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Milena Petrović*

University of Arts in Belgrade
Faculty of Music
Department of Solfeggio and Music Education

A NEW CONCEPT OF TEACHING AND LEARNING ABBA'S SONGS IN THE UNIVERSITY SOLFEGGIO CLASSROOM**

Abstract: A new interdisciplinary approach of teaching ABBA's songs in university solfeggio classes involves: *graphical representation* of melodic contours and harmonic progressions; *embodied tension and relaxation* caused by the (un)expected harmonic patterns/progressions, form and rhythm; *aural and visual music analysis* of ostinato and drone, as the elemental characteristics of popular music, and Dorian mode, pentatonic and blue tones, as the main Orff-Schulwerk teaching strategies; *emotions*, experienced in relation to the gradual addition of voices and the chain of dominants; *verbality*, respecting the use of rhymes in verse translations, and the prosodic stress, musical meter and melodic contour alignment.

* The author's contact details: milena.petrovic@fmu.bg.ac.rs

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Introduction

After giving a review of literature on popular music, its use in formal music education, and the use of ABBA's songs in the music curriculum, I continue with the possibility of using informal popular music learning practices in the formal university solfeggio classroom through the use of ABBA's songs. I assume that popular music which students like to listen to should sometimes replace instructive solfeggio exercises, because it will move the focus from reproduction to an integration of listening, performing, improvising and composing.

Aware of the fact that for the involvement of popular music in this goal, alternative methods of music education and teaching and learning strategies needed to be developed, I proposed a new concept of multimodal experience and analysis of ABBA's songs, which includes an interdisciplinary musicological and pedagogical approach. This concept is divided into the following six categories: *graphical representation* of melodic contours and harmonic progressions; *analysis of tension and relaxation*, in relation to (un)expected harmonic patterns, progressions and rhythm; *music analysis* of the elemental features of popular music (ostinato and drone) and Orff-Schulwerk teaching strategies for modes, pentatonic and blue tones, that are typical elements of popular music; *emotion analysis*, which involves increasing the emotional reaction by the gradual addition of voices; *linguistic analysis*, which implies the use of rhymes and the alignment of linguistic stress, musical meter and melodic contour.

The first section explains the possibility of *graphical representation* of the melodic contour and harmonic progressions of ABBA's songs. On the one hand, the melodic contour is projected on the harmonic plan of the song, due to the functionality of the melody itself. On the other hand, the word "contour" is taken from other areas of human experiences, aiming to explain the abstractness of melodic movement and its inevitable metaphorical interpretation. In psychological terms, the arch-shaped melodic contour, frequently found in ABBA's songs, most likely satisfies the listener's expectations, as it is perceived as a scheme of cyclic climaxes, changes of tension and relaxation, and a state of melodic balance, because the alternation of upward and down-

ward movement in approximately equal chunks balances the melody. An arch-shaped contour is experienced in the context of positive feelings, probably because pleasure is derived first from the tension and then from the relief.¹

In the second section, *expectations in music* influenced by the harmony and rhythm in ABBA's songs are described. Unexpected harmonic patterns and progressions in preferred popular music are perceived as more enjoyable than in music with more conventional harmonic structures.² In ABBA's songs, tension is achieved by frequent polyrhythms, because of the conflict that is created between parallel rhythmic timing and bimanual coordination.³

The next two sections deal with the *musical analysis* of ABBA's songs. The third one discusses the elemental characteristics of ABBA's songs – the use of ostinato and drone. These simple repetitive techniques also appear in the music of primal cultures and children's musical expressions. Orff believed that ostinato and drone correspond to the child's development and therefore used them both in the folk and world repertoire in a typical Orff-Schulwerk curriculum. The fourth section then describes the important Orff-Schulwerk teaching strategies mostly based on modal, pentatonic and blues scales that could be applied to ABBA's songs.⁴

The fifth section emphasizes the role of ABBA's songs in evoking emotions in listeners, especially through the harmonic component and lyrics, but also the sudden switch from thick to thin texture⁵ and back, through the gradual addition of voices for pedagogical purposes.⁶

¹ David Huron, *Sweet Anticipation: Music and the Psychology of Expectation*, Cambridge, MA, MIT Press, 2006.

² S. Miles, D. Rosen, N. Grzywacz, "A statistical analysis of the relationship between harmonic surprise and preference in popular music", *Frontiers in Human Neuroscience*, 11, 2017, 263.

³ R. T. Krampe, R. Kliegl, U. Mayr, R. Engbert, "The fast and the slow of skilled bimanual rhythm production: Parallel versus integrated timing", *Journal of Experimental Psychology Human Perception & Performance*, 26(1), 2000, 206–233.

⁴ Brett Clement, "Diatonic and Chromatic Tonicization in Rock Music", *Journal of Music Theory*, 63(1), 2019, 1.

⁵ Jaak Panksepp, "The emotional sources of 'chills' induced by music", *Music Perception*, 13, 1995, 171; Meghan Goodchild, *Orchestral Gestures: Music-Theoretical Perspectives and Emotional Responses*, a thesis submitted to McGill University in partial fulfillment of the requirements of the degree of Doctor of Philosophy in Music Theory, Montreal, Schulich School of Music, McGill University, 2016.

