



THE INTERACTION OF POP AND ACADEMIC VOCAL TECHNIQUES

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Abstract. The article compares the physiological, acoustic and pedagogical features of pop (contemporary commercial music, CCM) and academic (classical) singing techniques. Drawing on international and Uzbek research, it examines the main differences in laryngeal position, registration, breathing, resonance, vibrato and microphone use. Particular attention is paid to the mutual influence of the two traditions: classical singers turning to pop repertoire, and pop pedagogy drawing on the academic foundation. The article concludes by proposing an integrative (cross-training) approach for vocal education in Uzbekistan.

Keywords: pop singing, academic singing, CCM, belting, laryngeal position, registration, vibrato, cross-training, voice pedagogy.

Annotatsiya. Maqolada estrada (CCM) va akademik vokal texnikasining fiziologik, akustik va pedagogik jihatlari qiyosiy tahlil qilinadi. Gortan holati, registrlar, nafas, rezonans, vibrato va mikrofon bilan ishlash bo'yicha asosiy farqlar xorijiy va mahalliy ilmiy manbalar asosida ko'rsatiladi, ikki maktabning o'zaro ta'siri yoritiladi. Xulosada O'zbekiston vokal ta'limi uchun integrativ yondashuv taklif etiladi.

Kalit so'zlar: estrada vokali, akademik vokal, belting, registr, vibrato, vokal pedagogikasi.

Аннотация. В статье проводится сравнительный анализ физиологических, акустических и педагогических аспектов эстрадной и академической вокальной техники. Рассматриваются различия в положении гортани, регистрах, дыхании, резонансе, вибрато и работе с микрофоном, а также взаимовлияние двух школ. Предлагается интегративный подход к вокальному образованию в Узбекистане.

Ключевые слова: эстрадный вокал, академический вокал, белтинг, регистры, вибрато, вокальная педагогика.



INTRODUCTION

Today most professional singers work in popular music, yet voice pedagogy has long developed almost exclusively on the academic (classical) model. The international literature widely acknowledges that contemporary commercial music (CCM) singing differs considerably from classical practice in voice quality, tone and registration. In 2008 the American Academy of Teachers of Singing (AATS) formally recognised that classically based technique alone cannot serve the full diversity of singing styles.¹

At the same time, the two schools do not exist in isolation. Classical singers are often required to perform pop repertoire at weddings, concerts and in musicals,² while pop singers rely on academic knowledge of breathing, resonance and vocal hygiene. In Uzbekistan, “Vocal Art: Pop Singing” exists as a separate bachelor's programme, and studies of pop vocal technique have only recently begun to appear in national academic journals.³ This defines the relevance of the topic.

The aim of the study is to analyse the differences and the mutual influence of pop and academic vocal techniques on the basis of scientific sources and to develop practical recommendations for vocal education.

Objectives:

1. to compare the physiological and acoustic foundations of the two traditions;
2. to systematise the main technical differences (larynx, registration, vibrato, belting, microphone);
3. to describe the forms of mutual influence – crossover performance and cross-training pedagogy;
4. to draw conclusions for vocal education in Uzbekistan.

Research methods: comparative analysis of the scientific literature, generalisation of acoustic and physiological research findings, and systematisation of pedagogical experience.

¹ Bartlett I., Naismith M. L. An Investigation of Contemporary Commercial Music (CCM) Voice Pedagogy: A Class of its Own? // Journal of Singing. – Jacksonville (USA): NATS, 2020. – Vol. 76, No. 3. – P. 273, 276. – URL: https://www.nats.org/_Library/JOS_On_Point/JOS-076-3-2020-273_-_Bartlett-Naismith_-_An_Investigatin_of_CCM.pdf.

² Bruder C., Larrouy-Maestri P. Classical singers are also proficient in non-classical singing // Frontiers in Psychology. – Lausanne (Switzerland): Frontiers Media, 2023. – Vol. 14. – Art. 1215370. – P. 1. – DOI: 10.3389/fpsyg.2023.1215370.

