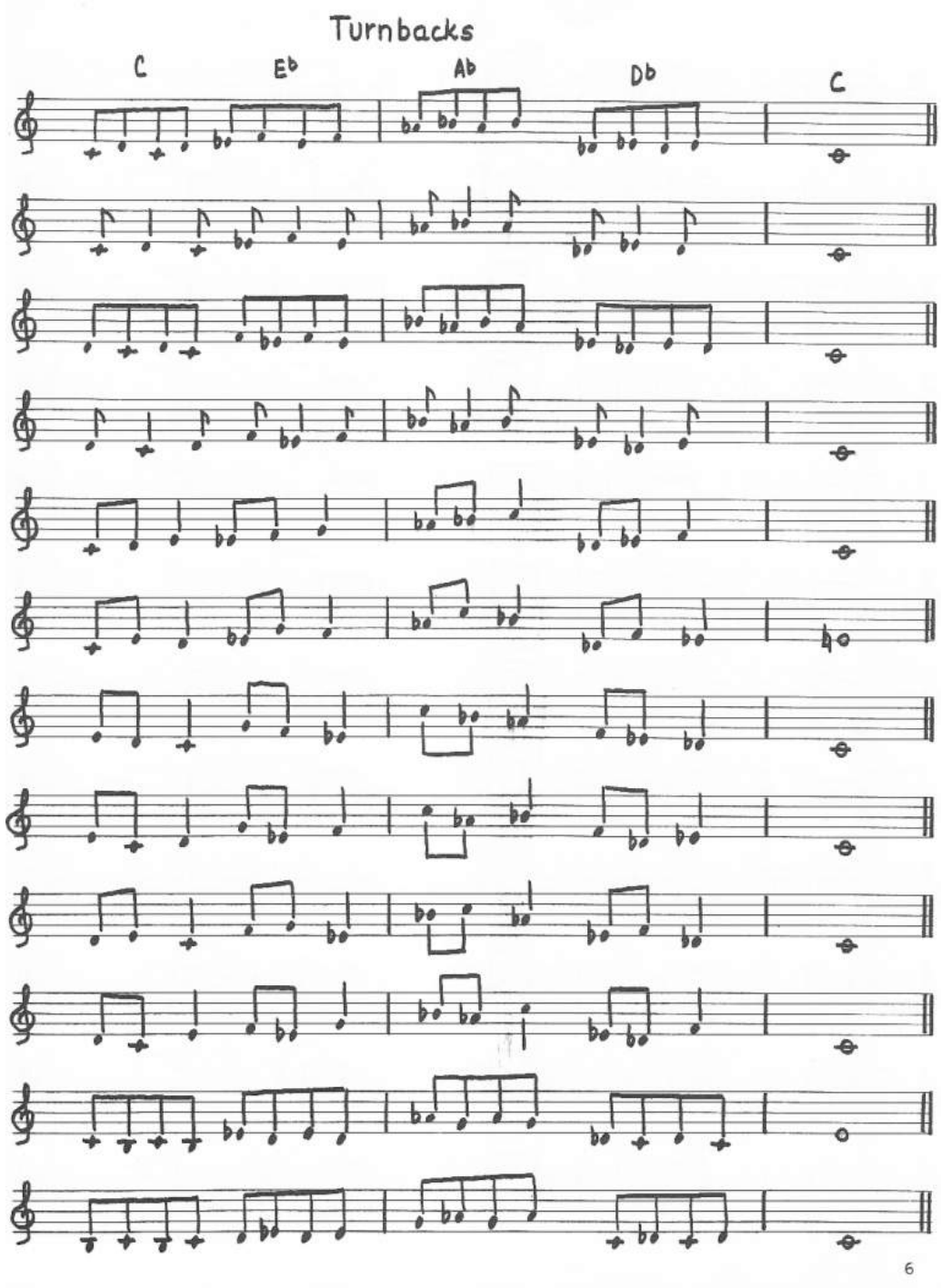

Figure 16. Turnbacks (Baker, 1974, p. 6).

