AN INNOVATIVE PEDAGOGICAL FRAMEWORK FOR VOCAL TRAINING OF STUDENTS IN HIGHER MUSIC PEDAGOGY SPECIALTIES, BASED ON THE AUTHOR'S 'SINGING MIRROR' MODEL

Ana Borisova
Department of Music, Faculty of Education,
St. Cyril and St. Methodius University of Veliko Tarnovo, Bulgaria
anaborisova2017@gmail.com

Abstract: The research offers an original model for vocal training in pairs called "Singing Mirror". It is based on Bulgarian folklore singing. The idea for this type of training originated in early 2024. A few months later, in June 2024, a pilot training was conducted with eight pairs of children, providing an opportunity for in-depth research and analysis. My activities as a lecturer at the University of Veliko Tarnovo allowed me to experiment with this innovative vocal-pedagogical technology among students in their Master's musical programs. The experiment was conducted remotely and involved five students who had individual and pair training sessions, each lasting twenty minutes. Within the sessions, control and experimental groups were formed, which were analysed and described. The students filled out protocols with five pre-chosen criteria, based on which the results of the study were reported.

Keywords: Singing mirror, pedagogical technologies, innovations, singing in pairs, vocal coaching

INTRODUCTION

The idea of developing an innovative training technology for students in higher music pedagogy specialities was inspired not by my empirical experience with university students themselves, but by my pedagogical work with my students from the *Anna-Folkart* Association in the town of Dryanovo. These are children who study in a class for Bulgarian folk singing within the framework of non-formal education, following my methodology for folk singing training, which I developed in my dissertation, ***"Stages in Mastering Ornamentation in Folk Singing Education."***

In 2024, I decided to organise a folk singing training program during the summer period, in the form of a children's camp. In response to the considerable interest in participation, I sought effective approaches to conducting training with a greater number of participants within a condensed timeframe, as, until then, instruction had been delivered exclusively through individual lessons. Pressed by time constraints and the inability to accommodate all applicants, I set myself the goal of developing an innovative training technology that would, on one hand, include a greater number of participants and, on the other, improve their vocal-technical skills. This led to the creation of the idea for *"The Singing Mirror"* – a Bulgarian folk singing training model for pairs of children, which was piloted in June 2024 at the Albena resort complex, involving eight pairs of children. At the request of some of the parents whose children participated in the first *"mirror"* camp, I organised a second, identical training program in November of the same year in the town of Strelcha, involving four pairs of children. The results of both training programs were practically demonstrated through concerts that showcased high individual achievements, generated through the implementation of the newly developed authorial model for folk singing instruction. The children's achievements prompted me to document the stages and procedures that formed the foundation of this innovative vocal-pedagogical methodology.

Why did I name the method "The Singing Mirror"? On numerous occasions during my early childhood singing practice, often with an improvised microphone in hand, I would stand in front of a mirror to observe and visualise the result of my inner emotional satisfaction derived from the act of singing. It allowed me to *"see"* both my performance and my song. It was a way through which, in my child's mind, I affirmed my abilities and, with each successive attempt, improved upon them. In deciding to name my new project *"The Singing Mirror,"* I sought to visualise the idea that two performers – in this case, children – would enhance their skills by observing their partner, in analogy to my mirrored reflection. During my

first session with the initial pair of children I trained at the camp, I realised just how accurate and appropriate my decision had been. I observed how the children carefully watched one another, listened attentively, and completed each of the tasks I assigned, consistently relying on their partner for support. Whenever a vocal-technical difficulty arose for one of the partners, they would depend on the other's demonstration as a reference and guide. They frequently asked each other questions such as, ***"How did you do that? Explain it to me…"*** or offered suggestions like, ***"Listen now – think of this note a little higher,"*** **and** ***"Open your mouth a bit more – like this…"***.

These initial observations from my two pilot training sessions with children in Albena and Strelcha gave me the confidence to direct my scientific attention toward conducting an experimental study of this concept among students majoring in ***Conducting of Musical Ensembles*** within the course ***Technologies of Vocal Training***. This course was also experimental for me as a university lecturer at Veliko Tarnovo University during the summer semester of the 2024–2025 academic year.