³ Vocal Art: Pop Singing (60211403): admission scores and quotas 2026/2027 [Electronic resource; in Uzbek] // InfoEdu.uz. – 2026. – URL: <https://infoedu.uz/yonalish/60211403> (accessed: 09.10.2026); Nuratdinov T. Techniques of vocal performance in modern pop music [in Uzbek] // Art and Culture Bulletin. – Nukus: Nukus Branch of the Uzbekistan State Institute of Arts and Culture, 2026. – No. 1. – P. 49–52. – DOI: 10.66900/17r9c992.



1. PHYSIOLOGICAL AND ACOUSTIC FOUNDATIONS OF THE TWO TRADITIONS

The differences between the two techniques stem primarily from the acoustic conditions in which they were formed: academic singing developed for large halls without amplification, pop singing for the microphone.

Academic singing. In Western classical singing, aesthetics are closely tied to the economy of voice production, because the singer must be heard over an orchestra without technical amplification. Several acoustic phenomena address this task. In male voices, partials around 2.5–3 kHz are strongly enhanced, creating a spectral peak known as the singer's formant cluster, which results from the clustering of vocal tract resonances. Sopranos, in turn, widen the jaw opening in the high range to tune the first resonance close to the fundamental frequency. These mechanisms are supported by deep costo-diaphragmatic breathing, a low and stable larynx, a raised soft palate, smoothed register transitions and consistent vibrato.⁴

Pop singing. Pop singing took shape in small halls and clubs; with the arrival of the microphone, the main task shifted from vocal power to timbral variety, intimacy, and the expression of text and emotion. The typical pop sound is speech-like, forward and bright. It differs from classical production in laryngeal muscle coordination, acoustic set-up, breath management and, above all, registration. Female pop singers are typically expected to maintain speech quality in a range of roughly F3–C5, sometimes up to E ♭ 5.

Modes of phonation. According to M. Thalén and J. Sundberg, classical singing is close to flow phonation, pop and jazz lean towards flow phonation, while blues lies close to pressed phonation.⁵ Pop singing is therefore not a single technique: each of its styles uses the vocal apparatus differently.

2. KEY TECHNICAL DIFFERENCES

On the basis of a literature review, researchers at the University of Costa Rica identify differences in laryngeal position, vocal tract shaping, subglottal pressure, vocal intensity, acoustic features, the use of electronic devices, and the freedom to modify the music and vocal tone. Table 1 summarises these differences.

⁴ Fleischer M., Rummel S., Stritt F. et al. Voice efficiency for different voice qualities combining experimentally derived sound signals and numerical modeling of the vocal tract // *Frontiers in Physiology*. – Lausanne (Switzerland): Frontiers Media, 2022. – Vol. 13. – Art. 1081622. – P. 2. – DOI: 10.3389/fphys.2022.1081622; Bruder C., Larrouy-Maestri P. Op. cit. – P. 2; Alimova E. S. Academic singer in the space of pop and jazz music: towards the problem of a new professional specialization reclaiming [in Russian] // *South-Russian Musical Anthology*. – Rostov-on-Don, 2025. – No. 4. – P. 145. – DOI: 10.52469/20764766_2025_04_143.

⁵ Alimova E. S. Op. cit. – P. 145; Bartlett I., Naismith M. L. Op. cit. – P. 276; Bruder C., Larrouy-Maestri P. Op. cit. – P. 2.

Table 1

Comparative characteristics of academic and pop vocal technique⁶

Parameter	Academic singing	Pop singing
Laryngeal position	Kept low and stable	Varies with style and emotion; often higher
Registration	Register transitions smoothed; head resonance dominates	Mix voice; register breaks used deliberately as an expressive device
Vibrato	Wide and constant; greatest extent in operatic singing	Straight tone; vibrato used selectively
Voice projection	Self-amplification through the singer's formant	Electronic amplification; little extra vocal force needed
Acoustic spectrum	Energy concentrated in formant zones; little above 4 kHz	Broad spectrum; in belting, strong harmonics up to 10 kHz
Vowels	Tall, rounded	Horizontal, speech-like
Timbral effects	Not used	Subtone, rasp, growl, straight tone
Relation to the score	Faithful interpretation of the composer's text; Fach system	Not bound to notation; no repertoire restrictions by voice type

The question of belting. Belting – the strong, bright vocal quality typical of pop and musical theatre – lies at the centre of the debate between the two schools. Using electroglottography