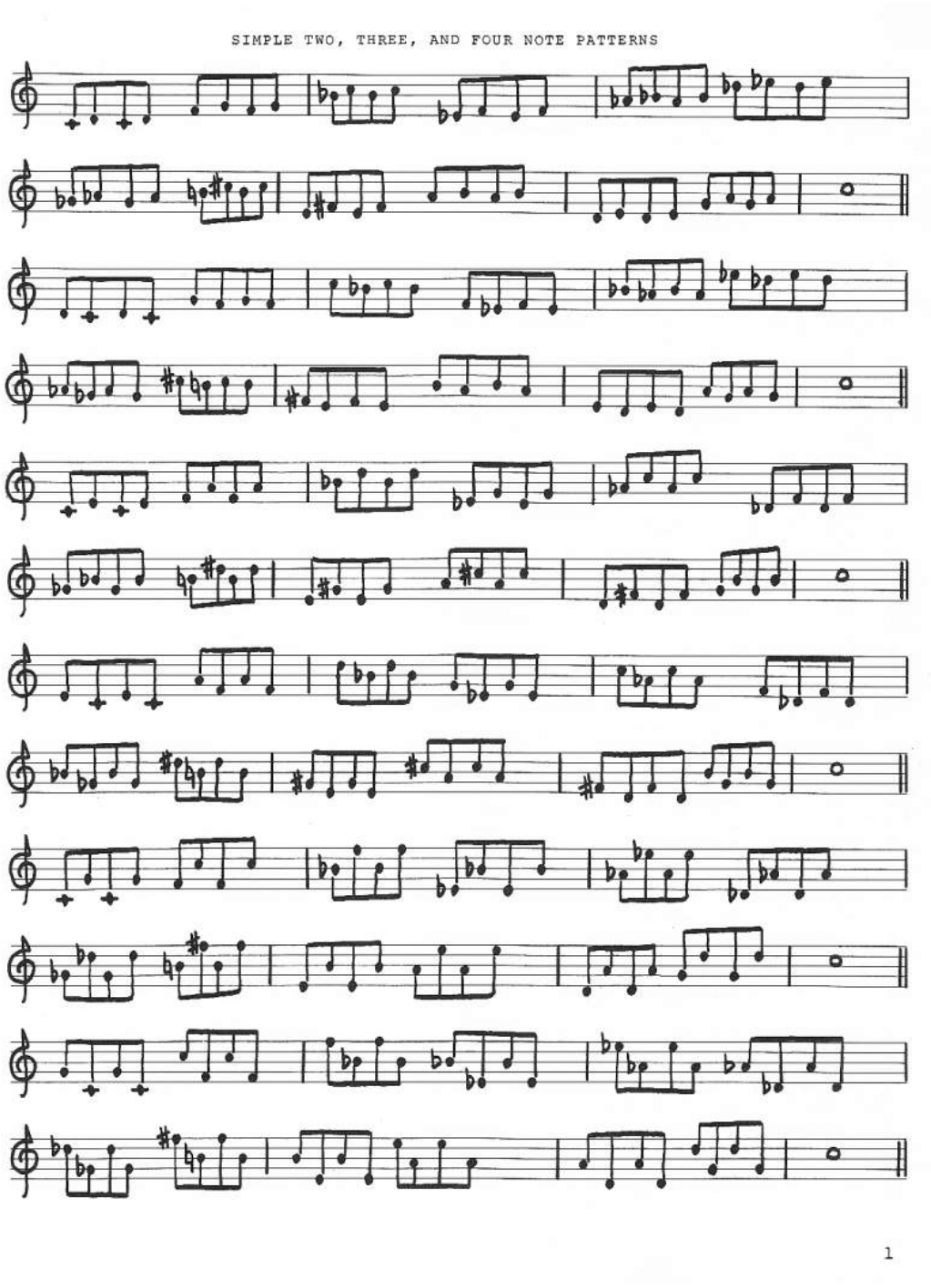

Figure 17. Cycles (Baker, 1971, p. 1).