METHODOLOGY

The object of the study is the vocal training of students in higher music education programmes. **The subject** of the study is the potential for developing an innovative pedagogical technology for training students in music pedagogy specialities, based on the author's original model for Bulgarian folk singing instruction, *"The Singing Mirror."* **The aim** of the present study is to conduct a pilot experimental investigation into Bulgarian folk singing instruction among students, based on the **innovative pedagogical technology developed through the author's original model, *"The Singing Mirror."***

The hypothesis of this study is that the implementation of the innovative pedagogical technology *"The Singing Mirror"* ***will enhance the individual vocal skills of the students, generate greater personal motivation for independent work, foster positive emotional interaction between partners as a result of collaborative practice, and contribute to reducing the time required for students to achieve specific vocal objectives and tasks***.

In order to accomplish this objective, the following tasks must be undertaken: 1. To review, analyse, and systematise contemporary literature related to pedagogical technologies and the processes that determine their structure and application; 2. To describe the technological processes underlying the proposed innovative pedagogical technology and to substantiate the significance of its implementation in the training of students. 3. To compare and analyze the results of the pilot experimental study conducted among five students (graduates of a Bachelor's program in *Music Education Pedagogy*), currently enrolled in a Master's program in *Conducting of Musical Ensembles (CME)*, carried out in early June 2025 using the *convenience sampling* method (selecting participants who are readily accessible).

WHAT ARE PEDAGOGICAL TECHNOLOGIES?

Representatives of various educational theories hold distinct perspectives regarding the technologies applied in the field of education. These are associated with the teaching and learning process, techniques, methods, instructional forms, and a range of educational tools. The emphasis is placed on the teacher's activity in the act of teaching, the students' activity in the act of learning, and the activities related to organising and managing the overall educational process. Such an approach provides grounds for the use of terms such as "technologies in education," "educational technologies," and, above all, "pedagogical" or "didactic technologies," as well as "teaching technologies" and "learning technologies.". From the perspective of the educational process**, Pavlov identifies three subdivisions: technologies of teaching, technologies of learning, and technologies of organisation. Educational (pedagogical)** technologies are applied both within institutionalised education and in informal learning contexts during leisure time. They are determined by factors such as age group (preschool, secondary, higher education, etc.), primary activities (teaching and learning, upbringing, management), and the subjects involved (the teacher and the learner). [Pavlov, 2001]

„The beginnings of more systematic attempts to apply a technological approach, primarily in education, date back to the United States in the 1930s and 1940s, ultimately leading to the establishment of

pedagogical technology as a relatively independent discipline today. The beginning of programmed instruction as a new direction in pedagogical theory and educational practice is associated with the publication of an article by the American scholar B. F. Skinner in *Harvard Educational Review* in 1954, entitled *"The Science of Learning and the Art of Teaching."* [Petrov, 2017]

Before addressing the core issue the development of an innovative pedagogical technology for vocal training of students in music pedagogy programs, *"The Singing Mirror"* – first, it is necessary to define what is meant by a *technological process*. Every technological process is typically characterised by: 1. The presence of a clearly defined objective; 2. The structuring of activities for its implementation into distinct stages and operations; 3. The development of a program that determines the sequence in which these operations are to be carried out; 4. Feedback mechanisms for conducting step-by-step monitoring and making adjustments when necessary. [Petar, 2017]

THE ROLE OF PAIR SINGING IN THE BULGARIAN AUTHENTIC SONG TRADITION

The development of an innovative pedagogical technology should be based on a sustainable and well-grounded foundation. For this reason, it was essential to align the concept with the presence of the *"singing mirror"* within the Bulgarian song tradition.