⁶ Милена Петровић, *Хармонска прајинња – приручник за настајавнике у првом раз-*

The last, sixth section highlights the importance of the linguistic analysis of ABBA's songs. The pedagogical approach implies first understanding the verses, and then their free translation into Serbian, with the use of rhymes in cadenzas that help verse and melody memorization. Moreover, songs that have linguistic stress, musical meter and melodic contour alignment are easier to memorize.⁷

The use of popular music in formal music education – literature review

Popular music is defined as a mass-consumed music.⁸ It has become a major topic of research of so called urban musicology.⁹ Popular music is familiar to students nowadays as it is closely related to their everyday experiences and musical preferences.¹⁰ While some scholars argue that popular music is of a quality good enough to be part of children's music education, others eagerly introduce popular music in formal music education classrooms and today call it "music for children".¹¹ They realize that popular music is educationally valuable¹² as it helps students connect what they already know to new concepts. It is well observed that playing or singing popular music in a formal educational setting arouses the interest of students of different ages.¹³

Popular music is used in the entire course of education, from primary school to postgraduate studies in the form of different programs, courses and

реду средње музичке школе – одсек за музичку теорију, Београд, Чаробна фрула, 2021, 145–146.

⁷ H. Gingold, E. Abravanel, "Music as a mnemonic: The effects of good- and bad-music settings on verbatim recall of short passages by young children", *Psychomusicology: A Journal of Research in Music Cognition*, 7(1), 1987, 25; C. Palmer, M. H. Kelly, "Linguistic Prosody and Music Meter in Song", *Journal of Memory and Language*, 31, 1992, 525.

⁸ Lucy Green, "Popular music education in and for itself, and for 'other' music: current research in the classroom", *International Journal of Music Education*, <https://doi.org/10.1177/0255761406065471>, 2006.

⁹ Tim Carter, "The sound of silence: models for an urban musicology", *Urban History*, 29(1), 2002, 8.

¹⁰ Jennifer Doyle, "Music teacher perceptions of issues and problems in urban elementary students", *Bulletin of the Council for Research in Music Education*, 194, 2012, 31.

¹¹ Martina Vasil, "The Role of Popular Music in the Schulwerk", *The Orff Echo*, 52(4), 2020, 24.

¹² Lucy Green, *Music, informal learning and the school: a new classroom pedagogy*, Vermont, Ashgate, 2008.

¹³ S. Oehler, J. Hanley, "Perspectives of popular music pedagogy in practice: An introduction", *Journal of Popular Music Studies*, 21(1), 2009, 2.

classes. Combining formal and informal ways of learning presents a good practice within popular music education¹⁴ and informal learning can be effectively applied in schools.¹⁵

Popular music education is an interdisciplinary field that includes music education, ethnomusicology, community music, cultural studies and popular music studies.¹⁶ Music organizations, journals and individual researchers have recognized the significance of popular music education. A Special Interest Group in Popular Music Education exists within the International Society for Music Education, and the Association for Popular Music Education and the *Journal of Popular Music Education* have been founded recently. Scholars and pedagogues realize that popular music is crucial for students nowadays and therefore must be included in music education.

The need for introducing popular music in school curricula has been a topic of substantial research over the past few decades. However, popular music should not be introduced in teaching only as a new repertoire and to satisfy students' tastes.¹⁷ Rather, informal learning processes, typical of the ways that popular music is learned, must be applied as well.¹⁸ It could happen that students will not accept a formal educational approach to popular music analysis.¹⁹ Informal music learning is a holistic way of learning and offers an interdisciplinary approach, and as such it can also be used to teach classical music.²⁰ Integrating popular music into higher education can enrich the university classroom.²¹

There are several questions regarding the introduction of popular music in pedagogy. The first question of what is considered popular music still remains. It is suggested that consumption, delivery and audience are the three

¹⁴ Michael Ahlers, "Opening minds – style copies as didactical initiators", *IASPM Journal*, 5(2), 2015, 181–194.

¹⁵ Lucy Green, *How popular musicians learn: A way ahead for music education*, Vermont, Ashgate, 2001.

¹⁶ G. D. Smith, B. Powell, "Technology and performance in popular music education" [special issue], *Journal of Music, Technology and Education*, 8 (2), 2015.

¹⁷ Lucy Green, *Music on deaf ears: Musical meaning, ideology and education*, Manchester, Manchester University Press, 1988.

¹⁸ Lucy Green, op. cit., 2008.

¹⁹ Lucy Green, op. cit., 2006, 107.

²⁰ Lucy Green, *ibid.*

²¹ L. Przybylski, N. Niknafs, "Teaching and learning popular music in higher education through interdisciplinary collaboration: Practice what you preach", *IASPM Journal*, 5(2), 2015, 100.

fundamental principles that determine whether a piece of music is popular or not.²² It is interesting that the Beatles are already recognized as classical music by some pupils²³ probably because music that is used in the classroom is considered by students as classical music.²⁴

The second question concerns the fact that popular music must follow national curriculum requirements.²⁵ After World War II, popular music and jazz were associated with students' rebellion, sexuality and drugs, and so it was unthinkable to introduce that kind of music into the official curriculum.²⁶ It was not until the end of the 20th century that popular music began to be formally introduced into teaching within academic institutions around Europe, the US and Australia. In the last decade, the importance of introducing playing and studying popular music within the existing subjects in primary and secondary music schools in Serbia has become increasingly important. At the Faculty of Music in Belgrade, there are 21 courses that include the study and performance of popular music, and most of them are elective.