⁶ Compiled by the author based on: López Pacheco M. M., Viales Montero R. P. Technical differences and teaching of contemporary commercial music vs. classical singing [in Spanish] // Revista Educación. – San José (Costa Rica): University of Costa Rica, 2025. – Vol. 49, No. 1. – P. 1. – DOI: 10.15517/revedu.v49i1.61321; Bartlett I., Naismith M. L. Op. cit. – P. 279; Bruder C., Larrouy-Maestri P. Op. cit. – P. 5; Alimova E. S. Op. cit. – P. 145; McCoy S. A Classical Pedagogue Explores Belting // Journal of Singing. – Jacksonville (USA): NATS, 2007. – Vol. 63, No. 5. – P. 547–548. – URL: https://www.nats.org/_Library/Kennedy_JOS_Files_2013/JOS-063-5-2007-545.pdf.



with 12 female singers, S. McCoy found that the closed quotient in belting rose on average from 52% to 59% as pitch ascended. Three quarters of the participants belted with closed quotients similar to those of classically trained singers, and the larynx showed little or no elevation above its resting position.⁷

A scoping review published in 2026 analysed 107 publications (54 scientific and 53 pedagogical) and associated belting with an elevated larynx, pharyngeal narrowing, a closed quotient above 50% and high subglottal pressure, while noting high individual variability. Its authors also counted more than 200 different terms used to describe belting.⁸ The discrepancy between these findings shows that there is no single correct way to belt: each singer finds an individual physiological strategy.

3. MUTUAL INFLUENCE OF THE TWO SCHOOLS

The interaction runs in two directions: academic singers adopt pop styles, while pop pedagogy draws on the systematic foundation of the academic school. As the AATS statement cited above puts it, all singers must breathe, phonate, resonate and articulate, but they do not necessarily approach these technical elements in the same manner.

3.1. *The academic singer in pop music*

In a study at the Max Planck Institute for Empirical Aesthetics, 22 classically trained female singers performed the same melodies as an opera aria, a pop song and a lullaby, and 792 performances were analysed acoustically. Listeners identified the intended style correctly in 78.5% of cases overall: opera 86%, lullaby 80% and pop 69%. The singers' versatility ranged from 62% to 83% and was not linked to the length of their formal training. Classical training alone, therefore, does not guarantee successful adaptation to pop styles.

E. Alimova groups the barriers that an academic singer faces when turning to pop and jazz repertoire into three complexes:

1. physiological and acoustic: differences in voice production, breathing, laryngeal position and resonance;
2. musical and stylistic: swing feel, syncopation, blue-note intonation, melismatics and improvisation;

⁷ McCoy S. Op. cit. – P. 546–547.

⁸ The current published literature on perception, acoustics, physiology, and pedagogy of belting in singing: A literature scoping review and call for future research [Abstract] // The Voice Foundation: 2026 Abstracts. – Philadelphia (USA), 2026. – URL: <https://voicefoundation.org/view/2026-abstracts/entry/7084/> (accessed: 09.10.2026).



3. psychological: the shift from the role of an interpreter of the composer's text to that of a storyteller communicating directly with the audience.

In her view, simply “singing more quietly” or relaxing breath support can lead to rapid vocal fatigue and occupational voice disorders; what is required is not a simplification of academic skills but the construction of a new functional system.⁹

3.2. The role of the academic foundation in pop singing

The main advantage of classical singing is its systematised pedagogy, whereas many pop “methods” neglect such foundational pillars of technique as alignment, breath flow, abdominal support, phonation and resonance. Accordingly, in interviews with nine leading international CCM teachers, a secure technical foundation and sustainable vocal health emerged as priorities across all styles. Uzbek studies of pop vocal technique likewise examine its anatomical and physiological foundations and its differences from academic singing, drawing on the work of such voice scientists and teachers as J. Chapman and J. Sundberg.¹⁰

3.3. Cross-training as an integrative approach

Historical pedagogical publications tended to frame belting as damaging, whereas contemporary ones focus on sustainable technique and cross-training, i.e. parallel practice in several styles. Researchers from Costa Rica offer three recommendations for teachers: being a good singer does not make one a good teacher, so formal training in voice pedagogy is essential; teaching genres outside one's own background requires specific education in those styles; and no genre is inherently superior to another.¹¹

4. THE UZBEK CONTEXT

Uzbekistan has a well-established academic vocal school, while pop vocal education is still taking shape as an independent field. Academic singing reached Central Asia from the Italian bel canto tradition “through a Russian filter”, and the founding of the Tashkent State Conservatory in 1936 became a turning point in academic vocal education. Halima Nosirova and Lutfikhon Sarimsoqova became the first Uzbek female opera singers, and in 1950–1980 singers such as Saodat Qobulova, Muqaddas Ashrafiyeva and Farida Toshmatova achieved international recognition.