Singing has held a special place in Bulgarian traditional culture. It was an integral part of the ritual calendar and the labour practices of the Bulgarian people. Songs accompanied various communal and work-related activities such as sedyanka (evening gatherings), harvesting, and all initiation rites marking the transitions from childhood to maidenhood (lazaruvane), from maidenhood to marriage, and from life to death. According to numerous ethnomusicological studies conducted by renowned Bulgarian scholars, including Vasil Stoin, Elena Stoin, Nikolay Kaufman, Stoyan Dzhudzhev, and others, Bulgarian folk singing traditions feature both monophonic and polyphonic forms. In many cases within the authentic folklore culture, singing was performed antiphonally, divided into two groups: one initiating the song, and the other responding.

In his 1968 book *"The Bulgarian Polyphonic Folk Song,"* Nikolay Kaufman notes that: *"In their initial attempts at singing, young girls would typically perform the main melody of the song, while the accompaniment was provided during the learning process by an older partner the mother, an older sister, or another experienced singer."* [Kaufman, 1968] Within this informal educational environment – while working or during the preparation for the performance of certain ritual complexes – children would learn to sing from one another. The mother, grandmother, or aunt would demonstrate the melody of a particular song, and the children would "process" it while playing. In the case of *koledari* (Christmas carolers) and *lazarki* (young girls participating in springtime rituals), during their organised preliminary gatherings held weeks before Christmas Eve and Lazarus Saturday, they would practice singing in unison. In some regions of the country, this occurred precisely informally – through mutual learning on a rotational basis, relying on auditory imitation and demonstration. Often, this took the form of a mirror principle: one child would sing while the first, second, and third would listen and reproduce. Elena Stoin also offers valuable insight in her study ***"Musical Folklore Dialects in Bulgaria"***, where she notes: *"The monophonic harvest songs or songs performed **'po sama'** ('alone'), denote solo singing, even when two singers alternate antiphonally. However, certain monophonic songs are described as being sung **'by two'** or **'by three'**. This means that a single stanza of the song is performed consecutively by two or three singers. In performances **by three**, the melody is divided into three segments, and this division is executed in various ways.* One of the approaches is as follows**:** one singer performs **the entire ten-syllable verse** (4+6), the second singer repeats twice the four-syllable section of the same verse, while the third continues with its six-syllable ending. [Stoin, 1981] If we carefully analyse Stoin's observations from over forty years ago, we will notice that during harvest and other labour activities, women engaged in a form of latent, informal training in folk singing. One singer would perform the entire ten-syllable verse, the second would sing only the first four syllables, while the third completed the remaining six. In this way – through sequential, structured, and traditionally established steps and operations specific to the respective regions of the country – Bulgarian folk songs were learned and performed.

Relying on the enduring traditional practices that have preserved Bulgarian folk song to this day, we are confident that the emerging pedagogical technology will acquire a sustainable, progressive, and comprehensive foundation for the vocal-pedagogical education and training of students and future vocal educators.

RESEARCH METHODS EMPLOYED

Pedagogical observation, analysis and synthesis, convenience sampling method, and the hermeneutic method.

What is convenience sampling?

Convenience sampling is a non-probability sampling technique in which researchers select participants based on their easy accessibility and proximity. Readily available individuals, such as friends, family, or people from a particular location, take part in the study. This method contrasts with probability sampling, where every member of the population has a known and equal chance of being selected. Convenience sampling is characterised by its simplicity, speed, and cost-effectiveness, which makes it appealing to many researchers.

Characteristics of the convenient sample

Non-random selection: Participants are chosen based on convenience rather than random sampling, which increases the risk of selection bias. **Accessibility:** The sample consists of individuals who are easily accessible, making data collection faster and more efficient. **Cost and efficiency:** Convenience sampling generally requires fewer resources compared to more rigorous sampling methods, as it eliminates the need for extensive recruitment processes. **Pilot studies:** In the preliminary stages of research, convenience sampling can help researchers test methodologies or gather initial data without extensive planning.