The third and most complex question refers to analytical methods that should be applied in the analysis of popular music. One of the main problems in studying popular music is how to find appropriate methods,²⁷ as popular music does not respond to the system of analysis based on functional tonality.²⁸ Some scholars believe that semiotics offers a good analytical and interpretive method that is reflected in the relationship between a musical event and its significance.²⁹ Contemporary musicologists have been developing new analytic criteria that are more suited to the inherent meanings of popular

²² Carlos Xavier Rodriguez, "Bringing It All Back Home: The Case for Popular Music in the Schools", in: C. X. Rodriguez (Ed.), *Bridging the Gap: Popular Music and Music Education*, Reston, Virginia, MENC, 2004, 3.

²³ Lucy Green, op. cit., 2006, 107.

²⁴ Paula Laurel Jackson, *Secondary school pupils' conceptions of music in and out of school: Conforming or conflicting meanings?* Unpublished PhD thesis, London, Institute of Education, University of London, 2005.

²⁵ Lucy Green, "From the Western classics to the world: secondary music teachers' changing perceptions of musical styles, 1982 and 1998", *British Journal of Music Education*, 19(1), 2002, 5.

²⁶ Lucy Green, op. cit., 2006, 106.

²⁷ Peter Dunbar-Hall, "Analysis and Popular Music: a Challenge for Music Education", *Research Studies in Music Education*, 13(1), 1999.

²⁸ Richard Middleton, *Studying Popular Music*, UK, Open University Press, 1990.

²⁹ Peter Dunbar-Hall, "Semiotics as a Method for the Study of Popular Music", *International Review of the Aesthetics and Sociology of Music*, 22(2), 1991, 131.

music, as they arise from the ways in which this music is produced and transmitted.³⁰ Some analytical methods have emerged from the notion of movement, which is very present and so important in popular music, but rarely represented in musicological research. Well-guided body movement can facilitate the perception and inference of musical structure.³¹

As this paper refers to the use of ABBA's songs in music pedagogy, I further list some studies related to this topic. Music teachers, who are curriculum designers, believe that ABBA's songs are appropriate for Grade 6 students. The Model Music Curriculum: Key stages 1 to 3 in the UK is designed to introduce students to a broad repertoire of music from the Western Classical tradition to the best popular music and music from around the world, that can be found on Classical 100, BBC Ten Pieces and at the English Folk Dance and Song Society.³² The 20th Century repertoire contains ABBA's song "Waterloo" from 1974, meant to be listened to and learned in Grade 6. Results of the recent study³³ show that Grade 6 students prefer ABBA and contemporary popular music to other styles of music. Choir members indicated that they like being in a choir and love to sing, but state that choir singing is different to the way they really like to sing, "even when it's cool music like ABBA ... We don't get to sing it like ABBA".³⁴

Some researchers underline the interdisciplinary connection between art and education.³⁵ They use ABBA's music in the classroom to improve students' educational practices and development. The aim is to integrate an aesthetic educational experience with the constructed knowledge and the body of theoretical knowledge available about ABBA.³⁶ A study that investigated teachers' perceptions of creativity in music education showed that one teacher's pre-school music experiences were rich and diverse, ranging from classi-

³⁰ Richard Middleton, "Popular music analysis and musicology: bridging the gap", *Popular Music*, 12(2), 1993, 177.

³¹ *Ibid.*, 178.

³² Non-statutory guidance for the national curriculum in England, Model Music Curriculum: Key Stages 1 to 3, 2021, 61.

³³ Peter De Vries, "What we want: the music preferences of upper primary school students and the ways they engage with music", *Australian Journal of Music Education*, 1, 2010, 3.

³⁴ *Ibid.*, 10.

³⁵ J. P. H. Pretorius, D. S. Du Toit, C. Martin, G. Daries, "ABBA: An Educational Appreciation", *Journal of Aesthetic Education*, 47(1), 2013, 72.

³⁶ *Ibid.*, 90.

cal music recordings, folk music to ABBA.³⁷ In a study about the musical worlds of mothers and their children, one narrative explained the strong connection between mother and child that was created while listening to ABBA's music.³⁸ Moreover, some scholars used ABBA's music to teach economics concepts.³⁹

Through ABBA's songs, university students easily notice and quickly understand the positive effects of combining informal and formal music learning practices. They have great motivation because they learn the music they like to listen to. They start the analysis not by watching the music scores, but by structural listening, creating a graphic representation of musical structures. In this way, we remind students of the importance and meaning of sound. Further, students search for harmonic rhythm by playing recordings by ear, in the context of metric structure and melodic connotation. What is very important is the fact that students learn in a group, in which they feel relaxed and motivated. Learning does not involve a separation of activities, but on the contrary, the integration of listening, singing and playing. Finally, students make their own verse translations into Serbian and vocal and instrumental arrangements, so they are taught to rely on improvisation.⁴⁰

A new interdisciplinary musicological and pedagogical approach to listening, analyzing, performing and notating popular music through ABBA's songs is presented below.