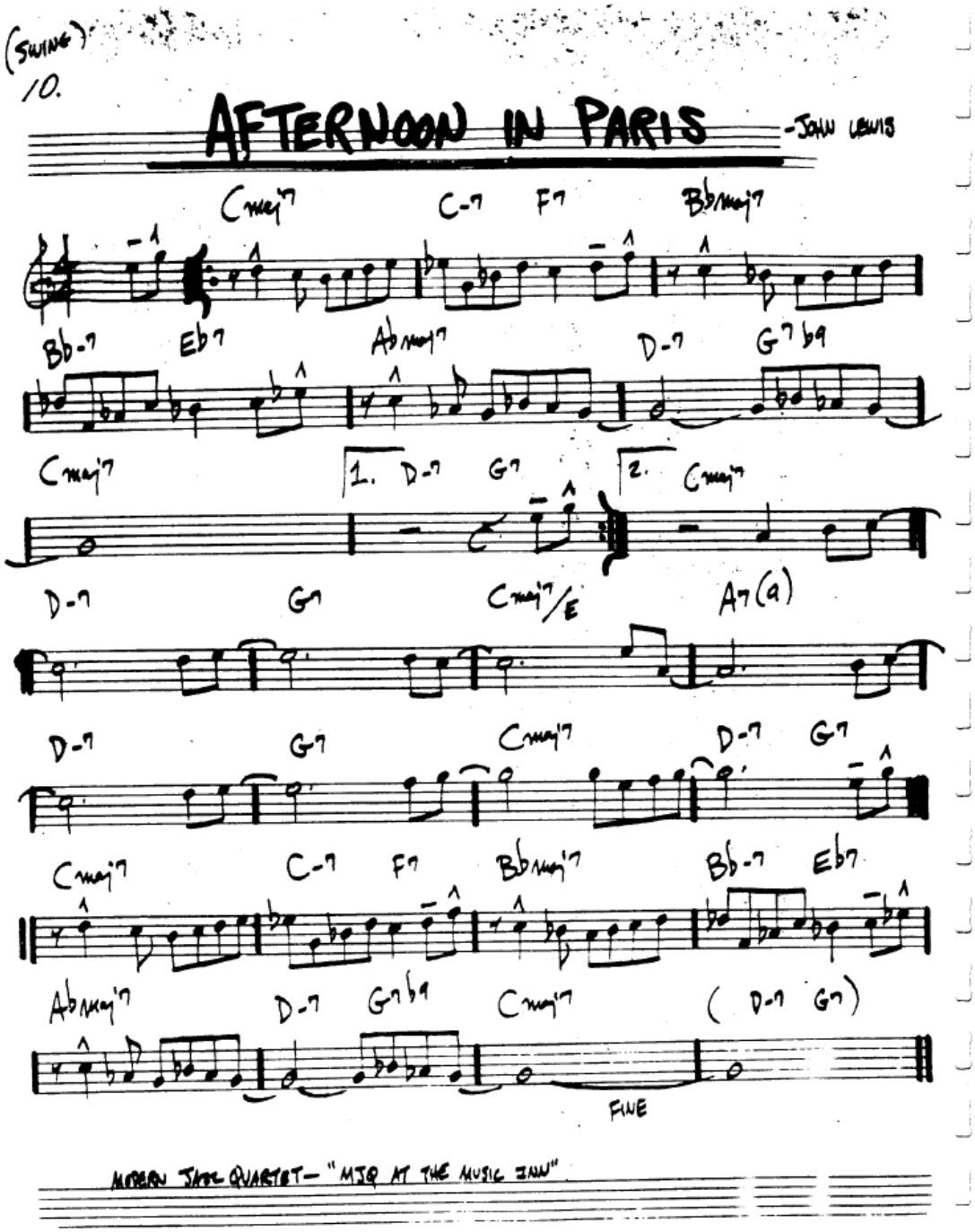

Figure 18. *Real book* - lead sheet notation (Anonymous, 1974).