TECHNOLOGISATION OF VOCAL TRAINING FOR STUDENTS BASED ON THE INNOVATIVE PEDAGOGICAL TECHNOLOGY 'SINGING MIRROR'

Focusing on the schematization of technological processes, **we will define the main steps and operations** necessary for generating **the idea of technologizing the vocal training process for students** studying the discipline of **Technology of Vocal Training**. The term "technologies" should be understood in terms of vocal technologies as methods and stages involving the use of modern techniques, as well as ways to achieve and apply them. It encompasses the generation, specification, systematisation, and detailing of vocal-technical (pedagogical) practices that lead to the development of specific vocal skills, fostering the enhancement of individual vocal abilities and shaping the future pedagogical approaches of the students. In this context, Anastasia Batkova states in her dissertation that: "Every music educator creates their own original pedagogical technology in their work, integrating various ideas while considering the needs of the learners and the goals of the instruction" [Batkova, 2023]. For the *Technology of Vocal Training* course, the objective is for students to quickly acquire and refine specific vocal skills through paired teamwork, thereby enhancing their individual vocal performance abilities.

PREPARATION AND CONDUCT OF THE EXPERIMENTAL STUDY

The experiment was conducted with five students from the Faculty of Education at Veliko Tarnovo University, enrolled in the course Technology of Vocal Training, which is part of the Master's program in Conducting Musical Ensembles (CME). All participants had completed a bachelor's degree in Music Education Pedagogy at the same institution.

To ensure that the experiment was both precisely structured and appropriately conducted and analysed, protocols were prepared, organised around five predetermined criteria (as outlined in the scheme above). The students were asked to assess each of the first four criteria by selecting a **rating from 1 to 5**. For the fifth criterion, they were invited to describe in their own words the emotions and experiences generated during the collaborative work with their partner. *Was it easier to master the melody of the song with the new method? Was it easier to master the ornamentation with the new author's model? Were you motivated during your training with the new author's model? Did you learn the song pattern based on the*

author's model more quickly? Did you experience greater satisfaction (positive emotion) when working with the new author's model? The students received these protocols immediately after the experiment was conducted (on June 2, 2025) and were instructed to complete them and send them to the designated email address within the same day, for the results to be recorded promptly.

Guided by the principles of ethical conduct, the names of the participants in the experiment were recorded using initials, and the protocols were personally signed by each of them. The primary objective of the study was to ensure the highest possible reliability of the results. To this end, video recordings of all ten training sessions were made, which will be used solely for the purposes and objectives of the present research. Each participant in the experiment provided their verbal consent to participate in the study as conducted.

To support the study**, a control group (CG)** and ***an experimental group (EG)*** were formed. The pairs within the experimental group were assigned randomly, without any prior arrangements or preparation. The training sessions conducted in both groups were of equal duration. In the control group (**CG**), one student was trained in collaboration with a mentor, a vocal pedagogue, while in the experimental group (**EG**), two students were trained together in collaboration with the same mentor. Each of the two sessions lasted **twenty minutes**. The repertoire used for the study was based on authentic Bulgarian folk song samples from the Dryanovo region (Central Northern Bulgaria), which were carefully selected to be of equal complexity in terms of melody, ornamentation, meter, rhythm, and modal characteristics, ensuring that the participants in both the **CG** and **EG** were placed under identical conditions.

DESCRIPTION OF THE PEDAGOGICAL TECHNOLOGY FOR WORKING WITH STUDENTS IN THE CONTROL GROUP (CG) AND THE EXPERIMENTAL GROUP (EG) – STEPS AND OPERATIONS

Each student participated in **an individual 20-minute session**, as well as **a session based on the new original model *"Singing Mirror"* — involving teamwork with a partner**. In the following section, both groups will be presented, along with the specific steps and operations carried out within each of them.