Graphic representation of melodic contour and harmonic progression

The melodic contour is best presented graphically,⁴¹ because conceptual metaphors that use geometric space and phenomena, such as "line", "arch" or

³⁷ Oscar Odena Caballol, *Creativity in music education with particular reference to the perceptions of teachers in English secondary schools*, Thesis Submitted for the Degree of Doctor of Philosophy, London, University of London, Institute of Education, 2003, 232.

³⁸ Elizabeth Mackinlay, "Singing maternity: Making visible the musical worlds of mothers and their children", in: L. Suthers (Ed.), *Proceedings of ECME [Early Childhood Music Education] Commission 13th International Seminar of ISME [International Society for Music Education] Music in the early years: Research, Theory and Practice*, Rome, Centro Giovanni XIII, Frascati, 2008, 49.

³⁹ R. Lawson, J. Hall, G. D. Mateer, "From ABBA to Zeppelin, Led: Using Music to Teach Economics", *The Journal of Economic Education*, 39(1), 2008.



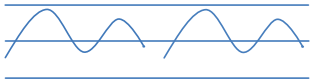

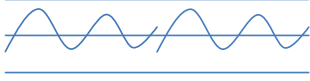

⁴⁰ Lucy Green, op. cit., 2008.

⁴¹ Mantle Hood, *The ethnomusicologist*, New York, McGraw-Hill, 1971, 302.

“pendulum”, are frequently used for the phenomenological description of music contour.⁴²

The melodic contour helps in the analysis of musical structure, because the analysis of melodic contours is conditioned by global tonal relationships in melodies.⁴³ The tonal scheme of the melody has a decisive role in listeners' cognition. Therefore, the melodic contour of the vocal part and harmonic progression in the A, B and C part of the song is graphically represented (Example 1).⁴⁴ By using such notation, students learn a number of underlying principles of popular music – reliance on improvisation and music as sound

Example 1: Graphical representation of ABBA's song “I Have a Dream”

	Vocal
	
A	
Lyrics	1. “I have a dream ...” 2. “To help me cope ...”
Chords	
	Vocal
	
B	
Lyrics	1. “If you see the wonder ...” 2. “You can take the future ...”
Chords	
	Vocal
	
C	
Lyrics	1. “I believe in angels ...” 2. “I believe in angels ...”
Chords	

⁴² Bruno Nettl, *Theory and Method in Ethnomusicology*, New York, Macmillan Publishers, 1964, 147–148.

⁴³ J. Bartlett, J. Dowling, “Scale Structure and Similarity of Melodies”, *Music Perception*, 5(3), 1988, 285.

⁴⁴ Richard Middleton, op. cit., 1993, 184.

rather than music as notation.⁴⁵ They also learn that the melodic contour of the vocal part in popular songs is mostly arch-shaped.

Arch-shaped contour is used by mothers when they want to maintain a child's attention⁴⁶ and to express praise (for example, bravo!) or to extol children's virtues.⁴⁷ Some authors even believe that musical elements of mother-child communication generates the music that man, at a later age, uses and creates, i.e. the mother-child communication is an emotional prototype from which music later develops.⁴⁸

The old melodic (counterpoint) convention states that whenever something goes in one direction, it needs to be compensated by movement to another direction ("gap-fill melody").⁴⁹ Arch-shaped melodic contour is common for children's songs, but it also presents the most common contour in songs around the world. Out of a total of 383 analyzed songs, 295 have the arch-shaped melodic contour.⁵⁰ This kind of contour is typical of the ballad genre and indeed represented in most of ABBA's songs (Example 2).

Example 2: Arch-shaped melodic contour in the song
"Slipping through My Fingers"



The majority of students experience the arch-shaped contour as evoking positive feelings and happiness.⁵¹ This corresponds to the claim from the genera-

⁴⁵ Peter Dunbar-Hall, Kathryn Wemyss, "The effects of the study of popular music on music education", *International journal of music education*, 36(1), 2000, 25.

⁴⁶ D. Stern, S. Spieker, K. MacKain, "Intonation contours as signals in maternal speech to prelinguistic infants", *Developmental Psychology*, 18, 1982, 727.

⁴⁷ Anne Fernald, "Intonation and communicative intent in mothers' speech to infants: Is the melody the message?", *Child Development*, 60, 1989, 1497.

⁴⁸ Ellen Dissanayake, "Antecedents of the Temporal Arts in Early Mother Infant Interaction", in: N. Wallin, S. Brown, B. Merker (Eds), *The Origins of Music*, Cambridge MA, The MIT Press, 2000, 389.

⁴⁹ Burton S. Rosner, Leonard B. Meyer, "Melodic Processes and the Perception of Music", in: Diana Deutsch (Ed.), *The Psychology of Music*, New York, Academic Press, 1982, 323.

⁵⁰ Alan Lomax, *Folk song style and culture*, Washington, American Association for the Advancement of Science, 1968, 328.