⁹ Bruder C., Larrouy-Maestri P. Op. cit. – P. 1, 10; Alimova E. S. Op. cit. – P. 143–147.

¹⁰ Bartlett I., Naismith M. L. Op. cit. – P. 273–274, 280; Nuratdinov T. Op. cit. – P. 52.

¹¹ The current published literature on ... belting in singing. Op. cit.; López Pacheco M. M., Viales Montero R. P. Op. cit. – P. 1.



Higher education in pop singing is still small in scale. In the 2026/2027 academic year the “Vocal Art: Pop Singing” programme is offered at three institutions – the National Institute of Estrada (Pop) Art, Karakalpak State University and the Nukus Branch of the Uzbekistan State Institute of Arts and Culture – with a total of 16 state-funded places.¹²

Local researchers highlight two problems:

- although the need to reconcile national vocal aesthetics with academic technique is recognised, a clear methodology for doing so has not yet been fully developed;
- young people increasingly learn through online platforms, YouTube and streaming services, which displaces traditional models of teaching.

S. Muzafarova notes that Uzbek vocal education seeks to integrate its technologies and methods with international standards, and that an interdisciplinary, integrative approach increases singers' competitiveness.¹³ This conclusion applies equally to the integration of pop and academic singing: pop singers need the academic school's knowledge of breathing, resonance and vocal hygiene, while academic singers need microphone technique, mix voice and stylistic freedom.

CONCLUSIONS AND RECOMMENDATIONS

The analysis shows that pop and academic singing are not opposites but two technical systems shaped by different acoustic tasks. The main conclusions are as follows:

1. The differences are rooted in how the voice is projected: academic singing relies on self-amplification (the singer's formant, resonance tuning), pop singing on the microphone.
2. Laryngeal position, registration, vibrato, vowel shape and the acoustic spectrum are the key parameters that distinguish the two schools.
3. The length of classical training does not guarantee adaptation to pop styles; this requires separate, targeted preparation.
4. Pop pedagogy needs the systematic foundation of the academic school – breathing, resonance and vocal hygiene; it is here that the two schools meet most productively.

Recommendations for vocal education in Uzbekistan:

¹² Kalliev A. Historical development of academic vocal art in Central Asia [in Karakalpak] // Art and Culture Bulletin. – Nukus: Nukus Branch of the Uzbekistan State Institute of Arts and Culture, 2026. – No. 2. – P. 40. – URL: <https://journal.uzdsmi-nf.uz/index.php/acb/ru/article/download/544/473/934>; Vocal Art: Pop Singing (60211403): admission scores and quotas 2026/2027. Op. cit..

¹³ Kalliev A. Op. cit. – P. 41; Muzafarova S. Kh. About the integration of disciplines in the education of future vocalists [in Uzbek] // Oriental Renaissance: Innovative, educational, natural and social sciences. – Tashkent, 2023. – Vol. 3, No. 3. – P. 164, 167. – DOI: 10.5281/zenodo.7748034.



- to introduce an elective module on microphone technique, mix voice and the basics of belting into academic voice curricula, and a module on academic breathing, resonance and vocal hygiene into pop singing curricula;
- to organise in-service training for voice teachers in teaching genres outside their own specialisation;
- to use spectrograms and other acoustic analysis software in lessons to monitor vocal changes objectively;
- to standardise pop vocal terminology (belting, mix, twang, subtone) in the Uzbek language, since terminological diversity is recognised as a serious problem in the international literature as well;
- to conduct empirical (acoustic and perceptual) studies with Uzbek singers in order to develop an integrative methodology that takes national vocal aesthetics into account.

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