A) (CG) Participants – vocal pedagogue (mentor) and one student (participant)

- Total session duration – **twenty minutes**;
- No warm-up included, as each student had already completed this vocal-technical task individually beforehand;
- Activity of the vocal pedagogue–mentor:

1. **Twofold demonstration** of the vocal piece in its entirety, focusing on both melody and ornamentation;
2. **Decomposition of the vocal piece** into vocal phrases (from caesura to caesura);
3. **Introduction of the vocal phrases from the first verse on a rotational basis** – mentor–trainee;
4. **Correction of any intonation or ornamentation inaccuracies that occur**, along with encouragement to achieve maximum mastery of the two main criteria – introduction and mastery of the melody and ornamentation of the song;
5. Requirement from the mentor for the trainee **to read and analyse the entire text of the song** (carrying out detailed examination and clarification of word pronunciation in the text, as well as explaining the meaning of expressions unfamiliar to the trainee); learning the vocal piece with the full text;
6. Performance of the entire piece by the student.

B) (EG) (the new method "Singing Mirror") Participants – vocal teacher (mentor) and two students (participants)

- Total duration of the session: twenty minutes;
- No warm-up is planned, as each student has already completed this vocal-technical task individually beforehand;
- Activity of the vocal pedagogue – the mentor:

1. Twofold demonstration of the vocal piece in its entirety, both melodically and ornamentally;

2. Decomposition of the vocal piece into vocal phrases (from caesura to caesura);

3. ***Performance of each vocal phrase by the two students on a rotational basis;***

4. In cases where one of the students has mastered a particular intonation or ornamental passage better, the mentor requires that student to demonstrate the specific fragment of the piece to their partner. If the demonstrator has the opportunity to communicate or clarify their perception to their partner using the tactile method by placing a hand on their own or their partner's throat, primarily to address ornamental issues or through specific manual gestures to indicate intonational or ornamental difficulties, they are both encouraged and authorised to do so. The mentor repeats the assigned task vocally until one of the two partners masters it and gains confidence in their vocal performance;

5. Both partners take turns reading and analysing the entire song text, which involves detailed clarification and pronunciation of the words, as well as explaining the meanings of expressions unfamiliar to the learners. If one partner is unfamiliar with the meaning of a particular expression, the mentor first allows the other partner to respond, provided they possess the relevant knowledge. If the second partner is also unfamiliar with the expression, the mentor then provides the necessary explanation.

6. Performance of the entire piece by both partners (students) on a rotational basis.

Table 1

ANALYSIS OF THE RESULTS FROM THE PROTOCOLS					
	MASTERY OF THE SONG'S MELODY	**MASTERY OF THE ORNAMENTATION OF**	**MOTIVATION**	**ACQUISITION SPEED**	**EMOTION**
I. A.	**5**	**5**	**4**	**2**	**Exciting emotions**
R. D.	**4**	**4**	**5**	**5**	**I felt calmness, confidence, a sense of connection, and satisfaction with the achieved results.**
K. D.	**3**	**2**	**4**	**3**	**I felt comfortable and experienced no anxiety.**
L. K.	**3**	**5**	**5**	**4**	**The emotions I felt were anxiety and motivation**
I. T.	**5**	**5**	**5**	**5**	**I was more motivated**

					by working in pairs.

KEY RESULTS AND DISCUSSIONS

Based on the convenience sampling method and the work with an exceptionally small number of participants – five in this particular case – we will attempt to calculate the results using descriptive statistics, relying on the mean value of the obtained data.

FIRST CRITERION – MASTERY OF THE MELODY: The results for this criterion show that two of the participants awarded the maximum number of points, one assigned a score of four, and the remaining two gave a score of three. This yields a very good average value, which can be interpreted as positive and encouraging in support of the hypothesis of this pilot study.

5+4+3+3+5 average value 4

SECOND CRITERION – MASTERY OF ORNAMENTATION: The results for this criterion indicate that two participants assigned the maximum score, two others rated it with a four, and one participant gave a score of three. The resulting average value can be considered positive and indicative of the participants' ability to internalise the ornamental elements of the vocal piece within the framework of the applied pedagogical model.

5+4+2+5+5 average value 4

THIRD CRITERION – MOTIVATION: The results for the third criterion show the highest scores compared to the other four criteria. Three respondents gave the highest score, and two gave a score of four. This high result gives reason to believe that one of the main points in the hypothesis, namely motivation from joint work, is the leading factor that has a positive impact on the trainees and their future vocal-technical, vocal-pedagogical and performance pursuits.