⁵¹ Милена Петровић, „Мултимодалне перспективе музичке педагогије – мелодијска контура као емотивна граматика у музици и језику“, *Наслеђе*, 41, 2018, 291.

tive theory of tonal music, where the prolongational tree is a binary tree that expresses the structure of tension and relaxation in a piece of music.⁵² It also correlates with the theory that pleasure can be derived from the build-up of tension (surprise) followed by its relief (non-surprise).⁵³

Harmonic and rhythmic influences on musical expectancy

Popular music is recognizable by its unpredictable and unexpected harmonic progressions. Recent research results show that popular music with more surprising chords tends to be perceived as more enjoyable than music with more conventional harmonic structures.⁵⁴ This is based on the discovery that dopamine is often activated when something new is experienced⁵⁵ and when listening to unexpected harmony.⁵⁶ Moreover, increased harmonic surprise was more pronounced in preferred songs.⁵⁷

In the song “Money, Money, Money”, students will recognize the classical harmonic pattern – the secondary dominant chord resolves to the dominant chord (Example 3).

Example 3: The expected classical harmonic pattern secondary dominant – dominant in ABBA's song “Money, Money, Money”

Allegro

The image shows a musical score for the song "Money, Money, Money" by ABBA. It is in 4/4 time and marked "Allegro". The score consists of two staves: a treble clef staff for the melody and a bass clef staff for the accompaniment. The key signature has one flat (B-flat). The melody starts with a quarter note G4, followed by quarter notes A4, B4, and C5, then a quarter rest. The accompaniment starts with a dotted quarter note G2, followed by quarter notes A2, B2, and C3, then a quarter rest. The harmonic progression is indicated by labels below the bass staff: "d:t" (D minor), "DD2" (D minor secondary dominant), "D6" (D minor dominant), and "t" (D minor). The "DD2" chord is a D minor triad with a major second (E natural) added, and the "D6" chord is a D minor triad with a major sixth (B natural) added.

⁵² Fred Lerdahl, Ray S. Jackendoff, *A Generative Theory of Tonal Music*, MIT Press, 1983.

⁵³ David Huron, op. cit.

⁵⁴ S. Miles, D. Rosen, N. Grzywacz, op. cit.

⁵⁵ T. Suhara, H. Fukuda, O. Inoue, T. Itoh, K. Suzuki, T. Yamasaki, Y. Tateno, “Age-related changes in human D1 dopamine receptors measured by positron emission tomography”, *Psychopharmacology*, 103, 1991, 41.

⁵⁶ V. N. Salimpoor, M. Benovoy, K. Larcher, A. Dagher, R. J. Zatorre, “Anatomically distinct dopamine release during anticipation and experience of peak emotion to music”, *Nature Neuroscience*, 14, 2011, 257.

⁵⁷ S. A. Miles, D. Rosen, S. Barry, D. Grunberg, “What to Expect When the Unexpected Becomes Expected: Harmonic Surprise and Preference Over Time in Popular Music”, *Frontiers in Human Neuroscience*, 15, 2021, 1.

However, students will be surprised to hear that in some of ABBA's songs the secondary subdominant resolves into the subdominant (Example 4). This harmonic pattern is atypical of classical harmony and students will find it only in popular music.

Example 4: The unexpected harmonic pattern secondary dominant – subdominant in ABBA's song "Dancing Queen"

The image shows a musical score for the song "Dancing Queen" by ABBA, marked "Allegro". The score is in 4/4 time and D major. The bass line shows a sequence of chords: A:D, DvI7, VI, DD6/5, S, II7, and T. The melody is written in the treble clef.

Likewise, students will realize that popular music sometimes introduces very traditional harmonic progressions. For example, the song "I Have a Dream" has only three main chords – tonic, dominant and subdominant. However, most often tonal centers in popular music do not produce the same tension and relaxation as is produced in tonal art music.⁵⁸ Students encounter songs that contain unusual and unexpected harmonic progressions (Example 5).

Example 5: The unexpected harmonic progression in ABBA's song "Knowing Me, Knowing You"

The image shows a musical score for the song "Knowing Me, Knowing You" by ABBA, marked "Moderato". The score is in 4/4 time and D major. The bass line shows a sequence of chords: D:T6, II6, II6, VI, VI, and III. The melody is written in the treble clef.

Surprising effects in popular music are achieved in terms of form and rhythm. In the song "Mamma Mia", an interesting surprise effect is achieved in the chorus, which is, unexpectedly, the quietest part of the whole song. The tension created by polyrhythm is one of the strongest rhythmic means of communication in popular music. Polyrhythm is a strong attractor of attention, as it evokes many difficulties regarding the cognition of music and movement control.⁵⁹ Students either integrate an independent timing variation of

⁵⁸ Peter Dunbar-Hall, Kathryn Wemyss, op. cit., 30.

⁵⁹ R. T. Krampe, R. Kliegl, U. Mayr, R. Engbert, "The fast and the slow of skilled bimanual

both hands,⁶⁰ a common time frame for the hands,⁶¹ or an integrated timing control, permitting partial hand independence in polyrhythmic performance.⁶² Hand or voice independence presents the adaptivity of human movement control that emerges at high levels of skill (Example 6).

Example 6: Polyrhythm in ABBA's song "I do, I do, I do, I do, I do"

Elemental features of ABBA's songs: ostinato and drone

The elemental characteristics of popular music are repetitive melodic and rhythmic patterns and simple forms, for which listeners do not need technical or theoretical musical knowledge. ABBA's songs often contain repetitive ostinato and drone patterns. For example, in the song "Mamma Mia", the initial tension is achieved by the ostinato and oscillation back and forth between root and fifth, and root and sharpened fifth, and by the accents on the off-beat (Example 7).

Example 7: Ostinato in ABBA's song "Mamma Mia"

rhythm production: Parallel versus integrated timing", *Journal of Experimental Psychology, Human Perception & Performance*, 26(1), 2000, 206.

⁶⁰ L. H. Shaffer, "Performances of Chopin, Bach and Bartok: Studies in Motor Programming", *Cognitive Psychology*, 13, 1981, 326.

⁶¹ Diana Deutsch, "The generation of two isochronous sequences in parallel", *Perception & Psychophysics*, 34, 1983, 331.

⁶² R. T. Krampe, R. Kliegl, U. Mayr, R. Engbert, op. cit., 229.

As the element of folk tradition, the empty fifths used as drone sounds frequently appear in ABBA's songs (Example 8).

Example 8: Drone in ABBA's song "Under attack"



Folk and world repertoire found within a typical Orff-Schulwerk curriculum mostly contain repetitive melodic and rhythmic patterns in the form of ostinato and drone.⁶³ He believed that these accompaniment techniques are parts of elemental music, because they can be found in music-making of primal cultures and children's expressions, as they correspond to the development of a child.⁶⁴ One highly successful model for covering popular songs in the Orff-Schulwerk classroom includes melodic and rhythmic ostinato on percussion instruments.⁶⁵

Orff-Schulwerk teaching strategies

Orff-Schulwerk teaching strategies could be adapted to popular music repertoires and especially to rock music, as it is mostly constructed on modal, pentatonic and blues notes.⁶⁶

Dorian mode

Though the tonality of popular music is largely diatonic, there are many modal popular songs. In Example 9, the lower voice brings the melody – the scale in F flat minor without the sixth tone. The upper voice adds the major sixth at the end of the phrase, creating the Dorian mode in the melody and the major subdominant in the harmony. The missing sixth in the basso melody appears in the cadence as the major sixth in the voice part, completing the Dorian scale.

⁶³ Carl Orff, *The Schulwerk*, transl. by M. Murray, Mainz, Schott Music, 1978.

⁶⁴ Doug Goodkin, *Play, sing & dance: An introduction to Orff Schulwerk*, Miami, FL, Schott Music Corporation, 2002.

⁶⁵ Martina Vasil, op. cit., 27.

⁶⁶ Brett Clement, op. cit., 3.

Example 9: Dorian mode in ABBA's song "The name of the game"



Pentatonic scales

The pentatonic appeared much before diatonic modes. Orff believed that the gradual progression from pentatonic to diatonic modes closely corresponds to the development of the child.⁶⁷

The plagal leading tone was an innovation in the history of tonal melody and presents a relaxation of classical stepwise scale degree tendencies.⁶⁸ Most frequently, in the pentatonic scale, the sixth becomes a "plagal leading tone" – its resolution is upward to the tonic tone, while its harmonization is in the context of a plagal cadence. However, the sixth might go downward into the third and not upward to the tonic, provoking associations to parallel minor, so typical of the classical music style.

In the following song by ABBA (Example 10), both classical and non-classical trajectories of the tonal tradition are included. The pentatonic scale (as a classical inheritance) is transformed into pop sound: a) horizontally – through the absence of the sixth in the melody; 2) vertically – through the use of tonic and major subdominant chords; and 3) temporally – through the structure, is a five-bar phrase.

Example 10: The pentatonic scale in ABBA's song "Gimme gimme gimme"



⁶⁷ Carl Orff, op. cit.

⁶⁸ Jeremy Day-O'Connell, "Debussy, pentatonicism, and the tonal tradition", *Music Theory Spectrum*, 31, 2009, 229.

Students first need to recognize the pentatonic scale by ear, and then convert it into solmization. After they recognize the harmonic progression by ear (the tonic and major subdominant), they sing the solmization along with playing simplified chords in the accompaniment. Students can also create a song by using the same two chords in different order and duration as the accompaniment to the pentatonic melody of their own.

Blue notes

A characteristic feature of pitch organization in rock is the use of both third and lowered third within a song, which is called a mediant mixture.⁶⁹ Therefore, a mediant mixture itself might be considered an aspect of “blue note” usage. Gliding between these two tones is an essential characteristic of blues.

A general tendency of melody is to follow harmony, even though this tendency is weaker in rock than in some other styles.⁷⁰ In the following example (Example 11), in each case, the melodic degree of the lowered third fits the harmony: first it occurs over the subdominant chord, then over the flat-six chord and flat-seventh chord. It means that a mediant mixture coincides with the chromatic mediant chord (the flat-six).

In the song “S.O.S.,” just like in many rock songs, the verse is in a minor key while the chorus is in its relative major. It has been found that the formal position is an important factor in using the mediant mixture – the lowered third is often favored at cadential moments – like the use of “Picardy third.”⁷¹

Example 11: The blue note in ABBA’s song “S.O.S.”

Allegro

F:S VIb VIIb T

⁶⁹ D. Temperley, I. Ren, Z. Duan, “Mediant Mixture and ‘Blue Notes’ in Rock: An Exploratory Study”, *Music Theory Online*, 23(1), 2017.

⁷⁰ Ibid.

⁷¹ David Temperley, “Scalar Shift in Popular Music”, *Music Theory Online*, 17(4), 2011.