4+5+4+5+5 average value 4

FOURTH CRITERION – ACQUISITION SPEED: The results for this criterion show that two participants awarded the maximum score, one gave a score of four, one rated three, and one assigned a score of two. Based on the participants' responses, the following interpretation is proposed: the lowest scores were given by I. A. and K. T., who also provided additional comments in their protocols concerning tension related to their partnership. It is plausible that, due to the participant selection **via convenience sampling**, the specific pairing in this case involved a degree of emotional incompatibility, which may have influenced these outcomes. This factor should be considered in future research, suggesting that studies might benefit from forming partnerships between individuals without prior emotional history together, as negative interpersonal dynamics could potentially affect results in small-scale investigations of this nature.

2+5+3+4+5 average value 3

FIFTH CRITERION: The results for this criterion will be analysed through observational methods as well as trend analysis of the participants' responses. Four of the students expressed entirely positive emotions – excitement, strong motivation, calmness, confidence, and satisfaction. The only negative emotion recorded was anxiety. Based on interpretation, it can be assumed that the anxiety reported by K. T. may have been influenced once again by incompatibility with one of the partners, as personally described in an additional note attached to the individual protocol.

CONCLUSIONS

Based on the conducted experiment, it was confirmed that the introduction of the innovative pedagogical technology, developed on the basis of the original model for folk singing training ***"Singing Mirror,"*** significantly improves the individual vocal skills of the students and fosters greater personal motivation for work in each of them. The results indicate that the model has the potential to build emotional interactions between partners through teamwork, reduce the time required to achieve specific vocal-technical goals and tasks, and provide a solid foundation for the effective vocal-pedagogical development of the students – future music (vocal) educators.

Modern vocal training methodology should provide flexible, innovative, and effective methods and approaches that generate positive outcomes in both formal and informal educational settings. The number of participants in the experiment (five) is small and entails certain risks and limitations regarding the final results. Nevertheless, it undoubtedly serves as a solid starting point for establishing this innovative vocal-pedagogical technology. For this reason, pedagogical technologies and vocal training came together in a scientific context in this study, where, for the first time, **the innovative model "Singing Mirror"** was introduced, based on which very promising results were achieved. Therefore, future research based on the examined model will focus on a much more comprehensive and in-depth study (concerning the sample size), as well as a more diverse approach (considering participants at different educational levels). The aim will be to develop a holistic, innovative vocal-pedagogical strategy that enables the achievement of sustainable results aligned with the contemporary educational needs of learners across various stages of education.

ACKNOWLEDGMENTS

I would like to express my sincerest gratitude to my students and their parents, members of the Association "Anna-FolkArt" in Dryanovo (established in 2013), who have been the inspiration behind all my research projects.

I thank my students from the Master's program in Conducting Musical Ensembles, who participated in the conducted experiment with enthusiasm, curiosity, and satisfaction.

I would like to thank my colleagues who supported this work with advice, guidance, and logistical assistance. I believe that the innovative approach I have named "Singing Mirror" will continue to develop and be applied in many different institutions and countries around the world, enriching the musical and cultural lives of both children and adults.

REFERENCES

1. Kaufman, N., (1968) Balgarskata mnogoglasna narodna pesen, Sofia: Nauka i izkustvo.
2. Pavlov, D., (2001) Obrazovatelni informatsionni tehnologii, Sofia: IK „Daniela Ubenoova".
3. Petrov, P., (2017) Inovatsionni obrazovatelni tehnologii i interaktivni metodi na obuchenie, Sofia: Avangard.
4. Stoin, E., (1981) Muzikalno-folklorni dialekti v Balgaria, Sofia: Muzika.
5. https://artacademyplovdiv.com/doktoranti/proceduri/Anastasiya%20Batkova/Avtoreferat.pdf 2023 (accessed 01.07.2025).