The mediant mixture has contrasting expressive connotations – positive and negative – as it brings strong associations to major and minor keys.⁷² It is possible that these connotations follow the expressiveness of the lyrics. In ABBA's "S.O.S." at the end of the chorus, in the line "When you're gone, how can I even try to go on?" there is a shift to lowered third, reflecting the more pessimistic tone of the lyrics.

Emotional analysis of ABBA's songs

Strong emotional responses, such as the experience of chill, are achieved through sudden solo pieces that emerge from a richer orchestral background.⁷³ The switch between thick and thin texture gradually creates a dynamic and textural climax and, consequently, highly emotional responses.⁷⁴ Most likely, a strong emotional reaction can be achieved by gradually adding voices, while its opposite may be reached by doing the opposite in the music. This gradual increase of emotional experience through the gradual addition of voices is used for pedagogical purposes.⁷⁵ Namely, students first sing the refrain in unison (Example 12). Then they sing a two-voice melody of the refrain (Example 13). Finally they sing a three-voice melody (Example 14).

Example 12: Unison melody of the refrain of ABBA's song "The Winner Takes It All"



Example 13: Two-voice melody of the refrain of ABBA's song
"The Winner Takes It All"



⁷² D. Temperley, I. Ren, Z. Duan, op. cit.

⁷³ Jaak Panksepp, op. cit., 193; M. Guhn, A. Hamm, M. Zentner, "Physiological and Musico-Acoustic Correlates of the Chill Response", *Music Perception*, 24(5), 2007, 473.

⁷⁴ Meghan Goodchild, op. cit., 7.

⁷⁵ Милена Петровић, op. cit., 2021, 145–146.

Example 14: Three-voice melody of the refrain of ABBA's song
 "The Winner Takes It All"

Listeners are emotionally moved by the chain of dominants in the refrain of this song, because of the motion that dominants bring into music and their anticipatory nature. It has been proven that specific harmonic patterns elicit tears, increase of heart rate and chills – a strong emotional response involving goose bumps, shivers, or tingles down the spine.⁷⁶ Popular music offers a great field for exploring the relationship between chords and emotions, because it shows a clear connection between the use of harmonies and the content of the lyrics. While the aim of high-art music is to express emotions, popular music's aim is to evoke emotions in listeners,⁷⁷ often chills⁷⁸ and nostalgia.⁷⁹

Linguistic analysis of ABBA's songs

Linguistics might be relevant to the musical analysis of popular songs, as it shows interactions between various aspects of the linguistic and musical dimensions and the complex relationship between music and speech. First, lyrics should be freely translated into the Serbian language by following the main idea of their content. Lyrics in Serbian have the role of bringing the meaning of the original lyrics closer to students. In the Serbian translation it is important to use rhymes, as their role is to make the melody easier to remember and perform. Rhyme is equivalent to the musical tonal center and corresponds to the central principle, in the same way in which the focus of tonal

⁷⁶ John A. Sloboda, "Music Structure and Emotional Response: Some Empirical Findings", *Psychology of Music*, 19(2), 1991, 110.

⁷⁷ Emery Schubert, "Emotion in Popular Music: A Psychological Perspective", *Volume!*, 10(1), 2013, 5.

⁷⁸ V. N. Salimpoor, M. Benovoy, G. Longo, J. R. Cooperstock, R. J. Zatorre, "The Rewarding Aspects of Music Listening Are Related to Degree of Emotional Arousal", *Plos One*, 2009, <https://doi.org/10.1371/journal.pone.0007487>

⁷⁹ Simon Frith, *Performing rites: On the value of popular music*, Cambridge, MA, Harvard University Press, 1996, 211.

harmony is presented by the basic chord. Therefore, rhymes do not exist in Ancient Greek poetry, just like there was no harmony in Ancient Greek music. One finds the rudiments of rhyme only in the epoch in which the rudiments of polyphony originated.⁸⁰ The cadence could correspond to the rhyme principle of the verse ending which helps in verse memorization.

As there are four two-bar segments in the phrase (Example 15), I used cross rhymes – each rhyme for the same cadence – so students can connect the vertical echo of a rhyme with the same musical (harmonic) situation. The first rhyme (drug/krug) appears on the seventh chord (bars 2 and 6), and the second rhyme (sve/ne) appears on the tonic (bars 4 and 8). Such a hierarchical structure of cadence and rhyme, reflected in visual notation and aural perception alike, has influenced some authors to consider rhyme as either a graphic or a musical issue.⁸¹

Example 15: ABBA's song “Head Over Heels” – rhyming makes the chromatic scale easier to perform and remember

The image shows a musical score for the song "Tango" by ABBA. It is written in 4/4 time and features a chromatic scale in the right hand. The lyrics are: "Bi-la je do-bar moj drug. što u-vek zna šta že-li hra-bra za sve. vo-li il' ne. Što vr-ti mu-ske u krug. to što je svo-ja ne-ko". The score is divided into two systems, with the second system having two endings. Chords are indicated as d:D and D.

The chromatic scale (bars 3–4 and 7–8) would be easier to perform if it were sung with the lyrics first, but also if a strong accent were put on the initial syllables (in the capital letter) in the following lyrics: “što U-vek ZNA šta ŽE-li HRA-bra za SVE” (bars 2 and 3) or “to ŠTO je SVO-ja NE-ko VO-li IL’ NE” (bars 7 and 8).

⁸⁰ Milena Petrović, “Cadenza as Music Projection of Rhyme in Serbian Romantic Lied”, In: Steven M. Demorest, Steven J. Morrison, Patricia S. Campbell (Eds), *Book of Abstracts ICMPC11*, Seattle, University of Washington, 2010, 128.

⁸¹ Милена Петровић, *Улога акценција у српској соло џезми*, Београд, Службени гласник, 2014; Milena Petrović, “Non-isochronous meter in poetry and music”, in: Jane Ginsborg, Alexandra Lamont (Eds), *Proceedings of the Ninth Triennial Conference of the European Society for the Cognitive Sciences of Music*, Manchester: Royal Northern College of Music, 2015, 656–660.

Incorporating linguistic prosody into music is the process called “text setting”.⁸² When setting lyrics to melody, composers tend to align the expected stress of the lyrics with strong metrical positions in the music. From a pedagogical point of view, songs that are well-aligned are easier to memorize.⁸³ It has been established that the alignment of linguistic stress and musical meter in a song enhances the musical beat tracking and comprehension of lyrics.⁸⁴

In Western art and popular song, prosodic stress tends to align with musical meter, but also with the melodic contour.⁸⁵ The initial motif of the song presents a perfect alignment of linguistic accent, musical meter and melodic contour in the name of Chiquitita: the eighth rest is followed by two sixteens and two eighth notes (Example 16).

Example 16: Linguistic stress, musical meter and melodic contour alignment in ABBA’s song “Chiquitita”

Moderato



Chi - qui - ti - ta tell me what's wrong?

The image shows a musical staff in treble clef with a key signature of two sharps (F# and C#) and a 4/4 time signature. The tempo marking 'Moderato' is above the staff. The notation begins with a quarter rest, followed by a quarter note G4, a quarter note A4, a quarter note B4, a quarter note C5, a quarter note B4, a quarter note A4, a quarter note G4, and a quarter rest. The lyrics 'Chi - qui - ti - ta tell me what's wrong?' are written below the notes.

Conclusion

The use of ABBA’s songs in music pedagogy has required the creation of a new interdisciplinary approach which introduces: 1) the use of elements of informal musical practice in the formal university solfeggio classroom, and 2) the comprehensive multimodal experience and analysis, from which reproduction and performance emerge.

On the one hand, features of informal learning practices are: group work, structural listening and learning by ear, discovering solmization and harmonic progressions, the integration of listening, singing and playing. On the other hand, multimodal experience and analysis involve: the *physical space* of melodic contours and harmonic progressions that are graphically repre-

⁸² R. L. Gordon, C. L. Magne, E. W. Large, “EEG Correlates of Song Prosody: A New Look at the Relationship between Linguistic and Musical Rhythm”, *Frontiers in Psychology*, 2, 2011, 352.

⁸³ H. Gingold, E. Abravanel, op. cit.

⁸⁴ R. L. Gordon, C. L. Magne, E. W. Large, op. cit.

⁸⁵ C. Palmer, M. H. Kelly, op. cit.

sented; *embodied* tension and relaxation caused by the expected and unexpected harmonic patterns/progressions, form and rhythm; *aural and visual* analysis of modes, pentatonic and blue tones as the main Orff-Schulwerk teaching strategies, and ostinato and drone as the elemental characteristics of popular music; *emotions* experienced at the moment of the gradual addition of voices and the chain of dominants; *verbality* reflected in translations, the use of rhyme and the alignment of prosodic stress, musical meter and melodic contour.

Aural, visual, spatial, graphical, verbal, embodied and emotional aspects are found in popular songs and provide a very important means for education. Multimodality, which includes the physical space of melody and harmony, embodied expectations, experienced emotions and verbality, provides enormous opportunities for new directions in the field of music pedagogy.

Translated by the author

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Summary

To institute popular music pedagogy and to include popular music in university solfeggio teaching, principles that are typical of informal learning practices should be applied (Green, 2006). Teaching ABBA's songs in formal university solfeggio classes involves: learning the music that students know and like; learning by structural listening and playing recordings by ear; music as sound rather than music as notation; learning in groups; reliance on improvisation; learning through the integration of listening, singing and playing (Green, 2008). Furthermore, the ABBA's songs analyzed are arranged for the voice and piano accompaniment (the song collection "Mamma Mia", 1976) and thus formally familiar to students, because this kind of arrangement is reminiscent of the classical Lied.

The aim is to propose a new concept of multimodal experience and the analysis of ABBA's songs, which includes an interdisciplinary musicological and pedagogical approach. It consists of: the graphical representation of the melodic contours of the vocal part, parallel with harmonic progressions (Middleton, 1993); expectations in music and the analysis of tension and relaxation according to expected and unexpected harmonic patterns and progressions, form and rhythm (Miles et al., 2017); the music analysis of ostinato and drone as the elemental characteristics of popular music, and the Dorian mode, pentatonic and blue tones, which are part of Orff-Schulwerk teaching strategies (Orff, 1978); emotion analysis in relation to the gradual addition of voices and the chain of dominants (Goodchild, 2016); linguistic analysis, respecting the use of rhymes in verse translations into Serbian, as well as prosodic stress, musical meter and melodic contour alignment (Petrović, 2014).